



Analytical Report Number: 22-46172 Project / Site name: Northstowe Your Order No: 14059900

1 Oui	oruer	140.	1403	2200

I ah Sample Number				2208351	2208352	2208353	2208354
Sample Reference	TPTCA104	TPTCA110	TPTCA119	TPTCA119			
Sample Number		1	2	1	3		
Depth (m)	0 00-0.20	0 20-0.90	0 00-0.20	0 50-1.20			
Date Sampled		15/03/2022	15/03/2022	15/03/2022	15/03/2022		
Time Taken	1526	1344	1209	1212			
		Ξ.					
Analytical Parameter (Soil Analysis)	Units	mit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	11	11	11
Total mass of sample received	kg	0.001	NONE	03	03	0.4	0.4
Asbestos in Soil	Туре	N/A	ISO 17025	-	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A			DBU	DBU
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	83	8.1	78	83
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1 0	< 10
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1 0	< 1 0
Water Soluble SO4 16hr extraction (2:1 Leachate	q/l	0.00125	MCERTS	-	-	0.89	0 054
Equivalency Eraction Organic Carbon (EOC) Automated	N//A	0.001	MCEDIC	0.012	0.0010		
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0 012	0.0019	-	-
Total Phonois							
Total Phenois		1	MCEDIC			< 1.0	< 1.0
	тіў/ку	1	MCERTS	-	-	< 10	< 10
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.52	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	0.49	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.34	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	03	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.37	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.26	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	0.32	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	0.21	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	0.25	< 0.05
Total PAH					1		
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	3.06	< 0.80
Heavy Metals / Metalloids							
	malka	1	MCEDIC	16	10	17	14
Roron (water soluble)	mg/kg	0.2	MCEDIC	10	10	0.6	14
Cadmium (agua regia extractable)	mg/kg	0.2	MCEDTO	-	-		U2 202
Chromium (beyavalent)	mg/kg	4	NONE	< 40	< 4.0	< 4.0	< 4.0
Chromium (agua regia extractable)	mg/kg	-4 1	MCEDTS	25	0 ۲ √ ∧د	017	
Conper (aqua regia extractable)	mg/kg	1	MCEDTC	20	17	10	14
	mg/kg	1	MCEDTO	25	11	12	71
Mercury (aqua regia extractable)	mg/kg	03	MCERTS	22 2 N R	203	12	202
	mg/kg	1	MCEDTC	22	25	17	21
ווינויני נטקטט וכקוט באטטכנטטובן	ing/kg	±	PICERTS	25	25	1/	<u></u>

MCERTS

MCERTS

< 1 0

66

< 1 0

43

< 10

34

< 10

34

mg/kg

mg/kg

1

1

Selenium (aqua regia extractable) Zinc (aqua regia extractable)





Analytical Report Number: 22-46172 Project / Site name: Northstowe Your Order No: 14059900

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Lah Cample Number				2200251	2200252	2200252	2200254
Lao Sample Number	ZZU8351 TPTCA104	ZZU035Z	ZZU0303 TPTCA110	2208354 TPTCA110			
Sample Reference		1PTCA104		1PTCAT19	1FICA119		
Donth (m)		1	2 0.20.0.00	1	3		
Depth (m)		0 00-0.20	0 20-0.90	0 00-0.20	0 50-1.20		
	15/03/2022	15/03/2022	15/03/2022	15/03/2022			
		-		1520	1344	1209	1212
Analytical Parameter (Soil Analysis)	Units	imit of detectior	Accreditation Status				
Petroleum Hydrocarbons		3					
	ma/ka	0.1	ISO 17025	< 0.1	< 0.1	_	_
	mg/kg	0.1	MCEDIC	< 0.1	< 0.1	-	
TPH Texas (C10 - C12) == == =====	ma/ka	1	MCERTS	< 1.0	< 1.0	_	_
TPH Texas (C12 - C16) == == == ===	mg/kg	4	MCERTS	< 40	< 10	-	
TPH Texas (C16 - C21) = au au a servi	mg/kg	10	MCERTS	< 10	< 10	-	-
TPH Texas (C21 - C40) FIL OL ID TOTAL	ma/ka	10	MCERTS	13	< 10	-	-
	mg/kg	10	NONE	13	< 10	-	-
	ilig/kg	10	NONE	15	< 10		
SVOCe							
Aniline	ma/ka	0.1	NONE	< 0.1	< 0.1	-	_
Phonol	mg/kg	0.1	TEO 1702E	< 0.1	< 0.1		_
2-Chlorophonol	mg/kg	0.2	MCEPTS	< 0.2	< 0.2		
2-chlorophenol Bic(2-chlorophyl)othor	mg/kg	0.1	MCEDTC	< 0.1	< 0.1		_
1 2-Dichlorobonzono	mg/kg	0.2	MCEDTS	< 0.2	< 0.2		
1,3-Dichlorobonzono	mg/kg	0.2	MCEDTS	< 0.2	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCEDTS	< 0.1	< 0.1	-	
Bic(2-chloroisopropyl)ether	ma/ka	0.2	MCERTS	< 0.2	< 0.2	_	_
2-Methylphenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	_	-
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Nitrobenzene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
4-Methylphenol	ma/ka	0.5	NONE	< 0.2	< 0.2	-	-
Isophorope	ma/ka	0.2	MCERTS	< 0.2	< 0.2	-	-
2-Nitrophenol	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
2 4-Dimethylphenol	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
Bis(2-chloroethoxy)methane	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
1.2.4-Trichlorobenzene	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
Naphthalene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	-	-
2.4-Dichlorophenol	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0 3	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Azobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.99	< 0.05	-	-
Anthracene	mg/kg	0.05	MCERTS	0.22	< 0.05	-	-
Carbazole	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Dibutyl phthalate	ma/ka	0.2	MCERTS	< 0.2	< 0.2	-	-





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Lab Sample Number		2208351	2208352	2208353	2208354		
Sample Reference		TPTCA104	TPTCA110	TPTCA119	TPTCA119		
Sample Number		1	2	1	3		
Depth (m)				0 00-0.20	0 20-0.90	0 00-0.20	0 50-1.20
Date Sampled				15/03/2022	15/03/2022	15/03/2022	15/03/2022
Time Taken				1526	1344	1209	1212
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Anthraquinone	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	2 5	< 0.05	-	-
Pyrene	mg/kg	0.05	MCERTS	2.1	< 0.05	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0 3	< 0 3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	13	< 0.05	-	-
Chrysene	mg/kg	0.05	MCERTS	0.86	< 0.05	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1	< 0.05	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.76	< 0.05	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.96	< 0.05	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.52	< 0.05	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.63	< 0.05	-	-





* 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 *
2208351	TPTCA104	1	0.00-0.20	Brown clay and loam with gravel and vegetation.
2208352	TPTCA110	2	0.20-0.90	Light brown loam and clay with gravel.
2208353	TPTCA119	1	0.00-0.20	Light brown loam and clay with gravel.
2208354	TPTCA119	3	0.50-1.20	Light brown sand with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH Texas (Soil)	TPH Texas bands C6-C10 by HS/GC-MS & C10-C40 by GC-FID	In-house method	L088/L076	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom. For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out a maximum of 30oC.





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

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





Reg. 13(1) Arcadis Consulting (UK) Ltd HCL House St Mellon's Business Park Cardiff CF3 OEY

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Analytical Report Number : 22-46874

Project / Site name:	Northstowe	Samples received on:	16/03/2022	
Your job number:	10052307	Samples instructed on/ Analysis started on:	22/03/2022	
Your order number:	14059900	Analysis completed by:	30/03/2022	
Report Issue Number:	1	Report issued on:	30/03/2022	
Samples Analysed:	4 soil samples			



Reg. (13(1) Technical Reviewer For & on behalf of i2 Analytical Ltd.

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

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

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

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

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





Project / Site name: Northstowe

Lab Sample Number				2211786	2211787	2211788	2211789
Sample Reference	WSTCA101	WSTCA106	WSTCA108	WSTCA117			
Sample Number	1	2	2	2			
Depth (m)	0.20	0.50	0.50	0.50			
Date Sampled	15/03/2022	15/03/2022	15/03/2022	15/03/2022			
Time Taken				1258	1151	1038	1410
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	12	8.4	14	15
Total mass of sample received	kg	0.001	NONE	1.4	1.4	1.4	1.4
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	MLO			

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	78	8 0	78	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1 0	-	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1 0	-	-	-
Equivalent)	g/l	0.00125	MCERTS	2 3	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.0059	0.0095	0.0094

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.39	-	-	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	0.61	-	-	-
Pyrene	mg/kg	0.05	MCERTS	0.58	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.28	-	-	-
Chrysene	mg/kg	0.05	MCERTS	0.34	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.27	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.19	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.28	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.94	-	-	-

Heavy Metals / Metalloids MCERTS Arsenic (aqua regia extractable) mg/kg 1 16 19 13 13 MCERTS Boron (water soluble) mg/kg 0.2 22 mg/kg 0.2 MCERTS < 0 2 < 0 2 < 0 2 Cadmium (aqua regia extractable) < 0 2 4 NONE Chromium (hexavalent) mg/kg < 4 0 < 4 0 < 4 0 < 4 0 Chromium (aqua regia extractable) mg/kg 1 MCERTS 29 32 27 25 1 MCERTS 20 Copper (aqua regia extractable) mg/kg 16 16 16 MCERTS mg/kg Lead (aqua regia extractable) 1 21 15 21 23 Mercury (aqua regia extractable) mg/kg 0.3 MCERTS < 0 3 < 0 3 < 0 3 < 0 3 1 MCERTS Nickel (aqua regia extractable) mg/kg 24 29 22 23 MCERTS mg/kg 1 Selenium (aqua regia extractable) < 1 0 < 10 < 10 < 1 0 mg/kg MCERTS Zinc (aqua regia extractable) 1 68 58 58 62





Project / Site name: Northstowe

Lab Sample Number				2211786	2211787	2211788	2211789
Sample Reference				WSTCA101	WSTCA106	WSTCA108	WSTCA117
Sample Number				1	2	2	2
Depth (m)				0.20	0.50	0.50	0.50
Date Sampled				15/03/2022	15/03/2022	15/03/2022	15/03/2022
Time Taken		_		1258	1151	1038	1410
		Limi	A				
Analytical Parameter	ç	tof	Sta				
(Soil Analysis)	lits	dete	litat				
		acti	tion				
		on		<u> </u>	<u> </u>	<u> </u>	
Petroleum Hydrocarbons							-
TPH Texas (C6 - C8) _{HS_1D_TOTAL}	mg/kg	0.1	ISO 17025	-	< 0.1	< 0.1	< 0.1
TPH Texas (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
TPH Texas (C10 - C12) EH CU 1D TOTAL	mg/kg	1	MCERTS	-	< 1 0	< 1 0	< 10
TPH Texas (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	-	< 4 0	< 4 0	< 4 0
TPH Texas (C16 - C21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	< 10	< 10	< 10
TPH Texas (C21 - C40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	-	< 10	< 10	59
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	iiig/kg	10	NONE	-	< 10	< 10	59
SV0C-							
SVOCS		0.1	NONE				
Aniline	mg/kg	0.1	NUNE	-	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	150 17025 MCEDTC	-	< 0.2	< 0.2	< 0.2
2-Chiorophenol	mg/kg	0.1	MCEDIC	-	< 0.1	< 0.1	< 0.1
Bis(2-chioroethyl)ether	mg/kg	0.2	MCEPTS	-	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCEPTS	-	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
1,4-Dichloroisopropul)othor	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
2-Methylphenol	ma/ka	0.3	MCERTS	-	< 0.1	< 0.1	< 0.1
Hevachloroethane	ma/ka	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Nitrohenzene	ma/ka	0.3	MCERTS	-	< 0.05	< 0.05	< 0.05
4-Methylphenol	ma/ka	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Isonhorone	ma/ka	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
2-Nitrophenol	ma/ka	0.3	MCERTS	-	< 0.3	< 0.3	< 0.2
2.4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
1.2.4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0 3	< 0 3	< 0 3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0 3	< 0 3	< 0 3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	-	< 0 3	< 0 3	< 0 3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
nexacriiorobenzene	mg/kg	0.5	MCEDIC	-	< 0.05	< 0.05	< 0.3
Anthrocopo	mg/kg	0.05	MCEDIC		< 0.05	< 0.05	0.35
Anumacene Carbazolo	mg/kg	0.03	MCEDTC		< 0.05	< 0.05	< 0.05
	ma/ka	0.3	MCERTS		< U 3	< U 3	< U 3
	ma/ka	0.2	MCERTS		< 0.2	< 0.2	< 0.2
Fluoranthene	ma/ka	0.05	MCERTS		< 0.05	0.50	06
Pyrene	ma/ka	0,05	MCERTS		< 0.05	0.55	0.0
	5,9				- 0.05	0.05	0.15

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





9 9

ab Sample Number			2211786
Sample Reference			WSTCA101
Sample Number			1
Depth (m)			0.20
Date Sampled			15/03/2022
ime Taken			1258
	Limit	Acc	

0.20 0.50 0.50 0.50 5/03/2022 15/03/2022 15/03/2022 15/03/2022 1258 1151 1038 1410 creditation Status Analytical Parameter of detection Units (Soil Analysis) ISO 17025 mg/kg 0.3 Butyl benzyl phthalate < 0 3 < 0 3 < 0 3 mg/kg 0.05 MCERTS < 0.05 0.31 0.33 Benzo(a)anthracene MCERTS 0.05 mg/kg Chrysene -< 0.05 0.37 0.32 MCERTS Benzo(b)fluoranthene mg/kg 0.05 < 0.05 0.22 0.21 Benzo(k)fluoranthene mg/kg 0.05 MCERTS < 0.05 0.17 0.24 -0.05 MCERTS mg/kg Benzo(a)pyrene < 0.05 0.25 0.2 -Indeno(1,2,3-cd)pyrene mg/kg 0.05 MCERTS < 0.05 < 0.05 < 0.05 Dibenz(a,h)anthracene mg/kg 0.05 MCERTS < 0.05 < 0.05 < 0.05 mg/kg 0.05 MCERTS < 0.05 Benzo(ghi)perylene < 0.05 < 0.05 -

2211787

WSTCA106

2

2211788

WSTCA108

2

2211789

WSTCA117

2





* 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 *
2211786	WSTCA101	1	0.2	Brown clay and loam with gravel.
2211787	WSTCA106	2	0.5	Brown clay and loam with gravel.
2211788	WSTCA108	2	0.5	Brown clay and sand with gravel.
2211789	WSTCA117	2	0.5	Brown clay and sand with gravel and vegetation.





Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH Texas (Soil)	TPH Texas bands C6-C10 by HS/GC-MS & C10-C40 by GC-FID	In-house method	L088/L076	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom. For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Information in Support of Analytical Results





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





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Analytical Report Number : 22-47225

Project / Site name:	Northstowe	Samples received on:	22/03/2022	
Your job number:	10052307	Samples instructed on/ Analysis started on:	22/03/2022	
Your order number:	14059900	Analysis completed by:	31/03/2022	
Report Issue Number:	1	Report issued on:	31/03/2022	
Samples Analysed:	6 soil samples			



Reg. 18(1) Technical Reviewer (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.





Project / Site name: Northstowe

Lab Sample Number				2213697	2213698	2213699	2213700	2213701
Sample Reference				WS2C106	WS2C108	WS2C114	WS2C120	WS2C121
Sample Number				1	2	2	2	2
Depth (m)				0.20	0.50	0.50	0.50	0.50
Date Sampled				21/03/2022	15/03/2022	16/03/2022	16/03/2022	21/03/2022
Time Taken				1355	1645	1104	1507	1106
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	17	15	12	12
Total mass of sample received	kg	0.001	NONE	12	12	12	12	12
					8			
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW	JSW	JSW	JSW
General Inorganics		1	1					
pH - Automated	pH Units	N/A	MCERTS	7.9	7.7	82	83	86
Total Cyanide	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1 0	< 1 0	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Total Sulphate as SO4	mg/kg	50	MCERTS	-	17000	2200	-	-
Equivalent)	g/l	0.00125	MCERTS	1.7	-	-	0.09	0 098
Sulphide	mg/kg	1	MCERTS	-	13	< 1 0	-	-
Elemental Sulphur	mg/kg	5	MCERTS	-	< 5 0	< 5 0	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 10	< 10	< 1 0	< 10
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH		0.0	MCEDIC					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERIS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80





Project / Site name: Northstowe

Lab Sample Number				2213697	2213698	2213699	2213700	2213701
Sample Reference				WS2C106	WS2C108	WS2C114	WS2C120	WS2C121
Sample Number				1	2	2	2	2
Depth (m)				0.20	0.50	0.50	0.50	0.50
Date Sampled				21/03/2022	15/03/2022	16/03/2022	16/03/2022	21/03/2022
Time Taken				1355	1645	1104	1507	1106
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids	-				-			-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	14	16	12	19
Boron (water soluble)	mg/kg	0.2	MCERTS	2	-	-	0.4	0 6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0 2	< 0 2	< 0 2	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	-	-	< 4 0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	27	32	22	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	-	-	22	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13	13	13	96	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0 3	< 0 3	< 0 3	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	-	-	25	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 10	< 1 0	< 10	< 1 0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	47	-	-	36	44
Monoaromatics & Oxygenates	ua/ka	1	MCERTS		< 1.0	< 1.0		
Toluono	µg/kg	1	MCERTS	-	< 10	< 10	-	-
Ethylhonzono	µg/kg	1	MCERTS	-	< 10	< 10	-	-
	ug/kg	1	MCERTS		< 10	< 10	-	-
	ug/kg	1	MCERTS		< 10	< 10		_
MTRE (Methyl Tertian/ Butyl Ether)	µg/kg µa/ka	1	MCERTS		< 10	< 10		
The (neury relative bacy rearry	15, 5			_	<10	<10	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $\mu_{c,1D,Al}$	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic > EC6 - EC8 $\mu_{c,1D,AL}$	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic > EC8 - EC10 $\mu_{\rm S}$ to $\mu_{\rm L}$	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic > EC10 - EC12 $_{\text{FH}}$ (1) D Al	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16 FH CU ID AL	mg/kg	2	MCERTS	-	< 2.0	< 2.0	-	-
TPH-CWG - Aliphatic >EC16 - EC21 FH CU 1D Al	mg/kg	8	MCERTS	-	< 8 0	< 8 0	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	-	< 8 0	< 8 0	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	< 10	< 10	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	MCERTS	-	< 0 001	< 0 001	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	< 0 001	< 0 001	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	-	< 0 001	< 0 001	-	-
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	< 10	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	MCERTS	-	< 10	< 10	-	-



Project / Site name: Northstowe

Lab Sample Number	2213702			
Sample Reference	WS2C123			
Sample Number				1
Depth (m)				0.20
Date Sampled				21/03/2022
Time Taken				0947
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.001	NONE	12
Ashestes is Call	 Type	NI/A	ICO 1702E	No. data at a district of the second

Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.1
Total Cyanide	mg/kg	1	MCERTS	< 10
Complex Cyanide	mg/kg	1	MCERTS	-
Free Cyanide	mg/kg	1	MCERTS	< 10
Total Sulphate as SO4	mg/kg	50	MCERTS	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.11
Sulphide	mg/kg	1	MCERTS	-
Elemental Sulphur	mg/kg	5	MCERTS	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.68
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1
Pyrene	mg/kg	0.05	MCERTS	0.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.52
Chrysene	mg/kg	0.05	MCERTS	0.51
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.39
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.42
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.21
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.26
Total PAH				

local PAR				
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	5.32





Project / Site name: Northstowe

Lab Sample Number	2213702			
Sample Reference				WS2C123
Sample Number				1
Depth (m)				0.20
Date Sampled				21/03/2022
Time Taken				0947
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21
Lead (aqua regia extractable)	mg/kg	1	MCERTS	20
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	61

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-
Toluene	µg/kg	1	MCERTS	-
Ethylbenzene	µg/kg	1	MCERTS	-
p & m-xylene	µg/kg	1	MCERTS	-
o-xylene	µg/kg	1	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-
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 (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	-
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	MCERTS	-







* 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 *
2213697	WS2C106	1	0.2	Brown clay and loam with gravel.
2213698	WS2C108	2	0.5	Brown clay with gravel.
2213699	WS2C114	2	0.5	Brown clay with gravel and chalk.
2213700	WS2C120	2	0.5	Brown clay and loam with gravel and chalk.
2213701	WS2C121	2	0.5	Brown clay and loam with gravel and chalk.
2213702	WS2C123	1	0.2	Brown clay and loam with gravel and vegetation.





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 Determination of water soluble sulphate by Results reported directly (leachate equivalen corrected for extraction ratio (soil equivalen		In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Hexavalent chromium in soil	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
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	w	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	w	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	otal cyanide in soil Determination of total cyanide by distillation followed by colorimetry.		L080-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)) Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	w	MCERTS





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
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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS2C108	2	S	2213698	с	Free cyanide in soil	L080-PL	с
WS2C108	2	S	2213698	с	Complex Cyanide in soil	L080-PL	с
WS2C108	2	S	2213698	с	Sulphide in soil	L010-PL	с
WS2C108	2	S	2213698	с	Total cyanide in soil	L080-PL	с





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Analytical Report Number : 22-47463

Project / Site name:	Northstowe	Samples received on:	22/03/2022	
Your job number:	NSTO	Samples instructed on/ Analysis started on:	23/03/2022	
Your order number:	14059900	Analysis completed by:	31/03/2022	
Report Issue Number:	1	Report issued on:	31/03/2022	
Samples Analysed:	5 soil samples			



Reg. 13(1) Senior Quality 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.





Project / Site name: Northstowe

Lab Sample Number				2214824	2214825	2214826	2214827	2214828
Sample Reference				BH2C102	BHTCA105	BHTCA106	BHTCA107	BHTCA110
Sample Number				2	2	2	1	2
Depth (m)				0.50	0.50-0 50	0.50	0 20	0 50
Date Sampled				17/03/2022	11/03/2022	15/03/2022	16/03/2022	16/03/2022
Time Taken				0903	0812	1330	1007	1000
		E.						
		nito	Acc					
Analytical Parameter	Uni	ofd	stat					
(Soil Analysis)	s	etec	us					
		tio	9					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	11	11	11	18
Total mass of sample received	kg	0.001	NONE	10	1.0	1.0	1.0	1.0
•								
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	NTK	NTK		NTK	NTK
·								
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	73	7.5	-	7.2	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
Free Cvanide	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
water Soluble SO4 1607 extraction (2:1 Leachate				0.67	0.022		0.30	1.0
Equivalent)	g/I	0.00125	MCERTS	0.67	0.032	-	0.38	1.6
Total Phenois								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
Speciated PAHs		0.05	1105070					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0.42
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	1.1
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0.98
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 56
Chrysene	mg/kg	0.05	MCERIS	< 0.05	< 0.05	-	< 0.05	0 56
Benzo(b)fluoranthene	mg/kg	0.05	MCERIS	< 0.05	< 0.05	-	< 0.05	0 54
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0.48
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 24
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 31
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	-	< 0.80	5.49





Project / Site name: Northstowe

	0044004	0011005	224 4026	0011007	0044000			
Lab Sample Number		2214824	2214825	2214826	2214827	2214828		
Sample Reference	BH2C102	BHICA105	BHICA106	BHICA107	BHICA110			
Sample Number				2	2	2	1	2
Depth (m)				0.50	0.50-0 50	0.50	0 20	0 50
Date Sampled				17/03/2022	11/03/2022	15/03/2022	16/03/2022	16/03/2022
Time Taken				0903	0812	1330	1007	1000
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids			-	-	-	-		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	13	-	17	15
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4	0.8	-	0.8	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	-	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	34	-	27	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	14	-	25	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15	15	-	22	30
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	24	-	23	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	72	57	- 1	68	61
Monoaromatics & Oxygenates			1000000					
Benzene	µg/kg	1	MCERIS	< 1 0	< 10	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERIS	< 1 0	< 10	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	10	< 1 0	2.9	1.1	3.3
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	53	< 2 0	8.4	4.3	7.9
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8 0	14	< 8.0	14
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8 0	39	20	45
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	19	< 10	64	32	71
TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	< 2 0	< 2 0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TDU CIAIC Anomatia (ECE EC2E)	ma/ka	10	MCEDIC					





* 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 *
2214824	BH2C102	2	0.5	Brown clay and loam with gravel and chalk.
2214825	BHTCA105	2	0.50-0.50	Light brown clay and sand with gravel.
2214826	BHTCA106	2	0.5	Brown clay and sand with gravel and chalk.
2214827	BHTCA107	1	0.2	Brown clay and sand with gravel and vegetation.
2214828	BHTCA110	2	0.5	Brown clay with gravel.





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

Analytical Test Name Analytical Method Description		Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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 cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	w	MCERTS
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





Water matrix abbreviations:

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BHTCA105	2	S	2214825	с	Free cyanide in soil	L080-PL	с
BHTCA105	2	S	2214825	с	Total cyanide in soil	L080-PL	с
BHTCA106	2	S	2214826	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
BHTCA106	2	S	2214826	b	TPHCWG (Soil)	L088/76-PL	b
BHTCA107	1	S	2214827	с	Free cyanide in soil	L080-PL	с
BHTCA107	1	S	2214827	с	Total cyanide in soil	L080-PL	с
BHTCA110	2	S	2214828	с	Free cyanide in soil	L080-PL	с
BHTCA110	2	S	2214828	с	Total cyanide in soil	L080-PL	с



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Analytical Report Number : 22-47721

Project / Site name:	Northstowe	Samples received on:	22/03/2022
Your job number:	10052307	Samples instructed on/ Analysis started on:	25/03/2022
Your order number:	14059900	Analysis completed by:	01/04/2022
Report Issue Number:	1	Report issued on:	04/04/2022
Samples Analysed:	19 soil samples		



Reg. 13(1) Technical Reviewer For & on behalf of i2 Analytical Ltd.

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

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

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

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

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





Lab Sample Number		2216182	2216183	2216184	2216185	2216186		
Sample Reference				TP2C102	TP2C103	TP2C104	TP2C104	TP2C105
Sample Number				1	1	1	2	1
Depth (m)				0.40-1 60	0.00-0.20	0.00-0.20	0.20-0.50	0.00-0.50
Date Sampled				16/03/2022	17/03/2022	16/03/2022	16/03/2022	17/03/2022
Time Taken				1636	1103	1634	1634	1118
		-		1050	1105	1051	1051	1110
Analytical Parameter (Soil Analysis)	Units	imit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	13	13	11	20
Total mass of sample received	kg	0.001	NONE	1.2	1	14	14	0.8
				1.2	-	1.1	1.1	00
Ashastas in Sail	Type	N/A	ISO 17025	Not detected				
	N/A	N/A	N/A	Not-deletted	Not-detected	Not-delected	Not-delected	
Aspestos Analyst ID	Ny A	N/A	N/A	GFI	GFI	GFI	GFI	GFI
General Inorganics	L							
pH - Automated	pH Units	N/A	MCERTS	8.4	9.8	8.2	8.0	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Fauivalent)	a/I	0.00125	MCERTS	0.12	0.41	0.2	0.54	12
Equivalency	9/1	0.00125	TICERTS					
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.59	0.42	0.24
Anthracene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	1 7	0.79	0.9
	ma/ka	0.05	MCERTS	< 0.05	< 0.05	1.7	0.75	0.5
Ponzo(a)anthracono	ma/ka	0.05	MCERTS	< 0.05	< 0.05	0.80	0.00	0.9
Christopa	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	0.41	0.37
	mg/kg	0.05	MCEDTS	< 0.05	< 0.05	0.9	0.39	0.55
Benzo(b)fluoranthene	mg/kg	0.05	MCEDTC	< 0.05	< 0.05	1.1	0.34	0.51
Benzo(k)fluorantnene	iiig/kg	0.05	MCEDIC	< 0.05	< 0 05	0.49	0.29	0.32
Benzo(a)pyrene	iiig/kg	0.05	MCEDIC	< 0.05	< 0 05	0.99	0.4	05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCEDIC	< 0.05	< 0.05	0.55	< 0.05	0.38
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	0.7	< 0.05	0.47
Total PAH		-						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0 80	9.4	3.72	5.34
Heavy Metals / Metalloids								
Arsenic (agua regia extractable)	mg/kq	1	MCERTS	7.2	14	16	20	14
Boron (water soluble)	mg/ka	0.2	MCERTS	1.1	 0.7	1	0.7	15
Cadmium (aqua regia extractable)	ma/ka	0.2	MCERTS	< 0.2	< 0.2	11	< 0.2	< 0.2
Chromium (heyavalent)	ma/ko	4	NONE	< 4 0	< 40	<u> </u>	< 40	< 40
Chromium (aqua regia extractable)	ma/ka	1	MCERTS	× ۲.0 21	ς τ.υ 24	27	ں.ד × 20	2 T.U 2 Q
Conner (aqua regia extractable)	ma/ka	1	MCERTS	£1	27	16	20 F	20 8 0
Lood (aqua regia extractable)	mg/kg	1	MCEDTC	0.2	0.0	24	12	0.9
	mg/kg	1	MCEDIC	9.2	13	24	13	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCEDIC	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickei (aqua regia extractable)	mg/kg	1	MCEDIC	18	21	22	27	25
Selenium (aqua regia extractable)	mg/kg	1	MCENTO	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MUCERTS	37	44	71	51	53





Lab Sample Number		Lab Sample Number						2216186
Sample Reference				TP2C102	TP2C103	TP2C104	TP2C104	TP2C105
Sample Number				1	1	1	2	1
Depth (m)				0.40-1 60	0.00-0.20	0.00-0.20	0.20-0.50	0.00-0.50
Date Sampled				16/03/2022	17/03/2022	16/03/2022	16/03/2022	17/03/2022
Time Taken		1636	1103	1634	1634	1118		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	14	< 10	12
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	19	12	16





Lab Sample Number		2216187	2216188	2216189	2216190	2216191		
Sample Reference				TP2C107	TP2C107	TP2C109	TP2C110	TP2C111
Sample Number				None Supplied				
Depth (m)				0 00-0.20	0.20-1.10	0.00-0.20	0.00-0.50	0.00-0.10
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken				1451	1451	1152	1448	1454
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	22	< 0.1
Moisture Content	%	0.01	NONE	18	21	13	12	14
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	1.2	0.8
· · · ·								
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Ashestos Analyst ID	N/A	N/A	N/A	GEI	GEL	GFI	GEI	GEI
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.1	78	8.2	8.1	8.7
Total Cyanide	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
water soluble SO4 16hr extraction (2:1 Leachate	o/I	0.00125	MCERTS	0.34	1.7	0.86	0.22	0.33
Total Phenois	9/1	0.00123	HOERTS					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.48	0.34	< 0 05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.3	0.84	0.43
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.3	0.78	0.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.75	0.53	0.25
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.64	0.43	0.25
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.7	0.5	0.22
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.47	0.29	0.22
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.74	0.47	0.29
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.47	0.34	< 0 05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.58	0.41	< 0 05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	7.42	4.93	2.06
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	13	21	19	16
Boron (water soluble)	mg/kg	0.2	MCERTS	2.2	1.9	1.1	1.2	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	27	28	29	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5.5	8.7	9.2	10	7.1
Lead (aqua regia extractable)	mg/kg	1	MCERTS	14	13	15	13	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	33	28	25	24	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	70	63	59	60	48





Lab Sample Number		2216187	2216188	2216189	2216190	2216191		
Sample Reference				TP2C107	TP2C107	TP2C109	TP2C110	TP2C111
Sample Number				None Supplied				
Depth (m)				0 00-0.20	0.20-1.10	0.00-0.20	0.00-0.50	0.00-0.10
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken				1451	1451	1152	1448	1454
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates					-			
Benzene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2 0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8 0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
	-		-					
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	ma/ka	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

HTT CONCERNENCE LES LES LES HS_ID_AR	5			4 0.001	0.001	0.001	< 0.001	0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	< 10	13	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	< 10	< 10	13	16	< 10





Lab Sample Number		2216192	2216193	2216194	2216195	2216196	2216197		
Sample Reference				TP2C113	TP2C117	TP2C117	TP2C118	TP2C119	TP2C119
Sample Number				2	1	2	1	1	2
Depth (m)				0 50	0.20	0.50	0.20	0.20	0.50
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken				0949	1645	1645	1122	1132	1132
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	< 0.1
Moisture Content	%	0.01	NONE	16	12	9.5	13	12	12
Total mass of sample received	кд	0.001	NONE	0.8	1.4	1.4	0.8	08	0.8
	-								
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	NTK	NTK	NTK	NTK	NTK	NTK
General Inorganics									
pH - Automated	pH Units	N/A	MCERTS	8.2	8.3	8.5	8.2	8 5	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Fourivalent)	a/l	0.00125	MCERTS	0.2	0.062	0 049	0.13	0.088	0.043
Total Phenois	5,.		MCEDIC						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Speciated PAHs									
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH									
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0 80	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids	•								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	16	16	16	13	17
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	0.2	0.2	0.4	0 5	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	27	22	31	26	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	8.1	7.2	9.4	68	8.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13	9.9	9.4	14	12	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.5	< 0.3	0.6	< 0.3	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	23	23	27	22	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	77	38	39	50	40	54





Lab Sample Number		2216192	2216193	2216194	2216195	2216196	2216197		
Sample Reference				TP2C113	TP2C117	TP2C117	TP2C118	TP2C119	TP2C119
Sample Number				2	1	2	1	1	2
Depth (m)				0 50	0.20	0.50	0.20	0.20	0.50
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken		0949	1645	1645	1122	1132	1132		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Monoaromatics & Oxygenates					-		-	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Petroleum Hydrocarbons		-	-						
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2 0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8 0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8 0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2 0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10




Lab Sample Number	2216198	2216199	2216200			
Sample Reference	TP2C122	TP2C124	TP2C124			
Sample Number	1	1	2			
Depth (m)				0 20	0.20	0.50
Date Sampled				17/03/2022	17/03/2022	17/03/2022
Time Taken				1252	1446	1447
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	10	14
Total mass of sample received	kg	0.001	NONE	0.4	1.2	1.2
· · · · · · · · · · · · · · · · · · ·					A	
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	NTK	NTK	NTK
		•			•	
General Inorganics						
pH - Automated	pH Units	N/A	MCERTS	8.2	8.4	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Equivalent)	q/l	0.00125	MCERTS	0 21	0.1	0.14
	5,					
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
			1	. 110	110	110
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.5	0.33	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.2	0.43	< 0.05
Pyrene	mg/kg	0.05	MCERTS	1.1	0.38	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0 64	< 0 05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0 56	< 0 05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0 63	< 0 05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0 36	< 0 05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0 58	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.3	< 0.05	< 0.05
Dibenz(a,n)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(gni)perviene		0100	HOLIND	0.54	< 0.05	< 0.05
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	6 21	1.14	< 0.80
	1		8			
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19	18	13
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.9	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.7	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	32	25	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	6.9	9.9
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	13	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	22	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
zinc (aqua regia extractable)	iiig/kg	1	HIGEN 13	68	48	52





Lab Sample Number				2216198	2216199	2216200
Sample Reference				TP2C122	TP2C124	TP2C124
Sample Number				1	1	2
Depth (m)					0.20	0.50
Date Sampled				17/03/2022	17/03/2022	17/03/2022
Time Taken				1252	1446	1447
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Monoaromatics & Oxygenates					-	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	12	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	17	< 10	< 10

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





Analytical Report Number : 22-47721

Project / Site name: Northstowe

* 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 *
2216182	TP2C102	1	0.40-1.60	Light brown clay and sand with gravel.
2216183	TP2C103	1	0.00-0.20	Light brown clay and sand with gravel.
2216184	TP2C104	1	0.00-0.20	Brown clay and loam with gravel.
2216185	TP2C104	2	0.20-0.50	Light brown clay and sand with gravel.
2216186	TP2C105	1	0.00-0.50	Light brown clay and sand with gravel.
2216187	TP2C107	None Supplied	0.00-0.20	Brown clay and sand with gravel.
2216188	TP2C107	None Supplied	0.20-1.10	Grey clay and sand with gravel.
2216189	TP2C109	None Supplied	0.00-0.20	Brown clay and loam with gravel.
2216190	TP2C110	None Supplied	0.00-0.50	Brown clay and loam with gravel and stones.
2216191	TP2C111	None Supplied	0.00-0.10	Brown clay and loam with gravel and vegetation.
2216192	TP2C113	2	0.5	Brown clay and loam with gravel.
2216193	TP2C117	1	0.2	Light brown clay and sand with gravel.
2216194	TP2C117	2	0.5	Light brown clay and sand with gravel.
2216195	TP2C118	1	0.2	Brown clay and loam with gravel.
2216196	TP2C119	1	0.2	Brown clay and sand with gravel.
2216197	TP2C119	2	0.5	Brown clay and sand with gravel.
2216198	TP2C122	1	0.2	Brown clay and loam with gravel.
2216199	TP2C124	1	0.2	Brown clay and sand with gravel and vegetation.
2216200	TP2C124	2	0.5	Light grey clay and sand with gravel.





Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodiun hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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 cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
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

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

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

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

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

Information in Support of Analytical Results





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
-	List of HWOL Acrony	ms and Operators		-	
Acronym	Descriptions				
HS	Headspace Analysis				
MS	Mass spectrometry				
FID	Flame Ionisation Detector				

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP2C102	1	S	2216182	с	Free cyanide in soil	L080-PL	с
TP2C102	1	S	2216182	с	Total cyanide in soil	L080-PL	с
TP2C103	1	S	2216183	с	Free cyanide in soil	L080-PL	с
TP2C103	1	S	2216183	с	Total cyanide in soil	L080-PL	с
TP2C104	1	S	2216184	с	Free cyanide in soil	L080-PL	с
TP2C104	1	S	2216184	с	Total cyanide in soil	L080-PL	с
TP2C104	2	S	2216185	с	Free cyanide in soil	L080-PL	с
TP2C104	2	S	2216185	с	Total cyanide in soil	L080-PL	с
TP2C105	1	S	2216186	с	Free cyanide in soil	L080-PL	с
TP2C105	1	S	2216186	с	Total cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216187	с	Free cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216187	с	Total cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216188	с	Free cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216188	с	Total cyanide in soil	L080-PL	с
TP2C109	None Supplied	S	2216189	с	Free cyanide in soil	L080-PL	с
TP2C109	None Supplied	S	2216189	с	Total cyanide in soil	L080-PL	с
TP2C110	None Supplied	S	2216190	с	Free cyanide in soil	L080-PL	с
TP2C110	None Supplied	S	2216190	с	Total cyanide in soil	L080-PL	с
TP2C111	None Supplied	S	2216191	с	Free cyanide in soil	L080-PL	с
TP2C111	None Supplied	S	2216191	с	Total cyanide in soil	L080-PL	с
TP2C113	2	S	2216192	с	Free cyanide in soil	L080-PL	с
TP2C113	2	S	2216192	с	Total cyanide in soil	L080-PL	с
TP2C117	1	S	2216193	с	Free cyanide in soil	L080-PL	с
TP2C117	1	S	2216193	с	Total cyanide in soil	L080-PL	с
TP2C117	2	S	2216194	с	Free cyanide in soil	L080-PL	с
TP2C117	2	S	2216194	с	Total cyanide in soil	L080-PL	с
TP2C118	1	S	2216195	с	Free cyanide in soil	L080-PL	с
TP2C118	1	S	2216195	с	Total cyanide in soil	L080-PL	с
TP2C119	1	S	2216196	с	Free cyanide in soil	L080-PL	с
TP2C119	1	S	2216196	с	Total cyanide in soil	L080-PL	с
TP2C119	2	S	2216197	с	Free cyanide in soil	L080-PL	с
TP2C119	2	S	2216197	с	Total cyanide in soil	L080-PL	с
TP2C122	1	S	2216198	с	Free cyanide in soil	L080-PL	с
TP2C122	1	S	2216198	с	Total cyanide in soil	L080-PL	с
TP2C124	1	S	2216199	с	Free cyanide in soil	L080-PL	с
TP2C124	1	S	2216199	с	Total cyanide in soil	L080-PL	с
TP2C124	2	S	2216200	с	Free cyanide in soil	L080-PL	с
TP2C124	2	S	2216200	с	Total cyanide in soil	L080-PL	с





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Analytical Report Number : 22-48661

Project / Site name:	Northstowe	Samples received on:	29/03/2022
Your job number:	NSTO	Samples instructed on/ Analysis started on:	30/03/2022
Your order number:	14059900	Analysis completed by:	07/04/2022
Report Issue Number:	1	Report issued on:	07/04/2022
Samples Analysed:	4 soil samples		



Reg. 13(1) Technical Reviewer (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	ļ

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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.





Lab Carrier Number				2220060	2220060	2220070	2220071
Lab Sample Number				2220968	2220969	2220970	22209/1
Sample Reference				BHICA301A	BHICA30IA	IPICAII5	1PTCA115
Sample Number				4	0	1	3
Depth (III)				0.30-0.00	1.00-1.10	0.20	1.00
Time Taken				23/03/2022	23/03/2022	Deviating	Deviating
		-		1440	1454	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	8.9	10	14	11
Total mass of sample received	kg	0.001	NONE	1.4	1.1	0.9	1
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO	PDO	PDO
General Inorganics		N/A	мсертс				
pH - Automated	pri Units	1N/A	MCEDTS	82	8.1	8.1	8.2
I otal Cyanide	mg/kg	1	MCERTS	< 10	< 1.0	< 1 0	< 1.0
Pree Cyanide	iiig/kg	1	PICER13	< 1 0	< 1.0	< 1 0	< 1.0
Equivalent)	g/l	0.00125	MCERTS	0 054	0.085	18	0.072
Total Phenols Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1 0	< 1.0
Speciated BAHs							
Nanhthalene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Eluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.28	< 0.05	0.91	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Eluoranthene	ma/ka	0.05	MCERTS	1.6	< 0.05	1.9	< 0.05
Pyrene	mg/kg	0.05	MCERTS	1.7	< 0.05	1.7	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.87	< 0.05	0.99	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.75	< 0.05	0.83	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.1	< 0.05	1.1	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.42	< 0.05	0.54	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.92	< 0 05	0.98	< 0.05
Indeno(1.2.3-cd)pyrene	mg/kg	0.05	MCERTS	0.37	< 0 05	0.42	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.48	< 0.05	0.54	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	8.55	< 0 80	9.89	< 0 80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	8.3	14	17
Boron (water soluble)	mg/kg	0.2	MCERTS	13	0.6	0.9	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0 2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4 0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	21	25	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	7.7	12	11
Lead (agua regia extractable)	mg/kg	1	MCERTS	20	11	18	17

MCERTS

MCERTS

MCERTS

MCERTS

< 0 3

19

< 1 0

58

< 0.3

16

< 1.0

41

< 0 3

22

< 1 0

57

< 0.3

25

< 1.0

51

Mercury (aqua regia extractable)

Selenium (aqua regia extractable)

Nickel (aqua regia extractable)

Zinc (aqua regia extractable)

mg/kg

mg/kg

mg/kg

mg/kg

0.3

1

1

1





Lab Sample Number				2220968	2220969	2220970	2220971
Sample Reference					BHTCA301A	TPTCA115	TPTCA115
Sample Number				4	6	1	3
Depth (m)				0.50-0 60	1.00-1.10	0.20	1.00
Date Sampled				23/03/2022	23/03/2022	Deviating	Deviating
Time Taken				1440	1454	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
Toluene	µg/kg	1	MCERTS	< 10	-	< 1 0	-
Ethylbenzene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
p & m-xylene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
o-xylene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 10	_	< 10	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 10	-	< 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 0	-
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	-	< 8 0	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	-	< 10	-

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
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	11	-	< 10	-
TPH-CWG - Aromatic (EC5 - EC35) FH CUEHS 1D AR	mg/kg	10	MCERTS	13	-	11	-

 $\label{eq:US} U/S = Unsuitable \ Sample \qquad I/S = \ Insufficient \ Sample$





* 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 *
2220968	BHTCA301A	4	0.50-0.60	Brown loam and clay with gravel.
2220969	BHTCA301A	6	1.00-1.10	Brown clay and sand with gravel.
2220970	TPTCA115	1	0.2	Brown loam and clay with gravel and vegetation.
2220971	TPTCA115	3	1	Brown loam and clay with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Molsture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	w	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	w	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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 cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	w	MCERTS
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
Hexavalent chromium in soil	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

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

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

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





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

Analytical Test Name Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TPTCA115	1	S	2220970	ab	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TPTCA115	1	S	2220970	ab	Monohydric phenols in soil	L080-PL	b
TPTCA115	1	S	2220970	ab	Speciated EPA-16 PAHs in soil	L064-PL	b
TPTCA115	1	S	2220970	ab	TPHCWG (Soil)	L088/76-PL	b
TPTCA115	3	S	2220971	ab	Monohydric phenols in soil	L080-PL	b
TPTCA115	3	S	2220971	ab	Speciated EPA-16 PAHs in soil	L064-PL	b





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Analytical Report Number : 22-48682

Project / Site name:	Northstowe	Samples received on:	29/03/2022
Your job number:	NSTO	Samples instructed on/ Analysis started on:	30/03/2022
Your order number:	14059900	Analysis completed by:	08/04/2022
Report Issue Number:	1	Report issued on:	08/04/2022
Samples Analysed:	4 soil samples		



Reg. 13(1) Technical Reviewer (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: 22-48682

Project / Site name: Northstowe

Lab Sample Number				2221053	2221054	2221055	2221056
Sample Reference	le Reference					BH2C103	BH2C104
Sample Number				1	1	2	2
Depth (m)				0 20-0.30	0.10-0.20	0 50-0.60	0.10-0.20
Date Sampled				21/03/2022	22/03/2022	22/03/2022	22/03/2022
Time Taken				1804	1135	1136	1451
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	8.9	< 0.1
Moisture Content	%	0.01	NONE	19	11	12	88
Total mass of sample received	kg	0.001	NONE	15	15	15	15
Asbestos in Soil	Туре	N/A	ISO 17025	-	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	LFT	LFT
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	73	8 2	8	8.1
Total Cyanide	mg/kg	1	MCERTS	< 10	< 1 0	< 10	< 10
Free Cyanide water Soluble SO4 1607 extraction (2:1 Leachate	mg/kg	1	MCERTS	-	-	< 10	< 1 0
Equivalent)	g/l	0.00125	MCERTS	-	-	0.37	0.13
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	06	-	-
Total Phenols Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	0.7	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	0.28	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	13	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	0.74	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.29	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	0.26	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	3.58	< 0.80





Analytical Report Number: 22-48682

Project / Site name: Northstowe

Lab Sample Number				2221053	2221054	2221055	2221056
Sample Reference				BH2C101	BH2C103	BH2C103	BH2C104
Sample Number				1	1	2	2
Depth (m)				0 20-0.30	0.10-0.20	0 50-0.60	0.10-0.20
Date Sampled				21/03/2022	22/03/2022	22/03/2022	22/03/2022
Time Taken				1804	1135	1136	1451
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				

Heavy Metals / Metalloids

Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1 0	2 6	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	12	15	19
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.93	0.84	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	28	1	0 5	1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0 2	< 0 2	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	-	-	< 4 0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	25	37	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	11	12	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	13	15	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0 3	< 0 3	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	21	28	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1 0	< 1 0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	45	47	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	62	44	60	47

Petroleum Hydrocarbons

TPH6 - Aliphatic (C6 - C8) HS_1D_AL	mg/kg	0.001	MCERTS	< 0 001	< 0 001	-	-
TPH6 - Aliphatic (C8 - C10) HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	< 0 001	-	-
TPH6 - Aliphatic (C10 - C12) EH_CU_1D_AL	mg/kg	1	MCERTS	< 1 0	< 1 0	-	-
TPH6 - Aliphatic (C12 - C16) EH_CU_1D_AL	mg/kg	2	MCERTS	< 2 0	< 2 0	-	-
TPH6 - Aliphatic (C16 - C21) EH_CU_1D_AL	mg/kg	8	MCERTS	< 8 0	< 8 0	-	-
TPH6 - Aliphatic (C21 - C35) EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8 0	-	-
TPH6 - Aliphatic (C6 - C35) EH CU+HS 1D AL	mg/kg	10	NONE	< 10	< 10	-	-

TPH6 - Aromatic (C6 - C8) HS 1D AR	mg/kg	0.001	NONE	< 0 001	< 0 001	-	-
TPH6 - Aromatic (C8 - C10) HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	-	-
TPH6 - Aromatic (C10 - C12) EH_CU_1D_AR	mg/kg	1	MCERTS	< 10	< 1 0	-	-
TPH6 - Aromatic (C12 - C16) EH_CU_1D_AR	mg/kg	2	MCERTS	< 2 0	< 2 0	-	-
TPH6 - Aromatic (C16 - C21) EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	-	-
TPH6 - Aromatic (C21 - C35) EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	-	-
TPH6 - Aromatic (C6 - C35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	-	-

 ${\sf U}/{\sf S} = {\sf Unsuitable \ Sample} \qquad {\sf I}/{\sf S} = {\sf \ Insufficient \ Sample}$





* 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 *
2221053	BH2C101	1	0.20-0.30	Brown loam and clay with gravel and vegetation.
2221054	BH2C103	1	0.10-0.20	Brown loam and clay with gravel and vegetation.
2221055	BH2C103	2	0.50-0.60	Brown loam and clay with gravel and stones.
2221056	BH2C104	2	0.10-0.20	Brown loam and clay with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Molsture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	w	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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
TPH6 (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method with silica gel split/clean up.	L076-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Hexavalent chromium in soil	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

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

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

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

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





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
Analytical rest Nume	Analytical Piction Description	Analytical Method Reference	number	Analysis	Status

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

Sample Deviation Report



Analytical Report Number : 22-48682 Project / Site name: Northstowe

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2C101	1	S	2221053	с	Total cyanide in soil	L080-PL	с
BH2C103	1	S	2221054	с	Total cyanide in soil	L080-PL	с
BH2C103	2	S	2221055	с	Free cyanide in soil	L080-PL	с
BH2C103	2	S	2221055	с	Total cyanide in soil	L080-PL	с
BH2C104	2	S	2221056	с	Free cyanide in soil	L080-PL	с
BH2C104	2	S	2221056	с	Total cyanide in soil	L080-PL	с





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t: 029 2092 6873

e: Reg. 13(1) arcadis.com

Analytical Report Number : 22-51163

Project / Site name:	Northstowe	Samples received on:	08/04/2022	
Your job number:	10052307	Samples instructed on/ Analysis started on:	11/04/2022	
Your order number:	14059900	Analysis completed by:	20/04/2022	
Report Issue Number:	1	Report issued on:	21/04/2022	
Samples Analysed:	16 water samples			



Reg. 13(1) 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.





Your Order No: 14059900								
Lab Sample Number				2235073	2235074	2235075	2235076	2235077
Sample Reference	BHTCA101	WSTCA108	BHTCA105D	BHTCA104	BHTCA110			
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				05/04/2022	05/04/2022	05/04/2022	06/04/2022	06/04/2022
Time Taken				1045	1503	1612	1107	1415
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	78	7	7	76	7.1
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	458	338	817	509	524
Alkalinity as CaCO3	mg/l	3	ISO 17025	220	540	420	210	380

Phenols by HPLC	enols by HPLC											
Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5				

Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	< 3 5	< 3 5	< 3 5

Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16





Your Order No: 14059900								
Lab Sample Number				2235073	2235074	2235075	2235076	2235077
Sample Reference				BHTCA101	WSTCA108	BHTCA105D	BHTCA104	BHTCA110
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled				05/04/2022	05/04/2022	05/04/2022	06/04/2022	06/04/2022
Time Taken				1045	1503	1612	1107	1415
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	1300	130	160	980	110
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0	< 5 0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.45	2.33	1.83	2.08	0.74
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.05	0.08	0.15	0.07	0.08
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	0 5	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	4 5	68	9 5	4.1	4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2	03	06	0 2	0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	8 5	21	28	73	13
Selenium (dissolved)	µg/l	0.6	ISO 17025	2 3	1.4	18	16	33
Zinc (dissolved)	µg/l	0.5	ISO 17025	66	72	5 5	88	18

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 10	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 1 0
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 10
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 10	< 1 0
TPH-CWG - Aromatic >C10 - C12 _{EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	ua/l	10	NONE	< 10	< 10	< 10	< 10	< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

NONE

NONE

µg/l

µg/l

10

10

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

TPH-CWG - Aromatic >C21 - C35 _{EH_1D_AR_#1_#2_MS}

TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS





Your Order No: 14059900								
Lab Sample Number				2235078	2235079	2235080	2235081	2235082
Sample Reference				BHTCA103	BHTCA106	BHTCA107	BHTCA102	WS2C120
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled			05/04/2022	06/04/2022	06/04/2022	05/04/2022	07/04/2022	
Time Taken				1403	1007	1015	1443	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	7	7.7	7 5	73	7 2
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	1090	657	1260	476	1040
Alkalinity as CaCO3	mg/l	3	ISO 17025	370	230	370	270	390

Phenols by HPLC	ienols by HPLC												
Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5					

Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	< 3 5	< 3 5	< 3 5

Speciated PAHs										
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01		
Total PAH										
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16		





Your Order No: 14059900								
Lab Sample Number				2235078	2235079	2235080	2235081	2235082
Sample Reference				BHTCA103	BHTCA106	BHTCA107	BHTCA102	WS2C120
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Date Sampled				05/04/2022	06/04/2022	06/04/2022	05/04/2022	07/04/2022
Time Taken				1403	1007	1015	1443	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	600	1000	890	930	95
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0	< 5 0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.64	1.41	1.29	0.86	3.75
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.14	0.05	0.03	0.05	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	< 0 2	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	5.1	4.9	3.9	4 5	5.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	0 2	03	< 0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	56	13	12	7.4	13

1.9

110

9.7

14

15

29

2.1

96

32

8.4

0.6

0.5

µg/l

µg/l

ISO 17025

ISO 17025

Monoaromatics & Oxygenates

Gelenium (dissolved)

Zinc (dissolved)

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
_			-					
TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 10	< 1 0	< 10	< 10	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

< 10

< 10

< 10

< 10

< 10

TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS U/S = Unsuitable Sample I/S = Insufficient Sample





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Your Order No: 14059900								
Lab Sample Number				2235083	2235084	2235085	2235086	2235087
Sample Reference				WS2C112	BH2C103	BH2C104	WSTCA117	BHTCA109
Sample Number				None Supplied				
Depth (m)				None Supplied				
Date Sampled			07/04/2022	07/04/2022	07/04/2022	07/04/2022	07/04/2022	
Time Taken				None Supplied				
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	7.4	7.4	7	6.9	6.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	936	1390	1380	519	1040
Alkalinity as CaCO3	mg/l	3	ISO 17025	260	280	250	510	610

Phenols by HPLC											
Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5			

Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	< 3 5	< 3 5	< 3 5

Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total DAH								
		0.16	ICO 1702E					
Total EPA-16 PAHs	μg/i	0.10	130 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16





/our Order No: 14059900										
Lab Sample Number				2235083	2235084	2235085	2235086	2235087		
Sample Reference				WS2C112	BH2C103	BH2C104	WSTCA117	BHTCA109		
Sample Number		None Supplied	None Supplied	None Supplied	None Supplied	None Supplied				
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied					
Date Sampled				07/04/2022	07/04/2022	07/04/2022	07/04/2022	07/04/2022		
Time Taken				None Supplied						
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status							

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	98	930	240	190	330
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0	< 5 0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.72	0.7	1.95	1.81	0.55
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.19	0.13	0.13	0.06	0.07
Chromium (dissolved)	µg/l	0.2	ISO 17025	0 2	< 0 2	< 0 2	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	4 5	3	4 2	38	3
Lead (dissolved)	µg/l	0.2	ISO 17025	0 2	< 0 2	< 0 2	0 2	03
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	43	16	32	29	9
Selenium (dissolved)	µg/l	0.6	ISO 17025	40	3	< 0.6	1	3.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	97	11	28	12	11

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 1 0	< 1 0
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 1 0	< 1 0
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 1 0	< 1 0
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 1 0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
			-					
TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS 1D AR	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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





Your Order No: 14059900				
Lab Sample Number	2235088			
Sample Reference	BHTCA108			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	07/04/2022			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

рН	pH Units	N/A	ISO 17025	8
Total Cyanide	µg/l	10	ISO 17025	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	804
Alkalinity as CaCO3	mg/l	3	ISO 17025	210

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0 5
Resorcinol	µg/l	0.5	NONE	< 0 5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5
Cresols	µg/l	0.5	NONE	< 0 5
Naphthols	µg/l	0.5	NONE	< 0 5
Isopropylphenol	µg/l	0.5	NONE	< 0 5
Phenol	µg/l	0.5	NONE	< 0 5
Trimethylphenol	µg/l	0.5	NONE	< 0 5

Total Phenols

Total Thendo				
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01

Total EPA-16 PAHs	Total PAT				
	Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16





Your Order No: 14059900				
Lab Sample Number				2235088
Sample Reference	BHTCA108			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	07/04/2022			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	790
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0

Arsenic (dissolved)	µg/l	0.15	ISO 17025	< 0.15
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	0.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.07
Nickel (dissolved)	µg/l	0.5	ISO 17025	0 8
Selenium (dissolved)	µg/l	0.6	ISO 17025	7.9
Zinc (dissolved)	µg/l	0.5	ISO 17025	5

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 10
Toluene	µg/l	1	ISO 17025	< 10
Ethylbenzene	µg/l	1	ISO 17025	< 10
p & m-xylene	µg/l	1	ISO 17025	< 10
o-xylene	µg/l	1	ISO 17025	< 10
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 10

Petroleum Hydrocarbons

	Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0
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TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH_1D_AL_#1_#2_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH_1D_AL_#1_#2_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10

TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS 1D AR	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10

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





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

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Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, AI=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	w	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	w	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
PRO (Waters)	Determination of hydrocarbons C6-C10 by headspace GC MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	w	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	w	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	w	ISO 17025
Alkalinity in Water (by discreet analyser)	Determination of Alkalinity by discreet analyser (colorimetry). Accredited matrices: SW, PW, GW.	In house method based on MEWAM & USEPA Method 310.2.	L082-PL	W	ISO 17025

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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





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 Analysis Accree	Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2C103	None Supplied	W	2235084	с	pH at 20oC in water (automated)	L099-PL	с
BH2C104	None Supplied	W	2235085	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA101	None Supplied	W	2235073	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA102	None Supplied	W	2235081	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA103	None Supplied	W	2235078	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA104	None Supplied	W	2235076	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA105D	None Supplied	W	2235075	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA106	None Supplied	W	2235079	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA107	None Supplied	W	2235080	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA108	None Supplied	W	2235088	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA109	None Supplied	W	2235087	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA110	None Supplied	W	2235077	с	pH at 20oC in water (automated)	L099-PL	с
WS2C112	None Supplied	W	2235083	с	pH at 20oC in water (automated)	L099-PL	с
WS2C120	None Supplied	W	2235082	с	pH at 20oC in water (automated)	L099-PL	с
WSTCA108	None Supplied	W	2235074	с	pH at 20oC in water (automated)	L099-PL	с
WSTCA117	None Supplied	W	2235086	с	pH at 20oC in water (automated)	L099-PL	с





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Analytical Report Number : 22-51965

Project / Site name:	Northstowe	Samples received on:	14/04/2022	
Your job number:		Samples instructed on/ Analysis started on:	14/04/2022	
Your order number:	14059900	Analysis completed by:	26/04/2022	
Report Issue Number:	1	Report issued on:	26/04/2022	
Samples Analysed:	4 water samples			



Reg. 13(1) **Technical Reviewer** For & on behalf of i2 Analytical Ltd.

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

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

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

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

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





Lab Sample Number				2239760	2239761	2239762	2239763
Sample Reference				BH2C101	WS2C108	WS2C114	BH2C102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	Deviating	Deviating	Deviating	Deviating			
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

pH	pH Units	N/A	ISO 17025	7.4	7 5	7.4	73
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	110	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	1310000	2070000	701000	1900000
Sulphate as SO4	mg/l	0.045	ISO 17025	1310	2070	701	1900
Alkalinity as CaCO3	mg/l	3	ISO 17025	230	250	440	300

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	950	< 0 5
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	950	< 3 5

Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/I	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/I	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH							
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16





Analytical Report Number: 22-51965

Project / Site name: Northstowe

Lab Sample Number				2239760	2239761	2239762	2239763
Sample Reference				BH2C101	WS2C108	WS2C114	BH2C102
Sample Number				None Supplied	ne Supplied None Supplied None Supplied		None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled	Deviating	Deviating Deviating		Deviating			
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	1300	310	130	1100
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.49	0.39	1.65	0.41
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.05	0.09	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2	0.4	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	2 3	28	4.1	2.1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	< 0 2	< 0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	6 5	5.7	11	96
Selenium (dissolved)	µg/l	0.6	ISO 17025	4.1	16	20	13
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.1	16	5 2	29

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 10
TPH-CWG - Aliphatic >C6 - C8 HS 1D AL	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 10
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 10	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 10	< 1 0	< 10	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10

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





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 water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, AI=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	w	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	w	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	w	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	w	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	w	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Alkalinity in Water (by discreet analyser)	Determination of Alkalinity by discreet analyser (colorimetry). Accredited matrices: SW, PW, GW.	In house method based on MEWAM & USEPA Method 310.2.	L082-PL	W	ISO 17025

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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




Analytical Report Number : 22-51965 Project / Site name: Northstowe

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 A	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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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



Analytical Report Number : 22-51965 Project / Site name: Northstowe

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2C101	None Supplied	W	2239760	а	None Supplied	None Supplied	None Supplied
BH2C102	None Supplied	W	2239763	а	None Supplied	None Supplied	None Supplied
WS2C108	None Supplied	W	2239761	а	None Supplied	None Supplied	None Supplied
WS2C114	None Supplied	W	2239762	а	None Supplied	None Supplied	None Supplied



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NORTHSTOWE PHASE 2 - PARCEL C1

Ground Investigation Factual Report

MAY 2022



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Northstowe Phase 2 - Parcel C1

Ground Investigation Factual Report

Authorised	Signatures	
Author	Reg. 13(1)	
Checker	Reg. 13(1)	
Approver	Reg. 13(1)	Reg. 13(1)
Report No	10052307-SER-G002	
Date	MAY 2022	

Version control

Version	Date	Author	Changes
00	May 2022	Reg. 13(1)	Original issue

This report dated May 2022 has been prepared for Homes England (the "Client") in accordance with the terms and conditions of appointment dated February 2022 (the "Appointment") between the Client and **Arcadis Consulting (UK) Limited** ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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APPENDICES

APPENDIX A

DRAWINGS Drawing 10052307-SER-EHP-0001: Exploratory Hole Location Plan

APPENDIX B STANDARD PROCEDURES

APPENDIX C EXPLORATORY HOLE LOGS

APPENDIX D CERTIFICATION OF FIELD APPARATUS

APPENDIX E MONITORING DATA

APPENDIX F GEOTECHNICAL LABORATORY TEST DATA

APPENDIX G

GEO-ENVIRONMENTAL LABORATORY TEST DATA

1 INTRODUCTION

Homes England propose to develop a mixed use town centre with both residential and commercial space on the C1 parcel of land at Northstowe. This ground investigation was commissioned by Homes England, 'the Client', to inform on the ground conditions at the site.

The scope of the ground investigation was determined by Arcadis Consulting (UK) Ltd, and the work was instructed in February 2022.

This report provides a factual account of the fieldwork undertaken including engineering descriptions of the various strata encountered, results of *in situ* testing, monitoring and the subsequent geotechnical and geoenvironmental laboratory testing undertaken on samples obtained.

1.1 Limitations

This report has been prepared for the Client in accordance with the terms and conditions of appointment. Arcadis cannot accept any responsibility for any use of or reliance on the contents of this report by any third party. The copyright of this document, including the electronic format and any AGS data, shall remain the property of Arcadis.

Arcadis do not accept liability for any use of the information presented in this report unless it is signed by the author, checker and approver and marked as final.

It should be noted that ground conditions between exploratory holes may vary from those identified during this ground investigation; any design should take this into consideration. It should also be noted that groundwater levels may be subject to diurnal, seasonal, and climatic variations and those recorded in this report are solely dependent on the time the ground investigation was carried out and the weather before and during the investigation.

1.2 Proposal

The proposed development comprises the first phase of a Town Centre development including residential and mixed use commercial units, as well as public open space and car parking.

1.3 Existing Information

The following information relating to the site and the ground conditions was made available to Arcadis prior to mobilisation to the site:

a. 10018973-ARC-XX-XX-RP-YY-0004-03-Phase 2B Interpretive Report 2020 [Arcadis Consulting (UK) Ltd. [1]

2 SITE DETAILS

2.1 Site Location and Description

The site is situated approximately 10km northwest of Cambridge at the approximate national grid reference of TL 402 672. Figure 2.1 below shows the site location.



Figure 2-1 Site Location

The site is a defined plot of land, designated C1, within the wider development of the new town of Northstowe The site is currently undeveloped open land with moderate vegetation cover and small trees scattered throughout, it is generally flat and level.

The site is bound to the north and west by unnamed roads, and to the east by Stirling Road. To the south is further open land awaiting development. The site sits within the centre of the new Northstowe development, the newly opened Northstowe Secondary College is located opposite the Phase C1 plot on the eastern side.

2.2 Geology

The published 1:50 000 scale British Geological Survey (BGS) map of the area incorporating the site, Sheet 188 Cambridge [2], and the BGS OnShore GeoIndex [3] indicate the site is underlain by River Terrance Deposits; the bedrock deposits underlying the site comprise the Kimmeridge Clay Formation. The general distribution of the strata at the site is shown in Figure 2-2 below.



Figure 2-2: Geological Setting

The superficial River Terrace Deposits, described as "sand and gravel, locally with lenses of silt, clay or peat" [3]. These are underlain by the solid geology of the Kimmeridge Clay Formation which is described as "mudstones (calcareous or kerogen-rich or silty or sandy); thin siltstone and cementstone beds; locally sands and silts" [3]

Due to the sites history as an RAF facility and its current development, the likelihood of encountering anthropogenic materials side wide is high.

2.3 Hydrogeology and Hydrology

The superficial deposits on the site are classified as Secondary A aquifer meaning permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers [4].

The bedrock (Kimmeridge Clay Formation and Ampthill Clay Formation) is classified as Unproductive Strata. Unproductive Strata is defined as "rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow [4]"

The site is not situated in a source protection zone.

The closest surface water feature is a newly created waterparks area consisting of surface water ponds approximately 500m east southeast of the plot. The site is not situated in a flood risk zone.

3 FIELDWORK

3.1 General

Ground investigation works were carried out in a single phase between 9th March and 24th March 2022. The scope of the ground investigation, including the location, scheduled depth and type of exploratory hole undertaken was determined by Arcadis Consulting (UK) Ltd and is summarised in Table 3-1.

The ground investigation methods were undertaken in general accordance with the principles set out in BS EN 1997-2:2004 [7] and with the general practice described in BS5930:2015+A1:2020 [8]. The geoenvironmental aspects of the ground investigation complied with the general requirements of BS 10175+A2:2017 [9].

Location ID	Hole Type	Scheduled Depth (m)	Requirements
BHTCA101- BHTCA110 BHTCA301	СР	20.00	Determine thickness of engineering soils; collect representative samples of strata and undertake <i>in situ</i> tests
TPTCA102 - TPTCA120	TP	3.00	Determine thickness of engineering soils; collect representative samples of strata.
WSTCA101 - WSTCA117	DS	3.00	Determine thickness of engineering soils; collect representative samples of strata and undertake <i>in situ</i> tests

Table 3-1 Initial ground investigation scope

Notes

TP = machine excavated trial pit, CP = cable percussive boring, DS = dynamic sampling.

The investigation works were carried out under the supervision of an Arcadis ground engineer who undertook the logging and reporting of the exploratory holes and *in situ* testing.

3.2 Exploratory Holes

3.2.1 Exploratory Hole Locations

The exploratory hole locations were set out using eastings and northings on site by a specialist survey firm and the elevations then established using a Trimble VRS NOW GPRS system; allowing an accuracy of +/ 50 mm.

3.2.2 Investigation Methodology

The following methods and techniques were undertaken to construct the exploratory holes at the site.

Details of the methods of investigation and associated standards adopted and a key to the notation and symbols used on the logs is presented in are presented in Appendix B; the exploratory hole records are presented in Appendix C.

3.2.3 Cable Percussive Boring

Cable percussive boring was completed using a trailer mounted Dando 2000, 2500 or Dando 3000 boring rig equipped with 200 mm and 150 mm casing and tools to undertake boreholes up to 20 m bgl.

Samples of the material recovered from the borehole were taken to enable representative laboratory testing. Generally small disturbed samples were taken at each change in stratum and at 0.5 m intervals

thereafter in clay soils; and bulk samples were taken at 1 m intervals where the sand and gravel content of the soil was significant.

Standard penetration tests (SPT) were generally undertaken at 1.0 m intervals until 10 m depth and then were taken at 1.50 m intervals until the termination depth of the hole. These were alternated with open drive tube samples, taken using thin-walled sampling apparatus from the relatively undisturbed material at the base of the borehole.

3.2.4 Dynamic Sampling

Dynamic sampling was completed using a Dart track-mounted sampling rig capable of driving windowless sampling tubes using a mechanical hammer dropped repeatedly from a self-governed height.

Photographs of the materials recovered are presented with the appropriate hole log.

Due to the method of investigation, the materials recovered within the sampler apparatus were generally disturbed and were assessed as complying with Class 3 to Class 5 of BS EN 22475-2. Sub-samples of the material recovered in the liners were taken to enable representative laboratory testing. Generally, small disturbed samples were taken at each change in stratum and at 0.5 m intervals thereafter in clay soils; and small bulk samples were taken at 1 m intervals where the sand and gravel content of the soil was significant.

Standard penetration tests (SPT) were undertaken using the track mounted rig 1.0 m centres until the termination depth of the hole.

3.2.5 Trial Pitting

Trial pits were undertaken using a tracked mechanical excavator and pits were entirely logged from the surface and arisings.

Samples of the material recovered in the trial pits were taken to enable representative laboratory testing. Generally, small disturbed samples were taken at each change in stratum and at 0.5 m intervals thereafter in clay soils; and bulk samples were taken at 1 m intervals where the sand and gravel content of the soil was assessed as significant.

Photographic records of the trial pit elevation and arisings were taken and are presented with the associated trial pit log.

3.2.6 Completed Works

Drawing 10052307-SER-EHP-0001 presented in Appendix A displays the as-constructed exploratory hole locations while the co-ordinates and elevation of the ground surface at each exploratory hole location are given on the individual logs. The completed scope of investigation is summarised in Table 3.2.

Location ID	Hole Type	Start Date	End Date	Final depth (m)	Termination Reason
BHTCA101	СР	09 March2022	10 May 2022	20.45	Target depth
BHTCA102	СР	10 Marc2022	11 March 2022	20.11	Target depth
BHTCA103	IP	08 March 2022	08 March 2022	0.40	Obstruction; move to location BHTCA103A
BHTCA103A	CP	09 March 2022	10 March 2022	17.45	Unable to seal groundwater

Table 3-2. Summary of completed exploratory holes

Northstowe Phase 2 - Parcel C1

Location ID	Hole Type	Start Date	End Date	Final depth (m)	Termination Reason
BHTCA104	СР	14 March 2022	14 March 2022	20.16	Target depth
BHTCA105	СР	11 March 2022	15 March 2022	20.00	Target depth
BHTCA106	СР	15 March 2022	15 March 2022	20.45	Target depth
BHTCA107	СР	16 March 2022	16 March 2022	20.45	Target depth
BHTCA108	СР	11 March 2022	14 March 2022	20.45	Target depth
BHTCA109	СР	14 March 2022	16 March 2022	20.45	Target depth
BHTCA110	СР	16 March 2022	17 March 2022	20.05	Target depth
BHTCA301A	СР	23 March 2022	24 March 2022	20.45	Target depth
TPTCA102	TP	11 March 2022	11 March 2022	2.00	Instability
TPTCA103	TP	10 March 2022	10 March 2022	3.00	Target depth
TPTCA104	TP	15 March 2022	15 March 2022	3.00	Target depth
TPTCA105	TP	10 March 2022	10 March 2022	3.00	Target depth
TPTCA107	TP	11 March 2022	11 March 2022	3.00	Target depth
TPTCA110	TP	15 March 2022	15 March 2022	3.00	Target depth
TPTCA111	TP	10 March 2022	10 March 2022	3.00	Target depth
TPTCA113	TP	11 March 2022	11 March 2022	3.00	Target depth
TPTCA114	TP	11 March 2022	11 March 2022	3.00	Target depth
TPTCA115	TP	15 March 2022	15 March 2022	3.00	Target depth
TPTCA118	TP	10 March 2022	10 March 2022	3.00	Target depth
TPTCA119	TP	15 March 2022	15 March 2022	3.00	Target depth
TPTCA120	TP	10 March 2022	10 March 2022	3.00	Target depth
WSTCA101	DS	15 March 2022	15 March 2022	1.65	Refusal
WSTCA106	DS	15 March 2022	15 March 2022	3.45	Target depth
WSTCA108	DS	15 March 2022	15 March 2022	3.45	Target depth
WSTCA109	DS	14 March 2022	14 March 2022	3.45	Target depth
WSTCA112	DS	14 March 2022	14 March 2022	3.45	Target depth
WSTCA116	DS	14 March 2022	14 March 2022	3.45	Target depth

Location ID	Hole Type	Start Date	End Date	Final depth (m)	Termination Reason
WSTCA117	DS	15 March 2022	15 March 2022	3.45	Target depth

Notes

TP = machine excavated trial pit, CP = cable percussive boring, DS = dynamic sampling, IP = Inspec ion Pit.

3.3 In situ Testing

3.3.1 General

3.3.2 Penetration Testing

3.3.2.1 Standard Penetration Tests

Standard penetration tests (SPT) were carried out as required in the investigation scope and in accordance with the methods given in the standard procedures presented within Appendix B. Generally, tests were undertaken at regular intervals throughout the borehole to provide a profile of the soil's resistance with depth and a disturbed soil samples was recovered from the SPT split-spoon tool or a disturbed sample was taken over the range of the test interval.

The N-values as determined in the field are presented on the borehole logs as uncorrected values that do not take into account the energy losses or efficiency of the automatic trip hammer used to drive the test tool into the ground. The calibration certification for the test devices used in the investigation is presented in Appendix D and a summary of the SPT equipment used at each location is presented in Table 3-3.

Table 3-3 Test Hammer Calibrations

Location ID	SPT Hammer Reference No.	Energy Efficiency Ratio, Er %
BHTCA101, BHTCA102, BHTCA104, BHTCA106, BHTCA107,	AR2521	78.98
BHTCA108, BHTCA109, BHTCA301A	AR2411	77.00
WSTCA101 - WSTCA117	DART489	82.00
BHTCA103A, BHTCA105, BHTCA110	1.11.18 ml	71.00

3.3.3 Hydraulic Tests

3.3.3.1 Soakaway Tests

The soil infiltration rate was determined by conducting a soakaway tests in accordance with the methodology described in BRE 365 [15]. The tests were conducted in trial pits dug to the anticipated soakaway depth. Summary information of the tests is presented Table 3-4 while detailed test sheets are presented with the relevant trial pit log in Appendix C.

Northstowe Phase 2 - Parcel C1

Table 3-4	Summary	of trial pit	soakage	tests
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Location ID	Depth of pit (m)	Time to empty (minutes)	Soil Infiltration Rate <i>f</i> ms ⁻¹	Comment/limitations
TPTCA104	1.50	Not achieved	9.84 x 10 ⁻¹⁰	Test terminated after one hour due to site time constraints.

3.3.4 VOC Head Space Screening

The presence of Volatile Organic Compounds (VOC) within the ground was determined using a photoionization detector (PID) to detect the 'headspace' vapours emitted by the compounds. The method is applicable to a wide range of compounds that have sufficiently high volatility to be effectively liberated from the soil or water matrix in normal temperature and pressure ranges.

The headspace test was undertaken on the freshly extracted soil core sample at regular intervals corresponding with environmental sampling by placing a small amount of material into a screw-top glass jar so that the jar was not more than half-full. The jar opening was covered with an aluminium foil sheet and the lid screwed on to form an air-tight seal. The sample and jar were then shaken for about 15 seconds to break-up and disperse the soil before resting the sample for about 5 minutes.

To assess the headspace vapour, the jar lid was removed and the PID probe was inserted through the foil into the headspace area. The PID reading recorded was the highest response observed in the first 10 seconds. The screening results are presented on the relevant exploratory holes logs within Appendix C.

The testing was undertaken using a MiniRAE Lite PID with a 10.6 eV lamp.

The PID instrument was calibrated regularly throughout the day using isobutylene reference gas concentrations.

3.4 Installations and Post-fieldwork Monitoring

3.4.1 Installations

Installations to enable long term monitoring of the site were made in those boreholes selected by Arcadis Consulting (UK) Ltd and the details are summarised in Table 3-5 and are also provided on the relevant borehole logs.

Location ID	Installation Type	Response Zone Top m bgl	Response Zone Base m bgl
BHTCA101	SP50	3.00	20.00
BHTCA102	SP50	15.00	19.80
BHTCA103A	SP50	13.00	17.00
BHTCA104	SP50	3.00	20.00
BHTCA105 Shallow	SP50	1.00	2.30
BHTCA105 Deep	SP50	6.00	9.00

Table 3-5 Summary exploratory hole installations

Northstowe Phase 2 - Parcel C1

BHTCA106	SP50	14.00	20.00
BHTCA107	SP50	3.00	20.00
BHTCA108	SP50	16.00	20.00
BHTCA109	SP50	3.00	20.00
BHTCA110	SP50	3.00	10.00
BHTCA301A	SP50	0.50	3.00
WSTCA101	SP50	0.50	1.50
WSTCA106	SP50	0.50	1.80
WSTCA108	SP50	0.50	3.00
WSTCA109	SP50	0.50	1.50
WSTCA112	SP50	0.50	1.50
WSTCA116	SP50	0.50	1.50
WSTCA117	SP50	0.50	2.30

Notes

SP = standpipe piezometer.

3.4.2 Post-fieldwork Monitoring

Post-field work monitoring was undertaken on separate visits on 5th – 7th April, 12th – 13th April, and 20th May 2022. In all, 3 visits to the site were made to record land gas emissions and groundwater levels. During the first monitoring visit, after completion of the land gas emission monitoring, groundwater monitoring and sampling was undertaken. Where installations were purged dry, monitoring and sampling was conducted on groundwater recovered following recharging of groundwater in installations.

The results of the groundwater monitoring are presented within Appendix E.

4 LABORATORY TESTING

4.1 General

Geotechnical and geo-environmental chemical testing was undertaken on selected samples obtained from the exploratory holes. The testing was scheduled by the geotechnical and/or geo-environmental engineer and the testing was undertaken by an Arcadis approved testing laboratory.

4.2 Geotechnical Laboratory Testing

The geotechnical tests detailed in Table 4.1 were carried out in accordance with either BS1377:1990: Parts 1 to 8 [10]; BS EN ISO 17892: Parts 1 to 12 [11]; BRE SD 1:2005 [12]; or other methods as listed in Table 4.1. The complete results of the geotechnical laboratory testing are presented in Appendix F.

Test	Method	No of Determinations
Moisture content	BS1377 Pt 2 - 3.2	91
4-point liquid and plastic limit	BS 1377 Pt 2 - 4.3 & 5.3	90
Particle Size Distribution - Wet sieving	BS1377 Pt 2 - 9.2	20
Particle Size Distribution - Sedimentation	BS1377 Pt 2 - 9.4	20
Laboratory vane	BS1377 Pt 7 - 3	6
Remoulded CBR	BS1377 Pt 4 - 7	13
Quick Unconsolidated Undrained Triaxial	BS1377 Pt 7 - 8/9	13
pH, water soluble sulphate; total sulphate, total sulphur, chloride, nitrate, magnesium	BRE SD1 preferred methods	36
One Dimensional Consolidation	BS1377 Pt5 - 3	10

Table 4-1 Summary of geotechnical test data

4.3 Geo-Environmental Laboratory Testing

Geo-environmental tests were undertaken on soil, groundwater and prepared leachate specimens obtained from the samples collected from the site. Testing was carried out for the contaminants detailed in Table 4.2 and Table 4.3. Details of the test methodology and results of the chemical laboratory testing are presented in Appendix G.

Table 4-2 Summary of geo-environmental test data – soil ma
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Test type	Method	No of Determinations
Metals (As, B, Cr, Cd, Cu, Pb, Hg, Ni, Se, Zn)	Induced Coupled Plasma Optical Emission Spectroscopy (ICP-OES)	42
рН		42

Northstowe Phase 2 - Parcel C1

Cvanide Free and Total		18
Speciated Polycyclic Aromatic Hydrocarbon compounds (PAH)	Gas Chromatography –Mass Spectrometry (GC-MS)	42
Total Petroleum Hydrocarbon Criteria Working Croup (TPH CWG)	Gas Chromatography – Flame Ionisation Detector (GC- FID)	30
Benzene, Toluene, Ethylbenzene, Total Xylenes (BTEX)	Gas Chromatography –Mass Spectrometry (GC-MS)	6
Phenol (total), Cresol, Chlorinated Phenols		42
Hexavalent Chromium		42
VOCs & SVOCs	Gas Chromatography –Mass Spectrometry (GC-MS)	24

Table 4-3 Summary of geo-environmental test data – groundwater matrix

Test type	Method	No of Determinations
Metals (As, B, Cr, Cd, Cu, Pb, Hg, Ni, Se, Zn), pH, Cyanide Free & Total	Induced Coupled Plasma Optical Emission Spectroscopy (ICP-OES)	12
PAHs	Gas Chromatography –Mass Spectrometry (GC-MS)	12
TPH CWG and BTEX	Gas Chromatography – Flame Ionisation Detector (GC- FID)	12
VOCs & SVOCs	Gas Chromatography –Mass Spectrometry (GC-MS)	12

5 REFERENCES

- 1. Arcadis Consulting (UK) Ltd. 2020. 10018973-ARC-XX-XX-RP-YY-0004-03-Phase 2B Interpretive Report.
- 2. British Geological Survey. 1982. Cambridge. England and Wales Sheet 188. Bedrock and Drift Deposits. 1:50 000. BGS Keyworth, Nottingham.
- 3. British Geological Survey, Onshore Geolndex http://www.bgs.ac.uk/data/mapViewers/home.html Accessed April 2022.
- 4. Natural England Magic Map http://www.magic.gov.uk/MagicMap.aspx Accessed April 2022.
- 5. BS EN 1997-1. 2004.+ A1 2013 *Incorporating corrigendum February 2009*. Eurocode 7: Geotechnical Design. Part 1 General Rules. British Standards Institution.
- 6. BS EN 1997-2. 2007. *Incorporating corrigendum June 2010.* Eurocode 7: Geotechnical Design. Part 2 Ground Investigation and testing. British Standards Institution.
- 7. BS 5930. 2015+A1:2020. Code of practice for ground investigations. British Standards Institution.
- 8. BS 10175+A2. 2017. Investigation of potentially contaminated sites Code of practice. British Standards Institution.
- 9. Building Research Establishment. 2016. Soakaway Design. BRE Digest DG365. BRE, Watford.
- 10.BS 1377. 1990 & 2016 as amended. Method of test for soils for civil engineering purposes. Published in 9 Parts. British Standards Institution.
- 11.BS EN ISO 17892-1: Geotechnical investigation and testing Laboratory testing of soil Determination of water content. British Standards Institution.
- 12.Building Research Establishment. 2005. Concrete in aggressive ground. BRE Special Digest 1. 3rd Edition. BRE, Watford.

APPENDIX A

DRAWINGS

Drawing 10052307-SER-EHP-0002: Exploratory Hole Location Plan



APPENDIX B

STANDARD PROCEDURES

B0 General Principles

This ground investigation was undertaken in general accordance with the principles of BS EN 1997-1 [1] and BS EN 1997-2 [2] and the advice given in BS5930:2015+A1:2020 [3], which, provides complimentary guidance on the application of the primary standards. Where the requirements of the ground investigation specification differ from these primary standards, the investigation methodology was adapted as required and specific notes regarding methods and techniques employed were made in the appropriate report sections.

B1 Buried Services

Service clearance was undertaken in accordance with Arcadis' Safety, Health and Environment (SHE) Standard – Avoidance of Sub-Surface Hazards and Structures Standard. This document details the methods and safe working practices used to undertake excavations safely. Prior to breaking ground, services plans were consulted and the area scanned using a Cable Avoidance Tool (CAT) with detected signals marked on the ground. For all investigation positions, other than for machine excavated trial pits, hand excavated inspection pits are completed to 1.20 m bgl prior to the use of drilling and boring plant.

B2 Sampling requirements

The selection of sample types and sampling techniques has been chosen to take account of the soil fabric, size and quality of sample required based on whether the soils mass properties or the intact material properties of the ground are to be determined in subsequent laboratory tests. BS EN ISO 22475-1[4] describes three generic sample groups that are:

- a. Sampling by drilling. Generally, a disturbed sample recovered from the drilling tool or digging equipment, typically meeting Class 3 to Class 5 requirements, with the recovered material being stored in bulk bags or sealed jar or tub containers.
- b. Sampling by sampler. Typically referred to as open tube or drive sampling in which a tube with a sharp cutting edge is driven into the ground either by static thrust or dynamically driven to give a relatively undisturbed sample of Class 1 or Class 2 but may result in a Class 3 sample.
- c. Block sampling. Cylindrical large diameter samples or cuboid hand-cut samples usually relatively undisturbed Class 1 and Class 2.

The open-tube sampling equipment used on the site was of a type and design that conformed to BS EN ISO 22475-1. For the purpose of this ground investigation block sampling was not required.

Generally, samples were assessed on site and any unexpected deterioration in sample quality was reported to the ground engineer by the lead drilling technician.

Sufficient and representative samples were taken to allow the geo-mechanical properties of the ground to be adequately characterised and to enable the sequence of soil strata to be described by an engineering geologist or geotechnical engineer.

Where samples have been taken for chemical tests the drilling method attempted to adopt dry drilling over the sampling range that generally was achieved by the use of drill casing to separate and isolate the upper soil layers and exclude groundwater. Cross-contamination was further reduced by regular cleaning of sampling tools. Sample integrity was maintained by sealing samples immediately on collection and storing the samples in a temperature controlled cool box. Samples were despatched from the site at the end of the shift on which they were collected or as

required in the project specification. Details of best practice storage, preservation and decontamination measures undertaken are given below:

Task	Soil	Groundwater	Ground Gas	
Storage	Glass jars and vials supplied by the laboratory were used for the collection of soil samples to be analysed for volatile compounds. Plastic one-litre tubs were used to collect soil samples for metals analysis.	Glass vials supplied by the laboratory were used for the collection of samples to be analysed for volatile compounds. Samples to be analysed for lower volatility compounds were stored in laboratory prepared glass bottles.	1.4L Canisters supplied by the laboratory.	
Preservation	Filling of sample containers as far as practicable to minimise headspace and low storage temperature to minimise the potential for volatilisation and biodegradation of petroleum hydrocarbon compounds prior to analysis.			
Decontamination	Disposable gloves were worn and changed between sample collection to prevent cross-contamination.	Disposable gloves were worn and changed between sample collection to prevent cross contamination.		
Transport	Samples stored in dedicated sample boxes provided by the laboratory. Sample details and analytical requests were recorded on the laboratory chain of custody form included with samples, prior to dispatching to laboratory for analysis. Samples were dispatched to the laboratory on the day of sampling.			

B3 Sample description

Sample description was undertaken by the Arcadis site geologist in accordance with BS 5930: 2015+A1:2020. The descriptions of the individual samples were used to identify the sequence of strata at the exploratory hole location and from which representative exploratory hole logs were drawn.

B4 In situ testing

In situ geotechnical tests were undertaken taking account of the investigation scope and requirement to attain the appropriate parameters required in the geotechnical design. The tests were undertaken in accordance with the requirements of the relevant parts of BS EN ISO 22476 [5, 6, 7] and other methods as follows:

Standard penetration testing

Standard penetration tests were carried out in accordance with BS EN ISO 22476-3, BS EN 1997-2 and the national Annex to BS EN 1997-2. The test records are presented on the borehole logs as blow counts for each increment with the N-value as the total number of blows of the four main test increments.

Where the N-value exceeds a total of 50 blows, the test reports the penetration in millimetres for the last test increment recorded, and the N value is indicated as greater than 50,

e.g. 4,5/12,14,18, 6 for 10 mm

indicates that the seating blows (4 and 5) were completed and that the test terminated in the 4th increment after penetrating 10 mm.

Where the seating blows exceeded 25 blows for less than 150 mm; the test was stopped and the rods remarked after which, the main drive was continued. The test is then reported as the number of blows in each seating drive for the recorded penetration with the results of the main drive given as above,

e.g. 14/11 for 45 mm/12,14,16, 8 for 10 mm.

In certain circumstances where groundwater in-flow may affect the test, particularly in fine sand or silt, low SPT blow counts may be recorded. Where the SPT blow count was very low, N values of 5 or less, the test was, at the discretion of the site engineer, continued for a further 300 mm, recording blows for each 75 mm increment. **This is not** a standard penetration test value, it does however give an indication of potential disturbance to the ground.

B5 Data transfer format

The data collated during the ground investigation has been organised and managed using the "AGS data format" that allows data transfer between different disciplines and organisations in accordance with BS 8574 [10].

B6 References

- 1. BS EN 1997-1. 2004. Eurocode 7: Geotechnical Design. Part 1 General Rules. British Standards Institution, 2013 (revised text).
- BS EN 1997-2. 2007. Eurocode 7: Geotechnical Design. Part 2 Ground Investigation and testing. British Standards Institution, 2010 (revised text).
- 3. BS 5930: 2015+A1:2020. Code of practice for ground investigation. British Standards Institution.
- 4. BS EN ISO 22475-1. Geotechnical investigation and testing Sampling methods and groundwater measurements Part 1 Technical principles for execution.
- 5. BS EN ISO 22476-3 2005. Geotechnical investigation and testing Field testing Part 3: Standard penetration test. British Standards Institution
- 6. BS 1377-9. 1990. Methods of test for soils for civil engineering purposes. Part 9: In-situ tests. British Standards Institution.
- 7. BS 8574. Code of practice for the management of geotechnical data for ground engineering projects.

B7 Exploratory Hole Key



Key to Exploratory Hole Symbols and Abbreviations

Environmental soil sample

SPT split spoon sample

Gas sample

Liner sample

L

SPT

Environmental water sample

U

UT

W

SAMPLE TYPES

В	Bu k disturbed sample	ES
С	Core sample	EW
CBR-D	Disturbed sample from CBR test area	G

- CBR-U Undisturbed sample from CBR test area
- D Small disturbed sample

IN-SITU TESTING

- SPTs Standard Penetration Test (using a split spoon sampler)
- SPTc Standard Penetration Test (using a solid 60 degree cone)
- N Recorded SPT 'N' Value *
- -/- Blows/Penetration (mm) after seating blows totalling 150 mm
- MX Mexi Probe Test (records CBR as %)
- HV Hand Shear Vane Test (undrained shear strength quoted in kPa)
- PP Pocket Penetrometer Test (kg/m³)
- () Denotes residual test value
- PID Photo Ionisation Detector (ppm) *
- Kf/Kr Permeability Test (f = falling head, r = rising head quoted in ms⁻¹)
- HPD High Pressure Dilatometer Test (pressure meter)
- PKR Packer / Lugeon Permeability Test
- CBR California Bearing Ratio Test

ROTARY CORE DETAILS

- TCR Total Core Recovery, %
- SCR Solid Core Recovery, %
- RQD Rock Quality Designation (% of intact core >100 mm)
- FI Fracture Spacing (average fracture spacing; in mm, over indicated length of core) * *
- NI Non-Intact Core
- AZCL Assumed Zone of Core Loss

GROUNDWATER



Groundwater strike

Standing water level after 20 minutes; 1st, 2nd etc (number denotes level order)

STRATA LEGENDS - Note: Composite strata types are shown by combining symbols



* Where a single value is quoted this is the uncorrected 'N' value for a full 300 mm test drive following a seating drive of 150mm. Where the full test drive penetration is not achieved the number of blows is quoted for the penetration below the test total of 300mm, e.g.: 50/75.

* * The minimum, average and maximum are shown e.g. 5/45/125

INSTALLATION & BACKFILL DETAILS

Undisturbed sample

Water sample

Undisturbed thin wall sample



STRATUM BOUNDARIES

Unit boundary

APPENDIX C

EXPLORATORY HOLE LOGS

Samples Type + Depth	Type + Denth	Tests	-	1.1	Progre	200				1010			112.1	
Type + Depth	Type + Denth	10010						St	rata			1		
Sales I generated	The Dehni	Results	5	Water	Date & Time	Casing & Water	The second	Descriptio	n	-	Legend	Depth (Thickness)	Level	Inst Bac
(B1) 0.20-0.40 (ES1) 0.20 (B) 0.50-0.70 (B2) 0.50-0.70 (ES2) 0.50				Deput	09/03/2022 09:30	Depth 0.00 Dry	MADE GROUND: greyish brown slig subangular to sub and brick. Sand is pockets (up to 50r [MADE GROUND]	Very soft to soft bl htly sandy gravelly rounded fine to co- fine to coarse. Oc nm diameter) of so	uish grey mottleo / CLAY . Gravel is arse flint, concrei casional rootlets oft organic clay.	d light s te, ceramics . Occasional		(1.20)		
(B3) 1.00-1.20 (ES3) 1.00 (B4) 1.20-1.70 (ES4) 1.20-1.70	SPT(C) 1.20	N=32 (2,4/6,8	,10,8)	Dry			Dense yellowish b angular to subrour is fine to coarse.	rown slightly silty o ided fine and med	gravelly SAND G ium rarely coarse	Gravel is e flint. Sand		1.20	10.50	
(85) 1.70-2.00							[RIVER TERRACE	DEPOSITS				(0.00)		1
(B) 2.00-2.50 (B6) 2.00-2.50	SPT(C) 2.00	N=31 (4,6/9,5	9,8,5)	Dry			Dense light yellow very sandy GRAV coarse flint. Sand [RIVER TERRACE	ish brown, orangis EL Gravel is angu is fine to coarse. E DEPOSITS]	sh brown and bro lar to subrounde	wn clayey d fine to		2.00 - (0.70)	9.70	1/1/1
(87) 2.70-3.00 (89) 3.00-3.50 (08) 3.00-3.45 (ESS) 3.00-3.50 (D10) 3.50-4.00	SPT(S) 3.00	N=10 (1,2/2,2	2,3,3)	Dry			Firm dark bluish g Rare selenite crys [KIMMER DGE CI	rey silty CLAY with tals. AY FORMATION]	thinly laminated	siltstone.		2.70	9.00	
(812) 4.00-4.50 UT11) 4.00-4.45		UT11 90 blows rec.	100%	Dry								-		
(D13) 4.50-5.00			4						Siltstone band. 4	.5-4.7m bgl				
(B) 5.00-5.50 (B15) 5.00-5.50 (D14) 5.00-5.45	SPT(S) 5.00	N=23 (3,5/6,5	5,5,7)	Dry				-	Be	coming stiff.		-		1
(D16) 5.50-6.00 UT17) 6.00-6.10 (B18) 6.10-6.60	SPT(S) 6.10	UT17 120 blows N>50 (25 1 25mm/37,13 for	s 0%rec. for *45mm)	Dry Dry					Siltstone band. 6	5.2-6 5m bgl				
(D19) 6.60-7.00				1							X_X_ X_X_ X_X_ X_X_ X_ X_ X_ X_ X_ X_ X_			
(821) 7.00-7.50 (D20) 7.00-7.45	SPT(S) 7.00	N>50 (5,5/6,7,1 30mm)	6,21 for	Dry					Becomir	ng very stiff.				
(D22) 7.50-8.00		UT23 121 blow	vs 75%	Dry										· · · · · ·
UT23) 8.00-8.45 (D24) 8.45-8.55 (D26) 8.50-9.00		rec.												
(828) 9.00-9.50 (D27) 9.00-9.45 D29) 9.50-10.00	SPT(S) 9.00	N=27 (4,5/6,7	7,7,7)	Dry					Be	coming stiff.				
132) 10.00-10.50 730) 10.00-10.45		UT30 65 blows rec.	s 100%	Dry		H.	1				X			
	TURE	C	HISELL	NG	Date & T	ime In-		ONS Rise To Depth Dep	HOLE/CA	SING DIAME	TER	WATE		ED /olum
00 1.20 20 20.45	i ype Inspection Pit Cable Percussion	From 4.50 6.20 11.40 15.60	To 4.70 6.50 11.60 15.90	00:33 01:10 00:33 01:05	10/03/2022	10 30	(mins) 15.90 20	15.44 13.65	200 3.00) 200 150	3.00 13.15	rud		oum

Northstowe ^{Client} Homes England						10052307 Easting (OS mE) 540986.40	11.70 Northing (OS mN) 266823.71		09/03 End Dat 10/03	/2022	1: St	1:50 Sheet 2 of			
San	nples		Tests		1.14	Progre	ess		Strata				1.000		
Type +	+ Depth	Type + Depth	Results		Water Depth	Date & Time	Casing & Water Depth	1	Description			Legend	Depth (Thickness)	Level	Back
(D31) 1((D33) 1((D34) 1	0.45-10.55 0.50-11.00 1.00-11.50					09/03/2022 17:30 10/03/2022 08:00	3.00 8.99 3.00 Dry	Firm dark bluish g Rare selenite crysi [KIMMER DGE CL	ey silty CLAY with thin! als. AY FORMATION]	y laminated siltste	one.				
(B36) 1 (D35) 1	1.50-12.00 1.50-11.95	SPT(S) 11.50	N>50 (6,3/9,39 5mm)	,2 for	10.55							×			
(D37) 1:	2.00-12.50												d d	Ŧ	
(D38) 1:	2.50-13.00													ļ	
(840) 13 (UT39) 1	3.00-13.50 3.00-13.45		UT39 66 blows rec.	100%	Dry									ŧ	
(D41) 1:	3.50-14.00		100											Ī	
(B42) 14	4.00-14.50													ļ	
(B44) 14 (D43) 14	4.50-15.00 4.50-14.95	SPT(S) 14.50	N=30 (4,6/6,7,	8,9)	10.55									ļ	
(D45) 1	5.00-15.50											x	(17.75)	ŧ	
(D46) 1	5.50-16.00				•				Siltston	e band. 15.6-15 9	im bgl			ļ	
(B48) 10 (UT47) 1	6.00-16.50 16.00-16.45		UT47 70 blows 9	0%rec.	10.55						L			ŧ	
(D49) 10	6.50-17.00													Į	· · · · · ·
(850) 17	7.00-17.50	-												ŧ	
(B52) 1 (D51) 1	7.50-17.95 7.50-17.95	SPT(S) 17.50	N=41 (4,6/7,10,	11,13)	10.55									ļ	
(853) 1	8.00-18.50													ŧ	· · · · ·
(D54) 1	8.50-19.00		110											ļ	
(B56) 19 (UT55) 1	9.00-19.50 19.00-19.45		UT55 101 blows rec.	100%	10.55									ļ	
(D57) 1	9.50-20.00		1.1											ļ	
(D58) 20	0.00-20.45	SPT(S) 20.00	N>50 (8,8/9,9,11 55mm)	,21 for	10.55									ŧ	H
	DR LLING	TECHNIQUE	CH	ISELL N	G		1	WATER OBSERVATI	ONS Depits Depits	HOLE/CASING	DIAMET	ER	WATE	RADD	ED
0.00 1.20	To 1.20 20.45	Type Inspection Pit Cable Percussion	From 4.50 6.20	To 4.70 6.50	00:33 01:10	n Date & Ti 10/03/2022	me De 1030	epth Strike (mins) F 15.90 20	tise To Casing Sealed Ho 15.44 13.65	200 3.00	sing Dia. 200 150	3.00 13.15	From	To 1	Volume (l
Remarks	terminated	I on Engineer's Ir	0.20 11.40 15.60	0.50 11.60 15.90	00:33 01:05	epth.					150	13.15		4	_
oundw o evider	ater encou nce of cont	ntered at 15.90m amination observ	n. ved.										Term	ination [20 4	Depth:
-		Unless otherw	vise stated			Equipme	nt Used					Log	gged By	Check	ked By



Project Norths Client Homes	stowe s Engla	nd						Project No. 10052307 Easting (OS mE) 540986.40		Ground Lev 11.70 Northing (C 266823	vel (mAO OS mN) 5 .71	DD)		Start [09/0 End D 10/0	Date)3/2022 Date)3/2022	s 1 S	^{cale} :50 Sheet 3	of 3
Sar	mnles		Tests			Progr	222				Strata							
Tumo	Denth	Time - Denth	Beaulte		Water	Data 8 Time	Casing &			Deserie	tion				Logond	Depth (Thicknes	is) Level	Install/ Backfill
туре	+ Depth	Type + Depth	Results	, ,	Depth	Date & Time	Depth	Firm dark bluid	h arov cilt		ith thin!	vlomina	tod oiltr	tono	Legend		·	
-						10/03/2022	13 15	Rare selenite c	n grey sitt rystals.	y CLAY W	nın mini	y iamina	ated slits	stone.	×	20.45	-8.7	
-						12:45	16.88		CLAY FO	ORMATIO	N]				1	20.40	-0.14	
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	DR LLING	TECHNIQUE	C	HISELL	NG		<u>ا</u> ۱	L NATER OBSERV	ATIONS			HOLE	/CASIN	g diame	ETER	WAT	TER ADD	ED
From	То	Туре	Hard From	Strata To	Duration	n Date & T	ime De	epth Strike Time Elapsed (mins)	Rise To	Depth Casing S	Depth Sealed H	ole Dia.	Depth C	Casing Dia.	Depth	From	То	Volume (Itr)
0.00 1.20	1.20 20.45	Inspection Pit Cable Percussion	4.50 6.20	4.70 6.50	00:33	10/03/2022	10 30	15.90 20	15.44	13.65		200	3.00	200 150	3.00 13.15			
Remarks			11.40	15.90	01:05													
Borehole	e terminate	d on Engineer's In	struction on ac	chieving	target de	epth.												
No evide	nce of cor	ntamination observe	ed.															
																Te	rmination	Depth:
																	20.4	om
AGS		Unless otherwi Depth (m), Diar Thickness (m).	ise stated meter (mm), T Level (mOD)	ïme (hh	mm),	Equipme Dando	nt Used								Lo	ogged By	Chec CPr	ked By

Northstowe Client Homes England					Project No. 10052307 Easting (OS mE) 540975 91	Ground Level 11.62 Northing (OS 266761 5	Ground Level (mAOD) 11.62 Northing (OS mN) 266761.53			Sca 1:4 Sh	of 2				
San	mles		Tosts			Progra	ee.		200101.0	rata	1110	0/2022			
Туре -	+ Depth	Type + Depth	Resul	ts	Water	Date & Time	Casing & Water	The contract	Descriptio	n		Legend	Depth (Thickness)	Level	Insta Back
(B1) 0 (ES	0.20-0.40 1) 0.20	PID () 0.20	<1ppn	n	Coput	10/03/2022 12:00	0.00 Dry	MADE GROUND: Soft to firm brown locally mottled bluish grey slightly sandy slightly gravelly CLAY Gravel is angular to rounded fine to coarse first concrete brick and rare ceramics		uish grey to eramics.				4.0	
(B) 0. (B2) 0 (ES:	.50-0.70).50-0.70 2) 0.50	PID () 0.50	<1ppn	n				Occasional rootlets [MADE GROUND]	ets. D]				(0.80)	10.87	1
(B3) 1 (ES:	1.00-1.20 3) 1.00	PID () 1.00	<1ppn	n 9 11 10)	Drv			Orangish brown ar angular to subroun [RIVER TERRACE	d brown slightly s ded fine to coarse DEPOSITS]	ilty gravelly SANE flint.) Gravel is	X X X X X X	(0.40) 1.20	10.02	1
(ES4)	1.20-1.70	PID () 1.20	<1ppn	n				Medium dense yell sandy GRAVEL G flint.	ense yellowish brown and light brown slightly clay AVEL Gravel is angular to subrounded fine to co					10.42	
(D5) 1	1.70-2.00	1.000	1.0							Becom	ing dense.		(1.30)		1
(B6) 2	2.00-2.50	SPT(C) 2.00	N=11 (3,2/3	,2,4,2)	Dry									Ē	1/1
(87) 2 ES5) :	2.50-3.00 2.50-3.00	PID () 2.50	<1ppn	n	0			Stiff to very stiff blu laminated extreme	ish grey silty CLA y weak and very	Y with bands of th veak siltstone.	ickly		2.50	9.12	0
(B10) : (UT8) :	3.00-3.50 3.00-3.45	1 - 1	UT8 29 blows	100%rec.	Dry			[KIMMER DGE CL	áy formation]				-	ļ.	10
(D9) 3	3.45-3.55				1							× 		ļ	6
(D) 3. (D11) 3	.50-4.00 3.50-4.00											x		F	1
(813)	4.00-4.50	SPT(S) 4.00	N>50 (3,3/7,3	3,10 for	Dry							×		E I	1
(012)4	4.00-4.45	Y	SSMM)	<							×			1
(D14)	4.50-5.00			L.				Siltstone band. 4.4-		Siltstone band. 4.	4-4 6m bgl			Ė	0
B17) (JT15)	5.00-5.50 5.00-5.45		UT15 70 blov rec.	vs 100%	Dry					x x		Į	1		
(D16) !	5.45-5.55											x			1
(D18) !	5.50-6.00			_ 1								X			1)
(B20) (6.00-6.50	SPT(S) 6.00	N=27 (5,5/6	,6,7,8)	Dry							×		ŧ	0
	0.00 0.10					10100100000						x		ŧ	1
(D21)	6.50-7.00					10/03/2022 17:20 11/03/2022 08:00	3.00 4.87 3.00 Dry					x 		ŧ	1
(B24) (JT22)	7.00-7.50		UT22 109 blov rec.	ws 100%	Dry	00.00	2.1					x	-		1
(D23) (D25)	7.45-7.55 7.50-8.00											x			10
		1.2.35			20					Siltstone band. 7.	7-7 8m bgl				1
(B27) ((D26) (8.00-8.50 8.00-8.45	SPT(S) 8.00	N>50 (4,5/5,6, 60mm	19,20 for)	Dry							× 		ŧ.	1
(D28)	8.50-9.00		1.0							Siltstone band. 8.	4-8 6m bgl	x		È	1
				1.										ŧ	1
(B30) 9 UT29)	9.00-9.50		UT29 59 blow rec.	vs 100%	Dry							x		Ē	1
			1									×		t i	1
D31) 9	9.50-10.00		1.									x		3	1
333) 10	0.00-10.50	SPT(S) 10.00	N=23 (3,4/5	(5.6,7)	Dry							×		È.	2
)32) 1(0.00-10.45 DR LLING	TECHNIQUE		HISELL	NG		-	WATER OBSERVATION	ONS	HOLE/CAS	ING DIAME	TER	WATE	RADD	ED
om	To 120	Type Inspection Pit	Har From	d Strata To	Duratio	n Date & Ti	me De	apth Strike Time Elapsed (mins) F	ise To Depth Dep Casing Sea	Hole Dia. Depth	Casing Dia.	Depth 2.00	From	То	/olume
20	20.11	Cable Percussion	n 7.70 8.40 16.00	7.80 8.60 16.20	00:25 00:50 00:50					150 20.11	150	9.15			
arks hole	terminated	d on Engineer's li intered at 15 70m	nstruction on a	chieving	target de	epth.									
evide	nce of cont	tamination obser	ved.										Term	ination [)epth:
							_							20.1	Im



Northstowe ^{Client} Homes England					10052307 11.62 Easting (OS mE) Northing (OS mN) 540975 91 266761.53	10/03/2022 End Date 11/03/2022	1:50 Sheet 2 of			
Samples		Tests		Progr	ess	Strata		1.000		
Type + Depth	Type + Depth	Results	Water	Date & Time	Casing & Water	Description	Legend	Depth (Thickness)	Level	Instal Back
(D34) 10.50-11.00			Depth		Depth	Stiff to very stiff bluish grey silty CLAY with bands of thickle laminated extremely weak and very weak siltstone. [KIMMER DGE CLAY FORMATION]	y x 			
(835) 11.00-11.50							x		ļ	2
(B37) 11.50-12.00 (UT36) 11.50-11.95		UT36 62 blows 100% rec.	Dry						ŧ	1/2
(D38) 12.00-12.50							x_^ x		ŧ	
(D39) 12.50-13.00	·						x x		ŧ	
(B41) 13.00-13.50 (D40) 13.00-13.45	SPT(S) 13.00	N=24 (4,4/5,6,6,7)	Dry				x x			1/201
(D42) 13.50-14.00							×		ļ	
(B43) 14.00-14.50							× ×		ŧ	
(845) 14.50-15.00 JT44) 14.50-14.95	1	UT44 79 blows 100% rec.	Dry				x x		ļ	
D46) 15.00-15.50			▼					(17.61)	ŧ	
B47) 15.50-16.00							x x		ŧ	
848) 16.00-16.50	SPT(C) 16.00	N>50 (25 for 35mm/41,9 for 45mm)	Dry						ŧ	
B49) 16.50-17.00						Sillstone band. 16.2-10.			ŧ	
(D50) 17.00-17.50							x x		ŧ	
(852) 17.50-18.00 UT51) 17.50-17.95		UT51 130 blows 100% rec.	15.00				x x		ļ	
(D53) 18.00-18.50							x x 		ŧ	
(854) 18.50-19.00	1						× ×		ŧ	
(856) 19.00-19.50 (D55) 19.00-19.45	SPT(S) 19.00	N=37 (7,8/9,9,9,10)	Dry				x	-	ŧ	
(D57) 19.50-19.80							×		ŧ	
	SPT(C) 19.80	N>50 (25,0 for 0mm/23,15,10,2 for 10mm)	Dry	11/03/2022	9 15	Sittstone band. 19.7-19.8	0m bgi 	20.11	-8.49	H
DR LLING	TECHNIQUE	CHISEL	NG	12:10	18.03	VATER OBSERVATIONS HOLE/CASING	DIAMETER	WATE	RADD	ED
From To 0.00 1.20	Type Inspection Pit	Hard Strata From To 4.40 4.60	Duratio	n Date & T	ime De 10.00	pth Strike Time Elapsed Rise To Depth Casing Sealed Hole Dia. Depth Ca 15.70 20 14.92 9.15 200 3.00	asing Dia. Depth 200 3.00	From	To \	Volume (li
1.20 20.11	Cable Percussion	7.70 7.80 8.40 8.60 16.00 16.20	00:25 00:50 00:50		÷1	150 20.11	150 9.15	100		

ARCADIS Inspection Pit Log

Project Northstowe Client Homes England						Project N 10052 Easting 54103	No. 2 307 (OS mE) 3 3.69	Start Date 08/03/202 End Date 08/03/202	22 1 22 S	Scale 1:10 Sheet 1 of 1				
SAMF	LES		TESTS	3	er es									
Depth	Type/	Depth	Type/ No	Results						d ^(Thickness)	Level	Install/ Backfill		
-		-				MADE GROUND: Soft to CLAY. Gravel is angular to wood. [MADE GROUND]	Firm dark greyish subrounded fine	a brown mottled slightly sandy gra to coarse of flint, brick concrete	avelly and	(0.20)	-			
- 0.20	ES1	-				MADE GROUND: Firm da angular to subrounded fin [MADE GROUND]	irk brownish grey e to coarse of flin	sandy gravelly CLAY. Gravel is t, brick and concrete.		0.20	11.40			
-		-								0.40	11.20			
- - - - - - - - - - - - - - - - - - -	AILS						Remarks							
PLAN DETA	AILS			J A .	0.4		Remarks	atad at 0.40m due to	otruction with:	and sit D-	hole'	ooted		
				Long Axis Shoring / Stability:	Support:	ion:	Borehole termina to BHTCA103A. No groundwater No evidence of o	ated at 0.40m due to concrete ol encountered. contamination observed.	ostruction within	nand pit. Bore	hole relo	ocated		
				Groundwa	ater (desc	sription):				Terr	nination I 0.40n	Depth: N		

AGS
BHTCA103A

ant omes Engler	nd						Project No. 10052307 Easting (OS mE) 541033 69		Ground Level (n 11.60 Northing (OS ml 266738 05	N)	SI 0 Ei 1	art Date 9/03/2 nd Date 0/03/2	2022	Sca 1:	eet 1	of
Samples		Tests	_		Progr	220	541055.05		Stra	ta		0/00/	ZUZZ	31	CCL I	
Type + Depth	Type + Depth	Results		Water	Date & Time	Casing & Water	11.00		Description			T	Legend	Depth (Thickness)	Level	Ins Ba
(B) 0.20-0.50 (B1) 0.20-0.50 (ES2) 0.50				Depth	09/03/2022 15:15	Depth 0.00 Dry	MADE GROUN CLAY with frequ angular to subro IMADE GROUN MADE GROUN with wood and subrounded find	D: Soft to uent brick ounded fi ND] D: Firm d brick frag e to coars	Firm greyish fragments an ne to coarse f ark greyish br ments. Grave e flint and red	brown sandy d ceramic. G int and red b ow sandy gra is very angu brick. Hydro	gravelly ravel is ver rick. avelly CLA' lar to carbon odd			(0.40) 0.40	11.20	4.4
(ES3) 1.00 (B2) 1.20-1.50	SPT(C) 1.20	N=29 (5,8/7,5	i,9,8)	Dry			noted and purp [MADE GROUN	lish black ND]	staining note	d at 0 5m bgl		XXXXX		(1.10)		11/2
(D3) 1.80-2.00 (B4) 2.00-2.50	SPT(C) 2.00	N=16 (2,3/3,4	1,5,4)	Dry			Medium dense Gravel is suban [RIVER TERRA	light oran igular to s CE DEP	gish yellow sl ubrounded fir OSITS]	ghtly gravelly le to coarse f	/ SAND lint.			1.50	- 10.10	0111
(ES6) 2.00				\bigtriangledown								1. P.		(1.20)		11
(D5) 2.70-3.00 (UT6) 3.00-3.45	-	UT6 30 blows 9	5%rec.	3.00	09/03/2022 17:09 10/03/2022 08:00	3.00 1.9 3.00 Dry	Stiff becoming v CLAY with rare rare fine decayi [KIMMER DGE	very stiff f gravel siz ng rootlet CLAY FC	issured green e pockets of s.)RMATION]	ish grey silty orangish brov	slightly sar vn silt and	ndy X		2.70	8.90	11/10/1
(D7) 3.45-3.50 (B) 4.00-4.50 (B8) 4.00-4.50	SPT(S) 4.00	N=14 (2,3/3,3	3,4,4)	Dry												
(D9) 4.80-5.00 UT10) 5.00-5.45		UT10 100 blow rec.	rs 50%	Dry												
(D11) 5.45-5.50 (B12) 6.00-6.50	SPT(S) 6.00	N=33 (9,15/14,	,7,6,6)	Dry					No deca	yed rootlets t	pelow 6m b	7 7 gl. 7		-		11/10
(D13) 6.80-7.00 (UT14) 7.00-7.45	-	UT14 100 blow rec.	rs 75%	Dry										(14.75)		11/11/11
(D15) 7.45-7.50																111111
(B16) 8.00-8.45 (D17) 8.80-9.00	SPT(S) 8.00	N=26 (8,6/5,5	5,7,9)	Dry					Extreme <u>ly we</u> a	ik light grey s	iltstone bar					11111
(UT18) 9.00-9.45 (19) 9.45-9.50		UT18 100 blow rec.	rs 60%	Dry								X X X				11/1/1
320) 10.00-10.50	SPT(S) 10.00	N=28 (3,6/6,8	3,7,7)	Dry			1					8			-	1
DR LLING	TECHNIQUE	Cl Hard	HISELL	NG	n Date & T	ime De		Rise To	Depth Depth	HOLE/C	ASING DI		R	WATE		ED
om To	1100	From 8.40	8.50	00:20	09/03/2022	16 50	2.30 20 16.10 20	1.90	Casing Sealed 2.00 3.00 3.00	150 17	.45 150	3	3.00	STATE A	-	

BHTCA103A

lorthstowe lient lomes Engla	nd					Project No. 10052307 Easting (OS mE) 541033.69	Gr 11 No 26	ound Level (m 1.60 orthing (OS ml 66738.05	N)	Start 0 09/0 End D 10/0)ate 3/2022 late 3/2022	Sca 1:3 SI	50 1eet 2	of 2
Samples		Tests		Progr	ess			Stra	ta			1.55	1	
Type + Depth	Type + Depth	Results	Water	Date & Time	Casing & Water	Transie	-	Description			Legend	- Depth (Thickness)	Level	Backfi
(D21) 10.80-11.00			Deput		Depth	Stiff becoming ve CLAY with rare gr rare fine decaying [KIMMER DGE C	ry stiff fiss ravel size p rootlets. LAY FOR	sured greeni pockets of c MATION]	ish grey silty s orangish brown	ightly sandy n silt and	X			
							F	ine sand size	e selenite crysl	als present.				
(UT) 12.00-12.45	1	UT 100 blows 60%re										- 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1 - 4 - 1		
(D22) 12.45-12.50	7					Fi	ne to coar	rse gravel siz	ze shell fragme	nts present.	×			
(823) 13.00-13.50													+	
(B24) 13.50-14.00	SPT(S) 13.50	N=28 (5,6/7,7,7,7)	Dry											
(D25) 14.40-14.70													ļ	
(UT26) 15.00-15.45	e la	UT26 100 blows 50% rec.	6 Dry											
(D27) 15.45-15.50		104												
(828) 16.00-16.50							Ex	ktremely wea	ık light grey silt	stone band,			Ī	
(B29) 16.50-17.00	SPT(S) 16.50	N=35 (5,6/8,11,7,9)	12.10									1941		
	SPT(S) 17.00	N=31 (6,7/7,8,8,8)	12.10	10/03/2022	3.00							17.45	-5.85	H
				14:56	12.1									
													+	
DR LLING	G TECHNIQUE	CHISE Hard Strata	LL NG	n Date 8 7	ime In-		TONS Rise To	Depth Depth	HOLE/CA	SING DIAME	TER	WATE		ED /olume /#
From	Inspection Pit	From To 8.40 8.5	0 00:20	09/03/2022	16 50 13 00	2.30 20 16.10 20	1.90	Casing Sealed 2.00 3.00 3.00	150 17.4	5 150	3.00	· · · · ·	-	-miner fut

orths ient omes	stowe s Englar	nd						Project No. 10052307 Easting (OS mE) 540977.05	11.74 Northing (OS n 266696.64	mAOD) 1N) 1	14/0 End D 14/0	3/2022 ate 3/2022	Sca 1:4 Sh	e 60 eet 1	of 3
Sa	mples		Tests			Progr	ess		Str	ata			250		
Туре	+ Depth	Type + Depth	Results	5	Water Depth	Date & Time	Casing & Water Depth	The second	Description		1.21	Legend	Depth (Thickness)	Level	Back
(B1) (ES	0.20-0.40 61) 0.20	PID () 0.20	<1ppm			14/03/2022 09:00	0.00 Dry	MADE GROUND: slightly sandy sligh Gravel is angular	Soft to firm brown htty gravelly CLAY to rounded fine to c	ocally mottled blu with occasional ro oarse flint, concre	ish grey otlets. ete, brick				0
(B) (B2) (ES) (ES)	0.50-0.70 0.50-0.70 52) 0.50 40) 0.50	PID () 0.50	<1ppm	5				[MADE GROUND					(1.10)	Ī	1
(B3)	1.00-1.20	PID () 1.00	<1ppm	in (1.7					1 10	10.64	1
(ES4) (ES4)	1.20-1.40 1.20-1.70	SPT(C) 1.20 PID () 1.20	N=21 (3,2/2,5 <1ppm	5,8,6)	Dry			Medium dense ora gravelly SAND G flint. IRIVER TERRACI	angish brown and b avel is angular to s DEPOSITS1	rown slightly silty ubrounded fine to	very coarse		1.10	10.04	11/1
(D5)	1.70-2.00											X X	(1.40)	811	1
(B6)	2.00-2.50	SPT(C) 2.00	N=10 (2,2/2,2	2,3,3)									(1.40)		1
(87)	2.50-3.00	PID () 2.50	<1ppm		-			F	* 01.01	1 1 10:11		×××	2.50	9.24	1
(ÈS5)	2.50-3.00	and a state			1.6			extremely weak to	weak siltstone.	n bands of thickly	laminated	x			12
(8) 3	00.3 50	1 B	LITS 30 blows 9	0%rec	3.00			[KIMMER DGE CI	AY FORMATION]			x		Ē	1
(B9)	3.00-3.50		010 00 0000 0		5.00							<u></u>			-
												x			
(D10)	3.50-4.00											x		Ē	
				1.1	.73							<u></u>			÷ =
(B12) (D11)	4.00-4.50 4.00-4.45	SPT(S) 4.00	N=19 (10,5/5,	4,4,6)	Dry				Silts	tone band 4 10 -	4 20m hol		-		
											T.LUIT DGI			E	
(Dq3)	4.50-5.00											<u></u>			
												<u></u>			
(B15)	5.00-5.50		UT14 81 blows	s 100%	Dry							<u></u>	-	F	****
0114	5.00-5.45		rec.									- <u>x</u> -			***
(D16)	5.50-6.00											~~×-			
														ŧ.	***
(B18)	6.00-6.50	SPT(S) 6.00	N=38 (5.6/13.1	10.8.7)	Dry									E	
(D17)	6.00-6.45	0.0110120	101 10 10 10 10 10 10 10 10 10 10 10 10												***
(5)) 6	50 7 00								Silts	tone band. 6.30 -	6.40m bgl	- <u>×</u>		ŧ	
(D19)	6.50-7.00	16										<u></u>		E.	
															* *
(B22) UT20	7.00-7.50)7.00-7.45		U120 52 blows rec.	s 100%	Dry							×		F	
(D24)	7 45 7 55											×			× 4
(D23)	7.50-8.00											<u></u>		ŧ.	
		1.2.2	1.00											E	***
(B25) (D24)	8.00-8.50 8.00-8.45	SPT(S) 8.00	N=21 (3,3/4,5	5,6,6)	Dry							× 		-	
		10.11										×			
(D26)	8.50-9.00											× 		F	
					1							× —×—			• •
(B28)	9.00-9.50		UT27 76 blows	s 100%	Dry								-		
0127	9.00-9.45		rec.									×		E	
D29)	9.50-10.00											<u></u>			* *
												×		ŧ.	
31) 1	0.00-10.50	SPT(S) 10.00	N=26 (4 4/6 6	677)	Drv							×		L	÷.*
D30) 1	0.00-10.45	TECHNICHE		LICELL	NO	-			ONO				-	DADD	
mor	To	Type	Hard	Strata To	Duratio	n Date & T	īme De	apth Strike Time Elapsed (mins)	Rise To Depth Dept Casino Serie	Hole Dia. Depth	Casing Dia.	Depth	From		Volume
.00	1.20 20.16	Inspection Pit Cable Percussion	4.10 6.30	4.20 6.40	00:15 00:25	14/03/2022	10 40	2.30 20	2.11 1.70	150 20.16	150	3.00			
	1		15.30 16.10	15.60 16.30	00:30						1				
arks ehole	terminator	d on Engineer's Ir	nstruction on or	hieving	tarnet de	enth									
undw	vater encou	intered at 2.30m.	isu ucuon on ac	aneving	arget de	epui.									
evide	ence of con	tamination observ	ved.										Term	ination D)epth
														20.1	6m
-						Equipped	nt Llead					la	and Du	Chaok	-

lorthstowe lorthstowe lomes Englar	nd						HOJECT NO. 10052307 Easting (OS mE) 540977.05	91	1.74 lorthing (OS 1 66696.6	(mAOD) mN) 4		Start 14/0 End 0	3/2022 ate 3/2022	1: SI	50 1eet 2	of 3
Samples		Tests		1.74	Progr	ess		-	St	rata			-	1 2020		
Type + Depth	Type + Depth	Results	5	Water	Date & Time	Casing & Water	Sec. 1		Descriptio	n	10.00		Legend	Depth (Thickness)	Level	Back
(832) 10.50-11.00				Deput		Depth	Firm to stiff bluish extremely weak to [KIMMER DGE C	grey sil weak s LAY FO	ty CLAY wit siltstone. RMATION]	th bands o	of thickly I	laminated	x 			
(D33) 11.00-11.50				U									x		ŧ	
(B35) 11.50-12.00 (UT34) 11.50-11.95		UT34 48 blows rec.	s 100%	Dry											ţ	
(D36) 12.00-12.50													× ×		Ŧ	
(837) 12.50-13.00													x x		ŧ	
(839) 13.00-13.50 (D38) 13.00-13.45	SPT(S) 13.00	N=30 (3,3/6,6	5,9,9)	Dry									X X X		ŧ	
(B40) 13.50-14.00															ŧ	
(D41) 14.00-14.50		100													ŧ	
(B44) 14.50-15.00 (UT42) 14.50-14.95	1	UT42 72 blows rec.	s 100%	Dry									x x		ļ	
(D43) 14.95-15.05 (D45) 15.00-15.50														(17.66)	ŧ	
(846) 15.50-16.00									Siltsto	ne band. '	15.30 - 15	5.60m bgl			ŧ	
(847) 16.00-16.50	SPT(C) 16.00	N=32 (18,7 35mm/9,8,7	for 7,8)	Dry					Siltstor	ne band. 1	6.10 - 16	30m bgl.	x		ŧ	
(848) 16.50-17.00													x x		ŧ	
(D49) 17.00-17.50		-		ч									x		ŧ	
(851) 17.50-18.00 (UT50) 17.50-17.95		UT50 91 blows rec.	s 100%	Dry									× × ×		ţ	
(D52) 18.00-18.50													x 		+	
(853) 18.50-19.00	·	1.0													ļ	
(855) 19.00-19.50 (D54) 19.00-19.45	SPT(S) 19.00	N=37 (7,8/8,9,	10,10)	Dry									x		ŧ	
(D56) 19.50-20.00													× ×		ŧ	
(D57) 20.00-20.16	SPT(S) 20.00	N>50 (25 f 50mm/42,8 for	for 35mm)	Dry					Siltsto	ine band. '	19.90 - 20).16m bgl	×	20.16	-8.42	
DR LLING	TECHNIQUE	Cl	HISELL	NG		1	WATER OBSERVAT	IONS	Depth Dep	HO	LE/CASI	NG DIAM	TER	WATE	RADD	ED
10m 10 0.00 1.20 1.20 20.16	Inspection Pit Cable Percussion	From 4.10 6.30 15.30	To 4.20 6.40 15.60	00:15 00:25 00:30	14/03/2022	2 10 40	2.30 20	2.11	Casing Seale 1.70	noie Dia	20.16	toasing Dia. 150	3.00	rum	10	roiume i
marks vrehole terminate	d on Engineer's Ir	16.10	16.30	00:30	epth.	_										-
oundwater encou evidence of con	intered at 2.30m. tamination observ	red.												Term	nination E)epth:
															20.1	ьm

Project Norths Client Homes	stowe s Englar	nd						Project No. 10052307 Easting (OS m 540977.0	, E) 5	Ground Lev 11.74 Northing (O 266696	vel (mAO)S mN) .64	D)		Start 14/ End 14/	Date 03/2022 Date 03/2022	Sca 1: SI	^{ale} 50 neet 3	of 3
Sar	nples		Tests			Progre	ess				Strata							In a tall /
Туре	+ Depth	Type + Depth	Results		Water	Date & Time	Casing & Water			Descrip	otion				Legend	Depth (Thickness)	Level	Install/ Backfill
-					Dopui		Depth										-	
-						14/03/2022 17:30	9.15 Dry										ŧ	
-																	ļ	
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_	DR LLING		Ch	HISELL	NG		۱ 			Denth I	Depth	HOLE	E/CASI		ETER	WATE	RADD	ED
0.00	1.20	I ype	From 4.10	To 4.20	Duration 00:15	Date & Ti 14/03/2022	ime De 10 40	2.30 20	s) Rise To 2.11	Casing S	Sealed Ho	bie Dia. 150	Depth 20.16	Casing Dia 150	. Depth 3.00	From	10	volume (ltr)
1.20	20.10	Caule rel Cussion	6.30 15.30 16.10	6.40 15.60 16.30	00:25 00:30 00:30													
Remarks Borehole	terminated	d on Engineer's Ins	truction on ac	hieving	target de	pth.												
Groundw No evide	ater encou ence of con	Intered at 2.30m. tamination observe	d.															
																Term	20.1	epth: 6m
		Unless otherwis Depth (m). Diam	e stated leter (mm). Ti	ime (ht	ımm).	Equipme	nt Used			1					Lo	ogged By	Check	ed By
REGISTERED USER 2022		Thickness (m), I	Level (mOD).		,,	Dando	2000								5	0	CPr	

oject orthstowe ient omes Englai	nd						Project No. 10052307 Easting (OS mE) 541064.71		Ground L 11.53 Northing (26670	evel (m/ (OS mN 3.08	AOD)		Start 11/ End 15/	Date 03/2022 Date 03/2022	se 1: 2 SI	50 1eet 1	of 2
Samples		Tests	-	1.04	Progre	ess				Strat	a				125	2.71	i.e.
Type + Depth	Type + Depth	Results		Water	Date & Time	Casing & Water	The summer		Descr	ription	100			Legen	(Thickness	Level	Bac
(B) 0.10-0.50 (B1) 0.10-0.50 (ES1) 0.20 (B2) 0.50-0.90 (ES2) 0.50	PID (1) 0.10 PID (2) 0.50	<1ppm <1ppm		Debut	10/03/2022 16:00	0.00 Dry	MADE GROUN CLAY with occa coarse, subang [MADE GROUN	D: Soft to isional po ular to su ND]	o firm da ockets of ibrounde	rk brow dark g ed of fli	n slightl reen clay nt, brick	y sandy y. Grave and con	gravelly I is fine to crete.	• 💥	(1.00)		
															8	ŧ	2
(ES3) 1.00 (B3) 1.20-1.70	SPT(C) 1.20 PID (3) 1.20	N=17 (2,3/5,4, <1ppm	,3,5)	Dry	10/03/2022 17:00 14/03/2022 08:00	0.00 Dry 0.00 Dry	Soft to firm orai subangular to s [RIVER TERRA	ngish brov ubrounde ICE DEP(wn sand ed fine to OSITS]	y grave coars	ally CLAY e of flint.	Grave	lis		1.00 F	10.53	
(D4) 1.80-2.00				-											- (1.30)	Ŧ	
(85) 2.00-2.50	SPT(C) 2.00	N=15 (1,3/2,4	,4,5)	V	1											Ŧ	
							Firm to stiff dar	k bluish g	rey silty	CLAY	with occa	asional p	ockets o	f	2.30	9.23	
				1			[KIMMER DGE	CLAY FC	RMATIC	[NC						Ŧ	23
(D6) 2.80-3.00 (UT7) 3.00-3.45		UT7 75 blows 10	0%rec.	3.00										x		ŧ	1
														×		ŧ	1
(D8) 3.45-3.50														x		ŧ	1
		1.1		1										x	(2.60)	Į	1
(89) 4.00-4.50	SPT(S) 4.00	N=12 (2,3/3,3,	,3,3)	1.9										×		ŧ	2
		1.0		\leq												ŧ	1
																ł	1
(D10) 4.80-5.00		15.00		5.			Firm to stiff dad	. Li dale a		CL AV	at the	J			4.90	6.63	1
(B11) 5.00-5.50	SPT(C) 5.00	N=25 (13,12 55mm/9,6,5	for ,5)	1.9			laminated extre	mely wea	k to wea	ak light	grey and	d grey s	Itstone.	×		Ē	1
								Ba	ind of ex	tremely	weak lig	ht grey	siltstone.			Ŧ	1
		1.												x		ŧ	11
(D12) 5.80-6.00	SPT(S) 6 00	N-47/14 11	for	10										× ~		ŧ	1
	51 1(5) 5.55	35mm/17,18,	6,6)	1.0				Ba	nd of ex	tremely	weak lig	ht grey	siltstone.		-	Ŧ	
																ŧ	
(D14) 6 80-7 00														x		ŧ	• • • •
(UT15) 7.00-7.45		UT15 50 blows	100%	-										x_X		ŧ	
		rec.		-										x		Ŧ	
(D16) 7.45-7.50				∇	14/03/2022	3.00								×		ŧ	***
	100	1.00			15/03/2022 08:00	3.00 7.2								×		ŧ	•
(B17) 8.00-8.50	SPT(S) 8.00	N=25 (4,5/6,6,	,6,7)	Dry	-									<u></u>		ŧ	
				1.1										×	-	Į.	
																ŧ	• • •
(D18) 8.80-9.00		11T10 100 blow	COP	7.00										×		ŧ	
(0119) 9.00-9.45		rec.	500 /6	7.00										<u></u>		Ŧ	1
(D20) 9.45-9.50														x		Į	1
														×		ŧ	21
821) 10.00-10.50	SPT(S) 10.00	N=27 (4,6/6,7,	,7,7)	Dry		11.								×		ŧ	11
DR LLING	TECHNIQUE	CH	ISELL	NG		-	WATER OBSERV	ATIONS		-	HOL	E/CASI	IG DIAM	ETER	WATE	RADD	ED
rom To	Type Inspection Pit	From 5.10	To 5.30	Duration 00:20	n Date & Tr 14/03/2022	ime D	epth Strike Time Elapsed (mins) 2.10 20	Rise To	Casing 1.50	Depth Sealed 3.00	Hole Dia. 200	Depth 20.00	Casing Dia 200	Depth 3.00	From	To	Volume
.20 20.00	Cable Percussion	6.10 16.40	6.40 16.60	00:30	15/03/2022	12 00	16.40 20	14.70	3.00					<u>, 5-1</u>			
arks ehole terminate groundwater en	d on Engineer's la countered.	nstruction on act	hieving t	target de	epth.												
C VIGENCE OF COL	namination oosen	icu.													Term	ination [)epth:
_																20.0	um

Project Northstowe						Project No. 10052307	G 1	Fround Level	(mAOD)		Start I 11/0	Date 3/2022	Sca 1:	le 50	
Homes Engla	nd					541064.71	2	266703.0	mN) 8		15/0)3/2022	Sh	eet 2	of 2
Samples		Tests		Progr	ess			St	rata			1	Depth		Install/
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth			Descriptio	n			Legend	(Thickness)	Level	Backfill
						Firm to stiff dar laminated extre	k bluish gr mely weal	ey silty CLA k to weak liq	AY with ban ght grey an	ds of thi d grey s	ckly iltstone.	×		-	
_						[KIMMER DGE	CLÁY FO	RMATION]		• •		×		ŧ	[]]]
•												×		ļ	
— (D22) 11.00-11.50												×		+	
•												×		ļ	
-												×		+	[]]]
-												× 	-	Į	
(UT23) 12.00-12.45		UT23 75 blows 70%re	c. 7.00											ŧ	
-												× ×		ļ	
(D24) 12.45-12.50												<u>×_×</u>	-	ŧ	
•												<u></u>	4	ļ	
(B25) 13.00-13.50												<u></u>		ŧ	///
-												×_×_		+	
- - (B26) 13.50-14.00	SPT(S) 13.50	N=25 (5,6/6,6,6,7)	Dry									×_×_	-	ŧ	[]]]
-												×_×_		ļ	1/1
- 												×		+	
-												×		Į	[]]]
- - (D27) 14.50-14.70												×		+	1/1
-												×		ļ	
- — (UT28) 15.00-15.45		UT28 100 blows 75%	Dry									×	(15.10)	+	[]]]
-		rec.										×		Į	1/1
(D29) 15.45-15.50												×		+	
-												×		Ì	[]]]
- (B30) 16.00-16.50												×		+	///
• •														İ	
- (B31) 16.50-16.70	SPT(S) 16.50	N=36 (11,14/17,7,6,6) Dry				Bar	nd of extrem	iely weak lig	ght grey	siltstone.			+	[]]]
-														ŧ	///
-												×	-	+	
-												×		1	[]]]
- - (D32) 17.50-17.80												×		+	///
- · · ·												× 	-	ţ	
- - — (B33) 18.00-18.50	SPT(S) 18.00	N=33 (6,7/7,8,9,9)	Dry									× 		-	
-												$\overline{}$	-	ŧ	1,11
-												× ×		ļ	
-												× ×		ŧ	[]]]
-												<u>×_×</u>	-	Ļ	1/1
- (D34) 19.20-19.50												<u></u>		ł	
_ - (UT35) 19.50-19.95		UT35 100 blows 75%	14.70									<u>×_×</u> _	-	Į	[]]]
-		rec.										×_×_		ŧ	1/1/
(D36) 19.95-20.00				15/03/2022	3.00							<u>×_×</u>	20.00 -	-8.47	
-				17:00	17.3										
DR LLING		CHISE Hard Strata	LL NG	on Date & 1		WATER OBSERV	ATIONS	Depth Dept	HOL	E/CASI		ETER Denth	WATE From		ED
0.00 1.20 1.20 20.00	Inspection Pit Cable Percussion	From To 5.10 5.3 6.10 6.4	0 00:20) 14/03/2022) 14/03/2022	2 10 00 2 15 00	2.10 20 7.50 20	1.90 7.00	Casing Seale 1.50 3.00 3.00	0 200	20.00	200	3.00		.~ `	(iu)
		16.40 16.	50 00:20	15/03/2022	2 12 00	16.40 20	14.70	3.00							
Remarks Borehole terminate	d on Engineer's Ir	struction on achievi	na taraet d	enth											
No groundwater er	countered.	/ed	.g target u												
													Term	ination D	epth:
														20.0	0m
	Unless otherw	vise stated		Equipme	ent Used							Lc	ogged By	Check	ed By



orthsto ent omes	owe Englan	d						Project No. 10052307 Easting (OS mE) 541016.73	Ground Level (11.34 Northing (OS n 266686.8	maod) nN) 1	Start Da 15/03 End Da 15/03	8/2022 te 8/2022	Sca 1:	50 seet 1	of 3
Samp	les		Tests			Progre	ess		Str	ata			1.200.		
Type + [Depth	Type + Depth	Results		Water	Date & Time	Casing & Water	The surgers of the	Description			Legend	Depth (Thickness)	Level	Bac
(B) 0.20 (B1) 0.2 (ES1) (B2) 0.5 (ES2)	0-0.40 0-0.40 0.20 0-0.70 0.50				Depth	15/03/2022 09:00	Depth 0.00 Dry	MADE GROUND: 3 slightly sandy sligh Gravel is angular te and ceramics. [MADE GROUND]	Soft to firm brown I tly gravelly CLAY v o rounded fine to c	ocally mottled bluish vith occasional rootle oarse of flint, concret	grey ts. e, brick				A. P.
(B3) 1.0 (ES3) (B4) 1.2	0-1.20 1.00 0-1.70	SPT(C) 1.20	N=11 (2,2/2,2	2,3,4)									(1.70)	Į	
(B) 1.7((B5) 1.7 (ES4) 1.7 (B7) 2.0 (D6) 2.0	0-2.00 0-2.00 70-2.00 0-2.50 0-2.45	SPT(S) 2.00	N=12 (2,2/2,3	3,3,4)				Firm to stiff dark bl sandy CLAY with o medium. [KIMMER DGE CL	uish grey mottled g ccasional selenite AY FORMATION]	reyish brown silty sliq crystals. Sand is fine	ghtly and		1.70	9.64	
(D8) 2.5	0-3.00													ŧ	1
(B11) 3.0 (ES5) 3.0 (UT9) 3.0	0-3.50 0-3.50 00-3.45		UT9 40 blows 10	00%rec.	Dry									ļ	1111
(D10) 3.4 (D12) 3.9	15-3.55 50-4.00												(3.80)	ļ	
(B) 4.00 (B14) 4.0 (D13) 4.0 (D13) 4.0	0-4.50 00-4.50 00-4.45	SPT(S) 4.00	N=47 (3,18/18,	14,9,6)					Sil	tstone band. 4 20-4.40)m bgl	x x		ļ	17/2
013)4.	0-5.00		1.000/0 2000 22		2									ļ	1
B17) 5.0 JT16) 5.	00-5.50 00-5.45		UT16 103 blow rec.	/s 80%	Dry				Sil	tstone band. 5 20-5.50)m bgl	x x x		Ŧ	11
D18) 5.5	50-6.00			1				Firm to stiff bluish g to medium bedded [KIMMER DGE CL	grey silty CLAY wit extremely weak to AY FORMATION]	h bands of thickly lan weak light grey silts	inated one.	x x	5.50	5.84	11/
820) 6.0 D19) 6.0	00-6.50 00-6.45	SPT(S) 6.00	N=21 (16,8/4,	4,5,8)					Sit	tstone band. 5 90-6.40)m bgl	×		ŧ	0
D21) 6.5	50-7.00											x x		ŧ	1/1/
(B) 7.00 B22) 7.0)-7.50)0-7.50	SPT(C) 7.00	N>50 (25 f 60mm/19,17, 70mm)	for 14 for								x x		ŧ	11
(D23) 7.5	50-8.00											x x		ļ	11/1
(B25) 8.0 UT24) 8.	00-8.50 00-8.45		UT24 97 blows rec.	100%	Dry									ļ	1/1/1
(D26) 8.5	50-9.00											x x x		ŧ	1)
(B28) 9.((D27) 9.(00-9.50 00-9.45	SPT(S) 9.00	N=22 (3,4/5,5	5,6,6)								x x x		ļ	
D29) 9.5	0-10.00														10
331) 10.0 T30) 10 .	00-10.50 00-10.45		UT30 75 blows rec.	100%	Dry			11				<u>~~x</u>			2
D		TECHNIQUE	Hard	HISELL	NG	n Date & T	ime De	NATER OBSERVATIO	ONS	HOLE/CASING		Depth	WATE	R ADD	ED
20	1.20 20.45	Inspection Pit Cable Percussion	4.20 5.20 15.00 18.30	4.40 5.50 15.30 18.50	00:20 00:20 00:40 00:20	15/03/2022	14 30	15.50 20	Casing Seale 15.11 1.80	200 1.80 150 20.45	200	1.80		1	
arks shole te	erminated	on Engineer's Ir	struction on ac	hieving	target de	epth.	1.0		L	1 1 1				_	-
evidenc	e of conta	amination observ	ved.										Term	ination D)epth
_			la state 1			Fauiness	ot Llood	_						20.4	

Northstowe	d						10052307 Easting (OS mE) 541016.73	1 N 2	1.34 orthing (OS r 66686.8	(mAOD) nN) 1		15/0 End D 15/0	3/2022 ate 3/2022	1: SI	50 neet 2	of 3
Samples		Tests		-	Progr	ess		-	St	rata		1.000.0		1.252		L
Type + Depth	Type + Depth	Results	5	Water	Date & Time	Casing & Water	The second second		Description	n			Legend	Depth (Thickness)	Level	Backf
	1.000			Deput		Depth	Firm to stiff bluish	grey silt	y CLAY wit	h bands	of thickly	laminated	x		-	11
(832) 10.50-11.00	14						[KIMMER DGE CI	AY FOR	RMATION]	o weak ng	nit grey s	instone.	x		Į.	1
							1						x		ŧ	2
(D33) 11.00-11.50													X		+	0
		1.1	1.4												Į	251
(B35) 11.50-12.00 (D34) 11.50-11.95	SPT(S) 11.50	N=24 (4,4/5,	5,7,7)												ŧ	2
													<u></u>		ŧ	2
(D36) 12.00-12.50													x		ŧ	01
													x		Į	6
(B37) 12.50-13.00		1.0											×		ţ	
(839) 13 00.13 50		UT38 106 blov	vs 70%	Drv									<u>x</u>		ŧ	1
(UT38) 13.00-13.45		rec.		2.1									~_ <u>~</u> ~		ł	0
(B40) 13.50-14.00		1.1													Į	21
													x		ŧ	2
(D41) 14.00-14.50		1	. 1										x		ŧ	
	1.1.1.1	1.4											x		ŧ	
(B) 14.50-15.00 (B43) 14.50-15.00	SPT(C) 14.50	N=27 (4,5/6,	6,7,8)										×		Ŧ	÷Ę.
(D42) 14.50-14.95													x		ŧ	E
(D44) 15.00-15.50				V					Siltst	one band	. 15.00-1	5.30m bgl		(14.95)	ŧ	
				∇											Ŧ	× F
(845) 15.50-16.00		1.	6.11										x	1918	Ī	E
(847) 16 00-16 50		UT46 90 blows	100%	15 10									x	a 16	ŧ	E
(UT46) 16.00-16.45		rec.		ene i									x		ŧ	
(B) 16.50-17.00				6.6									×		Ŧ	
(B48) 16.50-17.00													<u></u>		ŧ	
(D49) 17.00-17.50															ŧ	
													x		ŧ	E
(B51) 17.50-18.00 (D50) 17.50-17.95	SPT(S) 17.50	N>50 (6,8/9,9,; 0mm)	32,0 for										x		Ŧ	E
													x		Į	
(D52) 18.00-18.50													x		ŧ	E.
(RE2) 49 E0 40 00	1								Siltst	one band	. 18.30-1	8.50m bgl			ŧ	E
(000) 10:00-10:00	1												×	1.5	Ŧ	
(855) 19.00-19.50	Trate of the second	UT54 130 blov	vs 10%	15.10									- <u>×</u> -		Į	
(UT54) 19.00-19.45	SPT(C) 19.10	rec. N>50 (25 for 40	0mm/50										x		ŧ	E
(D56) 19.50-20.00			"						Siltst	one band	. 19.50-1	9.60m bgl	x		ŧ	
	1.00									1.1.1.1.1					ŧ	
(D57) 20.00-20.45	SPT(S) 20.00	N>50 (25 50mm/36,14 for	for 65mm)				1						X		Ŧ	П
DR LLING	TECHNIQUE	C	HISELL	NG		1	WATER OBSERVAT	ONS		HC	LE/CASI	NG DIAME	TER	WATE	RADD	ED
From To 0.00 1.20	Type Inspection Pit	From 4.20	Strata To 4,40	Duration 00:20	n Date & 1 15/03/2022	Time De	pth Strike Time Elapsed (mins) 15.50 20	Rise To 15.11	Depth Dept Casing Seale 1.80	Hole Dia 200	a. Depth 1.80	Casing Dia. 200	Depth 1.80	From	To	Volume (ltr
1.20 20.45	Cable Percussion	5.20 15.00 18.30	5.50 15.30 18.50	00:20 00:40 00:20				1		150	20.45		÷1.			
emarks orehole terminated	d on Engineer's Ir	struction on ad	chieving	target de	epth.											
o evidence of cont	Intered at 15.50m tamination observ	ved.												Tem	ination F	Depth-
														ren	20.4	.5m

Project Norths Client	stowe						Project No. 10052307 Easting (OS mE)		Ground Level (11.34 Northing (OS m	(mAOD) nN)		Start 15/(End D	Date)3/2022 Date	Sc 1:	^{ale} 50	
Home	s Englar						541016.73		266686.81	1		15/0	J3/2022	<u> </u>	neet 3	OT 3
Sa	mples		Tests	Wat	Prog	ress Casing &			Str	ata				Depth	Level	Install/
Type	+ Depth	Type + Depth	Results	Vat Dep	Pr Date & Time 15/03/2022 17:00	2 1.80 0 18.23	Firm to stiff blu to medium bed IKIMMER DGE	ish grey s ded extre CLAY FC	Description ilty CLAY with mely weak to DRMATION]	h bands oʻ b weak ligh	f thickly II	aminated Itstone.		(Thickness 20.45		Backfill
-																
-																
- - - - - - - - - - - - - - - - - - -															- - - - - - - - - - - - - - - - - - -	
-															ŧ	
	DR LLING	TECHNIQUE	CH	HISELL NG			L WATER OBSERV	ATIONS		HOL	E/CASIN		ETER	WATI	ER ADD	ED
From 0.00	To 1.20	Type Inspection Pit	Hard S From 4.20	Strata To 4.40 0	ration Date & 0:20 15/03/202	Time De 2 14 30	to the strike Time Elapsed (mins) 15.50 20	Rise To 15.11	Depth Depth Casing Sealer 1.80	h Hole Dia. 200	Depth 1.80	Casing Dia. 200	Depth 1.80	From	То	Volume (Itr)
1.20	20.45	Cable Percussion	5.20 15.00 18.30	5.50 0 15.30 0 18.50 0	0:20 0:40 0:20					150	20.45					
Remarks Borehole Groundv No evide	e terminate vater encou ence of con	d on Engineer's Ins Intered at 15.50m. tamination observe	truction on ac	hieving targe	t depth.		I		· · · ·			1		Terr	nination E	Depth: 5m
AGS		Unless otherwis Depth (m), Diam Thickness (m),	se stated neter (mm), Ti Level (mOD).	me (hhmm)	Equipm Dand	ent Used o 2000							La S	ogged By O	Check CPr	ed By

orths ent	towe	d					10052307 Easting (OS mE) 541011 56	Sound Level (mAOD) 11.44 Northing (OS mN) 266642 42	Start 0 16/0 End D 16/0	3/2022 ate 3/2022	5ca 1:1	50 eet 1	of 3
San		u .	Toete	-	Progr	000	041011.00	Strata	10/0	OILOLL			
Type +	Depth	Type + Depth	Results	Water	Date & Time	Casing & Water	1. 1	Description		Legend	Depth (Thickness)	Level	Ins Ba
(B1) 0 (ES1 (B2) 0 (ES2	.20-0.40 1) 0.20 .50-0.70 2) 0.50			Depth	16/03/2022 08:00	Depth 0.00 Dry	MADE GROUND: slightly sandy sligh Gravel is angular to brick and ceramics [MADE GROUND]	Soft to firm locally stiff dar ty gravelly CLAY with oc o subrounded fine to coar	k brown and brown casional rootlets. se of flint, concrete,		(1.00)		4.4.
(B3) 1 (ES3	.00-1.20 3) 1.00	SET (C) 4 30	NL-12 (2 2/2 2 2 4)	Des			Firm brown mottled	forangish brown and blui	sh grey slightly		1.00 (0.20)	10.44	10
(B4) 1 ES4) 1	.20-1.70 1.20-1.70 70-2.00	SPI(C) 1.20	N=12 (2,2/2,3,3,4)				fine to coarse flint. RIVER TERRACE Soft to firm light bro CLAY Gravel is an	DEPOSITS] own mottled bluish grey s gular to subrounded fine	andy slightly gravelly		(1.00)	10.24	1/10/
		SPT(S) 2.00	N=15 (3,5/6,5,2,2)	Dry			Occasional pockets organic clay. IRIVER TERRACE	oup to 30mm diameter)	of soft dark grey		-	ŧ.	11
(B6) 2 ES5) 2	.20-2.60 2.20-2.60			∇			Stiff becoming very CLAY Rare selenit	stiff bluish grey mottled ge crystals.	greyish brown silty		2.20	9.24	1
D7) 2	.60-3.00		1.721				[KIMMER DGE CL	ay formation]		× ×		Ē	1
(B) 3. 810) 3	00-3.45	1. 7.1	UT8 34 blows 100%rec.	Dry							-	-	1
ES6) 3 JT8) 3 (D9) 3	3.00-3.50 3.00-3.45 .45-3.55										(2.40)	Į	
D11) 3	3.50-4.00		12.21							<u>x_x</u> _		ŧ	
B13) 4 D12) 4	4.00-4.50 4.00-4.45	SPT(S) 4.00	N>50 (3,3/4,5,15,26 for 70mm)	Dry									· · · · ·
D14) 4	1.50-5.00	1.1								x	4.00		
							Stiff bluish grey silt spaced thickly lami very weak siltstone	y CLAY interbedded with nated to medium bedded	closely to widely extremely weak and	x	4.6U	6.84	· · · · · · · · · · · · · · · · · · ·
(B) 5. 915) 5	00-5.45 5.00-5.50	SPT(C) 5.00	N>50 (25 for 25mm/41,9 for 35mm)	Dry			[KIMMER DGE CL	AY FORMATION]	and 5 20-5 40m bol	×		Ē	
D16) 5	5.50-6.00						1	Piltatono	and 5.60 5.00m hal				· · · · · · · · · · · · · · · · · · ·
B18) 6	00.6 50		UT17 52 blows 100%	Dov				Siltstone I	Jand, 5 60-5.80m bgi			Ē	
Л17)	6.00-6.45		rec.	2.17						x 			A
D19) 6	5.50-7.00									×		ŧ	· · · · · ·
B21) 7 D20) 7	7.00-7.50 7.00-7.45	SPT(S) 7.00	N=23 (3,4/4,6,6,7)	Dry						x			1
(B22) 7	7.50-8.00											ļ.	a
B24) 8	3.00-8.50		UT23 77 blows 90%rec.	Dry						× ×			· · · · ·
(D25) 8	3.50-9.00									×			· * · * *
(B27) 9 (D26) 9	9.00-9.50	SPT(S) 9.00	N=28 (4,4/6,6,8,8)	Dry						x 	-		1
D28) 9	.50-10.00												1. S. S. S. S.
30) 10	0.00-10.50		UT29 100 blows 100%	Dry							-		
[29]	DR LLING	TECHNIQUE	rec. CHISELL	NG		1	WATER OBSERVATION	ONS H	OLE/CASING DIAME	TER	1 WATE	RADD	ED
om DO	To 120	Type Inspection Pit	From To 5.20 5.40	Duratio	n Date & Tr 16/03/2022	ime De 09.45	2.30 20 R	ise To Depth Casing Sealed Hole	Dia. Depth Casing Dia.	Depth 2.60	From	To	/olum
arke	20.40	Cable Percussion	5.60 5.80 15.30 15.70 19.80 20.00	00:30 00:40 00:30				10	0 20.00				
hole	terminated	I on Engineer's In Intered at 2.30m.	nstruction on achieving	target de	epth.								
nuel		arrinnauori OUSEI	i.								Term	ination D)epth 5m
		Unless otherw	vise stated		Equipme	ent Used				Lo	gged By	Check	ed E

lorthstowe lient lomes Englan	d						10052307 Easting (OS mE) 541011.56		11.44 Northing (O: 266642	s (mAOD) S mN) 42		16/ End	03/2022 Date 03/2022	50 1: S	50 heet 2	of 3
Samples		Tests			Progr	ess				Strata				1.55		
Type + Depth	Type + Depth	Results	5	Water Depth	Date & Time	Casing & Water	Trans.		Descript	ion			Legend	Depth (Thickness) Level	Back
(831) 10.50-11.00				Coput		Depin	Stiff bluish grey s spaced thickly lar very weak siltstor [KIMMER DGE C	ilty CLA ninated ne. LAY FC	Y interbed to medium RMATION	ided with n bedded 1]	closely to extremely	widely weak and			ł	
(D32) 11.00-11.50														4	ŧ	
(B34) 11.50-12.00 (D33) 11.50-11.95	SPT(S) 11.50	N=27 (3,5/6,6	6,7,8)	Dry									x x	1	ļ	
(D35) 12.00-12.50		1:0											× ×	1111	ŧ	
(836) 12.50-13.00		-											x xx		ŧ	
(B39) 13.00-13.50 (UT37) 13.00-13.45		UT37 59 blows rec.	s 100%	Dry										1	ŧ	
(D38) 13.45-13.55 (B40) 13.50-14.00													× ×	441	ŧ	
(D41) 14.00-14.50															ŧ	
(B43) 14.50-15.00 (D42) 14.50-14.95	SPT(S) 14.50	N=31 (4,6/6,8	8,8,9)	Dry									× × ×	1	ŧ	
(D44) 15.00-15.50														(15.85)	ŧ	
(B45) 15.50-16.00									Sil	stone ba	nd. 15.30-1	5.70m bgl			ł	
(B47) 16.00-16.50 (UT46) 16.00-16.45		UT46 79 blows rec.	s 100%	Dry									x 1 x 1 x 1 x 1 x 1 x 1 x 1 x 1 x 1 x 1		ŧ	
(848) 16.50-17.00													× ×	1	ŧ	
(D49) 17.00-17.50	-													144	ŧ	
(B51) 17.50-18.00 (D50) 17.50-17.95	SPT(S) 17.50	N=32 (3,5/6,8	3,8,10)	Dry									× ×		ŧ	
(D52) 18.00-18.50													x x x	1	ŧ	
(853) 18.50-19.00													× ×		ŧ	
(B55) 19.00-19.50 (UT54) 19.00-19.45		UT54 87 blows rec.	s 100%	Dry									× 1× ×	1919	ŧ	
(D56) 19.50-20.00															ŧ	
	SPT(C) 20.00	N>50 (25 for 40 for 50mm	0 mm/50 n)	Dry					Silt	tstone bai	nd. 19.80-2	0.00m bgl		1	ŧ	
DR LLING	TECHNIQUE	CI	HISELL	NG			WATER OBSERVAT	IONS		- 4	IOLE/CAS	ING DIAN	ETER	WAT	RADD	ED
From To 0.00 1.20 1.20 20.45	Type Inspection Pit Cable Percussion	From 5.20 5.60	To 5.40 5.80	Duration 00:20 00:30	1 Date & T 16/03/2022	Time De 2 09 45	2.30 20	Rise To 1.49	Casing 34 1.65 2	tailed Hole 1.60 20 15	Dia. Depth 0 2,60 0 20.00	Casing Dia 200	. Depth 2.60	From	То	Volume (
marks prehole terminated	l on Engineer's In	19.80 Istruction on ac	20.00	00:30	epth.											
oundwater encou evidence of cont	ntered at 2.30m. amination observ	red.												Ten	nination [Depth:
-															20.4	mc

Project Norths Client	towe							Project No. 10052307 Easting (OS mE)) - 1	Ground Level (r 11.44 Northing (OS m	mAOD) N)		Start D 16/0 End Da	ate 3/2022 ate	Sca 1:	le 50	
Homes	s Engla		T4-			Des es		541011.56		266642.42	2		16/0	3/2022	Sr	eet 3	of 3
Sar	nples	Tura I Danth	lests	_	Water	Progr	Casing &			Stra	ata			Lanad	Depth (Thickness)	Level	Install/ Backfill
- - - -	+ Depth	Type + Depin	Result	5	Depth	16/03/2022 17:00	2.60 Dry.	Stiff bluish grey spaced thickly very weak silts KIMMER DGE	r silty CLA laminated tone. CLAY FC	Y interbedded to medium b	d with clo edded ex	osely to w stremely v	idely veak and		20.45	-9.01	· · · · · · · ·
															-	 - - - - - -	
-																+ + + + + + + + + + + + + +	
-																+ + + + + + + + + + + + + + + + + + + +	
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From		TECHNIQUE	C Hard	HISELL	NG Durati-	n Dato 8 T	ime In-	NATER OBSERV	ATIONS	Depth Depth	Hole Di-	LE/CASIN		TER	WATE		ED
0.00	1.20 20.45	Inspection Pit Cable Percussion	From 5.20 5.60	To 5.40 5.80	00:20 00:30	16/03/2022	09 45	2.30 20	1.49	Casing Sealed 1.65 2.60	200 150	2.60 20.00	200	2.60		10 V	oune (III)
Der i			15.30 19.80	15.70 20.00	00:40 00:30												
Remarks Borehole	terminate	d on Engineer's Ins	struction on a	chieving	target de	epth.											
Groundw No evide	ater encounce of cor	untered at 2.30m. Itamination observe	ed.														
															Term	ination D	epth: 5m
		Unless otherwis	se stated			Equipme	nt Used			1				Lo	gged By	Check	ed By
AGS		Depth (m), Dian Thickness (m),	neter (mm), T Level (mOD)	ime (hh	mm),	Dando	2000							S	0	CPr	-

Project Northstowe Client Homes England Samples Type + Depth T		d					Project No. 10052307 Easting (OS mE) 541092 29	Ground Level (11.30 Northing (OS n 266654 5	mAOD) nN) 2	Start Da 11/03 End Da 14/03	ate 3/2022 te 3/2022	Sca 1:	eet 1	of 3
Samo	los		Toete	-	Progr	220	041032.23	200004.0	ata	14/00	TLOLL			
Type + D	Depth	Type + Depth	Results	Water	Date & Time	Casing & Water		Description			Legend	Depth (Thickness)	Level	Insta Back
		PID (1) 0.10	<1ppm	Depth	11/03/2022	0.00	MADE GROUND:	Soft brownish oran	ge sandy gravelly Cl	AY.	XXX			4
					00.00	Day	concrete.	arse angular to su	bangular of brick, filn	L,	\otimes	(0.80)	ŧ	4
(B) 0.50 (B1) 0.5	0-0.80 0-0.80	PID (2) 0.50	<1ppm				[MADE GROUND]				\otimes			
(ES40) 0.	50-0.60						Soft to firm greenis	h grev siltv sandv	CLAY.	-	XXX	0.80	10.50	2
(B2) 1.0 (ES41) 1.1	0-1.20 00-1.10		and the second	100.0			[POSSIBLE REWO	RKED NATURAL	h		\otimes	-	-	1
(B4) 1.2 (D3) 1.2	0-1.65 0-1.65	SPT(S) 1.20 PID (3) 1.20	N=19 (3,4/4,5,5,5) <1ppm	Dry									3	1
(ES42) 1.	20-1.30		1. 1. 1. 1. 1.	114							\otimes	(1.30)		13
				1.1	14:00	0.5							2	1
(UT5) 2.0	00-2.45	PID (4) 2.00	<1ppm	Dry	07:30	Dry					\times	2 10	9 20	0
			013 32 Mons 10 Arec.				Firm to stiff dark bl [KIMMER DGE CL	AY FORMATION]				2.10		13
(D6) 2.4	5-2.50		1											1
	C 1		1.1.1.1											12
(B8) 3.0	0-3.50	SPT(S) 3.00	N=9 (2,2/2,2,3,2)	Dry										12
(D7) 3.0	0-3.45		1913	1										1
			1.12											12
			1.1.1.1.1										Ē	1.
(UT9) 4.0	0-4.45		UT9 19 blows 100%rec	Dry							2-2-		L	2
												(4.10)		12
(D10) 4.4	15-4.50													1
														1
(812) 5 0	0.5.50	SDT(S) 5 M	N-15/2 2/3 4 4 4	Dov									Ē	12
(D) 5.00 (D11) 5.0	0-5.45	3F1(3) 3.00	N=15 (2,2/3,4,4,4)	Uly									F	4
(2.1.) -													8	1
			1.12										Ē	1
6			State Cal											1
(UT13) 6.	00-6.45		UT13 96 blows 67%rec	. Dry							2-2-	6 20	E 10	1
(014) 64							Extremely weak lig clayey fine to coars	ht grey SILTSTON se angular to suba	E. Recovered as light ngular siltstone grave	t grey	*****	0.20		12
(014) 0.4	5-0.50						[KIMMER DGE CL	AY FORMATION]			*****			1
											× × × × × × × × × × × × × × × × × × ×	(1.40)		0
(815) 7.0	00-7.50	SPT(C) 7.00	N>50 (25 for 30mm/50 for 60mm)	Dry							*****		ŧ.	15
											****		I.	1
							Stiff dark bluish are	w slightly silty CLA	v	_	*****	7.60	3.70	0
	100		1000				Sun dan bidisir gre	y silging sity our			 			13
(UT16) 8.	00-8.45		UT16 53 blows 100% rec.	Dry									-	
											×		Ē	1
(D17) 8.4	15-8.50										~			13
											~			1
(B19) 9.0 (D18) 9.0	0-9.50	SPT(S) 9.00	N=23 (3,4/4,5,7,7)	Dry									F	1
														1
											<u></u>		ŧ	2
			1											1
JT20) 10.	00-10.45		UT20 54 blows 89%rec	Dry		. 11					<u>x</u> _		-	1.
DF	RLLING	TECHNIQUE	CHISEL	NG		1	WATER OBSERVATION	ONS	HOLE/CASING	DIAMET	TER	WATE	RADD	ED
rom	To 1.20	Type Inspection Pit	From To	Duratio	on Date & T 14/03/2022	ime De	epth Strike Time Elapsed (mins) R 16.45 20	ise To Depth Depth Casing Settle 14.80 3.00	Hole Dia. Depth Ca	sing Dia.	Depth	From	To 1	/olume (l
1.20	20.45	Cable Percussion		1	1.000									
arks ehole te undwate	erminated er encour	on Engineer's Ir ntered at 16.45m	nstruction on achievin	g target d	lepth.				1 1 1	-	<u></u>			
evidenc	e of conta	amination observ	ved.									Term	ination D)epth: 5m

ind					Project No. 10052307 Easting (OS mE) 541092.29	Gr 11 No 20	ound Level (r 1.30 rthing (OS m 56654.52	N)		11/0 End E 14/0	03/2022 Date 03/2022	1: SI	50 1eet 2	of 3
	Tests		Progr	ess			Stra	ata			_	1.200		Install
Type + Depth	Results	Water Depth	Date & Time	Casing & Water	1		Description	(1997) 1997			Legend	(Thickness)	Level	Backfi
i				Deput	Stiff dark bluish g	rey slight	y silty CLA				x x		-	
											x			
SPT(S) 11.50	N=24 (4,4/4,6,7,7)	Dry											ļ	
1											× ×	(6.60)	ļ	
	1.53										× ×		ļ	
5	UT26 49 blows 100% rec.	Dry											ŧ	
											x x		ļ	
507/01460	N-70 /4 E/C 7 9 9)	Der			Stiff to very stiff d weak light grey s	lark blueis iltstone ba	h grey CLA nds.	Y with fre	quent ex	dremely	× 	14.20	-2.90	
5P1(5) 14.50	N=29 (4,5/6,7,8,8)				KIMMER DGE C	LAYFOR	MATION						Į	
													Ī	
5	UT32 47 blows 89%rec.	Dry											ŧ	
1		∇											ŧ	
1												(6.25)	ļ	
) SPT(S) 17.50	N=31 (4,5/6,8,8,9)	Dry										(6.25)	ļ	
5	UT37 61 blows 89%rec.	18.10												
1													ŧ	
5 SPT(S) 20.00	N=26 (5,5/5,6,8,7)	18.40											ļ	
		NIC			WATER OBSERVAT	TIONS		HOL	E/CASI	NG DIAM	TER	WATE	RADD	ED
G TECHNIQUE	CHISEL	NG	-		oth Strike Time Elapsed	Dire To	Danith Danith		Dente					
	and Type + Depth 0 SPT(S) 11.50 0 SPT(S) 11.50 0 SPT(S) 14.50 0 SPT(S) 17.50 5 SPT(S) 17.50	Tests Type + Depth Results 0 SPT(S) 11.50 0 Results 0 Results	Tests Type + Depth Results Water Depth 0	Image: series Progr Type + Depth Results Water Depth Date & Trees D SPT(S) 11.50 N=24 (4,4/4,6,7,7) Dry S SPT(S) 14.50 N=29 (4,5/6,7,8,8) Dry S SPT(S) 17.50 N=31 (4,5/6,8,8,9) Dry S SPT(S) 17.50 N=31 (4,5/6,8,8,9) Dry S SPT(S) 17.50 N=31 (4,5/6,8,8,9) Dry S UT37 61 blows 89%/rec. 18.10 Image: Set Set Set Set Set Set Set Set Set Set	Image: Series in the series in the	341092.29 Type + Depth Results Water Depth Date & Trme Comp & A Depth 3 SPT(S) 11.50 N=24 (4,446,7,7) Dry Stiff dark bluish g 5 SPT(S) 11.50 N=24 (4,446,7,7) Dry Image: Stiff to very stiff dark bluish g 5 UT28 49 blown 100% Dry Image: Stiff to very stiff dark bluish g 6 SPT(S) 11.50 N=29 (4,596,7,8,8) Dry Image: Stiff to very stiff dark bluish g 5 UT32 47 blows 89%rec. Dry Image: Stiff to very stiff dark bluish g 5 SPT(S) 11.50 N=31 (4,596,8,8,9) Dry Image: Stiff to very stiff dark bluish g 6 SPT(S) 17.50 N=31 (4,596,8,8,9) Dry Image: Stiff to very stiff dark bluish g 6 SPT(S) 17.50 N=31 (4,596,8,8,9) Dry Image: Stiff to very stiff dark bluish g 7 UT37 61 blows 89%rec. Dry Image: Stiff to very stiff dark bluish g	and Earls Progress Type + Depth Results Water Owner A SPT(S) 11.50 N=24 (4.444,5,7,7) Dry Stiff dark bluich grey slight S SPT(S) 11.50 N=24 (4.444,5,7,7) Dry Image: Spt (S) 11.50 S UT28 49 Move 100% Dry Image: Spt (S) 14.50 N=29 (4.56,7,8,6) S SPT(S) 14.50 N=29 (4.56,7,8,6) Dry Image: Spt (S) 14.50 N=29 (4.56,7,8,6) S SPT(S) 14.50 N=29 (4.56,7,8,6) Dry Image: Spt (S) 14.50 N=29 (4.56,7,8,6) S SPT(S) 14.50 N=29 (4.56,7,8,6) Dry Image: Spt (S) 14.50 N=29 (4.56,7,8,6) S UT32 47 Moves 89%rec. Dry Image: Spt (S) 17.50 N=31 (4.56,8,8,9) Dry Image: Spt (S) 17.50 N=31 (4.56,8,8,8) Image: Spt (S) 17.50 </td <td>Image: Normal Station Station<!--</td--><td>Ind East Progress Status Type + Depth Results Weight Dae at the Original Status December 3 SPT(5) 11.50 N=24 (4,446,57.7) Dry Stiff for very stiff dark bluelsh grey slightly silly CLAY. 3 SPT(5) 11.50 N=24 (4,446,57.7) Dry Stiff for very stiff dark bluelsh grey cLAY with free weak light grey allshore bands. 5 UT28 49 islows 100% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT28 49 islows 100% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT28 49 islows 600% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT32 47 blows 60% rec. Dry Stiff for very stiff dark bluelsh grey CLAY robust 60% rec. 5 UT32 47 blows 60% rec. Dry Stiff for very stiff dark bluelsh grey clay robust for the stift of the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey for the stift for very stift dark bluelsh</td><td>Junct 541092.23 26654.52 Type + Depth Results Velter Depth Start Start 3 Figure + Depth Results Velter Depth Start Description 4 SPT(5) 11.50 N=24 (4,44.87.7) Dry Staft dark bluesh grey slightly silty CLAV 5 UT28 49 Movem 100% Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] Dry 5 SPT(5) 11.50 N=29 (4,56.7.8.6) Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] 5 SPT(5) 11.50 N=29 (4,56.7.8.6) Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] 5 SPT(5) 17.50 N=31 (4,56.8.8.9) Dry Staft flower grey slight grey s</td><td>ind Type + Depth Tests Progress Statu 7/pe + Depth Results Weter Depth Description Description 3 3 Project 10 as 1% Status Description 4 </td><td>ind Tope + Depth Tends Progress Statu Type + Depth Results Main Data & Tm Statu Description Scature S Type + Depth Results Data & Tm Data & Tm Statu Description Scature S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.45.67.7.8.6) Dry Stature Stature Stature Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.45.67.7.8.6) Dry Stature Stature Stature Stature Stat</td><td>Ind Earlier Forgress Status Organization Organiz</td><td>Ind Total T</td></td>	Image: Normal Station Station </td <td>Ind East Progress Status Type + Depth Results Weight Dae at the Original Status December 3 SPT(5) 11.50 N=24 (4,446,57.7) Dry Stiff for very stiff dark bluelsh grey slightly silly CLAY. 3 SPT(5) 11.50 N=24 (4,446,57.7) Dry Stiff for very stiff dark bluelsh grey cLAY with free weak light grey allshore bands. 5 UT28 49 islows 100% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT28 49 islows 100% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT28 49 islows 600% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT32 47 blows 60% rec. Dry Stiff for very stiff dark bluelsh grey CLAY robust 60% rec. 5 UT32 47 blows 60% rec. Dry Stiff for very stiff dark bluelsh grey clay robust for the stift of the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey for the stift for very stift dark bluelsh</td> <td>Junct 541092.23 26654.52 Type + Depth Results Velter Depth Start Start 3 Figure + Depth Results Velter Depth Start Description 4 SPT(5) 11.50 N=24 (4,44.87.7) Dry Staft dark bluesh grey slightly silty CLAV 5 UT28 49 Movem 100% Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] Dry 5 SPT(5) 11.50 N=29 (4,56.7.8.6) Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] 5 SPT(5) 11.50 N=29 (4,56.7.8.6) Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] 5 SPT(5) 17.50 N=31 (4,56.8.8.9) Dry Staft flower grey slight grey s</td> <td>ind Type + Depth Tests Progress Statu 7/pe + Depth Results Weter Depth Description Description 3 3 Project 10 as 1% Status Description 4 </td> <td>ind Tope + Depth Tends Progress Statu Type + Depth Results Main Data & Tm Statu Description Scature S Type + Depth Results Data & Tm Data & Tm Statu Description Scature S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.45.67.7.8.6) Dry Stature Stature Stature Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.45.67.7.8.6) Dry Stature Stature Stature Stature Stat</td> <td>Ind Earlier Forgress Status Organization Organiz</td> <td>Ind Total T</td>	Ind East Progress Status Type + Depth Results Weight Dae at the Original Status December 3 SPT(5) 11.50 N=24 (4,446,57.7) Dry Stiff for very stiff dark bluelsh grey slightly silly CLAY. 3 SPT(5) 11.50 N=24 (4,446,57.7) Dry Stiff for very stiff dark bluelsh grey cLAY with free weak light grey allshore bands. 5 UT28 49 islows 100% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT28 49 islows 100% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT28 49 islows 600% rec. Dry Stiff for very stiff dark bluelsh grey CLAY with free weak light grey allshore bands. 5 UT32 47 blows 60% rec. Dry Stiff for very stiff dark bluelsh grey CLAY robust 60% rec. 5 UT32 47 blows 60% rec. Dry Stiff for very stiff dark bluelsh grey clay robust for the stift of the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey clay robust for the stift for very stift dark bluelsh grey for the stift for very stift dark bluelsh	Junct 541092.23 26654.52 Type + Depth Results Velter Depth Start Start 3 Figure + Depth Results Velter Depth Start Description 4 SPT(5) 11.50 N=24 (4,44.87.7) Dry Staft dark bluesh grey slightly silty CLAV 5 UT28 49 Movem 100% Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] Dry 5 SPT(5) 11.50 N=29 (4,56.7.8.6) Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] 5 SPT(5) 11.50 N=29 (4,56.7.8.6) Dry Staft flowery slight dark bluesh grey CLAY with frequent exwerk light grey slighter banks. NMMER DGE CLAY FORMATION] 5 SPT(5) 17.50 N=31 (4,56.8.8.9) Dry Staft flower grey slight grey s	ind Type + Depth Tests Progress Statu 7/pe + Depth Results Weter Depth Description Description 3 3 Project 10 as 1% Status Description 4	ind Tope + Depth Tends Progress Statu Type + Depth Results Main Data & Tm Statu Description Scature S Type + Depth Results Data & Tm Data & Tm Statu Description Scature S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try S SPT(0) 11.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.44.66.7.7) Dry Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.45.67.7.8.6) Dry Stature Stature Stature Stature Stature Stature Try Try S SPT(0) 14.50 H-OK (4.45.67.7.8.6) Dry Stature Stature Stature Stature Stat	Ind Earlier Forgress Status Organization Organiz	Ind Total T

Project Norths Client Homes	stowe s Engla	nd					Project No. 10052307 Easting (OS mE) 541092.29		Ground Level (m 11.30 Northing (OS mi 266654.52	nAOD) N)		Start E 11/0 End Da 14/0	oate 3/2022 ate 3/2022	Sca 1: SI	^{ale} 50 1eet 3	of 3
Sa	mples		Tests		Progr	ess			Stra	ita				Denth		Install/
Туре	+ Depth	Type + Depth	Results	Water	Date & Time	Casing & Water			Description				Legend	(Thickness	Level	Backfill
-				Depth	14/03/2022 13:50	Depth 1.20 Dry	Stiff to very stiff weak light grey KIMMER DGE	dark blue siltstone CLAY FC	eish grey CLA bands. DRMATION]	Y with freq	uent extr	remely		20.45	-9.15	*****
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-	DR LLING		CHISE		<u> </u>	,	WATER OBSERV	ATIONS		HOLE	E/CASING	G DIAME	TER	WATE	RADD	ED
From	То	Туре	Hard Strata From	To Duratio	on Date & T	ime De	epth Strike Time Elapsed (mins)	Rise To	Depth Depth Casing Sealed	Hole Dia.	Depth C	asing Dia.	Depth	From	То	Volume (Itr)
0.00 1.20	1.20 20.45	Inspection Pit Cable Percussion			14/03/2022	12 10	16.45 20	14.80	3.00	150	20.45	200	1.20			
Remarks Borehole	e terminate	ed on Engineer's Ins	truction on achiev	ring target d	epth.	I	I	1			I			I	1	
No evide	ence of co	ntamination observe	d.											Term	nination D	epth:
		Unless otherwis	e stated		Equipme	nt Used							Lo	ogged By	20.4 Check	5m red By
AGS		Depth (m), Diam Thickness (m), I	eter (mm), Time Level (mOD).	(hhmm),	Dando	2500							S	0	CPr	

ient omes	towe Englan	d					10052307 Easting (OS mE) 541123.46	11.37 Northing (OS m 266640.37	v)	14/03 End Da 16/03	3/2022 te 3/2022	1:	50 leet 1	of 3
Sam	ples		Tests		Progr	ess		Stra	ta			Tanga		
Type +	Depth	Type + Depth	Results	Water	Date & Time	Casing & Water	The second	Description	inder and	100	Legend	Depth (Thickness)	Level	Bac
(B1) 0	.10-0.30			Deput	14/03/2022	0.00	MADE GROUND: S	Soft brownish orang	e sandy gravelly C	LAY.	***	(0.30)		4
(ES2) (0.20-0.30				11.00	Lay	concrete.	arse angular to sub	angular of brick, fill	ц,	XXX	0.30	11.07	4
(B3) 0 (ES4) (.50-0.70						MADE GROUND: S	Stiff to very stiff grey	ish brown gravelly	CLAY.		(0.40)	ŧ	.a.
							Gravel is fine to coa concrete.	arse, angular to sub	rounded of brick a	nd		0.70	10.67	1:
(B5) 1	.00-1.20		6.755.762	2.0	1000		[MADE GROUND] Firm brown silty sa	ndy CLAY			X	(0.60)	ŧ	1
(B8) 1 (D7) 1	20-1.50	SPT(S) 1.20	N=6 (1,2/2,2,1,1)	0.60	14/03/2022	0.00 Drv	[POSSIBLE REWO	ORKED NATURAL			<u>x</u>	1.30	10.07	12
(ES9)	1.30-1.40				16/03/2022 07:30	0.00 Dry	Gravel is fine to co	arse, subangular to	subrounded of che	D. ert.		(0.50)	1	1
(840) 1	1 90 2 00						[RIVER TERRACE	DEPOSITS]		-		1.80	0.57	1
(ES11)	1.80-1.90		UT12 41 blows 100%	Dry			Firm to stiff bluish g	grey slightly sandy s AY FORMATION]	ilty CLAY			1.00	+	()
			rec.								x		ŧ	4
(D13) 2	2.45-2.50										x		Ē	1
											- <u>-</u>		Ŧ	23
		Same in									<u></u>		‡	1
(B15) 3 (D14) 3	3.00-3.50 3.00-3.45	SPT(S) 3.00	N=7 (2,2/2,1,2,2)	Dry							<u></u> x	(2.40)	Ē	
	1.1												ŧ	
													ŧ	
	39		1000	-									ŧ	***
(UT16)	4.00-4.45		UT16 71 blows 67%ree	. Dry									ŧ	· · ·
							Extremely weak lig	ht grey SILTSTONE	interbedded with	stiff	*****	4.20	7.17	
(D17) 4	4.45-4.50						[KIMMER DGE CL	AY FORMATION]			*****		ŧ	
											*****		Ŧ	
(B18) 5	5.00-5.50	SPT(C) 5.00	N=24 (4,5/6,6,5,7)	Dry							*****	(1.50)	ŧ.	
			1960 - 1971 - 1975 - 19								*****		ŧ	
											×××××		I	· • •
							Stiff blueich grou C	1 AV with accession	Locionito en intela	_	*****	5.70	5.67	
0.0740)	0.00.045			Des			[KIMMER DGE CL	AY FORMATION]	i selenite crystals.		22	1.1.1.1	ŧ	
(0119)	0.00-0.45		rec.	Dry			1.000				22		Ŧ	
(020) 6			I Carl								P==		ŧ	· • •
(020)0	0.43-0.30										F		ŧ	***
											223		Ŧ	* *
(B22) 7 (D21) 7	7.00-7.50	SPT(S) 7.00	N=21 (2,4/4,5,5,7)	Dry							2-2-3		ŧ	***
													ŧ	· · ·
													Ŧ	* *
			1.50										ŧ.	
(UT23)	8.00-8.45		UT23 52 blows 100%	Dry									‡	* *
			rec.								F -3		Ī	· *
(D24) 8	3.45-8.50		1.0										ŧ	* *
											2-2-3		ŧ	
(826) 9	00-9 50	SPT(S) 9.00	N=22 (4.5/5.5.6.6)	Drv							22		E	
(D25) 9	9.00-9.45										ES:		ţ	
											63		Ŧ	
											1-2-1		ŧ	
I TOTAL	0.00.10.15		11727 (2)11										ŧ	
(012/)1	0.00-10.45		rec.	Ury					1 2000				Γ	
From	DR LLING	TECHNIQUE	CHISEL Hard Strata	L NG	n Date & T	ime De	WATER OBSERVATIO	ONS	HOLE/CASIN	G DIAME	Depth	WATE	RADD	ED /olume
0.00	1.20 20.45	Inspection Pit Cable Percussion	From Io		16/03/2022	13 10	16.60 5 1	Casing Sealed 16.50 3.00	200 3.00 150 20.45	200	3.00			
									121024					
ehole	terminated	on Engineer's Ir ntered at 16.60m	struction on achievir	g target d	epth.									
evider	nce of cont	amination observ	ved.									Term	ination D	epth:
													20.4	5m
		11.4	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		Equipped	nt Llead	1.12				Lo.	and Do	Check	-

lorthstowe lient lomes Englar	nd					10052307 Easting (OS mE) 541123.46		Inthing (OS m 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37 1.37	nN)		14/ End 16/	03/2022 Date 03/2022	1:	50 leet 2	of 3
Samples		Tests	-	Progr	ess		-	Str	ata				1 200		
Type + Depth	Type + Depth	Results	Water	Date & Time	Casing & Water	Telline, end		Description	i.			Legend	Depth (Thickness)	Level	Backf
(D28) 10.45-10.50			- opur		Deput	Stiff blueish grey [KIMMER DGE 0	CLAY w CLAY FO	ith occasion: RMATION]	al selenite	e crystals	5.				
(D29) 11.00-11.10	·													ļ	
(B31) 11.50-12.00 (D30) 11.50-11.95	SPT(S) 11.50	N=18 (2,3/4,4,5,5)	Dry											ļ	
(D32) 12.00-12.10															
(UT33) 13.00-13.45		UT33 48 blows 100% rec.	Dry										(10.30)		
(D34) 13.45-13.50 (D35) 14.00-14.10															
(B37) 14.50-15.00 (D36) 14.50-14.95	SPT(S) 14.50	N=26 (3,4/6,6,7,7)	Dry											‡ 	
(D38) 15.00-15.10															
(UT39) 16.00-16.45		UT39 53 blows 100%	Dry				hick and	CLAV.			h		16.00	4.63	
(D40) 16.45-16.50		rec.	×			light grey siltston [KIMMER DGE C	e bands CLAY FO	up to 15mm RMATION]	thick.	extreme	ay weak		-		
(D41) 17.00-17.10	ć													‡ ‡	* * * * * * * *
(B43) 17.50-18.00 (D42) 17.50-17.95	SPT(S) 17.50	N=31 (4,6/6,8,8,9)	17.30												
(D44) 18.00-18.10													(4.45)		
(UT45) 19.00-19.45		UT45 59 blows 100% rec.	18.80												
(D46) 19.45-19.50															
(D47) 20.00-20.45	SPT(S) 20.00	N=27 (4,5/5,7,7,8)	19.60											Ē	H
DR LLING From To	TECHNIQUE	CHISELI Hard Strata	Duratio	n Date & T	ime De	NATER OBSERVAT	Rise To	Depth Depth	HOI Hole Dia	E/CASI Depth	NG DIAN Casing Dia	Depth	From		ED /olume (l
	Inspection Pit	From To		16/03/2022	13 10	(mins) 16.60 5	18.50	3.00 Sealer	200 150	3.00 20.45	200	3.00			

Project Norths Client	stowe	ad					Project No. 10052307 Easting (OS mE) 541123 46		Ground Level (m 11.37 Northing (OS mN 266640 37	N)		Start 14/(End D 16/(Date)3/2022 Date)3/2022	Sc. 1:	ale 50 Doot 3	of 3
Sa	mples		Tests		Progr	ess	041120.40		Strat	ta						
Туре	+ Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth		hluish an	Description	faa			Legend	Depth (Thickness	Level	Install/ Backfill
-							light grey siltsto	ne bands	ey CLAY with 1 up to 15mm t RMATION1	frequent hick.	extreme	iy weak		20.45	-9.08	
							(<u>[</u>	02.0110							İ	
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			CHISE		┨		MATER OBSERV			НОГ	E/CASIN					ED
From	To	Туре	Hard Strata From To	Duratio	on Date & T	ime De	pth Strike Time Elapsed (mins)	Rise To	Depth Depth Casing Sealed	Hole Dia.	Depth	Casing Dia.	Depth	From		Volume (Itr)
1.20	1.20 20.45	Inspection Pit Cable Percussion			16/03/2022	13 10	טט.טו 5	16.50	3.00	200 150	3.00 20.45	200	3.00			
Remarks Borehole	terminate	d on Engineer's Ins	truction on achievi	ng target d	epth.			1	1 1	1						
Groundw No evide	vater encou ence of cor	untered at 16.60m. Itamination observe	ed.											Terr	nination D	Depth:
									1						20.4	5m
AGS REGISTERED UNER X122		Unless otherwis Depth (m), Diam Thickness (m), I	se stated neter (mm), Time (Level (mOD).	hhmm),	Equipme Dando	nt Used 2500							Lo S	ogged By O	Check CPr	ed By

Project Norths Llient Iomes	towe Englan	d						Project No. 100523 Easting (0: 541072	07 S mE)		Ground L 11.29 Northing 26661	evel (m/ (OS mN) 3.52	NOD)		E	16/0 Ind Da	ate 3/2022 ate 3/2022	Sci 1: Sl	^{ale} 50 neet 1	of 2
Sam	ples		Tests			Progr	ess					Strata	3					1	3.71	Inch
Type +	Depth	Type + Depth	Result	s	Water	Date & Time	Casing & Water				Desc	ription				6	Legend	(Thickness	Level	Back
(B1) 0	.00-0.20				Depth	16/03/2022	0.00	MADE G	ROUN	D: Very s	soft to so	ft light	bluish g	rey and	l greyis	sh	XXX	(0.30)		4
(ES1 (B) 0.	1) 0.25 40-0.60						2.1	subroun	ded fine	e to coars	se flint, b	orick an	d chert		.0		1888	0.30	10.99	5
(B2) 0 (ES2	.40-0.60 2) 0.50					1.00		MADE O	ROUN	D: Soft to	o firm lig	ht greyi	sh brow	vn slight	tly san	dy		(0.50)	Ŧ	1
(B3) 0	.80-1.20				T	1. (m)	115	brick, co	ncrete	and flint.	angula	to subi	ounder	1 line to	coarse	e	k k k k k k k k k k k k k k k k k k k	0.80	10.49	1
(ES3	3) 1.00			7.9.9				MADE	ROUN	D: Firm o	dark brow	wn sligt	tly san	dy sligh	tly grav	velly	1888	(0.40)	ŧ.,,,,	1
(B4) 1 (ES4) 1	.20-1.70 1.20-1.70	SP1(C) 1.20	N=23 (4,5/4,	(,6,6)				brick.	GROUN	angular ID1	to subro	unded	tine to i	nedium	flint ar	na		1.20	10.09	1
		·				1		Medium	dense SAND.	light yelle Gravel is	owish brossing angula	own and r to sub	d yellov rounde	vish bro d fine to	wn cla	yey e		(1 10)	Ŧ	9
(D5) 1	.80-2.00	SDT/O) 200	N-32 /5 0/8	7.4.45				flint.	TERRA	CE DEP	OSITSI							(1.10)	ŧ	12
(00) 2	.00-2.50	SP1(C) 2.00	N=23 (3,9/0,	/,4,4)				paren	- Li u u		oonoj						7		Ŧ	1
								Firm to s	stiff blui	sh grey s	ity CLA	Y with b	eds of	thickly I	aminat	ed		2.30	8.99	1
							111	siltstone	im beda	led extre	mely we	ak to w	eakiigi	nt grey a	and gre	∍y	~~×-		Ŧ	11
(D7) 2	.80-3.00							[KIMME	RDGE	CLAY FO	ORMATI	ONJ							ŧ	
	00.0.70	0077/01/0 000															~~×~		ŧ	
(88) 3	.20-3.70	SP1(S) 3.20	N=11 (2,3/2,	3,3,3)															Ī	11
						1- j													ŧ	° .
(D9) 3	.80-4.00		t a t		-														ŧ	· · -
(UT10)	4.00-4.45		UT10 100 blov	ws 70%															Ŧ	
			IGL.	1								Siltst	one bar	id. 4 20-	4.50m	bgi	<u>x_</u>		ŧ	
(D11) 4	4.45-4.50																		ŧ	· • • •
																	X		ŧ.	1
(812) 5	00-5 50	SPT(S) 5.00	N=37 (6 9/12	1276)													X		Ŧ	* *
(012)		311(3) 3.00	11-31 (0,3112,	12,7,0)										1 5 00			x		Ī	**
												Siltst	one bar	ia. 5 20-	-5.80m	bgi			ŧ.	×
																	x		ŧ	
(D13) 5	5.80-6.00		1.	-													- <u>x</u>		Ŧ	
		SPT(C) 6.00	N=42 (8,12/15	,17,5,5)													x		ŧ	
			12														x		ŧ	
(814) 6	6.50-7.00																x		ŧ	
(D15) 6	5.80-7.00																x		Ŧ	
(817) 7	7.00-7.50		UT16 100 blow	s O%rec.													x		ŧ.	- F
(UT16)	7.00-7.45																x		Ŧ	×Ε
																	x		Ŧ	. F
			1.00-														x_x-		ŧ	
(D18)	7.80-8.00	007700 0.00															<u></u>		‡	
(819) 8	3.00-8.50	SP1(S) 8.00	N>50 (25,0 0mm/22,18,) for 10 for							2	Siltst	one bar	d. 8.10-	-8.50m	bal			Ŧ	
			JSmm)													1	<u>-x</u> -		Į.	· • –
																	- <u>×</u> -		ŧ	· · -
(D20) 8	3.80-9.00																		ŧ	
(UT21)	9.00-9.45		UT21 100 blov	ws 80%															Ŧ	
			100.	11													×		ŧ	
(D22) 9	9.45-9.50																×		ŧ	
(020) 5			1.000														×		Ŧ	
(824) 10	0.00-10.50	SPT(S) 10.00	N=20 (2,3/3,	4,6,7)	-	1											<u></u>		ŧ	Ģ
[OR LLING	TECHNIQUE	C	HISELL	NG			WATER OF	BSERV/	ATIONS		-	HO	E/CAS	ING D	IAME	TER	1 WATE	RADD	ED
From 0.00	To 120	Type Inspection Pit	From 4.20	Strata To 5.20	Duratio	n Date & T 16/03/2022	ime D	epth Strike Tin 1.30	(mins) 20	Rise To 0.90	Depth Casing 1.20	Depth Sealed	Hole Dia 200	Depth 3.00	Casing 20) Dia. O	Depth 3.00	From	To	/olume (
1.20	20.05	Cable Percussion	5.20 8.10	5.80 8.50	00:45 01:20	16/03/2022	12 00	4.20 15.80	20 20	4.00 13.30	3.00 3.00		150	20.05			-1			
marks brehole roundwa	terminated	l on Engineer's Ir ntered at 1.30m,	struction on a 4 20m and 15	chieving 80m.	target de	epth.														
o evider	nce of cont	amination observ	ved.															Term	nination E)epth:
																		2	20.0	5m
-		Unless otherw	ise stated	Come (b)		Equipme	nt Used	1.1									Lo	ogged By	Check	ed By

Project Northstowe Client Homes Englan	d							Project No. 10052307 Easting (OS mE) 541072.33		Ground Lev 11.29 Northing (O 266613	vel (mAv 0S mN) .52	OD)	Start D 16/0 End Da 17/0	ate 3/2022 ate 3/2022	Sca 1: Sł	^{ile} 50 1eet 2	of 2
Samples		Tes	sts			Progr	ess				Strata						Install
Type + Depth	Type + Depth		Results		Water Depth	Date & Time	Casing & Water			Descrip	otion			Legend	(Thickness)	Level	Backfil
								Firm to stiff blui to medium bed	sh grey si ded extre	ilty CLAY mely weal	with be k to we	eds of thickly la eak light grey a	aminated and grey	×	-	-	[],];
-								siltstone.	CLAY FC	ORMATIO	N1			×		÷	
								[02					×		1	
– (D25) 11.00-11.20						16/03/2022	3.00							×		-	
						17:00 17/03/2022	Dry 3.00							×		Ì	[]]
- (B26) 11.50-12.00						08.30	Diy							×		+	
														×		l	
- (UT27) 12.00-12.45		UT27	100 blows	s 70%										×		-	
			rec.												-	I	
(D28) 12.45-12.50														$\overline{\nabla} \times$	-	+	
														$\overline{\mathbf{x}}$	-	Į	[]]]
- (B29) 13.00-13.50														× ×		-	
														<u></u>	-	Ì	
- (B30) 13.50-14.00	SPT(S) 13.50	N=24	4 (3,5/5,6	,6,7)										<u></u>		ŧ	[]]]
														×_×_	-	l	
- (D31) 14.00-14.20														×_×_		+	
														×	-	I	[]].
														×		+	///
														×	-	ļ	
- (UT32) 15.00-15.45		UT32 7	0 blows 8	0%rec.										×	(17 75)	+	[]]
														×	(11.10)	Į	
(D33) 15.45-15.50														×		+	
														×		I	
- (B34) 16.00-16.50														×		-	
														×		1	
- (B35) 16.50-17.00	SPT(S) 16.50	N=28	(14,11/8,	6,7,7)										×		÷	
																I	///
-														$\overline{\nabla} \times$	-	ŧ	
														$\overline{\mathbf{x}}$	-	-	
														× ×		ŧ	///
														<u></u>	-	1	
- (UT36) 18.00-18.45		UT36	100 blows	s 60%										<u></u>		÷	
			Tec.											×_×_	-		
(D37) 18.45-18.50														×_×_	-	ł	
														×		-	
- (B38) 19.00-19.50														×		ŧ	
														×	-	-	
-	SPT(S) 19 60	N=32	2 (5 6/7 8	8 9)										×		Ì	
	51 1(5) 13.00	11-52	2 (0,0/7,0	,0,3)										×		-	
-						17/03/2022	3.00							<u>×_~</u> _	20.05	-8.76	
	TECHNIQUE		CL		NG	12.00	10.2								W/ATE		
From To	Туре		Hard S From	itrata To	Duratio	n Date & T	ïme De	epth Strike Time Elapsed (mins)	Rise To	Depth I Casing S	Depth Sealed	Hole Dia. Depth	Casing Dia.	Depth	From		/olume (Itr)
0.00 1.20 1.20 20.05	Inspection Pit Cable Percussion		4.20 5.20 8.10	5.20 5.80 8.50	00:20 00:45 01:20	16/03/2022 16/03/2022 17/03/2022	10 15 12 00 10 00	1.30 20 4.20 20 15.80 20	0.90 4.00 13.30	1.20 3.00 3.00		200 3.00 150 20.05	200	3.00			
Remarks Borehole terminated Groundwater encou	l on Engineer's Ir ntered at 1.30m,	nstructio 4 20m a	on on ach and 15.8	nieving 0m.	target de	epth.											
No evidence of cont	amination observ	/ed.													Term	ination D	epth:
																20.0	5m
	Unless otherw	vise stat	ted	mc /L'		Equipme	nt Used							Lo	gged By	Check	ed By
AGS REASTERED VIEW AND	Thickness (m)	, Level	(mOD).	me (ni	ишт),	Dando	3000							S	0	CPr	

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Project Norths Client Homes	stowe s Englar	d					Project No. 10052307 Easting (OS mE) 540924.36	Ground Level (m 11.61 Northing (OS m) 266675.09	N)	Start Date 23/03/202 End Date 24/03/202	12 1: 12 S	^{ale} :50 heet 1	of 3	
Sa	mples		Tests		Progre	ess	12	Stra	ta		1 550			
Туре	+ Depth	Type + Depth	Results	Water	Date & Time	Casing & Water	A the other re-	Description		Lege	nd (Thickness) Level	Back	. <i>II</i> fill
(B1) (ES2)	0.10-0.40) 0.10-0.20			Deput	23/03/2022 15:00	0.00 Dry	MADE GROUND: gravelly CLAY Sal subrounded fine to [MADE GROUND]	Soft light orangish b nd is fine to coarse. coarse flint and brid	rown slightly sandy Gravel is subangula ck .	ar to	(0.30)	11.31	8	N.
(ES4)	1.00-1.20						MADE GROUND: CLAY Sand is fine subrounded fine to [MADE GROUND]	Firm light greyish br to coarse. Gravel is coarse flint and brid	own slightly sandy g s subangular to ck.	gravelly	(0.90)	Ī		
(ES6) (B8) (D7)) 1.00-1.10 1.20-1.65 1.20-1.65	SPT(S) 1.20	N=8 (1,2/2,2,2,2)	Dry			Light yellowish bro to coarse. Gravel i [RIVER TERRACE	wn slightly clayey g s angular to subrour DEPOSITS]	ravelly SAND Sand nded fine to coarse t	lis fine flint.	1.20	10.41		
- (B10) (D9) (ES11	2.00-2.50 2.00-2.45) 2.00-2.10	SPT(S) 2.00	N=14 (2,4/3,3,4,4)	Dry							(1.70)	ļ		
- (B13) (D12)	3.00-3.50 3.00-3.45	SPT(S) 3.00	N=9 (2,2/2,3,2,2)	Dry			Firm to Stiff bluish spaced thickly lam	grey silty CLAY. Fre nated to medium be	quent closely to wid added extremely we	lely ×	2.90	8.71		
(ES14) 3.00-3.10			Ĩ,	23/03/2022 17:15 24/03/2022 07:30	3,00 Dry 3.00 Dry	very weak light gre [KIMMER DGE CL	y Siltstone beds. AY FORMATION]			ELLER	ļ		14/10
- (UT15 (D16)	i) 4.00-4.45) 4.45-4.50		UT15 27 blows 100% rec.							x x		ŧ		111111
									Frequent claystone	bands. x		Ī		2/4
- (B17) (D18)	5.00-5.50 5.00-5.10	SPT(C) 5.00	N=24 (4,5/5,6,6,7)	Dry								Ţ		11.1111
– (B20) (D19)) 6.00-6.50) 6.00-6.10	SPT(C) 6.00	N=23 (4,5/5,6,6,6)	Dry							THILL	Ŧ		11.11/11
– (UT21) 7.00-7.45		UT21 39 blows 78%rec.											111/11/1
(D22)	8.00-8.50	SPT(S) 8 00	N=15 (2 3/3 4 4 4)	Drv								ļ		1.11/11/
(D23)	8.00-8.45	0,10,00		-,						X X		ļ		11111111
- (UT25	i) 9.00-9,45		UT25 43 blows 100% rec.									ŧ		11.111
(D26) - (B28) 1	9.45-9.50	SPT(S) 10.00	N=17 (3,4/4,4,5,4)	Dry						×		ļ		111111
(D27) 1	10.00-10.45 DR LLING	TECHNIQUE	CHISELL	NG	1	1	WATER OBSERVATI	ONS	HOLE/CASING	DIAMETER	WAT	ERADD	ED	1
From 0.00 1.20	To 120 20.00	Type Inspection Pit Cable Percussion	Hard Strata From To	Duratio	on Date & Tr 24/03/2022	ime De 12 10	pth Strike Time Elapsed (mins) F 16.50 5	ise To Depth Depth Casing Sealed 18.50 3.00	Hole Dia. Depth Ca 150 20.00 200 20.00	asing Dia. Depth 200 3.00	From	То	Volume (l	tr)
Remarks Borehole Groundv	e terminateo vater encou	d on Engineer's li intered at m.	nstruction on achieving	target d	epth.							4	-	
No evide	ence of con	tamination obser	ved.								Ten	mination [20.4	Depth: 5m	j
	2	Unless otherw	vise stated		Equipme	nt Used	() ·				Logged By	Check	ked By	-



CPr

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Project Northstowe						Project No. 10052307 Easting (OS mE)	1	Ground Level	(mAOD)	Sta 23	rt Date 5/03/202	2	Scale 1:50	
Homes Engla	nd					540924.36		266675.0	9	24	/03/202	2	Sheet	2 of 3
Samples		Tests	1	Progr	ess			St	rata			Depti		Install/
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Water Depth			Descriptio	n		Legen	d (Thickne	ss) Leve	Backfill
-						Firm to Stiff bluis spaced thickly la	h grey si minated	ilty CLAY. Fi to medium	requent clo bedded ext	sely to widely remely weak ar	$d \vdash \frac{\times}{\times}$		ļ	
- -						very weak light g [KIMMER DGE 0	rey Silts CLAY FO	tone beds. RMATION]			×		ŧ	
-													ł	
- (D29) 11.00-11.10											×		÷	
											×		÷	
- (UT30) 11.50-11.95		UT30 47 blows 89%rec.											+	
-											×_×		-	
(D31) 11.95-12.00 (D32) 12.00-12.10											×_×		÷	
-											×_×		Ŧ	
-											×_×		Ŧ	
-											×_×		ŧ	
- (B34) 13.00-13.50 - (D33) 13.00-13.45	SPT(S) 13.00	N=19 (3,4/4,5,5,5)	Dry								×		÷	
											×	-	ł	
											×		ŧ	
-											×		ł	
— (D35) 14.00-14.10											×		÷	
-											×		ł	
– (B36) 14.50-15.00											×		Ŧ	
-											×		Ì	
— (D37) 15.00-15.10											×	(17.10) 	
-													ŧ	
-											×		Ŧ	
-													ŧ	
— (B38) 16.00-16.50	SPT(C) 16.00	N=28 (4,6/6,6,7,9)	Dry								×		÷	
-			_										Ŧ	
F 											×_×		Ŧ	
-											×_×		ŧ	1.1.
(D39) 17.00-17.10											×_×		Ŧ	
-											×_×		-	
– (B40) 17.50-18.00											×_×		Ŧ	
-											×_×		Ŧ	
(D41) 18.00-18.10											×		Ŧ	
-											×		ł	
-											×		÷	
-											×		ł	
- (B42) 19.00-19.50	SPT(C) 19.00	N=23 (5,6/5,5,5,8)	18.90								×		Ŧ	
-											×		ł	
– (UT43) 19.50-19.95		UT43 51 blows 100% rec.	19.10								×		Ŧ	
-											×		ŧ	
(D44) 19.95-20.00				24/03/2022 16:00	3.00 Dry						×	= 20.00	-8.3	9
DR LLING		CHISELL	NG	1	v	VATER OBSERVA	TIONS		HOL	E/CASING DIA	METER			DED
From To	Туре	Hard Strata From To	Duratio	on Date & T	ime De	pth Strike Time Elapsed (mins)	Rise To	Depth Dept Casing Seale	th ed Hole Dia.	Depth Casing D	ia. Depth	From	То	Volume (Itr)
1.20 20.00	Cable Percussion			24/03/2022	12 10	16.50 5	16.50	3.00	200	20.00 200	3.00			
Remarks														
Borehole terminate	d on Engineer's Ir	nstruction on achieving	target d	epth.										
No evidence of cor	ntamination observ	/ed.										-	rmin e*! - :	Donth
													20.4	5m
<u></u>	Unless otherw	vise stated		Equipme	nt Used							Logged By	Chec	ked By
AGS	Depth (m), Dia	meter (mm), Time (h	hmm),	Dando	2500							NM	CP	•



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Project Norths Client Homes	stowe s Englai	nd			Project No. 100523 Easting (OS 540924	07 SmE) 36	1	Ground Level (r 11.61 Northing (OS m 266675.09	nAOD) N)		Start 23/0 End I 24/0	Date)3/2022 Date)3/2022	Sca 1:: Sh	^{ile} 50 neet 3	of 3		
Sa	mples		Tests		Progr	ess				Stra	ata						In at all /
Туре	+ Depth	Type + Depth	Results	Water	Date & Time	Casing & Water				Description				Legend	(Thickness)	Level	Backfill
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	DR LLING		СН	IISELL NG	1	L	 NATER OF	BSERVA	TIONS		HOL	E/CASI	NG DIAM	ETER	WATE	RADD	ED
From	To	Туре	Hard St From	trata To Duratio	on Date & T	Time De	epth Strike	ne Elapsed (mins)	Rise To	Depth Depth Casing Sealed	Hole Dia.	Depth	Casing Dia.	Depth	From	To \	Volume (Itr)
1.20	20.00	Inspection Pit Cable Percussion			24/03/2022	12 10	06.01	5	16.50	3.00	150 200	20.00	200	3.00			
Remarks Borehole	e terminate	d on Engineer's Ins	truction on ach	nievina taraet d	epth.						1	1				[
Groundw No evide	ater enco	untered at m.	d.	anger u	F												
															Term	ination D	epth:
		linipee otherwise	a etatod		Equipme	ent Used									aged By	20.4	om ied Bv
AGS		Depth (m), Diam Thickness (m), I	ieter (mm), Tii Level (mOD).	me (hhmm),	Dando	2500								N	М	CPr	/

Project Northstov Client Homes El	we ngland					Project N 10052 Easting (54097	No. 2 307 (OS mE) 7 2.99	Ground Level (mAOD) 11.73 Northing (OS mN) 266791.37	Start Date 11/03/202 End Date 11/03/202	2 1 2 5	:25 heet 1	of 1
SAMPL	.ES		TESTS		er			STRATA		Denth		Install/
Depth	Type/	Depth	Type/	Results	Vate		Descr	iption	Legend	(Thickness)	Level	Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.20 - 0.50 0.20 - 0.50 0.20 - 0.50 0.20 - 0.50	B1 D1 ES1 B2 D2 ES2 B3 D	- - - - - - - - - - - -				MADE GROUND: Soft yel coarse, angular to subang [MADE GROUND]	llowish brown sa jular of flint, bric	andy gravelly CLAY. Gravel is find k, concrete.	e to	(1.00)		
- 0.50 - 1.00 0.50 - 1.00 	D3 ES3 B4 D4	- - - - - - - -				Yellowish brown very grav	relly SAND Grav	vel is subangular fine and mediur	n of	× × × × × × × × × ×	- + 10.73	
	E34	- - - - - - - - - - - - -				[RIVER TERRACE DEPO	SITS]			* * * * * * * * * * * * * * * * * * *		₩≌₩≅₩≅₩≅₩ ≡₩≡₩≡₩≡₩≡ ₩≡₩≡₩≡₩≡
- - - - - - - -		- - - - - - - -								* * * * * * * * * * * * * * * * * * *	9.73	
-												
- - - - - - - - -		- - - - - - - - - - - -										
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- - - - - - - - -											*	
-												
		-									+	
	AN DETAILS				Orientat	ion: None	Remarks Trial pit termina No groundwate No evidence of	ated on Engineer's Instruction on er encountered. f contamination.	achieving target d	epth.		
0.6				Stability:	unstable	from 1.10						
	Groundwat					cription):				Terr	nination l	Depth: N
<u> </u>		nless other	viso statod:			Equipment Used			L	ogged By	Checke	ed By

Project Northstow Client Homes Fr	^{oject} orthstowe ^{ent} omes England					Project 1005 Easting 5409	No. 2307 (OS mE) 48 28	Ground Level (mAOD) 11.89 Northing (OS mN) 266760 22	Start Date 10/03/2022 End Date 10/03/2022	2 1	cale :25 Sheet 1 of 1
						0400	-10.20		10/00/202		
Depth	ES Type/ No.	Depth	TEST Type/ No.	S Results	Water Strikes		Descri	ption	Legend	Depth (Thickness)	Level Install/ Backfill
0.00 0.00 - 0.20 0.00 - 0.20 0.20 - 0.50 0.20 - 0.50 0.20 - 0.50	B1 D1 ES1 B2 D2 ES2	- - - 0.20 -	PID	<1ppm		MADE GROUND: Soft bl coarse, subangular to sul [MADE GROUND]	uish grey gravelly brounded of brick	/ CLAY with rootlets. Gravel is fine , concrete, chert.	to	(0.50)	
- 0.50 - 1.00 - 0.50 - 1.00 - 0.50 - 1.00 - 0.50 - 1.00	B B3 D3 ES3	- - 0.50 - - - -	PID	<1ppm		Yellowish brown slightly of fine to coarse of flint and [RIVER TERRACE DEPC	clayey gravelly S/ chert. DSITS]	AND with rootlets. Gravel is suban	gular	0.50	
- - - - - - - - - - - - - - - - - - -	B4 D4 ES4	- - - - - - - -	PID	<1ppm		Yellowish brown gravelly medium of flint. [RIVER TERRACE DEPC	SAND. Gravel is DSITS]	subangular to subrounded, fine to		0.90	
- - - - - - - - - - - - - - - - - - -	B5 D5 ES5	- - - - - - - - - - - - - - - - - - -	PID	<1ppm	▼					(1.50)	
- - - - - - - - - - -						Firm to stiff bluish greenis [KIMMERIDGE CLAY FO	sh mottled dark g RMATION]	rey CLAY.		2.40	
- - - - - - - -		- - - 3.00 - - - - -	PID	<1ppm						3.00	
-		- - - - - - - - - - -									
- - - - - - -		- - - - - -									
	LS	3.0		Long Axis	Orientati	on:	Remarks Trial pit termina No groundwate No evidence of	ted on Engineer's Instruction on a r encountered. contamination.	chieving target de	epth.	
0.6				Shoring / Stability: Groundwa	Support: Unstable ater (desc	None from 2.00 to 2.40m bgl ription):				Terr	nination Depth: 3.00m
AGS	U D T	nless otherv epth (m), Dia hickness (m	vise stateo ameter (m), Level (m	i: m), Time (hhmm) iOD).	,	Equipment Used	1		Lc	ogged By	Checked By

Project Northstow Client Homes En	/e Igland					Project 1 10052 Easting 54100	No. 2307 (OS mE) 03.49	Ground Level (mAOD) 11.64 Northing (OS mN) 266764.06	Si 1 Ei 1	tart Date 5/03/2022 nd Date 5/03/2022	2 1: 2 S	ale 25 heet 1	of 1
SAMPLE	ES		TEST	S				STRATA					
Depth	Type/	Depth	Type/	Results	Wate		Desc	cription		Legend	Depth (Thickness)	Level	Install/ Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20	B1 D1 ES1	- - -	INO.			MADE GROUND: Soft da rootlets. Gravel is subang fabric. Organic odour note	rk brown sandı ular to subrour ed	y slightly gravelly CLAY with nded fine to coarse of brick, p	frequent plastic and		(0.20)		
- 0.20 - 0.80 - 0.20 - 0.80 - 0.20 - 0.80 - 0.20 - 0.80 - 0.20 - 0.80 	B2 D D2 ES2	- 0.20 - - - - - - -	PID	<1ppm		[MADE GROUND] MADE GROUND: Soft to angular to subrounded fin [MADE GROUND]	firm dark brow e to coarse of	n slightly sandy gravelly CLA brick and flint.	Y. Gravel is		0.20	11.44	
- - - 0.80 - 1.70 - 0.80 - 1.70 - 0.80 - 1.70	B3 D3 ES3	- - - 0.80 - - -	PID	<1ppm		Light orangish yellow clay rounded fine to coarse filr [RIVER TERRACE DEPC	rey very gravell ht and chert, Sa DSITS]	iy SAND Gravel is subangula and is fine to coarse.	ar to well		0.80	10.84	≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡
- - - - - -		- - - - -									(0.90)	- - - - - -	= = = = = = = =
- - 1.70 - 3.00 - 1.70 - 3.00 - 1.70 - 3.00 -	B4 D4 ES4	- - - - - - - -	PID	<1ppm		Firm to stiff dark bluish gr pockets [KIMMERIDGE CLAY FO	ey slightly silty RMATION]	CLAY with occasional light g	rey silt		1.70	9.94	≡ ≡ ≡ ≡ = ≡ ≡ ≡ ≡
		- - - - -									(1.30)		≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡
		- - - - - - - - - - -											₩≅₩≅₩≅₩≅₩ ≈₩=₩=₩=₩ ₩=₩=₩=₩=
	S		PID	<1ppm			Remarks				3.00 -	8.64	
0.6		3.0		Long Axis	Support:	ion: 0.00 None	Trial pit termir No groundwa No evidence o	nated on Engineer's Instructi ter encountered. of contamination.	on on achievi	ing target de	pth.		
				Stability: Groundw	Stable ater (deso	cription):					Term	nination E 3.00m	Depth:
		nless other	vise state	1.		Equipment Used	<u> </u>			Lo	gged By	Checke	d By

Project Northstov Client Homes Et	we ngland					Project N 10052 Easting (54097	No. 2 307 (OS mE) 7 5.04	Ground Level (mAOD) 11.50 Northing (OS mN) 266728.80	Start Date 10/03/202 End Date 10/03/202	2 1: 2 S	^{ale} 25 heet 1 of 1
SAMPL	.ES		TEST	S	L S		S	STRATA			
Depth	Type/ No.	Depth	Type/ No.	Results	Wate Strike		Descrip	otion	Legend	Depth (Thickness)	Level Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.20 - 0.50 0.20 - 0.50 0.20 - 0.50 0.20 - 0.50 0.20 - 0.50	B1 D1 ES1 B2 D D2 ES2	- - - 0.20 -	PID	<1ppm		MADE GROUND: Grass c wood and occasional rootl concrete. [MADE GROUND] MADE GROUND: Medium fragments Gravel is subar	over soft yellowis lets. Gravel is su n dense orangish ngular flint	h grey gravelly CLAY with fragme bangular fine and medium of bric yellow clayey gravelly SAND brid	k and k and k and	(0.20) 0.20	
- 0.50 - 1.00 0.50 - 1.00 0.50 - 1.00 - -	B3 D3 ES3	- - 0.50 - - - - - -	PID	<1ppm		[MADE GROUND]				× × × × × (1.00)	
- - - - - - - - - - - - - - - - - - -	B4 D4 ES4	- - - 1.00 - - - -	PID	<1ppm			SAND. Gravel is	subangular fine to course of flint.		1.20	
- - - - - -		- - - - - -					010]			(0.60)	
- 	B5 D5 ES5	- - - - - - - -	PID	<1ppm		Firm to Stiff dark grey CLA [KIMMERIDGE CLAY FOF	ay Rmation]			1.80 	
		- - - - - - - -								(1.20)	
- - - - - - - - -		- - - - - - - - - - - - - - - - -	PID	<1ppm							
										-	
- - - - - - - -		- - - - - -								-	
	LS	3.0		Long Axis Shoring /	s Orientat Support: Stable	ion: None	Remarks Trial pit terminal No groundwater No evidence of	ted on Engineer's Instruction on a r encountered. contamination.	ichieving target d	epth.	
	Groundwater (de					cription):				Term	nination Depth: 3.00m
	U	nless other	wise state	1:		Equipment Used			Lo	ogged By	Checked By



TPTCA107

Project Northstow Client Homes En	ve ngland					Project 1005 Easting 5410	No. 2307 (OS mE) 06.30	Ground Level (mAOD) 11.40 Northing (OS mN) 266700.60	Start Date 11/03/20 End Date 11/03/20	22 22	^{Scale} 1:25 Sheet 1	of 1
SAMPLI	ES		TESTS		ر ۵		ę	STRATA				
Denth	Type/	Denth	Type/	Results	Nater		Descrit	otion	Lege	Depth (Thickne	ss) Level	Install/ Backfill
0.00 - 0.20	No. D1	Deptil	No.	Tresuits	> 0		h brown gravelly	CLAY with occasional rootlets	Gravel XXX			
0.00 - 0.20	ES1	-				is angular medium to coa	rse of brick and c	conrete.		(0 30)	ł	
- 0.20 - 0.20 - 0.50	B2 D2	-									ł	
0.20 - 0.50	ES2	-				MADE GROUND: Firm s	andy gravelly CL	AY. Gravel is angular medium to	coarse,	0.30	11.10	
0.50	D 2	-				[MADE GROUND]	brick and concret	e.		X	ŧ	
- 0.50 - 1.00	D3	-								(0.60)	Ŧ	
0.50 - 1.00	E33	-									ţ	
-		-								\otimes	ţ	
- 0.90 - 1.50	B3	-				Brownish vellow very gra	velly coarse SAN	D. Gravel is medium to coarse		0.90	10.50	
1.00 - 2.00	D4	-				subangular to subrounde	d of flint and cher	t.			÷	
- 1.00 - 2.00	E54	_				RIVER TERRACE DEPC	5115]				Ŧ	
-		-								(0.60)	ţ	
-		-									ţ	
-		-								4.50	1	
E						Firm to stiff bluish dark gr	ey silty CLAY with	h frequent light grey silt pockets	. <u>x</u> x		1 9.90	″≡≡≡
-		_									ļ	
-		-							<u> </u>		ļ	
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-2.00 - 3.00	D5	-							×		÷	
2.00 - 3.00	E00	_							×		ļ	
-		-							×	(1.50)	ļ	
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PLAN DETAIL	LS	·			·	·	Remarks		I			
		3.0		Long Axi	s Orientat	on:	Trial pit termina	ted on Engineer's Instruction on	achieving target	depth.		
I Tİ				, ,			No evidence of	contamination.				
				Charine	Sunnart	None						
0.6				Shoring /	Unstable	from 0.90 to 1.50 m bal						
				Groundw	ater (des	cription):				Г	ermination	Depth:
					,						3.00r	n
AGS	U D TI	nless otherv epth (m), Di hickness (m	wise stated: ameter (mm), Level (mC), Time (hhmm) D).),	Equipment Used JCB 3CX				Logged By	Checke CPr	ed By

Project Northstov Client Homes Er	ve ngland					Project N 10052 Easting (54103	No. 2 307 (OS mE) 8 7.86	Ground Level (mAOD) 11.23 Northing (OS mN) 266671.20	Start Date 15/03/202 End Date 15/03/202	2 1: 2 S	^{ale} 25 heet 1	of 1
SAMPL	ES		TEST	S	بة 8			STRATA				
Depth	Type/	Depth	Type/	Results	Wate		Descr	iption	Legend	Depth (Thickness)	Level	Install/ Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.20 - 0.90 0.20 - 0.90 0.20 - 0.90	NO. B1 D1 ES1 B2 D2 ES2	- 0.20	PID	<1ppm		MADE GROUND: Soft dat Gravel is angular to subro [MADE GROUND] MADE GROUND: Firm to fine orange sand pockets fine to coarse of brick, cor	rk brown sandy unded fine to co stiff dark brown and wood fragn crete and flint.	gravelly CLAY with frequent root barse of brick, and concrete. sandy gravelly CLAY with occas nents. Gravel is angular to subro	sional unded	(0.20)	11.02	
-		- - - - - - -				[MADE GROUND]				(0.70)		= = = = = = = =
- 0.90 - 1.70 - 0.90 - 1.70 - 0.90 - 1.70 - 0.90 - 1.70	B3 D3 ES3	- 0.90 	PID	<1ppm		Yellowish orange slightly o subrounded fine to coarse [RIVER TERRACE DEPO	clayey gravelly \$: of flint and che SITS]	SAND. Gravel is subangular to rt.		0.90	10.32	═: ═: ═: ═: ═: ═: ═: ═: ═: ═: ≡:
- - - - - - - - - - - - - - - - - - -	B4 D4 ES4	- - - - - - - - - - - - - - - - - - -	PID	<1ppm		Firm to stiff dark bluish gr	ey slightly silty s RMATION]	lightly sandy CLAY		1.70	9.52	= = = = = = =
		- - - - - - - - - - - - - - - - - -								(1.30)		═║═║═║═║═ ║═║═║═║═║═ ║═
		3.00	PID	<1ppm						- 3.00 -	8.22	
- - - - - - - - -	LS	- - - -					Remarks			-		
	AN DE TAILS				Support:	ion: 0.00 None from 0.90m to 1.70m bgl.	Trial pit termina No groundwate No evidence o	ated on Engineer's Instruction on er encountered. f contamination.	achieving target de	epth.		
	Groundwater (de					cription):				Term	ination I 3.00n	Depth:
	U	nless otherv	vise stated	:		Equipment Used			Lo	ogged By	Checke	d By

Project Northstow Client	/e					Project 1 10052 Easting	No. 2 307 (OS mE)	Ground Level (mAOD) 11.24 Northing (OS mN)	Start 10/ End	Date 03/2022 Date	2 1:	^{ale} 25	• •
Homes En	ngland					54106	69.43	266672.33	10/	03/2022	2 S	heet 1	of 1
SAMPLI	ES Type/		TEST	s	/ater rikes		S	STRATA			Depth	Level	Install/
Depth	No.	Depth	No.	Results	S≌	MADE CROUND: Soft to	Descrip	otion	avel is		(THICKHESS)		
0.00 - 0.20	D1 ES1					fine to coarse, angular to	subangular of flin	it, brick and concrete.	averis		(0.20)		
- 0.20 - 0.50 - 0.20 - 0.50	B2 D2	- 0.20	PID	<1ppm		Soft to firm yellowish grey	sandy gravelly C	CLAY with occasional rootlets. G	ravel is		0.20	11.04	
- 0.20 - 0.50	ES2	-				subangular fine to mediun [RIVER TERRACE DEPO	n of flint.)SITS]						
- 0.50 - 1.00	B3	0.50	PID	<1ppm								ļ	
- 0.50 - 1.00 - 0.50 - 1.00	D3 ES3	-											
												İ	
-		-											
-	D1	-	PID	<1ppm							(1.50)	L	
- 1.00 - 2.00 - 1.00 - 2.00	D4 D4 ES4	- 1.00	PID	< ippm								Ţ.	
-	204	-											
-												Í	
-		-											
-		-										-	
-											1.70	9.54	
-		-				Orangish yellow very grav of flint.	elly SAND. Grav	el is angular subangular fine to	medium			0.01	
						[RIVER TERRACE DEPO	SITS]				(0.30)	İ	
2.00 - 3.00	5 B5	2.00	PID	<1ppm		Firm bluish dark grey CLA	Y with occasiona	al rootlets an light grey silt pocke	ets.		2.00 -	9.24	
2.00 - 3.00	D5	-				[KIMMERIDGE CLAY FOI	RMATION]					+	
-												Ì	
-		-										-	
-											(1.00)		
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-		- 3.00	PID	<1ppm							3.00 -	8.24	
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PLAN DETAIL	S						Remarks						
		3.0		Long Axis	s Orientat	ion:	No groundwater	ted on Engineer's Instruction on r encountered.	achieving	target de	pth.		
						0.00	No evidence of	contamination.					
				Shoring /	Support:	None							
0.6				Stability:	Stable								
				Groundw	ater (deso	cription):					Term	ination I	Depth:
												3.00n	n
		nless other	vise state	4·		Equipment Used				Lo	gged By	Checke	ed By

Project Northstow Client Homes En	at thstowe nes England SAMPLES TESTS					Project 1 10052 Easting 5410	No. 2307 (OS mE) 39.11	Ground Level (mAOD) 11.32 Northing (OS mN) 266640.03	Start Da 11/03 End Da 11/03	^{ate} 3/2022 ^{ate} 3/2022	s∝ 1: Sl	^{ale} 25 heet 1	of 1
SAMPLE	ES		TEST	S	es		S	STRATA			Denth		Inctall/
Depth	Type/	Depth	Type/	Results	Vate		Descrip	otion	L	egend	(Thickness)	Level	Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.20 - 0.50	B1 D1 ES1 B1	-	110.			MADE GROUND: Soft to occasional rootlets. Grave concrete. IMADE GROUND	Firm yellowish lig el is fine to mediu	ht brown gravelly CLAY with m, angular to subangular of brick	and		(0.20) 0.20	11.12	
- 0.20 - 0.50 - 0.20 - 0.50 - -	D2 ES2	-				MADE GROUND: Soft da wood fragments. Gravel is [MADE GROUND]	rk brown gravelly s subangular fine	CLAY with occasional rootlets a to coarse of brick, flint, concrete	nd	· · · · · · · · · · · · · · · · · · ·	(0.30)		≡ ≡ ; ≡ ≡ ≡ ≡
- 0.50 - 1.00 - 0.50 - 1.00	B3 D3	-				Yellowish brown very grav	elly SAND. Grav	el is fine to coarse, subangular to))		0.50	10.82	
- 0.50 - 1.00 - - - -	ES3	-				subrounded of flint. [RIVER TERRACE DEPC	OSITS]		ار مع ار مو مو مو مو مو		(0.50)		
- - 1.00 - 2.00 - 1.00 - 2.00 - 1.00 - 2.00	B4 D4 ES4	-				Soft to firm bluish grey sli [KIMMERIDGE CLAY FO	ghtly sandy CLA\ RMATION]	with occasional light grey silt pc is a second s	ckets.		1.00 -	- 10.32	= = = = = = = =
-		-									(1.00)		= = = = = = = = = =
-		-											
2.00 - 3.00 2.00 - 3.00 2.00 - 3.00 2.00 - 3.00 2.00 - 3.00	B B5 D5 ES5	2.00 2.00 2.00	HV(1) HV(2) HV(3)	340()kPa 350()kPa 370()kPa		Stiff greenish dark grey C [KIMMERIDGE CLAY FO	LAY with rootlets RMATION]	and silt pockets			2.00 -	- 9.32	
-		- - - - - - - -									(1.00)	- - - - - - - -	= = = = = = =
- - - 		- - - 3.00 - 3.00	HV(1) HV(2)	470()kPa 500()kPa					-		3.00 -	- 8.32	
	-S	3.00	HV(3)	500()kPa			Remarks				-	* * * * * * * * * * * * * * * * * * *	
		3.0			Support:	on:	Trial pit termina No groundwate No evidence of	ted on Engineer's Instruction on a r encountered. contamination.	achieving ta	arget der	oth.		
0.6				Stability: Groundw	Unstable ater (desc	from 1.00m to 1.30m bgl. ription):					Term	ination [3.00n	Depth:
AGS	Ui De	nless other epth (m), Di	wise stated ameter (m	ן: m), Time (hhmm)	,	Equipment Used	1			Log	ged By	Checke CPr	d By

Project Northstowe ^{Client} Homes England	I			Project No 100523 Easting (O 541068	o. 307 os mE) 8.91	Ground Level (mAOD) 11.31 Northing (OS mN) 266640.68	Start Date 11/03/2022 End Date 11/03/2022	: 1: : S	^{ale} 25 heet 1	of 1
SAMPLES	TE	STS	es S		S	TRATA				
Depth Type/	Depth Type	e/ Results	Wate		Descrip	tion	Legend	Depth (Thickness)	Level	Backfill
0.00 - 0.20 B1	-	·		MADE GROUND: Soft yello	wish light brown	n gravelly CLAY. Gravel is fine to		(0.00)	+	
- 0.00 - 0.20 ES1				[MADE GROUND]	liar of filnt, drick	and concrete.		(0.20)	11.11	
- 0.20 - 0.50 B2 - 0.20 - 0.50 D2	-			MADE GROUND: Soft gree angular to subangular of ce	enish brown grav eramic and brick.	velly CLAY. Gravel is fine to coarse,		0.20		
0.20 - 0.50 ES2				[MADE GROUND]				(0.30)	ŧ	
- 0.50 - 1.00 B - 0.50 - 1.00 B3	-			MADE GROUND: Soft yello	owish brown san	dy gravelly CLAY with occasional		0.50	10.81	
- 0.50 - 1.00 D3 - 0.50 - 1.00 ES3				rootlets. Gravel is angular fi [MADE GROUND]	ine to medium o	f flint and brick.			ŧ	
-	-							(0.50)	ļ	
-									ţ	
- 1.00 - 2.00 B4 - 1.00 - 2.00 D4	-			Light creamish yellow grave	elly SAND. Grav	rel is fine and medium, subangular t		1.00	10.31	
- 1.00 - 2.00 ES4	-			subrounded of flint. [RIVER TERRACE DEPOS	ITS]				ł	
-									Į	
-	-								ł	
-	-							(1.00)	Į	
-	-								ł	
-	-								Į	
-	-								ŧ	
- 2.00 - 3.00 B5	-			Firm to stiff bluish dark grey	/ CLAY.			2.00	9.31	
- 2.00 - 3.00 ES5	-			[KIMMERIDGE CLAY FOR	MATION]				ł	
	-								Į	
-	-								ł	
								(1.00)	ŧ	
-	-								ł	
									ŧ	
-	-								ł	
-	-							3.00	8.31	<u>₩₩₩</u>
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PLAN DETAILS				F	Remarks				1	
_ <u> </u>	3.0	Long Ax	is Orientat	on: T	Trial pit terminate	ed on Engineer's Instruction on achi encountered.	eving target de	pth.		
			(0.00	No evidence of c	contamination.				
0.6		Shoring	/ Support:	None						
		Stability:	Stable	ription):				Torn	ination ^I	Depth:
		Groundy	valei (üesi	πραθη). 					3.00n	
									5.001	
AGS D	Inless otherwise sta lepth (m), Diameter hickness (m), Leve	ited: (mm), Time (hhmm ∣(mOD).),	Equipment Used JCB 3CX			Lo Mi	gged By n	Checke CPr	id By

TPTCA115

Project Northstov Client Homes Er	ve ngland					Project N 10052 Easting (54110	vo. 2 307 (OS mE) 1 2.98	Ground Level (mAOD) 11.32 Northing (OS mN) 266628.75	Start Date 15/03/2022 End Date 15/03/2022	2 1 2 S	^{:ale} :25 heet 1	of 1
SAMPL	FS		TESTS					STRATA				
Depth	Type/	Depth	Type/	Results	Water Strikes		Des	scription	Legend	Depth (Thickness)	Level	Install/ Backfill
- 0.20	ES1	-	NO.			MADE GROUND: Soft to 1 slightly gravelly CLAY Gra brick and rare ceramics. [MADE GROUND]	firm brown loo avel is angula	cally mottled bluish grey slightly sandy r to rounded fine to coarse flint, concre	te,			
- 0.50 - 0.50 - 0.60 -	ES2 B1	- - - - - -								(0.90)		
- - - - 1.00 - 1.00 - 1.10 - 1.00 - 1.10	ES3 B2 D1	- - - - - -				Soft to firm becoming stiff sandy slightly gravelly CL/ flint [RIVER TERRACE DEPO	bluish grey, li AY Gravel is SITS]	ght brown and orangish brown slightly subangular to subrounded fine to coars	3e	0.90	10.42	
-		-								(0.70)	9.72	
- 1.70 - 1.70 - 1.80	ES4 B3	-				Orangish brown and yellou subangular to subrounded [RIVER TERRACE DEPO	wish brown cl I, fine to coar: SITS]	ayey sandy GRAVEL Gravel is se of flint.		(0.30)		
- - - 2.00 - 2.20 - 2.00 - 2.10 - 2.10 - -	B4 D2 ES5					Firm to stiff dark bluish gre crystals. [KIMMERIDGE CLAY FOF	ey silty slightl <u>i</u> RMATION]	y sandy CLAY with occasional selenite		1.90	9.42	
- - - - - - - - -										(1.10)	+ + + + + + + + + + + + + + +	
										3.00	8.32	
-		-										
	LS	2.8		Long Axis	orientati	ion: 0.00	Remarks Trial pit term No groundw No evidence	inated on Engineer's Instruction on act ater encountered. • of contamination.	ı	pth.	1	1
0.7				Shoring / Stability: Groundw	Support: Stable. ater (desc	None sription):				Tern	nination 1 3.00n	Depth: N
AGS	U D T	nless otherv epth (m), Dia nickness (m	vise stated: ameter (mm), Level (mO), Time (hhmm) D).	,	Equipment Used JCB 3CX			Lo	gged By D	Checke CPr	ed By

Project Northstow Client Homes Er	ve ngland					Project N 10052 Easting (54113	No. 2 307 (OS mE) 3 3.51	Ground Level (mAOD) 11.40 Northing (OS mN) 266613.21	Start Date 10/03/2022 End Date 10/03/2022	2 1: 2 SI	^{ale} 25 heet 1	of 1
SAMPL	ES		TEST	S	ر ه			STRATA				
Depth	Type/	Depth	Type/	Results	Water		Desc	ription	Legend	Depth (Thickness)	Level	Install/ Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.20 - 0.50 0.20 - 0.50 0.20 - 0.50	B1 D1 ES1 B2 D2 ES2	- - - - 0.20 - -	PID	<1ppm		MADE GROUND: Firm da angular to subangular of b [MADE GROUND]	irk brown sandy prick and concre	/ gravelly CLAY. Gravel is fine to co ete.	barse,	(0.50)		
- - - 0.50 - 1.00 - 0.50 - 1.00 - 0.50 - 1.00 -	B B3 D3 ES3	- - 0.50 - - - - -	PID	<1ppm		MADE GROUND: Firm to light grey silt pockets. Gra plastic. [MADE GROUND]	stiff bluish grey vel is fine to co	sandy gravelly CLAY with occasio arse, angular to subangular of flint	nal , brick,	0.50 · ·	10.90	=====================================
- - - - 1.00 - 2.00 - 1.00 - 2.00 - 1.00 - 2.00 -	B4 D4 ES4	- - - - - - - -	PID	<1ppm		Firm bluish dark grey silty [KIMMERIDGE CLAY FOF	CLAY with occ RMATION]	asional light grey silt pockets.		1.00 -	- 10.40	; ≕ ≡ ≡ = = ≡ ≡ = =
- - - - - - - - -		- - - - - - - - - - - - - - - - - -								(1.00)	+ - - - - - - - - - - - - - - - - - - -	≡ ≡ ≡ ≡ ≡ ≡ ≡ ≡
- 	B5 D5 ES5	- - - - - - - -	PID	<1ppm		Stiff bluish grey CLAY with [KIMMERIDGE CLAY FOF	n occasional lig RMATION]	ht grey silt pockets.	×_*	2.00 -	9.40	₩₩₩₩₩₩₩ ₩₩₩₩₩₩₩₩ ₩₩₩₩₩₩₩₩₩
										(1.00)		= = = = = = = =
- - - - -		- - - - - - -	PID	<1ppm						3.00 -	- 8.40	== = == == = == == == == == == == ==
- - - - - - -		- - - - - -										
- - - - - - -		- - - - - - - -								-		
- - - - - - -		- - - - - - -										
- - - - - - -		- - - - - -								-		
PLAN DETAILS					Orientati (Support:	on: 0.00 None	Remarks Trial pit termin No groundwat No evidence c	ated on Engineer's Instruction on a er encountered. f contamination.	achieving target de	pth.		
Stability: Stable Groundwater (descr					Stable ater (desc	ription):				Term	nination E 3.00m	Depth:
		niess otherw	viso stator	ŀ		Equipment Used			Lo	gged By	Checke	d By

Project Northstowe Client Homes Eng	ect rthstowe n mes England 					Project N 10052 Easting (54106	^{No.} 2 307 (OS mE) 5 9.88	Ground Level (mAOD) 11.34 Northing (OS mN) 266578.92	Sta 15 End 15	rt Date /03/2022 d Date /03/2022	2 5c 2 1: 2 SI	^{ale} 25 heet 1	of 1
SAMPLES	s		TEST	S	L 00			STRATA					
Denth	Type/	Denth	Type/	Results	Nater		Des	cription		Legend	Depth (Thickness)	Level	Install/ Backfill
0.00 - 0.20	No. B1	Deptil	No.	Results	- 00	MADE GROUND: Grass of	over vellowish	brown clavey sandy GRAVEL	Gravel is	XXXX			m≡m:
0.00 - 0.20	D1 ES1	-				subangular fine to coarse	of brick and c	oncrete.			(0.20)	İ	
- 0.20 - 0.50	B2 D2	0.20	PID	<1ppm		MADE GROUND	firm greenish	brown sandy gravelly CLAY. G	ravel is fine		0.20	11.14	
0.20 - 0.50	ES2	-				to coarse, angular to suba	angular of bric	k, wood, and concrete.			(0.30)	ł	
-		-									(,		
- 0.50 - 1.20 - 0.50 - 1.20	B3 D3	- 0.50	PID	<1ppm		Orangish yellow slightly cl	ayey gravelly	SAND with occasional rootlets	Gravel is		0.50	10.84	
- 0.50 - 1.20	ES3	-				[RIVER TERRACE DEPO	dium to coars SITS]	e of flint.					
		-										ŧ	≣≞≣
		_									(0.70)	I	
-		-									-	Ļ	
		-											
- 1.20 - 3.00	B4	- - 1.20	PID	<1ppm		Firms to stiff bluis balance					1.20	10.14	
- 1.20 - 3.00 - 1.20 - 3.00	D4 ES4	-				[KIMMERIDGE CLAY FOR	RMATION]	rare sand pockets and slit poci	kets.			ł	
		-											
		-										ļ	
		-										I	
E		-								<u></u>		ł	
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-		-								F		ļ	
-		-									-	+	
		-									(1.80)	ł	
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-		-										ļ	
		-										ł	
		-											
E I		3.00	PID	<1ppm							3.00 -	8.34	m≞m:
		-											
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	3	-					Remarks						
	-	2.4		Lona Axis	Orientat	on:	Trial pit termi	inated on Engineer's Instruction	n on achievin	g target de	pth.		
						0.00	No groundwa	ater encountered.		_ 0 -	-		
					(3.00		s. somaninguon.					
				Shoring /	Support:	None							
0.6				Stability:	Unstable	from 1.30m to 2.00m bgl.					r		
Groundwater (d				ater (deso	cription):					Term	ination I	Depth:	
												3.00n	n
		nloss other	vico etator	ı.		Equipment Used				Lo	qqed By	Checke	d By
ARCADIS Trial Pit Log

TPTCA120

Project Northstowe Client Homes England	ł				Project N 10052 Easting (54110	No. 2 307 (OS mE)) 3.14	Ground Level (mAOD) 11.32 Northing (OS mN) 266581.24	Start Date 10/03/2022 End Date 10/03/2022	: 1: : S∣	ale 25 heet 1	of 1
SAMPLES		TESTS	6	r SS		S	STRATA				
Depth Type/	Depth	Type/	Results	Wate Strike		Descrip	otion	Legend	Depth (Thickness)	Level	Install/ Backfill
NO. 0.00 - 0.20 B1 0.00 - 0.20 D1 0.00 - 0.20 ES1 0.20 - 0.50 B2	- 0.20	PID	<1ppm		MADE GROUND: Firm blu angular to subangular of v [MADE GROUND]	uish grey gravelly vood, brick, conc	y CLAY. Gravel is fine to coarse, rete, and plastic.		(0.20)	11.12	
- 0.20 - 0.50 D2 - 0.20 - 0.50 ES2	-				MADE GROUND: Firm bro rootlets Gravel is subang [MADE GROUND]	own gravelly CLA gular fine to coars	AY with ceramic fragments and rar se of flint, brick, and concrete.	e	(0.30)		
- 0.50 - 1.00 D3 - 0.50 - 1.00 ES3 - 0.50 - 1.00 ES3 	- 0.50 - - - - -	PID	<1ppm		Soft to firm light grey sand is medium and coarse. [POSS BLE REWORKED	ly CLAY with occ NATURAL]	asional rootlets and silt pockets S	and	0.50	- 10.82	
	- - - - 1.00	PID	<1ppm		Firm to stiff bluish grey CL	AY with light gre	y silt pockets up to 50mm.		1.00 -	- 10.32	
2.00 - 3.00 B5	2.00	PID	<1ppm	¥					(1.00)	9.32	₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩ ₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩ ₩₩₩₩₩₩
2.00 - 3.00 D5 2.00 - 3.00 ES5	-				Stiff dark bluish grey CLAY [KIMMERIDGE CLAY FOF	Y. RMATION]			(1.00)		
	- 3.00	PID	<1ppm						3.00 -	- 8.32	
									-	+ - - - - - - - - - - - - - - - - - - -	
									-		
PLAN DETAILS	3.0		Long Axis Shoring / Stability: S	Orientati (Support: Stable ater (desc	on: 0.00 None ription):	Remarks Trial pit termina No groundwater No evidence of	ted on Engineer's Instruction on a r encountered. contamination.	L	oth.	ination [Depth:
	Jnless otherwise Depth (m), Diame	e stated: eter (mm	: n), Time (hhmm),		Equipment Used			Lo	gged By	3.00m Checke	n d By

Legen ty avelly fine to	(0.90) (0.20) (0.20) (0.20)) Level	Instal Backf
Legen ty avelly fine to	0.90 0.20) 0.90 0.20)) Level	Backf
ty avelly fine to	(0.90) 0.90 (0.20) 1.10		11 1
avelly fine to	0.90 (0.20)	T .	
fine to	(0.55) × 1.65	11.00 10.80 10.25	
IG DIAMETER Casing Dia. Depth 87 1.00	WATT	ER ADD	ED Volume (It
	VG DIAMETER Casing Dia. Depth 87 1.00	VG DIAMETER WATE Casing Dia. Depth From 87 1.00	VG DIAMETER WATER ADD Casing Dia. Depth From To 87 1.00 Termination I

Samples Type + Dept (ES1) 0.20 (ES2) 0.50						10052307 Easting (OS mE) 541003.41	Ground Level (11.26 Northing (OS n 266730.51	mAOD) nN)	15/03 End Da 15/03	3/2022 Ite 3/2022	1:4 Sh	50 leet 1	of 1
Type + Dept (ES1) 0.20 (ES2) 0.50		Tests		Progre	ess		Str	ata		-	1000	-	
(ES1) 0.20	th Type + Depth	Results	Water	Date & Time	Casing & Water	The second	Description	darmenter -		Legend	(Thickness)	Level	Back
	0		Dopar	21/03/2022 09:40	0.00 Dry	MADE GROUND: (with occasional roo to coarse of flint an [MADE GROUND]	Grass over soft dar tlets. Gravel is sub d chalk.	rk brown silty gravel bangular to subround	ly CLAY ded fine		(0.70)		
(ES3) 1.00) 80 SETT(014-20		•			Medium dense yell subangular to subro [RIVER TERRACE	owish orange sand ounded fine to coa DEPOSITS]	ly GRAVEL. Gravel rse of flint.	is		0.70	10.56	
(61) 1.20-1.	5PT(C) 1.20	N=24 (<i>1</i> , <i>11</i> 3,0,3,4)	Diy								(1.10)	946	
(ES4) 1.90 (B2) 2.00-2.	0 50 SPT(S) 2.00	N=10 (1,1/2,2,3,3)	Dry			Firm to stiff bluish g selenite crystals an coarse, subangular [KIMMER DGE CL/	rey silty slightly gr d rare shell fragme of siltstone. AY FORMATION]	avelly CLAY with oc ents. Gravel is fine to	casional o		-		
(B3) 2.50-3.	00 SPT(S) 3.00	N=10 (2,2/3,2,2,3)	Dry								(1.65)		
				21/03/2022 11:00	2.00 Dry					×	3.45	7.81	<u>]]</u>]
		CHISEL	LNG	61 E		WATER OBSERVATIO	ONS	HOLE/CASING	G DIAME	TER	WATE	RADD	D
DRL	LING TECHNIQUE	Hard Strata	Dent	D-t-T	me	DUNCAU (IIDE (MIDS) RI	ac ID Casing Seale	winde Jat Debth C	acine Dia	Donte	h-com	To I v	lokuma (h

Project Northst Client Homes	towe Englan	d					Project No. 10052307 Easting (OS mE) 541038.42	Ground Level (r 11.33 Northing (OS m 266699.80	nAOD) N)	Start 0 15/0 End D 15/0	Date 3/2022 ate 3/2022	Sca 1:4 Sh	^{le} 50 neet 1	of 1
Sam	ples		Tests	_	Progr	ess		Stra	ita			1		Install
Type +	Depth	Type + Depth	Results	Water	Date & Time	Casing & Water	The second	Description	ALC: NO		Legend	(Thickness)	Level	Backfi
(ES1 (ES2) 0.20) 0.50			T	15/03/2022 07:30	0.00 Dry	MADE GROUND: sandy silty gravelly and fine roots. gra flint and rare brick [MADE GROUND]	Grass over soft dar / CLAY with gravel s vel is subangular-su fragments	k brown and brow size pockets of o brounded fine to	wn mottled rganic clay o coarse		(0.80)		
(B1) 0. (ES3 (B2) 1.	80-1.20 1) 1.00 20-1.50	SPT(S) 1.20	N=12 (2,1/2,3,4,3)	A		ſ.	Soft orangish brow subangular-subrou [POSSIBLE REW0 Firm greenish grey	n sandy gravelly Cl inded fine to coarse DRKED NATURAL] silty slightly gravel	AY gravel is occ flint. y CLAY. Gravel i	asional s		(0.40) (0.40) 1.20 (0.30)	10.53	
(ES4) 1 (B3) 1.	.50-1.60 60-2.00		-				Subangular fine to [KIMMER DGE CL Yellowish brown sa subrounded fine to	coarse of siltstone. AY FORMATION] andy GRAVEL grave coarse flint.	el is subangular-			1.50 1.60	9.83 9.73	
(B4) 2. (B5) 2.	00-2.50 50-3.00	SPT(S) 2.00	N=9 (2,1/2,2,3,2)	.4			Firm to stiff greeni occasional selenit fine to coarse ang [KIMMER DGE CL	berosits sh grey silty slightly e crystals and rare s lar to subangular o AY FORMATION]	gravelly CLAY w hell fragments. (f claystone.	ith Gravel is		(1.85)		
		SPT(S) 3.00	N=11 (2,1/3,2,3,3)	.4	22/05/2022 09:30	2.00 0.40						3.45	7.88	
		TECHNIQUE							1015/049					D
From	To	Type	Hisel Hard Strata From To	L NG Durati	on Date/T	ime s	Strike At Time (mins)	ise To Casing Sealed	HOLE/CAS	Casing Dia.	Depth	From	To \	LD /olume (ltr)
1.20 Remarks Window S	3.45 ample ten	Dynamic Sample	eer's Instruction on a	ichieving	target depth				67 3.45					_
roundwa lo eviden	ater encou ice of cont	ntered at 0.40m. tamination.										Term	ination D 3.45	epth: im
AGS		Unless otherw Depth (m), Dia Thickness (m)	ise stated meter (mm), Time (I	nhmm),	Equipme Comp	nt Used etitor I	Dart				Lo H	gged By S	Check CPr	ed E

nomes	stowe s England mples + Depth Type + Depth						10052307 11.53 14/03/ Easting (OS mE) Northing (OS mN) End Date 540997.10 2666666.42 14/03/		3/2022 ate 3/2022	1: Sł	50 neet 1	of 1		
San	nples		Tests		Progre	ess		Strata	C			Depth	12.0	Install
Type +	+ Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Contraction of the	Description			Legend	(Thickness)	Level	Backfil
(ES	1) 0.10 2) 0.50				14/03/2022 14:00	0.00 Dry	MADE GROUND: sandy gravelly CL4 subangular-subrou and brick fragment [MADE GROUND]	Firm mottled dark brow Y with rare fine roots. nded fine to coarse flir s.	m and brown sli gravel is occasi t and rare clay :	ghtly onal stone		(0.70)		
(B1) 0 - (ES;	3) 1.00	SPT(S) 1.20	N=25 (7,6/10,7,5,3)	Dry			Orangish brown sli coarse subangular [RIVER TERRACE	ghtly silty gravelly SAN to subrounded of flint. DEPOSITS]	ID. Gravel is fin	e to		0.70	10.83	
(B2) 1	.45-2.00						Stiff greenish grey orangish brown silt shell fragments.	slightly silty CLAY with y clay and occasional :	rare pockets of selenite crystals	and		1.45	10.08	
- (B) 2. (B3) 2 (ES4	.00-3.00 2.00-3.00 4) 2.00	SPT(S) 2.00	N=13 (2,4/5,3,3,2)	Dry								(2.00)		
		SPT(S) 3.00	N=6 (1,2/1,0,2,3)	Dry	14/03/2022 15:00	2.00 Dry				_	x x x x	3.45	8.08	777 777.
1	DR LLING	TECHNIQUE	CHISELL	NG		1	WATER OBSERVATION	ONS	HOLE/CASIN	g diame	TER	WATE	RADD	ED
From 0.00	To 120	Type Inspection Pit	Hard Strata From To	Durati	on Date/Ti	me S	Strike At Time (mins) R	se To Casing Sealed H	ole Dia. Depth C	asing Dia. 87	Depth 2.00	From	To \	/olume (ltr)
1.20 Kernarks	3.45	Dynamic Sample							77 3.45					_
Window S No groun No evider	Sample ter dwater en nce of cont	minated on Engin countered. tamination.	eer's Instruction on a	chieving	target depth.							Term	ination D	lepth:
													3.45	an -

ionthsto	owe Englan	d					Project No. 10052307 Easting (OS mE) 541092.78	Ground L 11.38 Northing 26667	(OS mN)		Start I 14/0 End D 14/0	Date 3/2022 ate 3/2022	Sca 1:3 Sl	^{ile} 50 neet 1	of 1
Samp	les		Tests		Progr	ess			Strata				1.000		
Type + [Depth	Type + Depth	Results	Water	Date & Time	Casing & Water		Desc	ription			Legend	Depth (Thickness)	Level	Instal Backf
(ES1) (ES2)	0.10			Deput	14/03/2022 10:00	0.00 Dry	MADE GROUND: I Gravel is subangul brick. [MADE GROUND]	Firm dark brow ar to subround	wn silty sand ded fine to d	dy gravelly Cl coarse of flint	LAY. and		× × × × (0.90)		
(B) 0.90 (B1) 0.9 (ES3) (ES4) (B2) 1.3	0-1.30 10-1.30 1.00 1.20 10-2.00	SPT(S) 1.20	N=8 (2,2/2,2,2,2)	Dry			Firm orangish brow to subrounded fine [POSSIBLE REWC Stiff bluish grey slig orangish brown silt [KIMMER DGE CL	in sandy grav to coarse of f)RKED NATU Ihtly silty CLA y clay and rar AY FORMATI	elly CLAY. (flint. (RAL) Y with rare re selenite c (ON)	Gravel is suba 50mm pocke rystals.	angular ts of		0.90 (0.40) 1.30	10.48 10.07	
(B3) 2.0 (ES5)	0-2.50 2.00	SPT(S) 2.00	N=11 (1,2/2,3,3,3)	Dry									(2.15)		
(B4) 2.5	60-3.00	SPT(S) 3.00	N=12 (2,1/2,3,3,4)	Dry									(2.15)		
					14/03/2022 11:30	0.00 Dry							3.45	7.92	57.7
DI From	To R LLING	TECHNIQUE Type	Hard Strata	L NG Durati	on Date/T	ime S	NATER OBSERVATIO	ONS ise To Casing	Sealed Hole	Dia. Depth C	G DIAME Dasing Dia.	Depth	From	To 1	ED Volume (ltr
0.00	1.20 3.45	Inspection Pit Dynamic Sample			1				10 87	1 1.00 7 3.45					
marks indow Sa ground evidenc	ample ten water end ce of cont	minated on Engin countered. camination.	eer's Instruction on a	achieving	target depth.								Term	ination D 3.45)epth:

Project Northst Client Homes	owe Englar	d					Project No. 10052307 Easting (OS mE) 541038.99	Ground Le 11.42 Northing (266609	evel (mAOD) OS mN) 9.86		Start D 14/0 End Da 14/0	ate 3/2022 ite 3/2022	Sca 1:4 Sh	ie 50 ieet 1	of 1
Sam	ples		Tests		Progr	ess			Strata				Danih		Install
Sam Type + (ES1 - (ES2 - (ES3 (B1) 1: - (B2) 1. - (B3) 2: - (B3) 2:	ples Depth) 0.10) 0.50) 1.00 20-1.50 50-2.00) 2.00 50-3.00	Type + Depth SPT(S) 1.20 SPT(S) 2.00	Tests Results N=9 (1,2/1,2,3,3) N=19 (2,3/4,4,5,6)	Water Depth Dry Dry	Progr. Date & Time 14/03/2022 11:30	ESS Casing & Water Depth 0.00 Dry	MADE GROUND: occasional rootlets coarse of flint, bric IMADE GROUND MADE GROUND: occasional pocket subrounded fine, t IMADE GROUND Firm mottled brow gravel is fine and I (POSSIBLE REW Stiff greenish grey orangish brown sil [KIMMERDIGE CI	Descri Firm dark brow s. Gravel is sub. k, and igneous Soft orangish b s of soft grey cl: o coarse of flint In and green slik medium, suban DRKED NATUC Sightly silty CL ty clay and occo AY FORMATIC	Strata iption in sandy grave angular to sub lithologies. prown sandy gr ay. Gravel is s i, brick, and co ghtly sandy gr gular to subro CAL] AY with occas asional selenit N]	Ily CLAY wit rounded, fin avelly CLAY ubangular to ncrete. avelly CLAY unded of flin ional pocket e crystals.	h (with) t. is of		Depth (Thickness) (0.40) 0.40 (0.30) 0.70 (0.20) 0.90 (0.20) 0.90	Level	
					13/03/2022	0.00 Dry						×	3.45		
	DR LLING To 120 3.45	TECHNIQUE Type Inspection Pit Dynamic Sample	CHISEL Hare Strata From To	L NG Duratie	on Date/T	ime S	WATER OBSERVATI	ONS lise To Casing	Sealed Hole Dia. 77 67	E/CASING I Depth Casi 2.00 3.45	DIAME ng Dia.	TER Depth	WATE	R ADDI	ED Volume (ltr)
Remarks Window S No ground No eviden	ample ter lwater end ce of cont	minated on Engin countered. tamination. Unless otherwi Depth (m), Dia ThioLence (n)	eer's Instruction on a ise stated meter (mm), Time (h uew) (~200	chieving t	target depth Equipme Comp	nt Used	Dart					La	gged By S	ination D 3.45 Check CPr	epth: im ed By

Project Norths Client Homes	stowe s Englar	nd					Project No. 10052307 Easting (OS mE) 541101.11	Ground Leve 11.22 Northing (OS 266611.1	(mAOD) mN) 32	Start D 15/0 End Da 15/0	ate 3/2022 ate 3/2022	Sca 1:3 St	50 1eet 1	of 1
Sa	mples		Tests		Progr	ess		5	strata			2.0		Install
Туре	e + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Lo stato	Descripti	on		Legend	Depth (Thickness)	Level	Backfill
(ES	S1) 0.20				15/03/2022 13:30	0.00 Dry	MADE GROUND: subangular to subr	Soft dark brown or ounded fine to co	gravelly CLAY. Gra barse of flint and b	ivel is rick.				4 4
(ES	S2) 0.50						[MADE GROUND]					(0.70)	ŧ	
-							Firm mottled brown	n and greenish gr	ey silty gravelly C	LAY with	<u>XXX</u>	0.70	10.52	
- (ES	S3) 1.00						rare 50mm pocket subrounded, fine a	s of sandy gravel and medium of flir	Gravel is subang t and chert.	ular to	×		ŧ.	· =
(B1) (ES	1.20-1.50 S4) 1.20	SPT(S) 1.20	N=11 (1,2/2,2,3,4)	Dry			[RIVER TERRACE	DEPOSITS]			X		Į	
(B) 1 (B2)	1.50-2.00	15.1	P									(1.80)	ŧ	
()				1.1							×		ŧ	
- (B3)	2.00-2.50	SPT(S) 2.00	N=6 (1,1/0,1,2,3)	Dry							×		Ŧ	
											×	14-14	ŧ	
(B) 2 (B4)	2.50-2.80 2.50-2.80	· / / · /	0.00				Stiff greenish grey	silty CLAY with o	ccasional pockets	of orangish	X	2.50	8.72	11/
		Stand Star					[KIMMER DGE CL	AY FORMATION]		×	(0.05)	Ŧ	1.44
		SPT(S) 3.00	N=15 (2,2/3,3,4,5)	Dry	2.2		1000					(0.55)	ŧ	6/2
					15/03/2022	2.00					x	3.45	7.76	17.4
					14:40	Dry							Ŧ	
													Ŧ	
													ŧ	
-													ŧ	
												1	Ŧ	
												4	Ŧ	
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												4	Ŧ	
			1			11							ŧ	100
Front	DR LLING	TECHNIQUE	CHISEL Hard Strata	LNG	Data	1	WATER OBSERVATI	ONS	HOLE/CAS	SING DIAME	TER	WATE	RADD	ED
0.00 1.20	120 3.45	Inspection Pit Dynamic Sample	From To	Durau	on Date/1	ime s	unke At Lime (mins) R	ISE ID Casing Sec	101 2.00 87 3.45	101	2.00	From	10	/oiume (iir)
Remarks														-
Nindow No groun	Sample ter indwater en	minated on Engin countered.	eer's Instruction on a	chieving	target depth									
NO EVIDE	ence or con	uar nin ialuuri.										Term	ination D)epth:
													3.45	m
AGS		Unless otherw Depth (m), Dia	ise stated meter (mm), Time (h	hmm),	Comp	nt Used etitor E	Dart				H	gged By S	Check	ed By

Project	Northste	owe					S	tatus	1.1		LOCATION ID
Project I	D 1005230)7						CH	IECKED	5	TPTCA104
Trial P	it Details										
	Test 1	Test 2 Test 3		Ground	Level		m	AOD	Date	e Excavate	d 16/03/202
De	pth 1.50	1.50		Coor	dinates		m	E	Da	te Tested	16/03/202
Wi	dth 0.60	0.60					m	N			
Len	gth 1.90	1.90									
Test 1											
Time min	Depth to Water m bgl	Test Parame	ters		0	50	1	Elapsec 00	Time (150	min) 200	250 300
0											
0	1.10	75% esd (mbgl)	1.20		0.00				-	-	
0.5	1.10 1.11	75% esd (mbgl) 50% esd (mbgl)	1.20 1.30		0.00						Test Data
0.5 1	1.10 1.11 1.15	75% esd (mbgl) 50% esd (mbgl) 25% esd (mbgl)	1.20 1.30 1.40	18	0.00 0.20 0.40					•	Test Data • Best Fit Line
0.5 1 5	1.10 1.11 1.15 1.16	75% esd (mbgl) 50% esd (mbgl) 25% esd (mbgl) A _{s50} (m ²)	1.20 1.30 1.40 2.14	m bgl	0.00 0.20 0.40 0.60						Test Data Best Fit Line 75% ESD 25% FSD
0.5 1 5 10	1.10 1.11 1.15 1.16 1.16	75% esd (mbgl) 50% esd (mbgl) 25% esd (mbgl) A _{s50} (m ²) V _{p75-25} (m ³)	1.20 1.30 1.40 2.14 0.23	vel m bgl	0.00 0.20 0.40 0.60 0.80						Test Data • Best Fit Line 75% ESD 25% ESD
0.5 1 5 10 15	1.10 1.11 1.15 1.16 1.16 1.17	75% esd (mbgl) 50% esd (mbgl) 25% esd (mbgl) A ₅₅₀ (m ²) V _{p75-25} (m ³) t ₇₅ (min)	1.20 1.30 1.40 2.14 0.23 8.1E+01	r Level m bgl	0.00						Test Data • Best Fit Line 75% ESD 25% ESD
0.5 1 5 10 15 20	1.10 1.11 1.15 1.16 1.16 1.17 1.17	75% esd (mbgl) 50% esd (mbgl) 25% esd (mbgl) A ₅₅₀ (m ²) V _{p75-25} (m ³) t ₇₅ (min) t ₂₅ (min)	1.20 1.30 1.40 2.14 0.23 8.1E+01 1.8E+06	ater Level m bgl	0.00 0.20 0.40 0.60 0.80 1.00 1.20						Test Data • Best Fit Line 75% ESD 25% ESD
0.5 1 5 10 15 20 25	1.10 1.11 1.15 1.16 1.16 1.17 1.17 1.17	$\begin{array}{l} 75\% \; esd \; (mbgl) \\ 50\% \; esd \; (mbgl) \\ 25\% \; esd \; (mbgl) \\ A_{s50} \; (m^2) \\ V_{p75\text{-}25} \; (m^3) \\ t_{75} \; (min) \\ t_{25} (min) \\ Data \; Fit \; R^2 \end{array}$	1.20 1.30 1.40 2.14 0.23 8.1E+01 1.8E+06 0.868	Water Level m bgl	0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40				******		Test Data Best Fit Line 75% ESD 25% ESD
0.5 1 5 10 15 20 25 30	1.10 1.11 1.15 1.16 1.16 1.17 1.17 1.18 1.19	75% esd (mbgl) 50% esd (mbgl) 25% esd (mbgl) A ₅₅₀ (m ²) V _{p75-25} (m ³) t ₇₅ (min) t ₂₅ (min) Data Fit R ²	1.20 1.30 1.40 2.14 0.23 8.1E+01 1.8E+06 0.868	Water Level m bgl	0.00 0.20 0.40 0.60 0.80 1.00 1.20 1.40						Test Data Best Fit Line 75% ESD 25% ESD

Č.			
prried out by	Noteer Test terminated due to time constraints	Logged	Checked
rcadis Consulting (UK) Ltd	Notes.	MM	LC

APPENDIX D

CERTIFICATION OF FIELD APPARATUS

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Unit 8 Orton Enterprise Centre Orton Southgate Peterborough PE2 6XU

Instrumented Rod Data

Diameter d _r (mm):	54
Wall Thickness t _r (mm):	6.3
Assumed Modulus E _a (GPa):	208
Accelerometer No.1:	11853
Accelerometer No.2:	10332

SPT Hammer Ref:	AR2411
Test Date:	20/06/2021
Report Date:	20/06/2021
File Name:	AR2411.spt
Test Operator:	PR

SPT Hammer Information

Hammer Mass m (kg): 63.0 Falling Height h (mm): 760 SPT String Length L (m): 15.0

Comments / Location

Maximum calibration interval is 6 months

Velocity



77

Energy Ratio E_r (%):



SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

9	Borehole
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Unit 8
Orton Enterprise Centre
Orton Southgate
Peterborough
PE2 6XU

Instrumented Rod Data

Diameter d _r (mm):	54			
Wall Thickness t _r (mm):	6.3			
Assumed Modulus E _a (GPa):	208			
Accelerometer No.1:	11853			
Accelerometer No.2:	10332			

DART489
27/02/2022
27/02/2022
DART489.spt
PR

SPT Hammer Information

Hammer Mass	m (kg):	63.0
Falling Height	h (mm):	760
SPT String Leng	gth L (m):	15.0

Comments / Location









Calculations

Energy Ratio E _r (%	%):	82
Measured Energy E _{meas}	(J):	390
Theoretical Energy E _{theor}	(J):	473
Area of Rod A (mm2):		944





Dynamic sampling Unit 8 Victory parkway Victory rd Derby DE24 82F

Instrumented Rod Data

Diameter d _r (mm):	54
Wall Thickness tr (mm):	6.0
Assumed Modulus E _a (GPa):	208
Accelerometer No.1:	62901
Accelerometer No.2:	62902

Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

Hammer Ref:	1.11.18
Test Date:	04/08/2021
Report Date:	04/08/2021
File Name:	1.11.18.spt
Test Operator:	AP

Hammer Information

Hammer Mass	m (kg):	63.5
Falling Height	h (mm):	760
String Length L	. (m):	15.0

Comments / Location

CJ associates hammer tested at Dynamic samplings yard.



The recommended calibration interval is 12 months





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APPENDIX E

MONITORING DATA

Well ID	Date Time	Baro mbar PID ppm	Rel BH Pres mbar	Peak Flow I/h St	eady Flow I/h O	2 % min C	H4 % max CO	2 % max CO	ppm max H2S p	ppm max O2	2 % last C	CH4 % last CO	2 % last CO	opm last H2S pp	om last Depth to	Water (m bgl) Weather
BHTCA101	05/04/2022 09:41	1008	90.25	15.7	1.9	18	0.2	0.9	5	0	18	0.2	0.9	4	0	3.002 Cloudy
BHTCA102_	05/04/2022 10 56	1008	-0.03	0	0	21.4	0.1	0.3	2	0	21.4	0.1	0.1	0	0	1.803 Cloudy
BHTCA103A	05/04/2022 13:20	1008	5.96	0	0	21.3	0.2	0.1	0	0	21.3	0.2	0.1	0	0	1.936 Cloudy
BHTCA105D	05/04/2022 13 54	1007	33.06	0	0	13.6	0.2	3.6	2	0	13.6	0.2	3.6	1	0	2.138 Cloudy
BHTCA105S	05/04/2022 15 54	1007	-0.07	0	0	9.6	0.1	4.8	5	0	9.6	0.1	4.8	0	0	2.255 Cloudy
WSTCA101	05/04/2022 09:27	1008	0	0	0	13.5	0.2	3	1	0	13.5	0.2	3	0	0 Dry	Cloudy
WSTCA106	05/04/2022 11:25	1008	0.19	0.1	0.1	2.8	3.7	3.3	1	0	2.8	3.7	3.3	0	0	1.088 Cloudy
WSTCA108	05/04/2022 14:17	1008	-8.13	-1.4	-0.9	12.6	1.7	5.9	6	0	12.6	1.7	5.9	6	0	0.428 Cloudy
BHTCA104	06/04/2022 10:14	997	-0.02	0	0	20.6	0.2	0.6	2	0	20.9	0.1	0.3	1	0	2.758 Cloudy
BHTCA106	06/04/2022 09:13	998	0.33	0	0	19.6	0.2	0.9	4	0	20.3	0.2	0.6	3	0	2.482 Cloudy, rain
BHTCA107	06/04/2022 11:25	996	0.03		0	16.3	0.2	1.7	14	0	20.1	0.1	0	4	0	2.936 Cloudy
BHTCA110	06/04/2022 13:29	994	2.54	1.4	0.2	17.8	0.2	4.4	5	0	17.8	0.2	4.4	1	0	0.863 Cloudy
WSTCA109	06/04/2022 08 59	998	-0.07	0	0	1	2.8	12.2	1	0	1	2.8	12.2	0	0 Dry	Cloudy
WSTCA116	06/04/2022 13:19	994	0.12	0	0	20.8	0.2	0.2	1	0	20.8	0.2	0.2	0	0 Dry	Cloudy
WSTCA117	06/04/2022 14 07	993	-0.02	0	0	21.1	0.1	0.2	1	0	21.1	0.1	0.2	0	0	0.996 Cloudy
BHTCA108	07/04/2022 08:27	981	0.21	0	0	21.6	0.2	0.1	0	0	21.6	0.2	0.1	0	0	2.848 Sunny very windy
BHTCA109	07/04/2022 09:25	982	-0.02	0	0	21.4	0.2	0.5	0	0	21.4	0.2	0.2	0	0	1.357 Sunny very windy
BHTCA301A	07/04/2022 11 08	983	0.14	0	0	18	0.2	3.5	0	0	19.4	0.2	1.9	0	0	1.725 Sunny, cloudy, very windy
WSTCA112	07/04/2022 08:10	981	0.09	0.1	0	20.2	0.2	0.6	2	0	21.5	0.2	0.6	2	0 Dry	Sunny very windy

Well ID	Date Time	Baro mbar	Rel BH Pres mbar	Peak Flow I/h	Steady Flow I/h	02 % mir	n CH4 % max	CO2 % max	CO ppm max	H2S ppm max	O2 % las	t CH4 % l	ast CO2 %	last CO	ppm last	H2S ppm last	Depth to Water (m bg) Weather
BHTCA101	12/04/2022 09:32	1004	0.5	-0.2	-0.2	2 19.	4 0.2	0.6	2	() 19.	4	0 2	0.6	2	0	3.0	00 Clear
BHTCA102	12/04/2022 10 03	1004	0.1	. 0	() 18.	7 0.2	08	0	(20.	6	0 2	0.1	0	0	1.8	00 Clear
BHTCA103A	12/04/2022 11:15	1005	1.02	2 0	() 11.	3 2.9	3	11	() 1	7	0 2	2.8	1	0	1.4	90 Clear
BHTCA104	12/04/2022 11:27	1005	0.24	ь O	() 17.	1 0.2	2 5	3	() 20.	5	0.1	0.4	2	0	2.6	30 Clear
BHTCA105D	12/04/2022 13 03	1005	0.03	s 0	(0 10.	3 0.1	4.1	1	() 15.	9	0.1	2.3	1	0	1.9	89 Clear
BHTCA105S	12/04/2022 12:58	1005	1.62	2 0	(0 10.	2 0.1	4.4	2	(0 10.	2	0.1	4.4	1	0	2.4	11 Clear
BHTCA106	12/04/2022 11:56	1005	0.14	+ O	-0.1	L 6.	3 0.1	6 2	1	() 2	1	0.1	0.1	0	0	2.3	01 Clear
BHTCA107	12/04/2022 13:14	1004	0.03	6 0	() 15.	9 0.1	2 2	7	1	l 19.	1	0.1	0.8	6	0	2.6	34 Clear
BHTCA108	12/04/2022 14:23	1005	0.09	0	() 2	1 0.1	0.6	4	() 21.	4	0	0	2	0	2.6	32 Clear
BHTCA109	12/04/2022 14:13	1005	1.2	. 0.2	0.2	2 20.	9 1	0.7	4	() 20.	9	0.1	0.7	3	0	1.0	50 Clear
BHTCA110	12/04/2022 13:54	1004	0.96	o 0.2	0.2	2 2	0 0.1	2	9	() 2	0	0.1	2	2	0	0.9	67 Clear
BHTCA301A	12/04/2022 11:37	1005	0.19) 0	() 20.	5 0.2	0.6	2	() 20.	9	0.1	0.4	1	0	Dry	Clear
WSTCA101	12/04/2022 09:53	1004	0.2	2 0	() 1	8 0.2	1.1	1	() 18.	1	0 2	1.1	0	0	1.8	10 Clear
WSTCA106	12/04/2022 10:13	1004	0.3	-0.1	-0.1	L 0.	2 3.7	5 5	1	() 0.	2	3.7	5.5	0	0	Dry	Clear
WSTCA108	12/04/2022 12 07	1005	0.26	5 0	() 19.	9 0.2	2 2	2	() 19.	9	0 2	2.2	1	0	0.4	10 Clear
WSTCA109	12/04/2022 11:46	1005	0.05	i 0	() 4.	8 0.2	6 5	2	() 4.	8	0 2	6.5	1	0	Dry	Clear
WSTCA112	12/04/2022 14:30	1005	0.09	0	() 2	1 0.1	03	4	() 2	1	0	0.3	4	0	Dry	Clear
WSTCA116	12/04/2022 13:24	1004	0.16	6 0.1	() 2	0 0.1	08	3	(20.	9	0.1	0.1	2	0	0.9	94 Clear
WSTCA117	12/04/2022 14 04	1005	C	0.1	0.1	L 2	1 0	0.4	3	() 21.	1	0	0.1	3	0	0.8	88 Clear

Well ID	Date Time	Baro mbar	Rel BH Pres mbar	Peak Flow I/h	Steady Flow I/h	02 % min	CH4 % max C	:02 % max C	O ppm max	H2S ppm max	O2 % last	CH4 % last	CO2 % last	CO ppm last	H2S ppm last	Depth to Water (m bgl)	Weather
BHTCA101	20/05/2022 09:45	1017	38.35	5.6	0.6	18.4	0.1	08	5	() 18.4	4 0	08	5	0	2 33	4 cloudy, cool
BHTCA102	20/05/2022 10:19	1018	0.03	0	C	20.8	3 0	0 2	2	() 2	1 0	0.1	1	0	1 55	3 cloudy, cool
BHTCA103	20/05/2022 10:44	1019	0.43	0	C	20.7	0	0.6	0	(20.	7 0	0.6	0	0	1.16	8 cloudy, cool
BHTCA104	20/05/2022 10:58	1019	0.21	. 0	C	20.9	0	0.6	3	() 21.	5 0	0.1	1	0	2 35	5 cloudy, cool
BHTCA105D	20/05/2022 12:32	1018	-6.13	15	0.2	15.5	5 O	3	3	() 15.	5 0	3	3	0	2.43	4 cloudy, cool
BHTCA105S	20/05/2022 12:17	1018	-0.1	. 0	C	11.2	2 0	5.4	1	() 11.3	2 0	5.4	1	0	Dry	cloudy, cool
BHTCA106	20/05/2022 11:53	1018	0.19	0	C	21.9) 0	0 2	2	() 2	2 0	0.1	1	0	2.13	8 cloudy, cool
BHTCA107	20/05/2022 11:40	1018	0.09	0	C	19.9	0	12	3	(21.	1 0	0.7	2	0	2.49	6 cloudy, cool
BHTCA108	20/05/2022 13:42	1017	-0.03	0	C	21.5	5 O	0.1	1	() 21.	5 0	0.1	0	0	2.50	8 cloudy, cool
BHTCA109	20/05/2022 13:53	1017	0.6	i 0	C	20.3	8 0	1.3	5	(20.5	5 0	0 5	3	0	1 03	8 cloudy, cool
BHTCA110	20/05/2022 14:26	1018	0.22	. 0	C	19.4	н O	1.2	3	() 19.	5 0	1	1	0	1 00	9 cloudy, cool
BHTCA301A	20/05/2022 14:43	1018	0.05	0	C	21	0	0.4	2	() 2:	1 0	0.4	1	0	Dry	cloudy, cool
WSTCA101	20/05/2022 10:08	1018	-0.1	. 0	C	16.7	0	1.5	2	() 16.	7 0	15	1	0	Dry	cloudy, cool
WSTCA106	20/05/2022 10:32	1019	-0.05	0	C	1.1	0	8.7	3	() 1.:	1 0	8.7	2	0	1.8	9 cloudy, cool
WSTCA108	20/05/2022 12:06	1018	0.22	0	C	7.9	03	10.2	3	() 8.:	1 03	99	2	0	0.95	7 cloudy, cool
WSTCA109	20/05/2022 11:33	1018	-0.21	. 0	C	12.6	6 0.1	7.1	2	() 12.0	5 0	7.1	2	0	Dry	cloudy, cool
WSTCA112	20/05/2022 13:33	1017	0.02	0	C	21.3	8 0.1	0.8	1	() 21.3	30	08	1	0	Dry	cloudy, cool
WSTCA116	20/05/2022 14:34	1018	0.14	0	C	20.7	0	0.2	2	(20.9	90	0 2	1	0	0.91	.2 cloudy, cool
WSTCA117	20/05/2022 14:17	1017	0.05	0	C	20.1	0	0.2	2	2	2 20.3	1 0	0 2	1	0	0.48	8 cloudy, cool

APPENDIX F

GEOTECHNICAL LABORATORY TEST DATA





Qty

898

99

98

29

48

13

8

Contract Number: 58610

Report Date: 27-04-2022

Client Ref: 10052307 Client PO: 14059902

Laboratory Report

Client Arcadis Fortran Rd St Mellons Cardiff CF3 0EY

Contract Title:	Northstow	Ne
For the attention of:	Reg. 13(1)

Date Received: 04-04-2022 Date Completed: 27-04-2022

Test Description	
------------------	--

Samples Received

- @ Non Accredited Test

Moisture Content of Soil

BS1377 : Part 2 : Clause 3.2 : 1990 - * UKAS

4 Point Liquid & Plastic Limit

BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS

PSD Wet & Dry Sieve method

BS 1377:1990 - Part 2 : 9.2 - * UKAS

BRE Full Suite

includes pH, water & acid soluble sulphate, total sulphur, magnesium, chloride and nitrate Sub-contracted Test

CBR: Remoulded Specimen and tested at top only

BS 1377:1990 - Part 4 : 7 - * UKAS

One-dimensional Consolidation 75mm or 50mm diameter specimens (5 days) BS 1377:1990 - Part 5 : 3 - * UKAS

Notes: Observations and Interpretations are outside the UKAS Accreditation

- * denotes test included in laboratory scope of accreditation
- # denotes test carried out by approved contractor
- @ denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory. **Approved Signatories:**

Reg. 13(1) (Business Support Manager) - Reg. 13(1) (Director) - Reg. 13(1) (Quality/Technical Manager) Reg. 13(1) (Laboratory manager) - Reg. 13(1) (Site Manager) - Reg. 13(1) (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk







Contract Number: 58610

Test Description	Qty
Natural Shear Strength by Hand Vane (3 measurements) - @ Non Accredited Test	6
Quick Undrained Triaxial Compression test - single specimen at one confining pressure (100mm or 38mm diameter) BS 1377:1990 - Part 7 : 8 - * UKAS	21
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

- * denotes test included in laboratory scope of accreditation
- # denotes test carried out by approved contractor
- @ denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

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 (Director) - Reg. 13(1)
 (Quality/Technical Manager)

 Reg. 13(1)
 (Laboratory manager) - Reg. 13(1)
 (Site Manager) - Reg. 13(1)
 (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk

Contract Number	TL			(8	DES	1990 - Part 2 : 3.2) SCRIPTIONS 58610	
Site Name		-					
Date Tested				8/04/2022			
1							
Sample/Hole Reference	Sample Number	Sample Type	12	Depth (r	n)	Descr	iptions
WSTCA117	1	В	1.20	22	1.50	Brown s	ilty CLAY
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C				2			
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							G
Operator	s	Che	cked		26/04/2022	Reg. 13(1) (Advanced Testi	ng Manager)
Reg 13(1)		A000	how		26/04/2022	Description (Outplith/Tochnic	(Managara)

Contract Number	100							
Site Name						Northstow	e	
Date Tested								
1.1.1.1								
Sample/Hole Reference	Sample Number	Sample Type	c)epth (r	m)	Moisture Content %	Remarks	
WSTCA117	1	В	1.20	21	1.50	28		
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				5				
				1				
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Operator		Cha	cked	-	26/04/2020	, [Res 12/1) /Advanced To	esting Manager)
operators		Unct		-	20104/202		Manage (Advanced (

GS	TL	NATU	JRAL M	OIST BS 1	URE, LI PLAS 1377:199	QUID LIMIT, PLASTIC LIMIT AND TICITY INDEX 90 - Part 2 : 4.3 & 5.3)
Contract Number			58610			
Site Name		-			N	lorthstowe
Date Tested				8/04/2022		
					DES	CRIPTIONS
Sample/Hole Reference	Sample Number	Sample Type	D)epth (n	n)	Descriptions
TPTCA103	2	D	0.20	$(1 \approx 1)$	0.50	Brown gravelly sandy silty CLAY
TPTCA103	5	В	2.00	(****	3.00	Brown silty clayey sandy GRAVEL
TPTCA105	4	D	1.00	(igt)	2.00	Brown silty CLAY
TPTCA107	3	D	0.50	(15-1)	1.00	Brown gravelly sandy silty CLAY
TPTCA111	1	D	0.00	(n_{in})	0.20	Brown gravelly silty CLAY
TPTCA113	4	D	1.00	0.40	2.00	Brown gravelly sandy silty CLAY
TPTCA114	5	D	2.00	(1.2.) (1.2.)	3.00	Brown silty clayey sandy GRAVEL
TPTCA118	4	D	1.00	$(m_{\rm eff})$	2.00	Brown silty CLAY
TPTCA118	5	D	2.00	121	3.00	Grey silty CLAY
TPTCA204	4	В	1.00	6.20	2.00	Brown gravelly silty CLAY
TPTCA204	5	D	2.00	(-2n)	3.00	Brown gravelly sandy silty CLAY
TPTCA205	4	В	1.00	1	2.00	Brown gravelly silty CLAY
TPTCA208	5	D	2.00		3.00	Brown gravelly silty CLAY
BHTCA101	7	В	2.70	0.20	3.00	Brown gravelly silty CLAY
BHTCA101	8	D	3.00	0.45	3.45	Grey silty CLAY
BHTCA101	14	D	5.00		5.45	Brown silty CLAY
BHTCA101	16	D	5.50	(ret)	6.00	Grey silty CLAY
BHTCA202	9	D	2.50		3.00	Brown silty CLAY
BHTCA202	14	D	4.00	$(\underline{1},\underline{2})$	4.45	Brown silty CLAY
BHTCA202	24	D	7.00	(12 + 1)	7.45	Grey silty CLAY
WSTCA109	2	В	1.45	0.80	2.00	Brown silty CLAY
WSTCA112	1	В	0.90	(1, 2, 2)	1.30	Brown sandy gravelly silty CLAY
WSTCA112	2	В	1.30	0.90	2.00	Brown silty CLAY
WSTCA112	4	B	2.50	91	3.00	Brown silty CLAY



Operators Reg. 13(1) Checked Approved

25/04/2022 25/04/2022



GS	TL	NATU	JRAL M	OIST BS	URE, LI PLAS 1377:199	IQUID LIMIT, PLASTIC LIMIT AND TICITY INDEX 90 - Part 2 : 4.3 & 5.3)					
Contract Number		58610									
Site Name		-	Northstowe								
Date Tested			8/04/2022								
		DESCRIPTIONS									
Sample/Hole Reference	Sample Number	Sample Type	D	epth (r	n)	Descriptions					
WSTCA116	1	В	1.20	141	1.50	Brown silty CLAY					
WSTCA116	3	В	2.00	1.5	2.50	Brown silty CLAY					
WSTCA116	4	В	2.50	0.90	3.00	Brown silty CLAY					
BHTCA102	10	В	3.00	(15-1)	3.50	Grey silty CLAY					
BHTCA102	9	D	3.45	(n,n)	3.55	Brown silty CLAY					
BHTCA102	14	D	4.50	0.50	5.00	Grey silty CLAY					
BHTCA102	21	D	6.50	(1.93) (1.93)	7.00	Grey gravelly silty CLAY					
BHTCA102	23	D	7.45	(m_{n-1})	7.55	Brown silty CLAY					
BHTCA103A	5	D	2.70	1.4	3.00	Brown silty CLAY					
BHTCA103A	7	D	3.45	0.20	3.50	Brown silty CLAY					
BHTCA103A	12	В	6.00	(ilian)	6.50	Grey silty CLAY					
BHTCA103A	15	D	7.45	-	7.50	Brown silty CLAY					
BHTCA103A	17	D	8.80		9.00	Grey silty CLAY					
BHTCA103A	24	В	13.50	0.90	14.00	Grey silty CLAY					
TPTCA104	3	D	0.80	0.45	1.70	Brown gravelly silty CLAY					
TPTCA104	4	D	1.70		3.00	Brown gravelly silty CLAY					
TPTCA119	4	D	1.20	(nati	3.00	Brown silty CLAY					
BHTCA104	5	D	1.70	1 - 1	2.00	Brown gravelly sandy silty CLAY					
BHTCA104	6	В	2.00	(1	2.50	Brown silty CLAY					
BHTCA104	11	D	4.00	(legi)	4.45	Grey silty CLAY					
BHTCA104	16	D	5.50	신동네	6.00	Brown silty CLAY					
BHTCA104	19	D	6.50	(6-0)	7.00	Grey silty CLAY					
BHTCA108	6	D	2.45	020	2.50	Brown silty CLAY					
BHTCA108	7	D	3.00	0.96	3.45	Brown silty CLAY					



Operators Reg. 13(1) Checked Approved

26/04/2022 26/04/2022

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GS	TL	NATU	JRAL M	OIST BS 1	URE, LI PLAS 1377:199	IQUID LIMIT, PLASTIC LIMIT AND TICITY INDEX 90 - Part 2 : 4.3 & 5.3)
Contract Number						58610
Site Name Date Tested			Northstowe			
			18/04/2022			
				DES	SCRIPTIONS	
Sample/Hole Reference	Sample Number	Sample Type	C	epth (n	n)	Descriptions
BHTCA108	14	D	6.45	141	6.50	Brown silty CLAY
WSTCA106	2	В	2.00	1.0	2.50	Brown gravelly silty CLAY
WSTCA106	3	В	2.50	0.90	3.00	Brown silty CLAY
WSTCA108	3	В	1.60	(1941)	2.00	Brown clayey SILT
WSTCA117	4	В	2.50	(-n)	2.80	Brown silty CLAY
WS2C101	2	D	1.20	0.50	1.65	Brown silty CLAY
WS2C106	2	D	1.20	(1. .	1.65	Brown gravelly silty CLAY
WS2C106	3	D	2.00	(10-1)	2.45	Grey silty CLAY
WS2C108	1	D	1.20	121	1.65	Brown silty CLAY
WS2C108	2	D	2.00	6.20	2.45	Brown silty CLAY
WS2C112	1	В	0.80		1.20	Brown silty CLAY
WS2C112	1	D	1.20	- 90	1.65	Brown silty CLAY
WS2C114	1	В	1.50	1.0	2.00	Brown silty CLAY
WS2C120	1	D	1.20	(121)	1.65	Brown silty CLAY
WS2C120	3	D	2.70	0.50	2.80	Brown silty CLAY
WS2C121	2	D	1.20		1.65	Brown silty CLAY
WS2C121	3	D	2.00	(rati	2.45	Brown silty CLAY
WS2C123	1	D	0.70	-		Brown silty CLAY
WS2C123	3	D	2.00	(1-1)	2.45	Brown clayey SILT
BHTCA107	3	В	1.00	(122)	1.20	Grey silty CLAY
BHTCA107	5	В	1.70	신문이	2.00	Brown gravelly silty CLAY
BHTCA107	7	D	2.60		3.00	Grey sitty CLAY
BHTCA107	9	D	3.45		3.55	Brown silty CLAY
BHTCA107	14	D	4.50	0.90	5.00	Grey silty CLAY

Operators	Checked	25/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	25/04/2022	Reg. 13(1) (Quality/Technical Manager)





GS	TL	NATU	JRAL M	BS	TURE, LI PLAS 1377:199	IQUID LIMIT, PLASTIC LIMIT AND STICITY INDEX 90 - Part 2 : 4.3 & 5.3)					
Contract Number			58610								
Site Name Date Tested			Northstowe								
			18/04/2022								
		DESCRIPTIONS									
Sample/Hole Reference	Sample Number	Sample Type	C)epth (r	n)	Descriptions					
BHTCA107	16	D	5.50	1	6.00	Grev silty CLAY					
BHTCA107	25	D	8.50	1.4	9.00	Grey silty CLAY					
BHTCA110	7	D	2.80	(i git	3.00	Brown silty CLAY					
BHTCA110	9	D	3.80	11-11	4.00	Grey sitty CLAY					
BHTCA110	12	В	5.00	(n-n)	5.50	Grey silty CLAY					
BHTCA110	15	D	6.80	1.0	7.00	Grey silty CLAY					
BHTCA301A	10	В	2.00	0.40	2.50	Brown silty clayey GRAVEL					
BHTCA301A	12	D	3.00	(19-1)	3.45	Grey silty CLAY					
BHTCA301A	16	D	4.45	1.4	4.50	Grey silty CLAY					
BHTCA301A	19	D	6.00	0.20	6.10	Grey sitty CLAY					
BHTCA301A	22	D	7.45		7.50	Grey sitty CLAY					
BH2C101	11	D	2.45	-	2.50	Brown silty CLAY					
BH2C101	15	D	4.45		4.50	Grey sitty CLAY					
BH2C101	18	D	6.45	1.20	6.50	Brown silty CLAY					
BH2C102	7	D	2.50	0.5	3.00	Brown silty CLAY					
BH2C102	10	D	3.50		4.00	Grey silty CLAY					
BH2C102	12	D	4.45	(Tat)	4.55	Grey silty CLAY					
BH2C102	20	D	6.50		7.00	Grey silty CLAY					
BH2C103	17	D	1.20	(1-1)	1.65	Brown silty CLAY					
BH2C103	19	D	4.45	(key)	4.50	Brown silty CLAY					
BH2C103	20	D	6.45	0.80	6.50	Brown silty CLAY					
BH2C103	21	D	7.00	(Gen)	7.45	Brown silty CLAY					

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Operators Reg. 13(1)

BH2C104

BH2C104

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В

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Checked

25/04/2022 25/04/2022 Brown gravelly silty CLAY Brown silty CLAY



Sello Northstowe IB/04/2021 DESCRIPTIONS Sample Northstowe DESCRIPTIONS Sample Northstowe DESCRIPTIONS DESCRIPTIONS Sample Northstowe DESCRIPTIONS BI2C104 21 D 6.45 - Gerptions BI2C104 21 D 6.45 - Gerptions BI2C104 21 D 6.45 - BI2C104 20 DESCRIPTIONS Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2" Colspan="2">Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2"	Contract Number Site Name Date Tested		PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3) 58610 Northstowe 18/04/2022					
Name Northstowe 18/04/2021 D Sample-Hole Sample Descriptions Sample-Hole Sample Ceptr (m) Descriptions Sample-Hole Sample Ceptr (m) Descriptions Sample-Hole Sample Ceptr (m) Descriptions Sample-Hole Sample Ceptr (m) Descriptions Sample-Hole Sample Ceptr (m) Descriptions Sample-Hole Sample Ceptr (m) Descriptions Sample-Hole Sample Sample-Hole Sample-Sample-Hole Sample-Hole Sample-Sample-Hole Sample-Sample-Hole Sample-Sample-Hole Sample-Hole Sample-Sample-Hole Sample-Sample-Hole Sample-Sample-Hole Sample-Hole Sample-Sa								
Bit Tested 18/04/202 Sample Hole Reterms Sample Number Sample Type Deprim Descriptions BH2C104 26 D 6.45 - 6.20 Brown sity CLAY BH2C104 26 D 0.45 - 6.20 Brown sity CLAY BH2C104 26 D 0.45 - 6.20 Brown sity CLAY BH2C104 26 D 0.45 - 6.20 Brown sity CLAY BH2C104 26 D 0.45 - 6.20 Brown sity CLAY BH2C104 26 D 0.45 - 0.20 Brown sity CLAY BH2C104 - - - - - - - BH2C104 -								
DESCRIPTIONS Sample/folde Reference Sample Type Depth (m) Descriptions BH2C104 21 D 6.45 - 6.50 BH2C104 26 D 6.45 - 8.50 Brown sity CLAY BH2C104 26 D 6.45 - 8.00 Brown sity CLAY BH2C104 26 D 6.45 - 8.00 Brown sity CLAY BH2C104 26 D 6.45 - 0 0 Carry								
Sample-Hole Reference Sample Number Sample Type Depth (m) Descriptions BH2C104 26 D 8.45 - 8.50 Brown silty CLAY BH2C104 26 D 8.45 - 8.50 Brown silty CLAY HICE INF L - - - - - L L - - - - - L L - - - - - L L - - - - - L L - - - - - L L - - - - - L L - - - - - - L L - - - - - - L L - - - - - - - - - - <td< td=""><td></td><td></td><td></td><td></td><td></td><td>DESCRI</td><td>PTIONS</td><td></td></td<>						DESCRI	PTIONS	
BH2C1D4 21 D 6.45 - 6.50 Grey silly CLAY BH2C1D4 26 D 8.45 - 8.50 Brown silly CLAY Image: Solution of the second sec	Sample/Hole Reference	Sample Number	Sample Depth (m)			n)	Descriptions	
	BH2C104	21	D	6.45	-	6.50	Grey silty CLAY	
	DH2C104	20	U	0.40	191	0.00	DIOWIT SILLY CLAY	
				_				
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					(14.5) (14.1)			
					120			
					1.00			
					130			
					-			-
						-		
	Operator	rs	Chec	ked		25/04/2022	Reg. 13(1) (Advanced Testing Manager)	



























































































	ONE	DIMENS	IONAL C	ONS	OLIDAT	ION TEST		Contract N	umber		58610	1
USIL		BS137	7:Part 5	:1990	, claus	e 3	E	Borehole/Tria	alpit No) .	BHTCA1	07
Site Name			North	nstowe	1			Sample	No.	- 10	8	
Soil Description			Crowsi		v			Depth Top	p (m)	101	3.00	
	1.7		Greys	ILY CLA	Y			Depth Bas	se (m)		3.45	
Lab Temperature	1		2	0°c				Sample Lo	cation	etta -	Тор	
Remarks	Par	C icle Densit	v Calculat y Assume	ed Usin d Unles	g T90 s Stated	Otherwise		Sample 1	Гуре		UT	
Date Tested	10	- 40	08/04	4/2022	2.1			1				
0.85									_			
0.83												
0.82												
0.81						1						
							\backslash					
0.80												
0.79												
Vatio							1					
5000						1						
0.77								1				
0.76							1					
0.76								11				
0.75								1				
0.74								V				
0.73			10				10	0			-	000
1			10	1	ressure	- kPa	10	0				000
Initial Comple	Condition	1	Deep				CV	Dress			14	Cv
Initial Sample	Conditions	22	Pies	sure R	anye 25	SWELL	m2/yr	Pies	sule R	ange		m2/yr
ulk Density (Mg/m3)		1.97	25	34	50	0.23	11		-	1		
ry Density (Mg/m3)		1.48	50	1	100	0.33	73		ê.			
oids Ratio		0.7932	100	593	200	0.24	70		1			
egree of saturation		111.8	200		50	0.14	0.37		-			
leight (mm)		20.15		. e .		1.1				1		12
)iameter (mm)		75,15	-	0-1					-			
artiala Danaity (Mark	13)	2.65	-	-					0-1 1	-		
article Density (Mg/II		ked	25/0	4/2022	1	Reg 13(1)		Re	a	13(1)]	
Operators	Check		_0.0			109.10(1)			9.			
Operators	Check		منخو	100000		0.002.7.70					í-	

	ONE DIMENS		ONS	OLIDAT	ION TEST		Contract Nu	mber	58610)
	BS137	7:Part 5	5:1990	, clause	e 3	B	Borehole/Tria	lpit No.	BHTCA2	202
Site Name		North	nstowe	1			Sample M	NO.	10	
Soil Description		Create	the CLA	v			Depth Top	(m)	3.00	
		Grey SI		1			Depth Base	e (m)	3.45	
Lab Temperature		2	0°c				Sample Loo	ation	Тор	
Remarks	C Par icle Densil	v Calculate	ed Usin d Unles	g T90 s Stated (Otherwise		Sample T	ype	UT	
Date Tested		08/04	4/2022			-				
0.68								·		
0.66					~					
0.64						-				
0.62					1		1			
5 T. M.						1	1			
0.60							/	1		
0.58							1	1		
>								1		
0.56								1		
0.54										
0.52										
0.52										
0.52		10				10	0		1	000
0.52		10		ressure	- kPa	10	0		í	000
0.52 0.50 1	anditions	10 Pres	Sure D	Pressure	- kPa	10 Cv	0. Droes	ure Panna	1 My m2/MN	000 Cv
0.52 0.50 1 Initial Sample Co	onditions	10 Pres	I ssure R	^o ressure ange	- kPa Mv m2/MN	L0 Cv m2/yr 24	0 Press	sure Range	1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co loisture Content (%) ulk Density (Ma/m3)	onditions 31 2.06	10 Pres 0 50	I ssure R -	Pressure ange 50 100	- kPa Mv m2/MN 0.23 0.19	10 Cv m2/yr 34 9.6	0 Press	sure Range	1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co loisture Content (%) ulk Density (Mg/m3) ry Density (Mg/m3)	onditions 31 2.06 1.58	10 Pres 0 50 100	ssure R	⁵ ressure ange 50 100 200	- kPa Mv m2/MN 0.23 0.19 0.24	10 Cv m2/yr 34 9.6 3	0 Press	ure Range	1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co loisture Content (%) ulk Density (Mg/m3) ry Density (Mg/m3) oids Ratio	onditions 31 2.06 1.58 0.6814	10 Pres 0 50 100 200	ssure R	Pressure ange 50 100 200 400	- kPa Mv m2/MN 0.23 0.19 0.24 0.14	10 Cv m2/yr 34 9.6 3 4.4	Press	sure Range	1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co loisture Content (%) ulk Density (Mg/m3) ry Density (Mg/m3) oids Ratio egree of saturation	onditions 31 2.06 1.58 0.6814 120.4	10 Pres 0 50 100 200 400		Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.23 0.19 0.24 0.14 0.11	10 CV m2/yr 34 9.6 3 4.4 0.49	Press		1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co loisture Content (%) ulk Density (Mg/m3) ry Density (Mg/m3) loids Ratio legree of saturation leight (mm)	onditions 31 2.06 1.58 0.6814 120.4 19.8	10 Pres 0 50 100 200 400	ssure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.23 0.19 0.24 0.14 0.11	10 Cv m2/yr 34 9.6 3 4.4 0.49	Press	ure Range	1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co	31 2.06 1.58 0.6814 120.4 19.8 75.11	10 Pres 0 50 100 200 400		Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.23 0.19 0.24 0.14 0.11	10 Cv m2/yr 34 9.6 3 4.4 0.49	Press		1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co	31 2.06 1.58 0.6814 120.4 19.8 75.11 2.65	10 Pres 0 50 100 200 400	ssure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.23 0.19 0.24 0.14 0.11	10 Cv m2/yr 34 9.6 3 4.4 0.49	Press		1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co Moisture Content (%) fulk Density (Mg/m3) Ory Density (Mg/m3) Voids Ratio Degree of saturation leight (mm) Diameter (mm) Particle Density (Mg/m3) Operators	31 2.06 1.58 0.6814 120.4 19.8 75.11 2.65	10 Pres 0 50 100 200 400 25/04	ssure R 4/2022	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.23 0.19 0.24 0.14 0.11 0.11 Reg. 13(1)	10 CV m2/yr 34 9.6 3 4.4 0.49	Press	aure Range	1 Mv m2/MN	Cv m2/yr
0.52 0.50 1 Initial Sample Co foisture Content (%) iulk Density (Mg/m3) ivy Density (Mg/m3) voids Ratio legree of saturation leight (mm) varticle Density (Mg/m3) Operators Reg. 13(1)	31 2.06 1.58 0.6814 120.4 19.8 75.11 2.65 Checked Approved	10 Pres 0 50 100 200 400 25/04 25/04	ssure R 	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.23 0.19 0.24 0.14 0.11 0.11 Reg. 13(1) Reg. 13(1)	10 CV m2/yr 34 9.6 3 4.4 0.49	Press	aure Range	1 Mv m2/MN	Cv m2/yr

CCT	ONE DIMENS	IONAL CO	NSOLIDAT	ION TEST		Contract Number		58610	
USIL	BS13	77:Part 5:1	990, clause	3		Borehole/Trialpit No	6	BHTCA2	02
Site Name		Northsto	owe			Sample No.		34	
Soil Description						Depth Top (m)	11	10.00	5 E.
1.000		Grey silty	CLAY		1	Depth Base (m)	1	10.45	2
Lab Temperature	1.10	20°c			11	Sample Location		Тор	2
Remarks	Par icle Dens	Cv Calculated	Using T90 Inless Stated (Otherwise		Sample Type		UT	
Date Tested	11.04	08/04/2	022		-				
0.80				_					
0.00									
6									
0.75					4				
0.70									-
201					•	1	5		
0.65							1		
oids						A	/		
>							-	1	
0.60								*	
100									
0.55									
0.50									
				100				100	00
10			Pressure	- kPa					
10							ange	My m2/MN	Cv m2/vr
10 Initial Sampl	e Conditions	Pressu	re Range	Mv m2/MN	Cv m2/yr	Pressure Ra			1
10 Initial Sampl Moisture Content (%	le Conditions	Pressu. 0	re Range	Mv m2/MN 0.095	Cv m2/yr 15	Pressure Ra			
10 Initial Samp Moisture Content (% Bulk Density (Mg/m3	le Conditions) 33 1) 1.99	Pressu 0 200	re Range - 200 - 400	Mv m2/MN 0.095 0.17	Cv m2/yr 15 3.7	Pressure Ra			
10 Initial Sampl Moisture Content (% Bulk Density (Mg/m3) Voids Ratio	le Conditions) 33 3) 1.99 1.49 0.7772	Pressu 0 200 400	re Range - 200 - 400 - 800	Mv m2/MN 0.095 0.17 0.11	Cv m2/yr 15 3.7 2.7	Pressure Ra			
10 Initial Samp Moisture Content (% Bulk Density (Mg/m3) Dry Density (Mg/m3) Voids Ratio Degree of saturation	le Conditions) 33) 1.99) 1.49 0.7772 113.1	Pressu 0 200 400 800 400	re Range - 200 - 400 - 800 - 400 - 200	Mv m2/MN 0.095 0.17 0.11 0.05 0.13	Cv m2/yr 15 3.7 2.7 0 3 0.18	Pressure Ra			
10 Initial Sampl Moisture Content (% Bulk Density (Mg/m3) Dry Density (Mg/m3) Voids Ratio Degree of saturation Height (mm)	le Conditions) 33) 1.99) 1.49 0.7772 113.1 18.81	Pressu 0 200 400 800 400	re Range - 200 - 400 - 800 - 400 - 200 -	Mv m2/MN 0.095 0.17 0.11 0.05 0.13	Cv m2/yr 15 3.7 2.7 0 3 0.18	Pressure Ra			
10 Initial Sampl Moisture Content (% Bulk Density (Mg/m3) Dry Density (Mg/m3) Voids Ratio Degree of saturation Height (mm) Diameter (mm)	le Conditions) 33) 1.99) 1.49 0.7772 113.1 18.81 75.09	Pressu 0 200 400 800 400	re Range - 200 - 400 - 800 - 400 - 200 	Mv m2/MN 0.095 0.17 0.11 0.05 0.13	Cv m2/yr 15 3.7 2.7 0.3 0.18	Pressure Ra			
10 Initial Sampl Moisture Content (% Bulk Density (Mg/m3) Dry Density (Mg/m3) Voids Ratio Degree of saturation Height (mm) Diameter (mm) Particle Density (Mg/	le Conditions) 33) 1.99) 1.49 0.7772 1113.1 18.81 75.09 (m3) 2.65	Pressu 0 200 400 800 400	re Range - 200 - 400 - 800 - 400 - 200 	Mv m2/MN 0.095 0.17 0.11 0.05 0.13	Cv m2/yr 15 3.7 2.7 0 3 0.18	Pressure Ra			
10 Initial Sampl Moisture Content (% Bulk Density (Mg/m3) Ory Density (Mg/m3) Voids Ratio Degree of saturation Height (mm) Diameter (mm) Particle Density (Mg/ Operators	le Conditions) 33) 1.99) 1.49 0.7772 113.1 18.81 75.09 (m3) 2.65 Checked	Pressu 0 200 400 800 400 25/04/2	re Range - 200 - 400 - 800 - 400 - 200	Mv m2/MN 0.095 0.17 0.11 0.05 0.13	Cv m2/yr 15 3.7 2.7 03 0.18	Pressure Ra	13/)B
10 Initial Sampl Moisture Content (% Bulk Density (Mg/m3) Dry Density (Mg/m3) Voids Ratio Degree of saturation Height (mm) Diameter (mm) Particle Density (Mg/ Operators	le Conditions) 33) 1.99) 1.49 0.7772 1113.1 18.81 75.09 /m3) 2.65 Checked	Pressu 0 200 400 800 400 25/04/2	re Range - 200 - 400 - 800 - 400 - 200 - 200	Mv m2/MN 0.095 0.17 0.11 0.05 0.13 	Cv m2/yr 15 3.7 2.7 0 3 0.18	Pressure Ra	13(*		(+)
10 Initial Sampl Moisture Content (% Bulk Density (Mg/m3) Dry Density (Mg/m3) Voids Ratio Degree of saturation Height (mm) Diameter (mm) Diameter (mm) Particle Density (Mg/ Operators	le Conditions) 33) 1.99) 1.49 0.7772 113.1 18.81 75.09 /m3) 2.65 Checked Approved	Pressu 0 200 400 800 400 25/04/2 26/04/2	re Range - 200 - 400 - 800 - 200 - 200	Mv m2/MN 0.095 0.17 0.11 0.05 0.13 Reg. 13(1) Reg. 13(1)	Cv m2/yr 15 3.7 2.7 0 3 0.18	Pressure Ra	13(*		

C/C		ONE DIM	INSION/	LCO	SOLI	DATI	ON TEST		Connactivu	indei	00010
		B	51377:Pa	irt 5:19	90, cl	ause	3	E	Borehole/Tria	lpit No.	BHTCA301
Site Na	me			Northsto	we				Sample N	No.	15
Soil De	scription		-	ov silt.	MAY				Depth Top	(m)	4.00
			G	ey sity C	JLAT				Depth Base	e (m)	4.45
Lab Te	mperature			20°c	03				Sample Loc	ation	Тор
Remark	ks	Par icle I	Cv Cal Density Ass	culated U umed Ur	Jsing T9 nless St	90 ated O	otherwise		Sample T	ype	UT
Date Te	ested	1.2.1		08/04/20	22			1			10 M
0.70				_							
0.68							1				
0.66								1	0		
0.00									/		
							٩		1		
otte	-										
ds R								/	1		
0.62											
										1	
									1	1	
0.60									/	1	
										11	
0.58	i									1	
										Y	
0.56				10					e.		404
	1			10			1.00	10	0		100
_				_	Pres	sure -	- kPa				
1	Initial Sample	Conditions		Pressure	e Range	е	Mv m2/MN	Cv m2/yr	Press	ure Range	Mv m2/MN
	Content (%)	31	(1	-1103	50	0.13	15		120	14
Moisture	nsity (Ma/m3)	2.0	4 5	D	-11-11	100	0.25	9		9	
Moisture Bulk Der	,,,,,		6 10	0		200	0.24	39		÷1	
Moisture Bulk Der Dry Dens	sity (Mg/m3)	1.5				400	0.16	28		-	
Moisture Bulk Der Dry Dens Voids Ra	sity (Mg/m3) atio	1.5 0.69	45 20	0	- 4	2018 1					
Moisture Bulk Der Dry Dens Voids Ra Degree o	sity (Mg/m3) atio of saturation	1.5 0.69 116	45 20 5 40	i0 -	- 4	50	0.13	0.71		-	
Moisture Bulk Der Dry Dens Voids Ra Degree o Height (r	sity (Mg/m3) atio of saturation mm)	1.5 0.69 116 18.5	45 20 5 40 64	0	- 4	50	0.13	0.71		-	
Moisture Bulk Der Dry Dens Voids Ra Degree o Height (r Diamete	atio of saturation nm) r (mm)	1.5 0.69 116 18.9 75.2	45 20 5 40 64		- 4	50	0.13	0.71		-	
Moisture Bulk Der Dry Dens Voids Ra Degree o Height (r Diameter Particle I	sity (Mg/m3) atio of saturation nm) r (mm) Density (Mg/m	1.5 0.69 116 18.9 75.2 n3) 2.6	45 20 5 40 64 13 5 5		- 4	50	0.13	0.71		-	
Moisture Bulk Der Dry Dens Voids Ra Degree o Height (r Diamete Particle I	sity (Mg/m3) atio of saturation mm) r (mm) Density (Mg/m erators	1.5 0.69 116 18.9 75.2 n3) 2.6 Checked	45 20 5 40 64	25/04/20		50	0.13	0.71	Reg	g. 13	3(1) ⁹

	ONE DI	IMENSI	ONAL C	ONS	OLIDAT	ION TEST		Contract Nur	nber	58610	
		BS137	7:Part 5	:1990	, clause	3	E	Borehole/Trial	oit No.	BHTCA3	01A
Site Name			North	stowe	1			Sample N	D.	21	
Soil Description					-			Depth Top	m)	7.00	
			Grey si	Ity CLA	Y			Depth Base	(m)	7.45	
Lab Temperature			2	0°c	÷.,			Sample Loca	tion	Тор	
Remarks	Paric	Cite Density	v Calculate Assumed	ed Usin d Unles	g T90 s Stated C	Otherwise		Sample Ty	pe	UT	-
Date Tested	1		07/04	4/2022	2					5.1	
0.70						_					
0.70											
0.68						1					
0.66						1					
							X				
0.64											
0.62								1			
atio								1			
¥ 0.60									1		
5											
0.58						~			1		_
0.58								-	/		
0.58							/		/		
0.58							/	_	/	7	
0.58 0.56 0.54							/	_	/	7	
0.58 0.56 0.54 0.52							/	_	/	7	
0.58 0.56 0.54 0.52 0.50									/	7	
0.58 0.56 0.54 0.52 0.50 10					Pressure	100 - kPa				100	00
0.58 0.56 0.54 0.52 0.50 10					Pressure	100 - kPa				100	20
0.58 0.56 0.54 0.52 0.50 10	le Conditions		Pres	I ssure R	Pressure	000 - kPa Mv m2/MN	Cv m2/yr	Pressu	re Range	100 Mv m2/MN	00 Cv m2/yr
0.58 0.56 0.54 0.52 0.50 10 Initial Samp	ole Conditions	31	Pres	ssure R	Pressure ange	000 - kPa Mv m2/MN 0.28	Cv m2/yr 25	Pressu	re Range	100 Mv m2/MN	00 Cv m2/yr
0.58 0.56 0.54 0.52 0.50 10 Initial Samp loisture Content (% ulk Density (Mg/m	ole Conditions	31 2.01	Pres 0 100	ssure R	Pressure ange 100 200	000 - kPa Mv m2/MN 0.28 0.21	Cv m2/yr 25 1.6 28	Pressu	re Range	100 Mv m2/MN	DO Cv m2/yr
0.58 0.56 0.54 0.54 0.52 0.50 10 Initial Samp Ioisture Content (% ulk Density (Mg/m3 Voids Ratio	ole Conditions 6) 3) 0	31 2.01 1.53 0.7299	Pres 0 100 200 400	ssure R	Pressure ange 100 200 400 800	000 - kPa Mv m2/MN 0.28 0.21 0.15 0.10	Cv m2/yr 25 1.6 28 23	Pressu	re Range	100 Mv m2/MN	00 Cv m2/yr
0.58 0.56 0.54 0.54 0.52 0.50 10 Initial Samp foisture Content (% fulk Density (Mg/m3 Voids Ratio Degree of saturation	ble Conditions 6) 3) 0 n	31 2.01 1.53 0.7299 114.3	Pres 0 100 200 400 800	sure R	Pressure ange 100 200 400 800 100	Mv m2/MN 0.28 0.21 0.15 0.10 0.046	Cv m2/yr 25 1.6 28 23 0.98	Pressu	re Range	100 Mv m2/MN	00 Cv m2/yr
0.58 0.56 0.54 0.54 0.52 0.50 10 Initial Samp 10 Initial r>Initia Initi	ole Conditions 6) 3) 0 n 2	31 2.01 1.53 0.7299 114.3 19.9	Pres 0 100 200 400 800	ssure R	Pressure ange 100 200 400 800 100	000 - kPa 0.28 0.21 0.15 0.10 0.046	Cv m2/yr 25 1.6 28 23 0.98	Pressu	re Range	100	00 Cv m2/yr
0.58 0.56 0.54 0.54 0.52 0.50 10 Initial Samp loisture Content (% ulk Density (Mg/m3 'oids Ratio leight (mm) viameter (mm)	ble Conditions 6) 3) 0 1 2 3	31 2.01 1.53 0.7299 114.3 19.9 50.21	Pres 0 100 200 400 800	ssure R	Pressure ange 100 200 400 800 100	000 - kPa Mv m2/MN 0.28 0.21 0.15 0.10 0.046	Cv m2/yr 25 1.6 28 23 0.98	Pressu	re Range	100 Mv m2/MN	00 Cv m2/yr
0.58 0.56 0.54 0.54 0.52 0.50 10 Initial Samp Ioisture Content (% ulk Density (Mg/m3 ioids Ratio legree of saturation leight (mm) iameter (mm) iarticle Density (Mg/m3	ole Conditions 6) 3) 0 1 2 (m3)	31 2.01 1.53 0.7299 114.3 19.9 50.21 2.65	Pres 0 100 200 400 800	sure R	Pressure ange 100 200 400 800 100	000 - kPa Mv m2/MN 0.28 0.21 0.15 0.10 0.046	Cv m2/yr 25 1.6 28 23 0.98	Pressu	re Range	100	DO Cv m2/yr
0.58 0.56 0.54 0.52 0.50 10 Initial Samp	ole Conditions 6) 3) 0 1 (m3) Checked	31 2.01 1.53 0.7299 114.3 19.9 50.21 2.65 d	Pres 0 100 200 400 800	ssure R 	Pressure ange 100 200 400 800 100	000 - kPa Mv m2/MN 0.28 0.21 0.15 0.10 0.046	Cv m2/yr 25 1.6 28 23 0.98	Pressu	re Range	100	CV m2/yr
0.58 0.56 0.54 0.52 0.50 10 Initial Samp Moisture Content (% ulk Density (Mg/m3 ry Dens ry Density (Mg/m3 ry Density (Mg/m3 ry Dens ry Density (M	ole Conditions 6) 3) 0 1 (1/m3) Checkee	31 2.01 1.53 0.7299 114.3 19.9 50.21 2.65 d	Pres 0 100 200 400 800	sure R 	Pressure ange 100 200 400 800 100	000 - kPa 0.28 0.21 0.15 0.10 0.046 -	Cv m2/yr 25 1.6 28 23 0.98	Press	re Range - - - - - - - - - - - - - - - - - - -	100 Mv m2/MN	Cv m2/yr



	Single Sta	age Unconso	olidated-Und	rained Triaxial	Contract N	lumber	58610
USIL		BS 1377 :	1990 Part 7	8	Borehole/	Pit No.	BH2C10
Site Name		No	orthstowe		Sample	No.	14
					Depth To	op (m)	4 00
Soil Description		Grey	/ silty CLAY		Depth Ba	se (m)	4.45
Date Tested	-	18	//04/2022		Sample	Туре	U
					Techni	cian	Jordan
300				1			_
250							
250				>			-
			/				
200							-
kp	- 1 -	/		(c) (c) (c) (c) (c) (c) (c) (c) (c) (c)			
ess		/					
5 150	- /						
atol	/	· · · · · ·					
evi	/						
100	/						
100							
50							-
1							
0							
0	2.00	4.00	1 6	.00 8.	00	10.00	12
0.00	2.00	4.00) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00	2.00	4.00) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00	2.00	4.00) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00 Moisture Content (9 Bulk Density (Mo/m	2.00	4.00 30 2.23) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00 Moisture Content (? Bulk Density (Mg/m	2.00 6) ³)	4.00 30 2.23 1.71) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00 Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m	2.00 6) 3) 3) m)	4.00 30 2.23 1.71 201) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00 Moisture Content (? Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (2.00 6) ³) ³) m) mm)	4.00 30 2.23 1.71 201 100) 6 Axial s	.00 8. train %	00	10.00	12
Moisture Content (? Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa	2.00 6) ³) m) mm))	4.00 30 2.23 1.71 201 100 250) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00 0.00 Moisture Content (? Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP	2.00 6) ³) ³) mm) mm)) a)	4.00 30 2.23 1.71 201 100 250 245) 6 Axial s	.00 8. train %	00	10.00	12
0 0.00 0.00 Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP	2.00 6) ³) m) mm)) a) h (kPa)	4.00 30 2.23 1.71 201 100 250 245 123) 6 Axial s	.00 8. train %	00	10.00	12
Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%)	2.00 6) ³) mm) mm)) a) h (kPa)	4.00 30 2.23 1.71 201 100 250 245 123 8) 6 Axial s	.00 8. train %	00	10.00	12
Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure	2.00 6) ³) mm) mm) h (kPa)	4.00 30 2.23 1.71 201 100 250 245 123 8 Compound) 6 Axial s	.00 8. train %	00	10.00	12
Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick	2.00 6) 3) m) mm) i) a) h (kPa) ness	4.00 30 2.23 1.71 201 100 250 245 123 8 Compound Rubber/0.3m) 6 Axial :	.00 8. train %	00	10.00	12
0 0.00 0.00 Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m	2.00 6) 3) mm) mm) 1) a) h (kPa) ness in)	4.00 30 2.23 1.71 201 100 250 245 123 8 Compound Rubber/0.3m 1.49) 6 Axial :	.00 8. train %	00	10.00	12
Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m Checked	2.00 6) 3) m) mm) i) a) h (kPa) ness in) 25	4.00 30 2.23 1.71 201 100 250 245 123 8 Compound Rubber/0.3m 1.49 5/04/2022) 6 Axial :	.00 8. train %	Rea.	10.00	

GSTI	Single S	tage Unc	onsolida Tes	ated-Undi st	ained	Triaxial	Contra	ct Number	58610
UVIL		BS 13	8 <mark>77 : 1</mark> 99	0 Part 7 :	8		Boreho	ole/Pit No.	BH2C101
Site Name			Northst	owe			Sam	ple No.	17
Coil Department			lark grou oi	the CLAY			Depth	Top (m)	6 00
Soli Description		L	Jark grey si	ILY CLAT			Depth	Base (m)	6.45
Date Tested			18/04/2	022			Sam	ple Type	U
							Тес	hnician	Jordan
180 -	1							T	-
		1 12 2		212					
160								1.1.1.1	
100								×	
140					-	-			
140				-					
100									
120									
AA A		/	-	_	_				
s 100		/		_	-	_		-	
Str	/	1							F
- 08 ato	1							_	_
Jevi									
- 60									
00									
	-								
40									1
20			-		-		-		
0	-								
0.00 1	.00	2.00	3.00	4.00	5.00) 6.	00	7.00	8.00 9
				Axial s	train %				
					e sae is				
Moisture Content (%	(6) 3)		29						
Duik Density (MQ/M	3	2	67	_					
Do Doneity (Malm									
Dry Density (Mg/m	(m)		00						
Dry Density (Mg/m ² Specimen Length (m	im) mm)	2	200	- L					
Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure /kPa	mm)	2	200 00 250						
Dry Density (Mg/m Specimen Length (m Specimen Diamteter (i Cell Pressure (kPa Deviator Stress /kP	/ mm) mm)	2	200 00 250						
Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strend	mm) mm) i) a) h (kPa)	2 1 2 1	200 00 250 55 78						
Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%)	mm) mm) a) h (kPa)	2 1 2 1	200 00 250 55 78 8						
Dry Density (Mg/m ² Specimen Length (m Specimen Diamteter (i Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure) mm)) a) h (kPa)	2 1 2 1	200 00 250 55 78 8 8 rit le						
Dry Density (Mg/m ² Specimen Length (m Specimen Diamteter (i Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick	mm) mm) a) h (kPa) ness	2 1 2 1 1 5 8 Br Rubbe	200 00 250 55 78 8 nt le r/0.3mm						
Dry Density (Mg/m ² Specimen Length (m Specimen Diamteter (i Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m	ness in)	2 1 2 1 1 5 5 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	200 00 250 55 78 8 8 r/0.3mm .50						Ģ
Dry Density (Mg/m Specimen Length (m Specimen Diamteter (Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m Checked	ness in)	2 1 2 1 1 3 5 8 8 8 8 8 8 8 8 1 2 5/04/2022	200 00 55 78 8 77 8 8 77 8 8 77 0.3mm 50	Reg. 13(•)		Reg	. 13(1	1)





GSTL	Single Stage Un BS 1	consolida Tes 377 : 199	ated-Undr st 90 Part 7 :	ained Tr	riaxial	Contrac Boreho	t Number le/Pit No.	58610 BH2C103
Site Name		Northst	owe		-	Sam	ole No.	31
						Depth	Top (m)	4 00
Soil Description		Dark grey si	Ity CLAY			Depth I	Base (m)	4.45
Date Tested		18/04/2	2022		-	Samp	le Type	U
5000 1000 1			iter w		-	Tech	inician	Jordan
and.								
180								
		-					×	
160					-			
101 T								
140		/			-			
S. 1		/						
120		/						
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άχ Δ								
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80					-	_		_
Devi								
- 60			-		_			
	ť.,							
40								-
20			-		-			
0								
0.00 1.0	0 2.00 3	.00 4	.00 5. Axial s	00 6 train %	i.00	7.00	8.00	9.00 10
	_	_						
Moisture Content (%)	32						
Bulk Density (Mg/m ³)	2.06						
Dry Density (Mg/m ³)	K.	1.57						
Specimen Length (mr	n)	200						
Specimen Diamteter (n	im)	100						
		250						
Cell Pressure (kPa)	0	164						
Deviator Stress (kPa)	/							
Cell Pressure (kPa) Deviator Stress (kPa Undrained Shear Strength	(kPa)	82						
Cell Pressure (kPa) Deviator Stress (kPa Undrained Shear Strength Failure Strain (%)	(kPa)	82 8						
Cell Pressure (kPa) Deviator Stress (kPa Undrained Shear Strength Failure Strain (%) Mode Of Failure	(kPa)	82 8 Brit le	_					
Cell Pressure (kPa) Deviator Stress (kPa Undrained Shear Strength Failure Strain (%) Mode Of Failure Membrane Used/Thickr Rate of Strain (%/mit	ess Rubt	82 8 Brit le ber/0.3mm 1.50						Cł
Cell Pressure (kPa) Deviator Stress (kPa Undrained Shear Strength Failure Strain (%) Mode Of Failure Membrane Used/Thickr Rate of Strain (%/min	iess Rubt	82 8 Brit le ber/0.3mm 1.50			_			G
Cell Pressure (kPa) Deviator Stress (kPa Undrained Shear Strength Failure Strain (%) Mode Of Failure Membrane Used/Thickr Rate of Strain (%/min Checked	(kPa) ess Rubb 1) 25/04/2022	82 8 Brit le ber/0.3mm 1.50	Reg. 13(lea	13(1)	

GSTI	Single S	Stage Uncor	nsolidat Test	ed-Undra	ained Tria	axial	Contrac	t Number	58610
UVIL		BS 137	7:1990	Part 7 :	8		Boreho	le/Pit No.	BH2C103
Site Name			Northstow	we			Sam	ple No.	32
Out Disautation						=1	Depth	Top (m)	6.00
Soli Description		Da	rk grey sitty	CLAY			Depth	Base (m)	6.45
Date Tested			18/04/20:	22		- 1	Samp	ole Type	U
							Tech	nnician	Jordan
200									-
200	-	-	-		11.0			×	-
180			_		-				
101				/					
160	-		-	-					-
		/							
140		/							
		1							
₽ 120	1		-	_					-
Less	/								
5 100	1			_					-
ato									
80	-		-	-					-
E CARLEN AND				100				117 01	
60	-			_					-
40		_		_				-	-
20			-						
0			-	-		-		-	_
0.00 1	1.00	2.00	3.00	4.00	5.00	6.0	0 7	7.00	8.00 9
				Axial st	rain %				
Moisture Content (%) 3)	30							
Buik Density (Mg/m	3,	2.1		-					
Dry Density (Mg/m)	1,6		-					
Specimen Length (n	mm)	200))	-					
SOPORED DIAMERE	iiiii)	100	2						
Coll Drocouro ///Dr	9	200	2	-					
Cell Pressure (kPa	2)	180	2						
Cell Pressure (kPa Deviator Stress (kP	a)	10.		-					
Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt	a) th (kPa)	95	<u></u>						
Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%)	a) th (kPa)	95 8							
Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure	a) th (kPa)	95 8 Brit Rubber//	le) 3mm						
Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m	th (kPa)	95 8 Brit Rubber/0 1.5	le).3mm D						G
Cell Pressure (kPa Deviator Stress (kP Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m Checked	a) h (kPa) h (95 8 Brit Rubber/(1.5 25/04/2022	le).3mm D	Reg. 13(1		ΤB	Reg.	. 13(1)]



ACTI S	Single Stage Uncons	olidated-Undrained Triaxia	Contract Number	58610
GJIL	BS 1377	1990 Part 7 : 8	Borehole/Pit No.	BH2C104
Site Name	N	orthstowe	Sample No.	20
			Depth Top (m)	6 00
Soil Description	Gre	y silty CLAY	Depth Base (m)	6.45
Date Tested	1	8/04/2022	Sample Type	U
			Technician	Jordan
				_
160				
140			*	-
140				
120		/		
120				-
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g 100				
SS				
80				
itor				
evia				
□ 60 -	1			
	/			
40				
20				
20				
0	200 40	0 00	8.00 10.00	17
0.00	2.00 4.0	U 6.00	8.00 10.00	12
		Axiai strain %		
Moisture Content (%) 17			
Bulk Density (Mg/m) 2.28			
Dry Density (Mg/m ³) 1.95			
Specimen Length (mi	n) 191			
Cell Pressure /kDa	250			
Deviator Stress (kPa	a) 145			
Undrained Shear Strength	n (kPa) 72			
	10			
Failure Strain (%)	Britle			
Failure Strain (%) Mode Of Failure				
Failure Strain (%) Mode Of Failure Membrane Used/Thick	ness Rubber/0.3i	nm		
Failure Strain (%) Mode Of Failure Membrane Used/Thickn Rate of Strain (%/mi	ness Rubber/0.3r n) 1.57	nm	and the	G
Failure Strain (%) Mode Of Failure Membrane Used/Thicki Rate of Strain (%/mi Checked	ness Rubber/0.3i n) 1.57 25/04/2022	nm	Reg. 13(1	





GSTL	Single Sta	ige Unconso BS 1377 ·	lidated-Und Test 1990 Part 7	rained Triaxia	Contrac Boreho	t Number le/Pit No.	58610 BHTCA103
Cita Namo	-	No	thetown		Com		44
Sile Name	_	NO	Inslowe		Sam	pie NO.	14
Soil Description		Dark on	ev silty CLAY		Depth	Top (m)	7 00
Con Decempion		Durin gr	sy sing out i		Depth	Base (m)	7.45
Date Tested		13/	04/2022		Samp	le Type	U
					Tech	nnician	Jordan
300			_	1	Ī	1	
250							-
200			/				-
to 50	/						_
ă 100							
50							
0	2.00	4.00	6. Axial s	00 train %	8.00	10.00	12
0	2.00	4.00	6 Axial s	00 train %	8.00	10.00	12
0 0.00 Moisture Content (%	2.00	4.00	6 Axial s	00 train %	8.00	10.00	12
0 0.00 Moisture Content (% Bulk Density (Mg/m	2.00 6) 3)	4.00 28 2.23	6 Axial s	00 train %	8.00	10.00	12
0 0.00 Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m	2.00 6) ³)	4.00 28 2.23 1.74	6 Axial s	00 train %	8.00	10.00	12
0 0.00 Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m ³ Specimen Length (m	2.00 6) ³) m)	4.00 28 2.23 1.74 200	6 Axial s	00 train %	8.00	10.00	12
0 0.00 Moisture Content (% Bulk Density (Mg/m ³ Dry Density (Mg/m ³ Specimen Length (m Specimen Diamteter (r	2.00 6) ³) m) mm)	4.00 28 2.23 1.74 200 100	6 Axial s	00 train %	8.00	10.00	12
0 0.00 Moisture Content (% Bulk Density (Mg/m ³ Dry Density (Mg/m ³ Specimen Length (m Specimen Diamteter (r Cell Pressure (kPa	2.00 6) ³) ³) m) mm))	4.00 28 2.23 1.74 200 100 250	6 Axial s	00 train %	8.00	10.00	12
0 0.00 0.00 Moisture Content (% Bulk Density (Mg/m ³ Dry Density (Mg/m ³ Specimen Length (m Specimen Diamteter (r Cell Pressure (kPa Deviator Stress (kPa	2.00 (4) (3) (3) (1) (3) (1) (1) (1) (1) (1) (1) (1) (1	4.00 28 2.23 1.74 200 100 250 239	6 Axial s	00 train %	8.00	10.00	12
0 0.00 0.00 Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Diamteter (r Cell Pressure (kPa Deviator Stress (kPa Deviator Stress (kPa	2.00 6) ³) m) mm)) a) h (kPa)	4.00 28 2.23 1.74 200 100 250 239 120	6 Axial s	00 train %	8.00	10.00	12
0 0.00 0.00 Moisture Content (% Bulk Density (Mg/m Dry Density (Mg/m Specimen Length (m Specimen Length (m Specimen Diamteter (r Cell Pressure (kPa Deviator Stress (kPa Deviator Stress (kPa Deviator Stress (kPa Strengtt Failure Strain (%)	2.00 6) 3) 5) m) mm)) a) h (kPa)	4.00 28 2.23 1.74 200 100 250 239 120 10	6 Axial s	00 train %	8.00	10.00	12
0 0.00 0.00 Moisture Content (% Bulk Density (Mg/m ³ Dry Density (Mg/m ³ Specimen Length (m Specimen Diamteter (r Cell Pressure (kPa Deviator Stress (kPa Deviator Stress (kPa Undrained Shear Strength Failure Strain (%) Mode Of Failure	2.00 6) 3) m) mm)) a) h (kPa)	4.00 28 2.23 1.74 200 100 250 239 120 10 Plastic	6 Axial s	00 train %	8.00	10.00	12
0 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0	2.00	4.00 28 2.23 1.74 200 100 250 239 120 10 Plastic Rubber/0.3mr 1.50	6 Axial s	00 train %	8.00	10.00	12
0 0.00 0.00 0.00 Moisture Content (% Bulk Density (Mg/m ³ Dry Density (Mg/m ³ Specimen Length (m Specimen Diamteter (r Cell Pressure (kPa Deviator Stress (kPa	2.00 6) 3) m) mm)) a) h (kPa) ness in) 25	4.00 28 2.23 1.74 200 100 250 239 120 10 Plastic Rubber/0.3mr 1.50	6 Axial s	00 train %	8.00 Rea.	10.00	







CCTI	Single Sta	ge Unconso	olidated-Un	drained T	riaxial	Contract Number	58610
GJIL		BS 1377 :	1990 Part 7	: 8		Borehole/Pit No.	BHTCA10
Site Name		N	orthstowe		-	Sample No.	9
						Depth Top (m)	4 00
Soil Description		Gre	y silty CLAY			Depth Base (m)	4.45
Date Tested		18	8/04/2022			Sample Type	U
					-	Technician	Jordan
100		- 1			_	T I	_
90					-		-
			-		-	×	
80			/				
		/					
70 -	1						
B co	1	I					
× 60	1						
Stree	1						
0 30	1						
10							
ă +v							
30					-		-
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0.00	1.00	2.00	3.00	4.0	0	5.00 6.0	0 7
			Axia	I strain %			
Moisture Content (%	%)	36					
Bulk Density (Mg/m	3	2.09					
Specimen Length (mg/m)	200					
Specimen Diamteter (I	mm)	100					
Coll Drogouro (kDo	1)	250					
Cell Pressure (kPa	a)	89					
Deviator Stress (kPa	h (lation)	44					
Deviator Stress (kPa Undrained Shear Strengt	n (kPa)						
Deviator Stress (kPa Deviator Stress (kPa Undrained Shear Strengt Failure Strain (%)	n (kPa)	6					
Deviator Stress (kPa Deviator Stress (kPa Undrained Shear Strengt Failure Strain (%) Mode Of Failure	n (kPa)	6 Brit le					
Deviator Stress (kPa Deviator Stress (kPa Undrained Shear Strengt Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m	iness	6 Brit le Rubber/0.3n 1.50	nm				cł
Deviator Stress (kPa Deviator Stress (kPa Undrained Shear Strengti Failure Strain (%) Mode Of Failure Membrane Used/Thick Rate of Strain (%/m	iness	6 Brit le Rubber/0.3n 1.50	nm			eg 13(1	



ACTI S	Single Stage Uncons	olidated-Undrained Triaxia	Contract Number	58610
GJIL	BS 1377	1990 Part 7 : 8	Borehole/Pit No.	BHTCA110
Site Name	N	lorthstowe	Sample No.	10
			Depth Top (m)	4 00
Soil Description	Gre	ey silty CLAY	Depth Base (m)	4.45
Date Tested		3/04/2022	Sample Type	U
			Technician	Jordan
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10 C.J.				
0	-			
0.00	1.00 2.00	3.00 4.00	5.00 6.00	0 7.
Rulk Descibility Atom	39			
Duk Density (Mg/III) 2.10			
Specimen Length (mg	m) 200			
Specimen Diamteter (n	nm) 100			
Cell Pressure (kPa)) 250			
Deviator Stress (kPa	Deviator Stress (kPa) 44			
Undrained Shear Strength	n (kPa) 22			
Failure Strain (%)	5			
Mode Of Failure	Plastic			
Membrane Used/Thickr Rate of Strain (%/mi	n) Rubber/0.31	nm		CÊ
Rate of Strain (with				
Checked	25/04/2022	Reg. 13(1)	Reg 13/1	



	Single S	tage Unconsol	idated-Undrained Triaxial	Contract Number	58610
GJIL		BS 1377 : 1	990 Part 7 : 8	Borehole/Pit No.	BHTCA202
Site Name	-	Nort	thstowe	Sample No.	20
				Depth Top (m)	6 00
Soil Description		Greys	Depth Base (m)	6.45	
Date Tested		13/0	14/2022	Sample Type	0
				Technician	lardan
				Technician	Joidan
300		-1-			
				×	
250					
230					
200		/			
a		/			
ss kl					
1FO	1				
S 150	1				-
viat					
De					
100					
50					
50					
50					
50	Y.				
50					
50	2.00	4.00	6.00 8.0	00 10.00	12
50	2.00	4.00	6.00 8.0 Axial strain %	00 10.00	12
50	2.00	4.00	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 Moisture Content	2.00	4.00	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 Moisture Content Bulk Density (Mg	2.00 (%) /m ³)	4.00 28 2.09	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 Moisture Content Bulk Density (Mg Dry Density (Mg	2.00 (%) /m ³)	4.00 28 2.09 1.63	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 Moisture Content Bulk Density (Mg Dry Density (Mg Specimen Length	2.00 (%) /m ³) (mm)	4.00 28 2.09 1.63 198	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 Moisture Content Bulk Density (Mg) Dry Density (Mg) Specimen Length Specimen Diamteter	2.00 (%) /m ³) (mm) r (mm)	4.00 28 2.09 1.63 198 101	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 Moisture Content Bulk Density (Mg Dry Density (Mg Specimen Length Specimen Diamtete Cell Pressure (k	2.00 (%) /m ³) (mm) r (mm) Pa)	4.00 28 2.09 1.63 198 101 250	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 Moisture Content Bulk Density (Mg Dry Density (Mg Specimen Length Specimen Diamtete Cell Pressure (k Deviator Stress (2.00 (%) /m ³) /m ³) (mm) r (mm) Pa) kPa)	4.00 28 2.09 1.63 198 101 250 280	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 0.00 Moisture Content Bulk Density (Mg Dry Density (Mg Specimen Length Specimen Length Specimen Diamtete Cell Pressure (k Deviator Stress () Undrained Shear Stret	2.00 //m ³) /m ³) (mm) r (mm) r (mm) Pa) kPa) kPa) gth (kPa)	4.00 28 2.09 1.63 198 101 250 280 140	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 0.00 Moisture Content Bulk Density (Mg Dry Density (Mg Specimen Length Specimen Diamtete Cell Pressure (k Deviator Stress (i Undrained Shear Streir Failure Strain (2.00 (%) /m ³) (mm) r (mm) Pa) kPa) (kPa) (%)	4.00 28 2.09 1.63 198 101 250 280 140 10	6.00 8.0 Axial strain %	00 10.00	12
50 0.00 0.00 Moisture Content Bulk Density (Mg) Dry Density (Mg) Specimen Length Specimen Diamtete Cell Pressure (k Deviator Stress (Undrained Shear Street Failure Strain (Mode Of Failu	2.00 (%) /m ³) (mm) r (mm) Pa) kPa) kPa) gth (kPa) %) re	4.00 28 2.09 1.63 198 101 250 280 140 10 10 Compound	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 0.00 0.00 0.00 0.00 0.00 0.00	2.00 (%) /m ³) (mm) r (mm) r (mm) Pa) kPa) pgth (kPa) %) re ickness /min)	4.00 28 2.09 1.63 198 101 250 280 140 10 Compound Rubber/0.3mm 1.52	6.00 8.0 Axial strain %	00 10.00	12
50 0 0.00 0.00 Moisture Content Bulk Density (Mg Dry Density (Mg Specimen Length Specimen Diamtete Cell Pressure (k Deviator Stress (i Undrained Shear Strer Failure Strain (i Mode Of Failu Membrane Used/Th Rate of Strain (%	2.00 /m ³) /m ³) /m ³) (mm) r (mm) Pa) kPa) pgth (kPa) %) re ickness /min)	4.00 28 2.09 1.63 198 101 250 280 140 10 Compound Rubber/0.3mm 1.52	6.00 8.0 Axial strain %	00 10.00	12



50				(BS 137	7 : PART	7:3:1	990)				
Contract Number			58610									
Site Name		Northstowe										
Date Tested						20.04.20	22					
	Î.		-			Lucia	Location of	Diameter			Han	
BH/TP Number/ Window sample	Sample Number	Sample Type	D	epth (n	n)	Content	Test Horizon	of Tube (mm)	Vane Size (mm)	Undisturbed /	Peak	Residua
TPTCA113	4	В	1.00	1	2.00	24			33	Disturbed	40	17
TPTCA204	5	В	2.00	[-21]	3.00	22.7			33	Disturbed	138	45
TPTCA208	4	В	1.00	0.90	2.00	14.8		1	33	Disturbed	106	58
WSTCA109	3	В	2.00	(19)	3.00	18	(m. 1997)	=	33	Disturbed	149	14
WSTCA112	-1-	В	0.90	(-2n)	1.30	22		2	33	Disturbed	152	76
WSTCA116	1	В	1.20	1.4	1.50	16			33	Disturbed	68	31

Key	Reported As
Moisture Content	%
Hand Vane	kPa
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	1

Operators	Checked	25/04/2022	Reg. 13(1)	ncy. 10(1)
Reg. 13(1)	Approved	26/04/2022	Reg. 13(1)	()))))))))))))))))))

Clent Arcadis Date Received Site Name Northstowe Date Received Site Name Northstowe Date Started 2004/2022 Date Completed 2004/2022 No. of Samples 4 Hole Number Sample Southold Acadis Content Reserved 2004/2022 No. of Samples 4 Acadis Southold So	GST	Z	Cert	ificate o	of Ch RE B	emical R 279)	Analysis	61	Contract	t Number		58610 10052307	-
Site Name Northstore Date Started 2004/2022 Image: Sample Sample Type Depth (m) Solide Extract Content Ph Vales Sulphus Megnesium N A Hole Number Number Sample Sample Sample Solide Extract Content Ph Vales Sulphus Megnesium N Solide Extract Content Ph Vales Sulphus Megnesium N A TPTCA208 1 D 0.50 - 1.00 0.21 0.04 8.9 8.06 0.10	Client			1-	Arca	dis			Date R	eceived		10052501	-
Site Name Northstove Date Started 2004/022 Image: Sample Sample Type Depth (m) Solubia Solubia Solubia Solubia Solubia No. of Samples 4 Hole Number Number Type Depth (m) Solubia Solubia Solubia Chionda Ph Vales Solubia Solubia Total Started 4 TPTCA206 1 D 0.50 - 100 0.21 0.04 8.9 8.06 0.10 <1 - TPTCA206 3 D 2.00 - 3.00 0.25 0.04 9.1 8.11 0.12 <1 - TPTCA205 16 B 5.00 - 5.00 0.31 0.05 7.7 8.30 0.13 <1 - <	Site Name			_					Data Startad				
Date Completed 2804/202 No. of Samples 4 Hole Number Samples Total Agueous TPTCA208 1 D 0.50 - 1.00 0.21 0.04 8.9 8.00 0.1 -					Norths	stowe			Date S	Started	20/04/2022		
No. of Samples 4 Hole Number Sample Depth (m) Solidbia Addia Sulphata Ph Value Solidbia	_							Date Completed 26/04/2022					
Hele Number Sample Number Type Depth (m) Add Soluble Extract Soluble Contant Ph Value Total Contan	1							-	No. of S	Samples	4		
TPTCA208 1 D 0.50 - 1.00 0.21 0.04 8.9 8.06 0.10	Hole Number	ber Number Tyre Dept		epth (n	Acid Aqueous pth (m) Soluble Extract			Chloride Content Ph Valu		≱ Total Sulphur Magnesium Niť		Nitrate	
TPTCA208 3 D 2.00 - 3.00 0.29 0.05 11 8.22 0.12	TPTCA208	1	D	0.50		1 00	0 21	0 04	89	8 06	0.10	<1	<10
BH2C102 16 B 5.00 - 5.50 0.31 0.05 7.7 8.30 0.13 <1 - TPTCA119 4 B 1.20 - 3.00 0.25 0.04 9.1 8.11 0.12 <1	TPTCA208	3	D	2.00	-	3.00	0.29	0.05	11	8.22	0.12	<1	<10
TPTCA119 4 B 1.20 - 3.00 0.25 0.04 9.1 8.11 0.12 <1 - Image: Second Seco	BH2C102	16	В	5.00	1	5.50	0.31	0.05	7.7	8.30	0.13	<1	<10
Image: Second	TPTCA119	4	В	1.20	÷	3. 0 0	0.25	0.04	9.1	8.11	0.12	<1	<10
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Image: Sulphate % SO4 Acid Soluble Sulphate % SO4 Aqueous Extract Sulphate % SO4 PH Value @ 25° Total Sulphur % S Magnesium g/l SO4 Nitrate NO3 mg/l				-	1			_					
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Key Reported As Acid Soluble Sulphate % SO4 Aqueous Extract Sulphate g/l SO4 Chloride Content (Semi) mg Cl/l PH Value @ 25° Total Sulphur % S Magnesium g/l SO4 Nitrate NO3 mg/l					-				*			·	-
Key Reported As Remarks Acid Soluble Sulphate % SO4 NCP = No Chloride Present Aqueous Extract Sulphate g/l SO4 NCP = No Chloride Present Chloride Content (Semi) mg Cl/l PH Value @ 25° Total Sulphur % S Magnesium g/l SO4 Nitrate NO3 mg/l Pace 12 (1)					-		1			1			
Key Reported As Remarks Acid Soluble Sulphate % SO4 NCP = No Chloride Present Aqueous Extract Sulphate g/I SO4 NCP = No Chloride Present Chloride Content (Semi) mg Cl/I PH Value @ 25° Total Sulphur % S Magnesium g/I SO4 Nitrate NO3 mg/I Phoce 12/1					-		-	0			-		
Acid Soluble Sulphate % SO4 Aqueous Extract Sulphate g/l SO4 Chloride Content (Semi) mg Cl/l PH Value @ 25° Total Sulphur % S Magnesium g/l SO4 Nitrate NO3 mg/l	Key		Repor	ted As			2		Rem	arks			
Aqueous Extract Sulphate g/l SO ₄ Chloride Content (Semi) mg Cl/l PH Value @ 25° Total Sulphur % S Magnesium g/l SO ₄ Nitrate NO ₃ mg/l	Acid Soluble S	Sulphate	% 5	5O ₄				N	CP = No Ch	loride Prese	nt		
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PH Value @ 25° Total Sulphur % S Magnesium g/I SO ₄ Nitrate NO ₃ mg/I	Chloride Conte	ent (Semi)	mg	CI/I									
Total Sulphur % S Magnesium g/l SO ₄ Nitrate NO ₃ mg/l	PH Val	ne	@	25°									
Magnesium g/l SO ₄ Nitrate NO ₃ mg/l	Total Sul	phur	%	S	0								
Test Operator Checked and Authorised by Doct 12(1)	Magnesi	um	g/l \$	SO ₄									
Test Operator Checked and Authorised by Doct 12/1)	Nitrate		NO ₃	mg/l	1							<u>.</u>	
	Test Operato	DF	Checke	d and Autho	orised t	ру	Reg. 1	3(1)	Re	g. 13	(1)		





ANALYTICAL TEST REPORT

Contract no: 108224 Contract name: Northstowe Client reference: NSTO Clients name: Geo Site & Testing Services Clients address: Unit 3 and 4 Heol Aur Dafen Industrial Estate, Dafen Llanelli, Carmarthenshire SA14 80N 14 April 2022 Samples received: Analysis started: 14 April 2022 Analysis completed: 25 April 2022 Report issued: 25 April 2022

Key

- U UKAS accredited test
- M MCERTS & UKAS accredited test
- \$ Test carried out by an approved subcontractor
- I/S Insufficient sample to carry out test
- N/S Sample not suitable for testing



Reporting Team Lead

Chemtech Environmental Limited

SOLLS

Lab number			108224-1	108224-2	108224-3	108224-4	108224-5	108224-6
Sample id			BHTCA101	BHTCA101	BHTCA101	BHTCA102	BH2C102	BHTCA102
Depth (m)	0.50-0.70	2.00-2.50	5.00-5.50	0.50-0.70	2.10- 2.50	3.50-4.00		
Sample Type	B2	B6	B15	B2	В6	D11		
Date sampled	-	-	-	-	-	-		
Test	Method	Units						
рН	CE004 ^U	un ts	8.7	8.9	8.8	8.6	8.2	7.9
Magnesium (2:1 water soluble)	CE061	mg/I Mg	1.8	2.5	13	28	14	55
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	6.0	3.6	7.7	8.0	8.9	67
Nitrate (2:1 water soluble)	CE049 ^U	mg/I NO ₃	5.9	1.2	1.9	20	2.2	4.4
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	427	55	362	1706	284	1066
Sulphate (total)	CE062 ^U	mg/kg SO ₄	2363	480	2787	4287	1770	4372
Sulphur (total)	CE119	mg/kg S	1060	229	7576	2907	909	4393
Sulphur (total)	CE119	% w/w S	0.11	0.02	0.76	0.29	0.09	0.44
Lab number			108224-7	108224-8	108224-9	108224-10	108224-11	108224-12
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Sample id			BHTCA103A	BHTCA103A	BHTCA104	BHTCA104	BHTCA104	BHTCA107
Depth (m)			0.20-0.50	4.00-4.50	0.50-0.70	3.00-3.50	6.50-7.00	3.00-3.45
Sample Type			B1	B8	B2	В9	D19	B10
Date sampled			-	-	-	-	-	-
Test	Method	Units						
рН	CE004 U	un ts	8.1	8.1	9.4	8.5	8.5	8.2
Magnesium (2:1 water soluble)	CE061	mg/I Mg	2.6	11	2.4	53	38	72
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	63	11	17	35	19	20
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	19	3.3	10	3.6	1.8	3.3
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	752	409	1456	1900	999	1626
Sulphate (total)	CE062 ^U	mg/kg SO ₄	2257	2065	3934	23098	4050	4946
Sulphur (total)	CE119	mg/kg S	1190	4559	1810	9459	8047	15498
Sulphur (total)	CE119	% w/w S	0.12	0.46	0.18	0.95	0.80	1.55

Lab number			108224-13	108224-14	108224-15	108224-16	108224-17	108224-18
Sample id			BHTCA107	BHTCA108	BHTCA108	BHTCA110	BHTCA202	BHTCA202
Depth (m)			5.00-5.45	0.50-0.80	5.00-5.45	0.40-0.60	0.20-0.60	1.70-2.00
Sample Type			B15	B1	D11	B2	B4	D7
Date sampled			-	-	-	-	-	-
Test	Method	Units						
рН	CEOO4 U	un ts	8.2	8.3	8.0	8.0	8.1	8.3
Magnesium (2:1 water soluble)	CE061	mg/I Mg	38	8.6	82	34	31	19
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	11	7.4	18	9.2	7.8	8.1
Nitrate (2:1 water soluble)	CE049 ^U	mg/I NO ₃	2.4	6.8	1.7	20	31	5.6
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	884	240	1937	1505	1570	628
Sulphate (total)	CE062 ^U	mg/kg SO ₄	2989	660	18026	8075	10579	1596
Sulphur (total)	CE119	mg/kg S	6494	505	7555	2972	4256	683
Sulphur (total)	CE119	% w/w S	0.65	0.05	0.76	0.30	0.43	0.07

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Lab number			108224-19	108224-20	108224-21	108224-22	108224-23	108224-24
Sample id			TPTCA102	TPTCA103	TPTCA104	TPTCA105	TPTCA113	TPTCA114
Depth (m)			0.50-1.00	0.50-1.00	0.20-0.80	0.20-0.50	2.00-3.00	0.20-0.50
Sample Type			D3	В3	D2	D2	B5	B2
Date sampled			-	-	-	-	-	-
Test	Method	Units						
рН	CE004 U	un ts	8.3	8.0	8.2	10.1	9.0	8.1
Magnesium (2:1 water soluble)	CE061	mg/I Mg	2.6	16	5.6	<1	3.0	18
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	5.1	9.6	10	7.6	14	5.4
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	9.3	14	16	7.3	2.4	2.6
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO4	116	1510	167	608	116	1498
Sulphate (total)	CE062 ^U	mg/kg SO ₄	359	6568	488	1868	647	3732
Sulphur (total)	CE119	mg/kg S	173	3341	291	844	308	1486
Sulphur (total)	CE119	% w/w S	0.02	0.33	0.03	0.08	0.03	0.15

Lab number			108224-25	108224-26	108224-27	108224-28	108224-29	108224-30
Sample id			TPTCA114	TPTCA118	TPTCA204	TPTCA204	TPTCA208	WS2C101
Depth (m)			0.50-1.00	0.50-1.00	0.20-0.50	2.00-3.00	1.00-2.00	1.20-1.65
Sample Type			В3	В3	B2	D5	D4	D2
Date sampled			-	-	-	-	-	-
Test	Method	Units						
рН	CEOO4 ^U	un ts	7.7	8.0	7.8	8.3	8.2	8.3
Magnesium (2:1 water soluble)	CE061	mg/I Mg	6.4	10	42	11	51	67
Chloride (2:1 water soluble)	CEO49 ^U	mg/I CI	7.2	7.2	29	14	17	12
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	100	14	37	9.5	7.2	8.1
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO4	116	253	1630	763	1651	1715
Sulphate (total)	CE062 ^U	mg/kg SO ₄	539	904	14318	1750	8548	6178
Sulphur (total)	CE119	mg/kg S	317	370	5488	615	4331	2564
Sulphur (total)	CE119	% w/w S	0.03	0.04	0.55	0.06	0.43	0.26

Lab number			108224-31	108224-32	108224-33	108224-34	108224-35	108224-36
Sample id			WS2C106	WS2C108	WS2C108	WS2C112	WS2C120	WS2C120
Depth (m)			1.20-1.65	1.20-1.65	1.80-2.70	2.00-2.45	1.20-1.65	2.70-2.80
Sample Type			D2	D1	B2	D2	D1	D3
Date sampled			-	-	-	-	-	-
Test	Method	Units						
рН	CEOO4 U	un ts	8.4	8.4	8.1	8.0	8.3	8.1
Magnesium (2:1 water soluble)	CE061	mg/I Mg	16	6.4	46	63	21	74
Chloride (2:1 water soluble)	CEO49 ^U	mg/I CI	4.5	3.0	72	12	7.5	21
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	2.9	3.7	3.2	3.8	1.6	1.3
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	599	180	1586	1901	554	1932
Sulphate (total)	CE062 ^U	mg/kg SO ₄	1827	897	81273	16604	3367	26645
Sulphur (total)	CE119	mg/kg S	641	401	29260	6307	1373	10410
Sulphur (total)	CE119	% w/w S	0.06	0.04	2.93	0.63	0.14	1.04

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Lab number			108224-37	108224-38	108224-39	108224-40	108224-41	108224-42
Sample id			WS2C121	WS2C121	WS2C123	WS2C123	WSTCA109	WSTCA112
Depth (m)			1.20-1.65	2.00-2.45	0.70	2.00-2.45	2.00-3.00	0.90-1.30
Sample Type			D2	D3	B1	D3	В3	B15
Date sampled			-	-	-	-	-	-
Test	Method	Units						
рН	CEOO4 ^U	un ts	8.6	8.1	8.4	8.3	8.1	8.5
Magnesium (2:1 water soluble)	CE061	mg/I Mg	39	72	12	70	43	11
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	11	18	32	21	11	8.6
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	1.3	5.1	3.6	3.3	2.0	<1
Sulphate (2:1 water soluble)	CEO61 ^U	mg/I SO ₄	1616	2066	873	1919	1820	431
Sulphate (total)	CE062 ^U	mg/kg SO ₄	5188	49024	2956	70761	16292	1402
Sulphur (total)	CE119	mg/kg S	1939	15257	1270	23080	11389	753
Sulphur (total)	CE119	% w/w S	0.19	1.53	0.13	2.31	1.14	0.08

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Lab number			108224-43	108224-44
Sample id			WSTCA117	WSTCA117
Depth (m)	1.50-2.00	2.50-2.80		
Sample Type	B2	B4		
Date sampled			-	-
Test	Method	Units		
рН	CEOO4 ^U	un ts	8.1	7.7
Magnesium (2:1 water soluble)	CE061	mg/I Mg	5.9	69
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	9.6	19
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	1.3	1.7
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	138	1882
Sulphate (total)	CE062 ^U	mg/kg SO ₄	995	47633
Sulphur (total)	CE119	mg/kg S	457	16234
Sulphur (total)	CE119	% w/w S	0.05	1.62

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	н	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/I Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/I CI
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/I NO ₃
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/l SO ₄
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO ₄
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Кеу

- N No (not deviating sample)
- Y Yes (deviating sample)
- NSD Sampling date not provided
- NST Sampling time not provided (waters only)
- EHT Sample exceeded holding time(s)
- IC Sample not received in appropriate containers
- HP Headspace present in sample container
- NCF Sample not chemically fixed (where appropriate)
- OR Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
108224-1	BHTCA101	0.50-0.70	Y	All (NSD)
108224-2	BHTCA101	2.00-2.50	Y	All (NSD)
108224-3	BHTCA101	5.00-5.50	Y	All (NSD)
108224-4	BHTCA102	0.50-0.70	Y	All (NSD)
108224-5	BH2C102	2.10- 2.50	Y	All (NSD)
108224-6	BHTCA102	3.50-4.00	Y	All (NSD)
108224-7	BHTCA103A	0.20-0.50	Y	All (NSD)
108224-8	BHTCA103A	4.00-4.50	Y	All (NSD)
108224-9	BHTCA104	0.50-0.70	Y	All (NSD)
108224-10	BHTCA104	3.00-3.50	Y	All (NSD)
108224-11	BHTCA104	6.50-7.00	Y	All (NSD)
108224-12	BHTCA107	3.00-3.45	Y	All (NSD)
108224-13	BHTCA107	5.00-5.45	Y	All (NSD)
108224-14	BHTCA108	0.50-0.80	Y	All (NSD)
108224-15	BHTCA108	5.00-5.45	Y	All (NSD)
108224-16	BHTCA110	0.40-0.60	Y	All (NSD)
108224-17	BHTCA202	0.20-0.60	Y	All (NSD)
108224-18	BHTCA202	1.70-2.00	Y	All (NSD)
108224-19	TPTCA102	0.50-1.00	Y	All (NSD)
108224-20	TPTCA103	0.50-1.00	Y	All (NSD)
108224-21	TPTCA104	0.20-0.80	Y	All (NSD)
108224-22	TPTCA105	0.20-0.50	Y	All (NSD)
108224-23	TPTCA113	2.00-3.00	Y	AII (NSD)
108224-24	TPTCA114	0.20-0.50	Y	All (NSD)
108224-25	TPTCA114	0.50-1.00	Y	All (NSD)
108224-26	TPTCA118	0.50-1.00	Y	AII (NSD)
108224-27	TPTCA204	0.20-0.50	Y	All (NSD)
108224-28	TPTCA204	2.00-3.00	Y	All (NSD)
108224-29	TPTCA208	1.00-2.00	Y	All (NSD)
108224-30	WS2C101	1.20-1.65	Y	All (NSD)

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Кеу

- N No (not deviating sample)
- Y Yes (deviating sample)
- NSD Sampling date not provided
- NST Sampling time not provided (waters only)
- EHT Sample exceeded holding time(s)
- IC Sample not received in appropriate containers
- HP Headspace present in sample container
- NCF Sample not chemically fixed (where appropriate)
- OR Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
108224-31	WS2C106	1.20-1.65	Y	All (NSD)
108224-32	WS2C108	1.20-1.65	Y	All (NSD)
108224-33	WS2C108	1.80-2.70	Y	All (NSD)
108224-34	WS2C112	2.00-2.45	Y	All (NSD)
108224-35	WS2C120	1.20-1.65	Y	All (NSD)
108224-36	WS2C120	2.70-2.80	Y	All (NSD)
108224-37	WS2C121	1.20-1.65	Y	All (NSD)
108224-38	WS2C121	2.00-2.45	Y	All (NSD)
108224-39	WS2C123	0.70	Y	All (NSD)
108224-40	WS2C123	2.00-2.45	Y	All (NSD)
108224-41	WSTCA109	2.00-3.00	Y	All (NSD)
108224-42	WSTCA112	0.90-1.30	Y	All (NSD)
108224-43	WSTCA117	1.50-2.00	Y	All (NSD)
108224-44	WSTCA117	2.50-2.80	Y	All (NSD)

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope. Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling. All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing. Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

This report shall not be reproduced except in full, without prior written approval.

Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.





Qty

Contract Number: 59102

Client Ref: Client PO: 14059902

Laboratory Report

Report Date: 05-05-2022

Client Arcadis Fortran Rd St Mellons Cardiff CF3 0EY

Contract Title:	North	nstowe
For the attention of:	Reg.	13(1)

Date Received: 19-04-2022 Date Completed: 05-05-2022

Test Description

Moisture Content of Soil BS1377 : Part 2 : Clause 3.2 : 1990 - * UKAS	36
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	36
BRE Full Suite includes pH, water & acid soluble sulphate, total sulphur, magnesium, chloride and nitrate Sub-contracted Test	7
One-dimensional Consolidation 75mm or 50mm diameter specimens (5 days) BS 1377:1990 - Part 5 : 3 - * UKAS	5
Quick Undrained Triaxial Compression test - single specimen at one confining pressure (100mm or 38mm diameter) BS 1377:1990 - Part 7 : 8 - * UKAS	3
Disposal of samples for job	1

Notes: Observations and Interpretations are outside the UKAS Accreditation

- * denotes test included in laboratory scope of accreditation
- # denotes test carried out by approved contractor
- @ denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory. Approved Signatories:

Reg. 13(1) (Business Support Manager) - Reg. 13(1) (Director) - Reg. 13(1) (Quality/Technical Manager) Reg. 13(1) (Laboratory manager) - Reg. 13(1) (Site Manager) - Reg. 13(1) (Quality Assistant / Administrator / Health and Safety Coordinator)

GEO Site & Testing Services Ltd Unit 3-4, Heol Aur, Dafen Ind Estate, Dafen, Llanelli, Carmarthenshire SA14 8QN Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk

GS	TL	NATU	JRAL M	OIST BS 1	URE, LI PLAS 377:199	QUID LIMIT, PLASTIC LIMIT AND TICITY INDEX 00 - Part 2 : 4.3 & 5.3)	
Contract Number					59102		
Site Name		Northstowe					
Date Tested	ted 26/04/2022						
					DES	CRIPTIONS	
Sample/Hole Reference	Sample Number	Sample Type	Depth (m)		1)	Descriptions	
BHTCA105	3	В	1.20	1	1.70	Brown gravelly silty CLAY	
BHTCA105	5	B	2.00	1.5	2.50	Brown gravelly silty CLAY	
BHTCA105	6	D	2.80	(i git	3.00	Grey fine to medium gravelly silty CLAY	
BHTCA105	10	D	4.80	(19)	5.00	Grey silty CLAY	
BHTCA105	14	D	6.80	(ner)	7.00	Grey fine to medium gravelly silty CLAY	
BHTCA105	18	D	8.80	1940	9.00	Grey silty CLAY	
BHTCA106	5	В	1.70	(1.9.2) (1.9.2)	2.00	Brown gravelly silty CLAY	
BHTCA106	10	— D —	3.45	(n_{i+1})	3.55	Grey silty CLAY	
BHTCA106	18	D	5.50	150	6.00	Grey fine to medium gravelly silty CLAY	
BHTCA106	23	D	7.50	0.20	8.00	Grey silty CLAY	
BHTCA106	26	D	8.50	6.00	9.00	Grey silty CLAY	
BHTCA106	41	D	14.00	-	14.50	Brownish grey fine to medium gravelly silty CLAY	
BHTCA106	49	D	17.00	1.0	17.50	Grey silty CLAY	
TP2C102	3	D	1.60	0.80	3.00	Brown silty CLAY	

Operators	Checked	04/05/2022
Reg. 13(1)	Approved	04/05/2022

TP2C103

TP2C103

TP2C104

TP2C104

TP2C105

TP2C107

TP2C107

TP2C109

TP2C109

TP2C110

6

8

2

4

5

5

6

6

7

5

D

D

D

D

D

D

D

D

D

D

0.50

1.40

0.20

1.50

0.50

0.20

1.10

0.20

0.70

0.50

1.40

3.00

0.50

3.00

1.40

1.10

3.00

0.70

1.70

1.90

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3

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Brown sandy silty CLAY

Grey silty CLAY

Brown gravelly silty CLAY

Grey silty CLAY

Brown silty CLAY

Brown silty CLAY

Brown silty CLAY

Brown gravelly silty CLAY

Brown silty CLAY

Brown silty CLAY





<u>as</u>	TL	NATU	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)								
Contract Number	1				59	9102					
Site Name		-			Nort	hstowe					
Date Tested					26/0	4/2022					
					DESCR	RIPTIONS					
Sample/Hole Reference	Sample Sample Depti				1)	Descriptions					
TP2C110	6	D	1.90	-	3.00	Brown silty CLAY					
TP2C113	2	D	2.50	1.5		Grey silty CLAY					
TP2C115	8	D	1.30	0.90	3.00	Brown gravelly silty CLAY					
TP2C116 TP2C118	8	D	1.40		3.00	Grey silty CLAY					
TP2C118	2	B	2.80			Brown silty CLAY					
TP2C119	1	D	1.20			Brown silty CLAY					
TP2C119	2	— D –	2.20	(1-5)	10	Brown silty CLAY					
TP2C122	1	D	0.90	1	J. 2.	Brown gravelly silty CLAY					
TP2C122	2	D 3.00 - D 1.10 -	- Brown silty CLAY	- Brown silty CLAY	Brown silty CLAY					Brown sitty CLAY	
TP2C124 TP2C124	2	D	2.60			Grev silty CLAY					
				CE C							
	() · · · · · · ·	·	1	0.20	()						
	1.000			5							
			-	(n < 1)							
				-							
			V	<u> </u>							
			-								
				14.0							
	1		h	(6e)							
				(-1)							
			1	11.516							
							cio				



Heig Diarr	cle Density (N	lg/m3)	2.65		Ded.					-		ශ්ත
Heig	neter (mm)		75.09	_	641					-	Q.,	
	ht (mm)		18.68	1	161					-1.5	1	
Degr	ee of saturatio	on	108.6	400		50	0.042	0.98		- 1	1	·
Void	s Ratio	-/	0.7488	200	101	400	0.11	0.2		-		
Dry I	Density (Mg/r	3)	1.50	100		200	0.10	3.1		-	1	
RUIL	Donsity (Mar	70) n2)	31	0		50	-0.2	SWELL		- 1		
	Initial Sam	ple Condit	ions	Pres	sure R	lange	Mv m2/MN	Cv m2/yr	Pressu	re Range	Mv m2/MN	Cv m2/yr
						Pressure	- kPa					
1	0.66			10				10	00		1	000
	0.67											
	0.68									1		
	0.69											
	0.69						•	~	4.			
>	0.70									$\langle $		
oids R	0.71								1			
atio	0.72											
a d	0.73								/			
1	0.74								1			
	0.75							1				
	0.76						1					
	6.76											
	0.77											
Da	Date Tested			26/04	4/2022	o o unou ·						
Re	marks		C Par icle Densi	Cv Calculat	ed Usi d Unles	ng T90 ss Stated (Otherwise		Sample Typ	e	U	
La	b Temperature	1		2	0°c				Sample Locat	ion	Тор	
				Grey si	Ity CLA	Y			Depth Base (m) 3.45			-
So	il Description								Depth Top (r	n)	3.00	_
Sit	e Name			North	nstowe	á.			Sample No		7	
_	SIL		BS137	7:Part 5	:1990), clause	e 3		Borehole/Trialp	t No.	BHTCA1	05





	ON		IONAL C	ONS	OLIDAT	ION TEST		Contract Nur	mber	59102	2
431	L	BS137	7:Part 5	:1990), clause	3	- 1	Borehole/Trial	pit No.	BHTCA1	106
Site Name			North	stowe				Sample N	0.	24	
Soil Description	n		Groupi	the CLA	v			Depth Top	(m)	8.00	
	1		Grey SI	ity GLA				Depth Base	(m)	8.45	
Lab Temperatu	ire		2	20°c				Sample Loca	ation	Тор	
Remarks	F	C Par icle Densit	v Calculate ty Assumed	ed Usin d Unles	ng T90 ss Stated (Otherwise		Sample Ty	pe	U	\sim
Date Tested	11	26/04/2022				-					
0.88											-
0.86						~					
0.84							1				
0.04											
0.82								1			
						•	20	1			
0.80						-	/	1			
S. R.							1				
0									\		
0.78							1				
0.76 -											
0.76 -											
0.76 -											
0.76 -											
0.76 -											
0.76 0.74 0.72 0.70											
0.78			10		Pressure	- kPa	10	00		1	.000
0.76 0.74 0.72 0.70 1			10		Pressure	- kPa	10	10		1	.000
0.78 0.76 0.74 0.72 0.70 1 Initial S	ample Conditio	ons	10 Pres	sure R	Pressure ange	- kPa Mv m2/MN	10 Cv m2/yr	no Pressi	ure Range	1 Mv m2/MN	cooo Cv m2/yr
0.78 0.76 0.74 0.72 0.70 1 Initial S Moisture Conte	ample Condition	ons 33 1 gn	10 Pres 0 50	sure R	Pressure ange 50	- kPa Mv m2/MN 0.0	10 Cv m2/yr SWELL 19	00 Pressi	ure Range	1 Mv m2/MN	Cv m2/yr
0.78 0.76 0.74 0.72 0.72 0.70 1 Initial S Moisture Conte Bulk Density (M Dry Density (M	ample Condition nt (%) lg/m3) a/m3)	ons 33 1.90 1.43	10 Pres 0 50 100	sure R	Pressure ange 50 100 200	- kPa Mv m2/MN 0.0 0.24 0.25	10 Cv m2/yr SWELL 19 12	00. Pressi	ure Range	1 Mv m2/MN	cv m2/yr
0.76 0.76 0.74 0.72 0.70 1 Initial S Moisture Conte Bulk Density (M Dry Density (M Voids Ratio	ample Condition nt (%) lg/m3) g/m3)	ons 33 1.90 1.43 0.8580	10 Pres 0 50 100 200	sure R	Pressure ange 50 100 200 400	- kPa Mv m2/MN 0.0 0.24 0.25 0.20	10 Cv m2/yr SWELL 19 12 0.7	00 Press	ure Range	1 Mv m2/MN	CV m2/yr
0.76 0.76 0.74 0.72 0.72 0.70 1 Initial S Moisture Conte Bulk Density (Mo Yory Density (Mo Yory Density (Mo Yorg Ratio	ample Condition nt (%) lg/m3) adion	ons 33 1.90 1.43 0.8580 101.8	10 Pres 0 50 100 200 400	sure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.0 0.24 0.25 0.20 0.14	10 Cv m2/yr SWELL 19 12 0.7 0.33)0 Press	ure Range	1 Mv m2/MN	Cv m2/yr
0.76 0.76 0.74 0.72 0.72 0.70 1 Initial S Moisture Conte Bulk Density (My Voids Ratio Degree of satur Height (mm)	ample Condition nt (%) lg/m3) g/m3) ration	ONS 33 1.90 1.43 0.8580 101.8 20.15	10 Pres 0 50 100 200 400	sure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.0 0.24 0.25 0.20 0.14	10 Cv m2/yr SWELL 19 12 0.7 0.33	00 Pressi	ure Range	1 Mv m2/MN	CV m2/yr
0.76 0.74 0.74 0.72 0.70 1 Initial S Moisture Conte Bulk Density (M Ory Density (ample Condition nt (%) lg/m3) g/m3) ration	0ns 33 1.90 1.43 0.8580 101.8 20.15 50.3	10 Pres 0 50 100 200 400	sure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.0 0.24 0.25 0.20 0.14	10 Cv m2/yr SWELL 19 12 0.7 0.33	00 Press	ure Range	1 Mv m2/MN	CV m2/yr
0.76 0.76 0.74 0.72 0.70 1 Initial S Moisture Conte Bulk Density (M Ory Density (ample Condition nt (%) lg/m3) g/m3) ration	33 1.90 1.43 0.8580 101.8 20.15 50.3 2.65	10 Pres 0 50 100 200 400	sure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.0 0.24 0.25 0.20 0.14	10 CV m2/yr SWELL 19 12 0.7 0.33	00 Press	ure Range	1 Mv m2/MN	CV m2/yr
0.76 0.74 0.72 0.72 0.70 1 Initial S Moisture Conte Bulk Density (M Ory Density (Sample Condition nt (%) lg/m3) p/m3) ration	33 1.90 1.43 0.8580 101.8 20.15 50.3 2.65	10 Pres 0 50 100 200 400	sure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.0 0.24 0.25 0.20 0.14	10 CV m2/yr SWELL 19 12 0.7 0.33	Press	ure Range	1 Mv m2/MN	CV m2/yr
0.76 0.76 0.74 0.72 0.70 1 Initial S Moisture Conte Julk Density (My Joids Ratio Degree of satur leight (mm) Diameter (mm) Diameter (mm) Diameter (mm) Diameter satur	Sample Condition Int (%) Ig/m3) g/m3) ration r (Mg/m3) Chi App	33 1.90 1.43 0.8580 101.8 20.15 50.3 2.65	10 Pres 0 50 100 200 400 0 400	sure R	Pressure ange 50 100 200 400 50	- kPa Mv m2/MN 0.0 0.24 0.25 0.20 0.14	10 CV m2/yr SWELL 19 12 0.7 0.33	Press	ure Range	1 Mv m2/MN	

CCTI	ONE DIMENS	IONAL C	ONS	OLIDAT	ION TEST		Contract Nu	mber	59102		
USIL	BS13	77:Part 5	:1990	, claus	e 3	B	Borehole/Trial	pit No.	BHTCA1	06	
Site Name		North	stowe				Sample N	lo.	38		
Soil Description		-		v			Depth Top	(m)	13.00		
		Grey si	Ity CLA	Y			Depth Base	(m)	13.45		
Lab Temperature	20°c						Sample Loc	ation	Тор		
Remarks	Par icle Dens	v Calculated Using T90 y Assumed Unless Stated Otherwise					Sample T	/pe	U		
Date Tested	1.7	26/04	4/2022	2.*		-			÷		
0.70											
0.70											
0.68					•						
0.66						1	<pre></pre>				
							1				
0.64					4		/				
0.62						1	1	-			
900						1					
0.60							1	1			
0.58								1			
								1			
0.56								-			
0.54											
0.04											
0.52											
0.50											
0.30		10				10	0		ī	000	
1			1	ressure	- kPa		10				
1		_			-	- 33	Dress	and Harbert	My m2/MN	Cv m2/vr	
1 Initial Sample	e Conditions	Pres	sure R	ange	Mv m2/MN	Cv m2/yr	Press	ure Range			
1 Initial Sample loisture Content (%)	e Conditions	Pres 0	sure R	ange 50	Mv m2/MN -0.3	Cv m2/yr SWELL	Press	-		.	
1 Initial Sample loisture Content (%) ulk Density (Mg/m3)	e Conditions 29 2.06	Pres 0 50	sure R	ange 50 100	Mv m2/MN -0.3 0.22	Cv m2/yr SWELL 3.7	Press	- -			
1 Initial Sample loisture Content (%) ulk Density (Mg/m3) ry Density (Mg/m3)	e Conditions 29 2.06 1.60	Pres 0 50 100	sure R	ange 50 100 200	Mv m2/MN -0.3 0.22 0.25	CV m2/yr SWELL 3.7 3.5	Press				
1 Initial Sample loisture Content (%) ulk Density (Mg/m3) ry Density (Mg/m3) oids Ratio	e Conditions 29 2.06 1.60 0.6566 115.8	Pres 0 50 100 200 400	sure R	50 50 100 200 400 50	Mv m2/MN -0.3 0.22 0.25 0.17 0.13	Cv m2/yr SWELL 3.7 3.5 6.8 1.1	Press				
1 Initial Sample loisture Content (%) ulk Density (Mg/m3) ing Density (Mg/m3) oids Ratio legree of saturation leight (mm)	e Conditions 29 2.06 1.60 0.6566 115.8 19.9	Pres 0 50 100 200 400		ange 50 100 200 400 50	Mv m2/MN -0.3 0.22 0.25 0.17 0.13	Cv m2/yr SWELL 3.7 3.5 6.8 1.1					
1 Initial Sample loisture Content (%) ulk Density (Mg/m3) ry Density (Mg/m3) oids Ratio legree of saturation leight (mm) iameter (mm)	e Conditions 29 2.06 1.60 0.6566 115.8 19.9 50.21	Pres 0 50 100 200 400		ange 50 100 200 400 50	Mv m2/MN -0.3 0.22 0.25 0.17 0.13	Cv m2/yr SWELL 3.7 3.5 6.8 1.1					
1 Initial Sample Ioisture Content (%) Julk Density (Mg/m3) Iny Density (Mg/m3) Ioids Ratio legree of saturation leight (mm) itameter (mm) varticle Density (Mg/m	e Conditions 29 2.06 1.60 0.6566 115.8 19.9 50.21 m3) 2.65	Pres 0 50 100 200 400	sure R - - - - - - - - -	50 100 200 400 50	Mv m2/MN -0.3 0.22 0.25 0.17 0.13	Cv m2/yr SWELL 3.7 35 68 1.1					
1 Initial Sample Moisture Content (%) Julk Density (Mg/m3) Ory Density (Mg/m3) Voids Ratio Degree of saturation leight (mm) Diameter (mm) Particle Density (Mg/m	e Conditions 29 2.06 1.60 0.6566 115.8 19.9 50.21 n3) 2.65	Pres 0 50 100 200 400		ange 50 100 200 400 50	Mv m2/MN -0.3 0.22 0.25 0.17 0.13	Cv m2/yr SWELL 3.7 35 68 1.1				(j.)	
1 Initial Sample Moisture Content (%) Julk Density (Mg/m3) Ory Density (Mg/m3) Voids Ratio Degree of saturation leight (mm) Diameter (mm) Particle Density (Mg/m Operators	e Conditions 29 2.06 1.60 0.6566 115.8 19.9 50.21 n3) 2.65 Checked	Pres 0 50 100 200 400 04/0	sure R	ange 50 100 200 400 50	Mv m2/MN -0.3 0.22 0.25 0.17 0.13 	Cv m2/yr SWELL 3.7 35 68 1.1	Reg		(1)		
1 Initial Sample Moisture Content (%) Julk Density (Mg/m3) Ory Density (Mg/m3) Voids Ratio legree of saturation leight (mm) Viameter (mm) Marticle Density (Mg/m Operators Reg. 13(1)	e Conditions 29 2.06 1.60 0.6566 115.8 19.9 50.21 n3) 2.65 Checked Approved	Pres 0 50 100 200 400 04/0 05/0	sure R 5/2022	ange 50 100 200 400 50	Mv m2/MN -0.3 0.22 0.25 0.17 0.13 Reg. 13(1) Reg. 13(1)	Cv m2/yr SWELL 3.7 35 68 1.1	Reg	- - - - - - - - - - - - - - - - - - -	(1)		











ANALYTICAL TEST REPORT

Contract no: 108536 Contract name: Northstowe Client reference: 59102 Clients name: Geo Site & Testing Services Clients address: Unit 3 and 4 Heol Aur Dafen Industrial Estate, Dafen Llanelli, Carmarthenshire SA14 80N Samples received: 25 April 2022 Analysis started: 25 April 2022 Analysis completed: 03 May 2022 Report issued: 03 May 2022

Key

- U UKAS accredited test
- M MCERTS & UKAS accredited test
- \$ Test carried out by an approved subcontractor
- I/S Insufficient sample to carry out test
- N/S Sample not suitable for testing

Approved by:



Senior Reporting Administrator

Lab number			108536-1	108536-2	108536-3	108536-4	108536-5	108536-6
Sample id			BHTCA105	BHTCA106	BHTCA106	BHTCA106	BHTCA106	BHTCA106
Depth (m)			0.10-0.50	0.20-0.40	1.70-2.00	4.00-4.50	7.00-7.50	14.50-15.00
Sample Type			B1	B1	B5	B14	B22	B43
Date sampled			-	-	-	-	-	-
Test	Method	Units						
рН	CEOO4 ^U	un ts	7.8	8.4	8.1	8.6	8.3	8.5
Magnesium (2:1 water soluble)	CE061	mg/I Mg	5.1	31	8.2	17	28	17
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	6.7	23	88	24	26	20
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	3.9	6.9	10	2.5	2.0	2.8
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	74	709	198	420	655	481
Sulphate (total)	CE062 ^U	mg/kg SO ₄	433	3777	856	826	3793	2959
Sulphur (total)	CE119	mg/kg S	594	7909	774	6351	12282	9993
Sulphur (total)	CE119	% w/w S	0.06	0.79	0.08	0.64	1.23	1.00

Lab number			108536-7
Sample id			BHTCA106
Depth (m)			16.50-17.00
Sample Type		B48	
Date sampled	-		
Test	Method	Units	
рН	CEOO4 ^U	un ts	8.3
Magnesium (2:1 water soluble)	CE061	mg/I Mg	17
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	60
Nitrate (2:1 water soluble)	CEO49 ^U	mg/I NO ₃	5.9
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO4	638
Sulphate (total)	CE062 ^U	mg/kg SO ₄	2263
Sulphur (total)	CE119	mg/kg S	12399
Sulphur (total)	CE119	% w/w S	1.24

METHOD DETAILS

METHOD	SOILS	METHOD SUMMARY	SAMPLE	STATUS	LOD	UNITS
CE004	н	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/I Mg
CE049	Chloride (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/I CI
CE049	Nitrate (2:1 water soluble)	Aqueous extraction, IC-COND	Dry	U	1	mg/I NO ₃
CE061	Sulphate (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry	U	10	mg/I SO ₄
CE062	Sulphate (total)	Acid extraction, ICP-OES	Dry	U	100	mg/kg SO ₄
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		100	mg/kg S
CE119	Sulphur (total)	Acid extraction, ICP-OES	Dry		0.01	% w/w S

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

- N No (not deviating sample)
- Y Yes (deviating sample)
- NSD Sampling date not provided
- NST Sampling time not provided (waters only)
- EHT Sample exceeded holding time(s)
- IC Sample not received in appropriate containers
- HP Headspace present in sample container
- NCF Sample not chemically fixed (where appropriate)
- OR Other (specify)

Lab ref	Sample id	Depth (m)	Deviating	Tests (Reason for deviation)
108536-1	BHTCA105	0.10-0.50	Y	All (NSD)
108536-2	BHTCA106	0.20-0.40	Y	All (NSD)
108536-3	BHTCA106	1.70-2.00	Y	All (NSD)
108536-4	BHTCA106	4.00-4.50	Y	All (NSD)
108536-5	BHTCA106	7.00-7.50	Y	All (NSD)
108536-6	BHTCA106	14.50-15.00	Y	All (NSD)
108536-7	BHTCA106	16.50-17.00	Y	All (NSD)

ADDITIONAL INFORMATION

Notes

Opinions and interpretations expressed herein are outside the UKAS accreditation scope. Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling. All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing. Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

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Samples will be disposed of 6 weeks from initial receipt unless otherwise instructed.

For soils and solids, all results are reported on a dry basis. Samples dried at no more than 30°C in a drying cabinet.

Analytical results are inclusive of stones, where applicable.

APPENDIX G

GEO-ENVIRONMENTAL LABORATORY TEST DATA



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Analytical Report Number : 22-45875

Project / Site name:	Northstowe	Samples received on:	15/03/2022
Your job number:	NSTO	Samples instructed on/ Analysis started on:	15/03/2022
Your order number:	14059900	Analysis completed by:	24/03/2022
Report Issue Number:	1	Report issued on:	24/03/2022
Samples Analysed:	3 soil samples		



Reg. 13(1)

Technical Reviewer (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

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

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





Analytical Report Number: 22-45875 Project / Site name: Northstowe

Your Order No: 14059900

Lab Sample Number				2206534	2206535	2206536
Sample Reference				BHTCA101	BHTCA202	BHTCA202
Sample Number	2	1	3			
Depth (m)	0.50	0.20	1.00			
Date Sampled	09/03/2022	09/03/2022	09/03/2022			
Time Taken				1437	1440	1442
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	26	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	7.6	17	14
Total mass of sample received	kg	0.001	NONE	1	1	1

General Inorganics pH - Automated pH Units N/A MCERTS 9.5 8.8 8.2 Fraction Organic Carbon (FOC) Automated N/A 0.001 MCERTS 0.011 0.007 0.0059

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	17	15
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22	27	27
Copper (aqua regia extractable)		1	MCERTS	13	15	14
Lead (aqua regia extractable)		1	MCERTS	19	18	15
Mercury (aqua regia extractable)		0.3	MCERTS	< 0 3	< 0.3	< 0.3
Nickel (aqua regia extractable)		1	MCERTS	18	28	24
Selenium (aqua regia extractable)		1	MCERTS	< 1 0	< 1.0	< 1.0
Zinc (aqua regia extractable)		1	MCERTS	61	61	59

Petroleum Hydrocarbons

TPH Texas (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	ISO 17025	< 0.1	< 0.1	< 0.1
TPH Texas (C8 - C10) HS 1D TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
TPH Texas (C10 - C12) EH_CU_1D_TOTAL	mg/kg	1	MCERTS	< 10	< 1.0	< 1.0
TPH Texas (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	< 4 0	< 4.0	< 4.0
TPH Texas (C16 - C21) EH CU 1D TOTAL	mg/kg	10	MCERTS	11	< 10	< 10
TPH Texas (C21 - C40) EH CU 1D TOTAL	mg/kg	10	MCERTS	21	< 10	< 10
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	32	< 10	< 10





Analytical Report Number: 22-45875 Project / Site name: Northstowe Your Order No: 14059900

Lab Sample Number	2206534	2206535	2206536			
Sample Reference	BHTCA101	BHTCA202	BHTCA202			
Sample Number	2	1	3			
Denth (m)	0.50	0.20	1.00			
Date Sampled	09/03/2022	09/03/2022	09/03/2022			
Time Taken	1437	1440	1442			
	1	E		1457	1410	1772
Analytical Parameter (Soil Analysis)	Units	imit of detection	Accreditation Status			
SVOCs	-		-	-	_	
Aniline	mq/kq	0.1	NONE	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0 2	< 0.2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
2.4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
1.2.4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.22	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0 3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	0.12	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	2.1	06	0.22
Anthracene	mg/kg	0.05	MCERTS	0.44	< 0.05	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	5	1.4	0.49
Pyrene	mg/kg	0.05	MCERTS	5.3	1.4	0.49
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0 3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.6	0.67	0.2
Chrysene	mg/kg	0.05	MCERTS	2.2	0.67	0.24
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.1	0.78	0.31
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.1	0.35	0.07
Benzo(a)pyrene	ma/ka	0.05	MCERTS	2.5	0.57	0.23





Analytical Report Number: 22-45875 Project / Site name: Northstowe Your Order No: 14059900

Lab Sample Number	2206534	2206535	2206536			
Sample Reference	BHTCA101	BHTCA202	BHTCA202			
Sample Number	2	1	3			
Depth (m)				0.50	0.20	1.00
Date Sampled	09/03/2022	09/03/2022	09/03/2022			
Time Taken	1437	1440	1442			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.1	0.29	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.27	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.3	0.39	< 0.05

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





Analytical Report Number : 22-45875

Project / Site name: Northstowe

* 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 *
2206534	BHTCA101	2	0.5	Brown clay and sand with gravel and stones.
2206535	BHTCA202	1	0.2	Grey clay and sand with gravel.
2206536	BHTCA202	3	1	Brown clay and sand with gravel.




Analytical Report Number : 22-45875 Project / Site name: Northstowe

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
Hexavalent chromium in soil	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
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
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
TPH Texas (Soil)	TPH Texas bands C6-C10 by HS/GC-MS & C10-C40 by GC FID	In-house method	L088/L076	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in the onlited Kingdom. For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



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Analytical Report Number : 22-45878

Project / Site name:	Northstowe	Samples received on:	15/03/2022
Your job number:	10052307	Samples instructed on/ Analysis started on:	16/03/2022
Your order number:	14059900	Analysis completed by:	24/03/2022
Report Issue Number:	1	Report issued on:	24/03/2022
Samples Analysed:	4 soil samples		



Reg. 13(1) Technical Reviewer (Reporting Team) For & on behalf of i2 Analytical Ltd.

asbestos - 6 months from reporting

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 eachates - 2 weeks from reporting waters - 2 weeks 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.





Your Order No: 14059900	
Lab Sample Number	
Sample Reference	
Sample Number	

Sample Reference	BHICAIUZ	BHICAIUS	BHICAIUSA	BHICAIUSA			
Sample Number	2	1	3	6			
Depth (m)	0.50	0.20	1.00	2.00			
Date Sampled	10/03/2022	10/03/2022	10/03/2022	10/03/2022			
Time Taken				1539	1455	1612	1705
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	28	< 0.1
Moisture Content	%	0.01	NONE	14	10	9.6	11
Total mass of sample received	kg	0.001	NONE	1	1	1	1
Asbestos in Soil	Туре	N/A	ISO 17025	-	Not-detected	-	-
Asbestos Analyst ID	N/A	N/A	N/A		NTK		
General Inorganics		•	T				
pH - Automated	pH Units	N/A	MCERTS	7.1	7.7	10.4	8.9
Total Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	-	< 1.0	-	-
Equivalent)	g/l	0.00125	MCERTS	-	0.53	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.009	-	0.011	< 0.0010
Total Phenois							
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	-	-
Speciated PAHs					•	•	•
Naphthalene	ma/ka	0.05	MCERTS	-	< 0.05	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	0.23	-	-
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	1.7	-	-
Anthracene	mg/kg	0.05	MCERTS	-	0.42	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	4 5	-	-
Pyrene	mg/kg	0.05	MCERTS	-	3.9	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	2 2	-	-
Chrysene	mg/kg	0.05	MCERTS	-	16	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	16	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	13	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	1.9	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	0.99	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.25	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.99	-	-
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	21.6	-	-
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	18	14	15
Boron (water soluble)	mg/kg	0.2	MCERTS	-	1.9	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	06	0.5	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	23	23	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	20	17	22	9.5
Lead (aqua regia extractable)	mg/kg	1	MCERTS	28	19	25	7.5
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3

MCERTS

MCERTS

MCERTS

23

< 1 0

71

22

< 1.0

63

21

< 1.0

82

16

< 1.0

28

2206546

2206547

2206548

2206549

mg/kg

mg/kg

mg/kg

1

1

1

Nickel (aqua regia extractable)

Zinc (aqua regia extractable)

Selenium (aqua regia extractable)





Lab Sample Number		2206546	2206547	2206548	2206549		
Sample Reference				BHTCA102	BHTCA103	BHTCA103A	BHTCA103A
Sample Number				2	1	3	6
Depth (m)				0.50	0.20	1.00	2.00
Date Sampled				10/03/2022	10/03/2022	10/03/2022	10/03/2022
Time Taken				1539	1455	1612	1705
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Petroleum Hydrocarbons	-						
TPH Texas (C6 - C8) _{HS_1D_TOTAL}	mg/kg	0.1	ISO 17025	< 0.1	-	< 0.1	< 0.1
TPH Texas (C8 - C10) HS 1D TOTAL	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
TPH Texas (C10 - C12) EH CU 1D TOTAL	mg/kg	1	MCERTS	< 1 0	-	< 1.0	< 1.0
TPH Texas (C12 - C16) EH_CU_1D_TOTAL	mg/kg	4	MCERTS	< 4 0	-	< 4.0	< 4.0
TPH Texas (C16 - C21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	-	10	< 10
TPH Texas (C21 - C40) EH CU 1D TOTAL	mg/kg	10	MCERTS	25	-	26	< 10
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	25	-	36	< 10





Analytical Report Number: 22-45878 Project / Site name: Northstowe Your Order No: 14059900

Lab Sample Number	2206546	2206547	2206548	2206549			
Sample Reference			BHTCA102	BHTCA103	BHTCA103A	BHTCA103A	
Sample Number	2	1	3	6			
Depth (m)		0.50	0.20	1.00	2.00		
Date Sampled				10/03/2022	10/03/2022	10/03/2022	10/03/2022
Time Taken				1539	1455	1612	1705
		Ľ,					
		nite	Acc				
Analytical Parameter	Uni	ofd	redi Stat				
(Soil Analysis)	ţ	ete	us				
		ctio	on				
SVOCs		2					
Aniline	ma/ka	0.1	NONE	< 0.1	-	< 0.1	< 0.1
Phenol	ma/ka	0.2	ISO 17025	< 0.2	-	< 0.2	< 0.2
2-Chlorophenol	ma/ka	0.1	MCERTS	< 0.1	-	< 0.1	< 0.2
Bis(2-chloroethyl)ether	ma/ka	0.2	MCERTS	< 0.2	-	< 0.2	< 0.2
1.3-Dichlorobenzene	ma/ka	0.2	MCERTS	< 0.2	-	< 0.2	< 0.2
1.2-Dichlorobenzene	ma/ka	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
1.4-Dichlorobenzene	ma/ka	0.2	MCERTS	< 0.2	-	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/ka	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0 3	-	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	0.6	-	0.47	< 0.05
Anthracene	mg/kg	0.05	MCERTS	0.25	-	< 0.05	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0 2	-	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0 3	-	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	2.9	-	1.5	< 0.05
Pyrene	mg/kg	0.05	MCERTS	2.7	-	1.5	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.7	-	0.76	< 0.05
Chrysene	mg/kg	0.05	MCERTS	1.2	-	0.73	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.3	-	0.74	< 0.05
Benzo(k)riuorantnene	mg/kg	0.05	MCERTS	1	-	0.39	< 0.05
Delizora idvrene	rnu/ka	0.05	MULERIS	1.6	-	U.//	< 0.05

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





Analytical Report Number: 22-45878 Project / Site name: Northstowe Your Order No: 14059900

Lab Sample Number		2206546	2206547	2206548	2206549		
Sample Reference				BHTCA102	BHTCA103	BHTCA103A	BHTCA103A
Sample Number				2	1	3	6
Depth (m)				0.50	0.20	1.00	2.00
Date Sampled				10/03/2022	10/03/2022	10/03/2022	10/03/2022
Time Taken				1539	1455	1612	1705
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.8	-	0.36	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1	-	0.45	< 0.05

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





Analytical Report Number : 22-45878

Project / Site name: Northstowe

* 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 *
2206546	BHTCA102	2	0.5	Brown clay and sand with gravel.
2206547	BHTCA103	1	0.2	Brown clay and sand with gravel.
2206548	BHTCA103A	3	1	Brown clay and sand with stones and gravel
2206549	BHTCA103A	6	2	Brown clay and sand with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodiun hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	w	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS





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 Texas (Soil)	TPH Texas bands C6-C10 by HS/GC-MS & C10-C40 by GC FID	In-house method	L088/L076	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture

correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



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Analytical Report Number : 22-45879

Project / Site name:	Northstowe	Samples received on:	15/03/2022
Your job number:	NSTO	Samples instructed on/ Analysis started on:	15/03/2022
Your order number:	14059900	Analysis completed by:	24/03/2022
Report Issue Number:	1	Report issued on:	24/03/2022
Samples Analysed:	3 soil samples		



Reg. 13(1) Technical Reviewer (Reporting Team) For & on behalf of i2 Analytical Ltd.

asbestos - 6 months from reporting

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 eachates - 2 weeks from reporting waters - 2 weeks 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.





Your Order No: 14059900

Lab Sample Number				2206550	2206551	2206552
Sample Reference				WSTCA109	WSTCA112	WSTCA116
Sample Number				2	2	1
Depth (m)				0.50	0.50	0.10
Date Sampled				14/03/2022	14/03/2022	14/03/2022
Time Taken				1532	1515	1516
	—	Ę		-		~
		mit	Acc			
Analytical Parameter	S.	ofd	red Sta			
(Soil Analysis)	its	lete	itati tus			
		ctio	on			
Stana Cantant		<u> </u>	NONE	< 0.1	< 0.1	- 0.1
Stoffe Content		0.1	NONE	16	< 0.1 11	13
Total mass of sample received		0.01	NONE	1.5	15	1.5
	Ϋ́Υ	0.001	NONE	1.5	15	1.5
Acheetae in Sail	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Ashestos Analyst ID	N/A	N/A	N/A	PDO	PDO	PDO
	,	1,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	100	100	100
General Inorganics						
nH - Automated	nH Units	N/A	MCERTS	8.2	8.1	8.2
Total Cvanide	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0
Free Cvanide	ma/ka	1	MCERTS	< 1 0	< 1.0	< 1.0
water Soluble SO4 160r extraction (2:1 Leachate		-	HOERTO			. 1.0
Equivalent)	g/I	0.00125	MCERTS	1.1	0.11	2
Total Phenois						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.66	< 0.05	0.47
Anthracene	mg/kg	0.05	MCERTS	0.19	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.3	< 0.05	1.2
Pyrene	mg/kg	0.05	MCERTS	1.4	< 0.05	1.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.55	< 0.05	0.69
Chrysene	mg/kg	0.05	MCERTS	0.54	< 0.05	0.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.6	< 0.05	0.69
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.36	< 0.05	0.56
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.5	< 0.05	0.84
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.32	< 0.05	0.41
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.35	< 0.05	0.47
		<u></u>	·			
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	6.75	< 0.80	7.2
		•				
Heavy Metals / Metalloids						
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	14	16
Boron (water soluble)	mg/kg	0.2	MCERTS	3	0.9	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	33	29	27
Copper (aqua regia extractable)	mg/kg	1	MCERTS	21	17	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	25	19	26
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	20	22
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0
Zinc (agua regia extractable)	ma/ka	1	MCERTS	67	58	66

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





Analytical Report Number : 22-45879

Project / Site name: Northstowe

* 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 *
2206550	WSTCA109	2	0.5	Brown clay and sand with gravel.
2206551	WSTCA112	2	0.5	Brown clay and sand with gravel.
2206552	WSTCA116	1	0.1	Brown clay and sand with gravel.





Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodiurn hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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 cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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



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Analytical Report Number : 22-45898

Project / Site name:	Northstowe Boreholes	Samples received on:	15/03/2022
Your job number:	NSTO	Samples instructed on/ Analysis started on:	15/03/2022
Your order number:	14059900	Analysis completed by:	24/03/2022
Report Issue Number:	1	Report issued on:	24/03/2022
Samples Analysed:	17 soil samples		



Reg. 13(1) Technical Reviewer (Reporting Team) For & on behalf of i2 Analytical Ltd.

asbestos - 6 months from reporting

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 eachates - 2 weeks from reporting waters - 2 weeks 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.





Lab Sample Number		2206630	2206631	2206632	2206633	2206634		
Sample Reference				TPTCA102	TPTCA103	TPTCA103	TPTCA107	TPTCA111
Sample Number				1	2	4	2	1
Depth (m)				0 00-0.20	0.20-0.50	1.00-2.00	0.20-0.50	0.00-0.20
Date Sampled				10/03/2022	10/03/2022	10/03/2022	11/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	35	20	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	11	8	11	11
Total mass of sample received	kg	0.001	NONE	2	2	2	1.4	1
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	-	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SSZ		SSZ	SSZ	SSZ
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	6.7	9.7	8.3	8.1	8.1
Total Cyanide	mg/kg	1	MCERTS	< 1 0	-	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1 0	-	< 1.0	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.034	-	0.1	0 066	0.23
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.0078	-	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	-	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.26	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.37	0.39
Pyrene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.35	0.37
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.31	0.27
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.22	0.19
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.3	0.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.2	0.22
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	0.35	0.27
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	-	< 0.80	2.36	1.91





Lab Sample Number	b Sample Number					2206632	2206633	2206634
Sample Reference				TPTCA102	TPTCA103	TPTCA103	TPTCA107	TPTCA111
Sample Number				1	2	4	2	1
Depth (m)				0 00-0.20	0.20-0.50	1.00-2.00	0.20-0.50	0.00-0.20
Date Sampled				10/03/2022	10/03/2022	10/03/2022	11/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids	-		-					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	18	27	17	14
Boron (water soluble)	mg/kg	0.2	MCERTS	0.9	-	0.3	0.5	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	27	24	26	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	22	17	11	24	14
Lead (aqua regia extractable)	ma/ka	1	MCERTS	23	23	10	24	20
	5, 5							
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Mercury (aqua regia extractable) Nickel (aqua regia extractable)	mg/kg	0.3 1	MCERTS MCERTS	< 0 3 25	< 0.3 23	< 0.3 27	< 0.3 23	< 0.3 20
Mercury (aqua regia extractable) Nickel (aqua regia extractable) Selenium (aqua regia extractable)	mg/kg mg/kg mg/kg	0.3 1 1	MCERTS MCERTS MCERTS	< 0 3 25 < 1 0	< 0.3 23 < 1.0	< 0.3 27 < 1.0	< 0.3 23 < 1.0	< 0.3 20 < 1.0

TPH Texas (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	ISO 17025	-	< 0.1	-	-	-
TPH Texas (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
TPH Texas (C10 - C12) EH CU 1D TOTAL	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH Texas (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	-	12	-	-	-
TPH Texas (C16 - C21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	37	-	-	-
TPH Texas (C21 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	85	-	-	-
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	-	130	-	-	-





Lab Sample Number				2206630	2206631	2206632	2206633	2206634
Sample Reference				TPTCA102	TPTCA103	TPTCA103	TPTCA107	TPTCA111
Sample Number				1	2	4	2	1
Denth (m)				0.00-0.20	0.20-0.50	1 00-2 00	0.20-0.50	0.00-0.20
Date Sampled				10/03/2022	10/03/2022	10/03/2022	11/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
		F		None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
		imit	Acc					
Analytical Parameter	Un Un	of	red Sta					
(Soil Analysis)	its	lete	itat tus					
		ctio	ion					
SV0C-		ä						
Apilino	ma/ka	0.1	NONE		< 0.1			
Phonol	mg/kg	0.1	ISO 17025	-	< 0.1	-	-	-
	mg/kg	0.2	MCEDIC	-	< 0.2	-	-	-
Z-Chiorophenoi Ris(2, chloroothyd)othor	mg/kg	0.1	MCEDITC	-	< 0.1	-	-	-
	mg/kg	0.2	MCEDTC	-	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCEDIC	-	< 0.2	-	-	-
	mg/kg	0.1	MCEDTC	-	< 0.1	-	-	-
Pis(2, chloroisopropul)othor	mg/kg	0.2	MCEDITC	-	< 0.2	-	-	-
2-Methylphenol	mg/kg	0.1	MCEDTC	-	< 0.1	-	-	-
	mg/kg	0.5	MCEDTC	-	< 0.0	-	-	-
Nitrohenzene	mg/kg	0.05	MCEDTO	-	< 0.05	-	-	-
4 Methylahonel	mg/kg	0.3	MONE	-	< 0.3	-	-	-
	mg/kg	0.2	MCEDITC	-	< 0.2	-	-	-
2 Nitrophonol	mg/kg	0.2	MCEDITC	-	< 0.2	-	-	-
2-Niti oprierioi	mg/kg	0.3	MCEDTC	-	< 0.3	-	-	-
2,4-Dimensyphenol	mg/kg	0.3	MCEDITC	-	< 0.3	-	-	-
	mg/kg	0.3	MCEDITC	-	< 0.3	-	-	-
1,2,4-Thenlorobelizene	mg/kg	0.5	MCEDITC	-	< 0.5	-	-	-
	mg/kg	0.05	MCEDIC	-	< 0.05	-	-	-
	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Chiorodhinne	mg/kg	0.1	NUNE	-	< 0.1	-	-	-
4 Chlore 2 methylphonel	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
	mg/kg	0.1	MCEDIC	-	< 0.1	-	-	-
	mg/kg	0.1	MCEDIC	-	< 0.1	-	-	-
2,4,5- Incluorophenoi	mg/kg	0.2	MONE	-	< 0.2	-	-	-
	mg/kg	0.1	MCEDIC	-	< 0.1	-	-	-
Dimothylabthalata	mg/kg	0.1	MCEDTS	-	< 0.1	-	-	-
	mg/kg	0.1	MCEDTS	-	< 0.1	-	-	-
	mg/kg	0.1	MCEDTS	-	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	_	< 0.05			
2 4-Dinitrotoluene	mg/kg	0.05	MCERTS		< 0.05			
Dihenzofuran	mg/kg	0.2	MCERTS	_	< 0.2	_	_	-
4-Chlorophenyl phenyl ether	mg/kg	0.2	ISO 17025	_	< 0.2	-	-	-
Diethyl phthalate	mg/kg	0.5	MCERTS	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Fluorene	ma/ka	0.05	MCERTS	-	< 0.05	-	-	-
	ma/ka	0.3	MCERTS	-	< 0.03	-	-	-
Bromonhenyl phenyl ether	ma/ka	0.2	MCERTS	-	< 0.2	-	-	-
Hexachlorobenzene	ma/ka	0.3	MCERTS	-	< 0.3	-	-	-
Phenanthrene	ma/ka	0.05	MCERTS	-	23	-	-	-
Anthracene	ma/ka	0.05	MCERTS	-	0.7	-	-	-
Carbazole	ma/ka	0.3	MCERTS	-	< 0.3	-	-	-
Dibutyl phthalate	mg/ka	0.2	MCERTS	-	< 0.2	-	-	-
Anthraquinone	mg/ka	0.3	MCERTS	-	< 0.3	-	-	-
Fluoranthene	ma/ka	0.05	MCERTS	-	98	-	-	-
Pyrene	mg/ka	0.05	MCERTS	-	9.9	-	-	-
Butyl benzyl phthalate	mg/ka	0.3	ISO 17025	-	< 0.3	-	-	-
Benzo(a)anthracene	ma/ka	0.05	MCERTS	-	6.4	-	-	-
Chrysene	ma/ka	0.05	MCERTS	-	38	-	-	-
Benzo(b)fluoranthene	mg/kq	0.05	MCERTS	-	5.1	-	-	-
Benzo(k)fluoranthene	mg/kq	0.05	MCERTS	-	3	-	-	-
Benzo(a)pyrene	ma/ka	0.05	MCERTS	-	5.7	-	-	-





Your Order No: 14059900

Lab Sample Number				2206630	2206631	2206632	2206633	2206634
Sample Reference				TPTCA102	TPTCA103	TPTCA103	TPTCA107	TPTCA111
Sample Number				1	2	4	2	1
Depth (m)	0 00-0.20	0.20-0.50	1.00-2.00	0.20-0.50	0.00-0.20			
Date Sampled				10/03/2022	10/03/2022	10/03/2022	11/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	28	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.62	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	2.9	-	-	-

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





Speciated Total EPA-16 PAHs

Your Order No: 14059900

Lab Sample Number		2206635	2206636	2206637	2206638	2206639				
Sample Reference				TPTCA113	TPTCA114	TPTCA114	TPTCA118	TPTCA118		
Sample Number				1	1	3	1	3		
Depth (m)				0 00-0.20	0.00-0.20	0.50-1.00	0.00-0.20	0.50-1.00		
Date Sampled				11/03/2022	11/03/2022	11/03/2022	10/03/2022	10/03/2022		
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status							
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1		
Moisture Content	%	0.01	NONE	12	14	14	11	16		
Total mass of sample received	kg	0.001	NONE	0.4	0.4	0.4	1.4	1.4		
Asbestos in Soil	Туре	N/A	ISO 17025	-	-	-	-	-		
Asbestos Analyst ID	N/A	N/A	N/A							
General Inorganics										
pH - Automated	pH Units	N/A	MCERTS	8.2	8 5	8.4	8.7	7.9		
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-		
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-	-		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	-	-	-		
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0095	0 0064	0.0039	0 008	0.0015		
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-		
Speciated PAHs		0.05	MCEDIC							
Assessed the long	mg/kg	0.05	MCERTS	-	-	-	-	-		
	mg/kg	0.05	MCEDIC	-	-	-	-	-		
Eluoropo	mg/kg	0.05	MCEDTO	-	-	-	-	-		
Dhenanthrone	mg/kg	0.05	MCEDTC	-	-	-	-	-		
	mg/kg	0.05	MCEDTS	-		-	-	_		
Fluoranthene	mg/kg	0.05	MCERTS	_	-	-	_	-		
Pyrene	ma/ka	0.05	MCERTS							
Benzo(a)anthracene	ma/ka	0.05	MCERTS	-	-	-	-	-		
Chrysene	ma/ka	0.05	MCERTS	-	-	-	-	-		
Benzo(b)fluoranthene	ma/ka	0.05	MCERTS	-	-	-	-	-		
Benzo(k)fluoranthene	ma/ka	0.05	MCERTS	-	-	-	-	-		
Benzo(a)pyrene	mg/ka	0.05	MCERTS	-	-	-	-	-		
Indeno(1,2,3-cd)pyrene	mg/ka	0.05	MCERTS	-	-	-	-	-		
Dibenz(a,h)anthracene	mg/kq	0.05	MCERTS	-	-	-	-	-		
Benzo(ghi)perylene	mg/ka	0.05	MCERTS	-	-	-	-	-		
Total PAH	5. 5		a							

mg/kg

0.8

MCERTS





Lab Sample Number				2206635	2206636	2206637	2206638	2206639
Sample Reference				TPTCA113	TPTCA114	TPTCA114	TPTCA118	TPTCA118
Sample Number				1	1	3	1	3
Depth (m)				0 00-0.20	0.00-0.20	0.50-1.00	0.00-0.20	0.50-1.00
Date Sampled				11/03/2022	11/03/2022	11/03/2022	10/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	17	14	18	14	13
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	24	32	25	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	17	15	17	16	17
Lead (aqua regia extractable)	mg/kg	1	MCERTS	23	21	15	22	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	21	30	21	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	59	55	50	56	46
Petroleum Hydrocarbons								
TPH Texas (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

TPH Texas (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH Texas (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH Texas (C10 - C12) EH CU 1D TOTAL	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
TPH Texas (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	< 4 0	< 4.0	< 4.0	< 4.0	< 4.0
TPH Texas (C16 - C21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	12	< 10	< 10	< 10	< 10
TPH Texas (C21 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	43	23	< 10	29	< 10
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	55	23	< 10	29	< 10





Your Order No: 14059900

Lab Sample Number				2206635	2206636	2206637	2206638	2206639
Sample Reference				TPTCA113	TPTCA114	TPTCA114	TPTCA118	TPTCA118
Sample Number				1	1	3	1	3
Depth (m)				0 00-0.20	0.00-0.20	0.50-1.00	0.00-0.20	0.50-1.00
Date Sampled				11/03/2022	11/03/2022	11/03/2022	10/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
		Lin						
		nito	a con					
Analytical Parameter	Uni	ofd	edii Stat					
	ស	atec	us					
		tion	on					
SVOCs		_						
Aniline	ma/ka	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	ma/ka	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Chlorophenol	ma/ka	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthone	mg/kg	0.05	MCEDTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
2 4-Dinitrotoluene	mg/kg	0.03	MCERTS	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	9/ kg mg/kg	0.2	ISO 17025	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	ma/ka	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/ka	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.28	< 0.05	0.25	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Carbazole	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	0.38	0.73	< 0.05	0.75	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.4	0.77	< 0.05	0.74	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.26	0.46	< 0.05	0.57	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.25	0.47	< 0.05	0.47	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.54	0.63	< 0.05	0.69	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.49	0.29	< 0.05	0.35	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.31	0.59	< 0.05	0.61	< 0.05

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Your Order No: 14059900

Lab Sample Number				2206635	2206636	2206637	2206638	2206639
Sample Reference				TPTCA113	TPTCA114	TPTCA114	TPTCA118	TPTCA118
Sample Number			1	1	3	1	3	
Depth (m)			0 00-0.20	0.00-0.20	0.50-1.00	0.00-0.20	0.50-1.00	
Date Sampled			11/03/2022	11/03/2022	11/03/2022	10/03/2022	10/03/2022	
Time Taken			None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	03	< 0.05	0.31	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.39	< 0.05	0.38	< 0.05

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





Speciated Total EPA-16 PAHs

Your Order No: 14059900

Lab Sample Number				2206640	2206641	2206642	2206643	2206644
Sample Reference				TPTCA120	TPTCA201	TPTCA205	TPTCA206	TPTCA208
Sample Number				2	1	2	2	1
Depth (m)				0 20-0.50	0.20-0.50	0.20-0.50	0.50-1.00	0.00-0.20
Date Sampled				10/03/2022	10/03/2022	09/03/2022	09/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	4.3	16	< 0.1
Moisture Content	%	0.01	NONE	14	15	14	10	12
Total mass of sample received	kg	0.001	NONE	1	1	1.5	1.5	0.4
Asbestos in Soil	Туре	N/A	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A					
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	7.6	78	7.7	8.7	8.4
Total Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.011	0 0045	0.0041	0 013	0.0075
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
	mg/kg	0.05	MCERTS	-	-	-	-	-
Alturacelle Elucronthono	mg/kg	0.05	MCEDITS	-	-	-	-	-
Dirono	mg/kg	0.05	MCEDTS	-	-	-	-	-
Renzo(a)anthracene	mg/kg	0.05	MCERTS					
	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(h)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(k)fluoranthene	ma/ka	0.05	MCERTS	-	-	-	-	-
Benzo(a)pyrene	ma/ka	0.05	MCERTS	-	-	-	-	-
Indeno(1.2.3-cd)pyrene	ma/ka	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	ma/ka	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)pervlene	ma/ka	0.05	MCERTS	-	-	-	-	-
Total PAH	J, J							

mg/kg

0.8

MCERTS





Lab Sample Number				2206640	2206641	2206642	2206643	2206644
Sample Reference				TPTCA120	TPTCA201	TPTCA205	TPTCA206	TPTCA208
Sample Number				2	1	2	2	1
Depth (m)				0 20-0.50	0.20-0.50	0.20-0.50	0.50-1.00	0.00-0.20
Date Sampled				10/03/2022	10/03/2022	09/03/2022	09/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids					-			
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	14	15	15	16
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	-	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	1.4
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	27	29	27	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	16	14	22	22
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	22	17	160	21
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	25	27	20	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58	63	51	76	69
Petroleum Hydrocarbons								
TPH Texas (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
			HOFPER		0.1			

TPH Texas (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	ISO 17025	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH Texas (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
TPH Texas (C10 - C12) EH CU 1D TOTAL	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
TPH Texas (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	< 4 0	< 4.0	< 4.0	< 4.0	< 4.0
TPH Texas (C16 - C21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10	< 10	16	< 10
TPH Texas (C21 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	22	< 10	< 10	30	< 10
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	22	< 10	< 10	45	< 10





Your Order No: 14059900

Lab Sample Number				2206640	2206641	2206642	2206643	2206644
Sample Reference				TPTCA120	TPTCA201	TPTCA205	TPTCA206	TPTCA208
Sample Number				2	1	2	2	1
Depth (m)				0 20-0.50	0.20-0.50	0.20-0.50	0.50-1.00	0.00-0.20
Date Sampled				10/03/2022	10/03/2022	09/03/2022	09/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
		Ę						
		nit	Acc					
Analytical Parameter	Uni	ofd	redi Stat					
(Soil Analysis)	ß	ete	tati					
		ctio	on					
SV0Cc		-						
Aniling	malka	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phonol	mg/kg	0.1	INUINE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
	mg/kg	0.2	150 17025 MCEDTC	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Z-Chiorophenoi Ris(2, chloroothyd)othor	mg/kg	0.1	MCEDIC	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
1.2 Dichlerobonzono	mg/kg	0.2	MCEDIC	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1.2-Dichlorobenzene	mg/kg	0.2	MCEDTS	< 0.1	< 0.2	< 0.2	< 0.2	< 0.2
1 4-Dichlorobenzene	mg/kg	0.1	MCEDIC	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	mg/kg	0.2	MCERTS	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1
2-Methylphenol	mg/ka	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Hexachloroethane	ma/ka	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nitrobenzene	ma/ka	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	ma/ka	0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Isophorone	ma/ka	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.25	< 0 05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.24	< 0 05
Azobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	0.79	03	< 0.05	2.6	2.1
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.82	< 0 05
Carbazole	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Dibutyi phthalate	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Fluoranmene	mg/kg	0.05	MCERTS	1.3	0.61	< 0.05	5.9	2
ryreire Butul bonzul obthalate	mg/kg	0.05	MCERTS	1.1	0.66	< 0.05	5.5	1.0
butyi benzyi prithalate	mg/kg	0.3	15U 1/025	< U 3	< U.3	< 0.3	< 0.3	< 0.3
	mg/kg	0.05	MCERTS	0.58	0.34	< 0.05	3.Z	0.52
Ull yselle Benzo(h)fluoranthene	mg/kg	0.05	MCEDIC	0.47	0.28	< 0.05	3	0.55
Renzo(k)fluoranthene	mg/kg	0.05	MCEDTC	0.05	0.30		т.) 17	0.00
Benzo(a)nvrene	mg/ka	0.05	MCERTS	0.21	0.2	< 0.05	3.8	0.27

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Your Order No: 14059900

Lab Sample Number				2206640	2206641	2206642	2206643	2206644
Sample Reference				TPTCA120	TPTCA201	TPTCA205	TPTCA206	TPTCA208
Sample Number			2	1	2	2	1	
Depth (m)			0 20-0.50	0.20-0.50	0.20-0.50	0.50-1.00	0.00-0.20	
Date Sampled			10/03/2022	10/03/2022	09/03/2022	09/03/2022	10/03/2022	
Time Taken			None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.27	< 0.05	< 0.05	1.9	0.26
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.56	< 0 05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.29	< 0.05	< 0.05	2.4	0.28

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





Lab Sample Number				2206645	2206646
Sample Reference				TPTCA208	TPTCA208
Sample Number	3	5			
Depth (m)	0 50-1.00	2.00-3.00			
Date Sampled	10/03/2022	10/03/2022			
Time Taken	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	16
Total mass of sample received	kg	0.001	NONE	0.4	0.4
Asbestos in Soil	Туре	N/A	ISO 17025	-	-
Asbestos Analyst ID	N/A	N/A	N/A		

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8	78
Total Cyanide	mg/kg	1	MCERTS	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.0056	0 0041

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-

Speciated PAHs

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

Total PAH

Speciated Total EPA-16 PAHs mg/kg 0.8 MCERTS						
	Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-





Your Order No: 14059900

Lab Sample Number	2206645	2206646			
Sample Reference	TPTCA208	TPTCA208			
Sample Number				3	5
Depth (m)				0 50-1.00	2.00-3.00
Date Sampled				10/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids					
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	12
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	36
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	13
Lead (aqua regia extractable)	mg/kg	1	MCERTS	16	16
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58	58

Petroleum Hydrocarbons

TPH Texas (C6 - C8) HS_1D_TOTAL	mg/kg	0.1	ISO 17025	< 0.1	< 0.1
TPH Texas (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	< 0.1	< 0.1
TPH Texas (C10 - C12) EH CU 1D TOTAL	mg/kg	1	MCERTS	< 1 0	< 1.0
TPH Texas (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	< 4 0	< 4.0
TPH Texas (C16 - C21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10
TPH Texas (C21 - C40) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	< 10	< 10
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	mg/kg	10	NONE	< 10	< 10





Your Order No: 14059900

Lab Sample Number	2206645	2206646			
Sample Reference	TPTCA208	TPTCA208			
Sample Number	3	5			
Depth (m)	0 50-1.00	2.00-3.00			
Date Sampled	10/03/2022	10/03/2022			
Time Taken	None Supplied	None Supplied			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
SVOCs					
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0 2	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0 2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0 2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0 2	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0 2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0 2	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0 3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0 3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Naphthaiene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
2,4-Dichiorophenoi	mg/kg	0.3	MCERTS	< 0.3	< 0.3
4-Chioroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1
A Chlore 2 methylphenel	mg/kg	0.1	MCERTS	< 0.1	< 0.1
4-Chloro-S-Meuryphenol	mg/kg	0.1	MCEDIC	< 0.1	< 0.1
2,4,0° Michiolophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2,4,5 McHolophenol	mg/kg	0.2	NONE	< 0.1	< 0.2
	mg/kg	0.1	MCERTS	< 0.1	< 0.1
Dimethylnhthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1
2 6-Dinitrotoluene	ma/ka	0.1	MCERTS	< 0.1	< 0.1
Acenaphthylene	ma/ka	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	ma/ka	0.05	MCERTS	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0 2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0 3	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0 2	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0 2	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0 2	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0 3	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0 2	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0 3	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0 3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)pyrene	ma/ka	0.05	MCERTS	< 0.05	< 0.05

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





Your Order No: 14059900

Lab Sample Number				2206645	2206646
Sample Reference				TPTCA208	TPTCA208
Sample Number				3	5
Depth (m)				0 50-1.00	2.00-3.00
Date Sampled				10/03/2022	10/03/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05

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





Analytical Report Number : 22-45898

Project / Site name: Northstowe Boreholes

* 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 *
2206630	TPTCA102	1	0.00-0.20	Brown clay and sand with gravel.
2206631	TPTCA103	2	0.20-0.50	Brown clay and sand with stones and gravel
2206632	TPTCA103	4	1.00-2.00	Brown clay and sand with stones and gravel
2206633	TPTCA107	2	0.20-0.50	Brown clay and sand with gravel.
2206634	TPTCA111	1	0.00-0.20	Brown clay and sand with gravel.
2206635	TPTCA113	1	0.00-0.20	Brown clay and sand with gravel.
2206636	TPTCA114	1	0.00-0.20	Brown clay and sand with gravel.
2206637	TPTCA114	3	0.50-1.00	Brown clay and sand with gravel.
2206638	TPTCA118	1	0.00-0.20	Brown clay and sand with gravel.
2206639	TPTCA118	3	0.50-1.00	Brown clay and sand with gravel.
2206640	TPTCA120	2	0.20-0.50	Grey clay and sand with gravel.
2206641	TPTCA201	1	0.20-0.50	Brown clay and sand with gravel.
2206642	TPTCA205	2	0.20-0.50	Brown clay and sand with stones and gravel
2206643	TPTCA206	2	0.50-1.00	Brown clay and loam with stones and gravel
2206644	TPTCA208	1	0.00-0.20	Brown clay and sand with gravel.
2206645	TPTCA208	3	0.50-1.00	Grey clay and sand with gravel.
2206646	TPTCA208	5	2.00-3.00	Grey clay and sand with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodiun hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS





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
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
TPH Texas (Soil)	TPH Texas bands C6-C10 by HS/GC-MS & C10-C40 by GC FID	In-house method	L088/L076	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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





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Analytical Report Number : 22-46172

Project / Site name:	Northstowe	Samples received on:	16/03/2022	
Your job number:	10052307	Samples instructed on/ Analysis started on:	16/03/2022	
Your order number:	14059900	Analysis completed by:	25/03/2022	
Report Issue Number:	1	Report issued on:	25/03/2022	
Samples Analysed:	4 soil samples			



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Reg. 13(1) Technical Reviewer (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	l

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





Analytical Report Number: 22-46172 Project / Site name: Northstowe Your Order No: 14059900

1 Oui	oruer	140.	1403	2200

l ah Sample Number				2208351	2208352	2208353	2208354
Lab Sample Number Sample Reference Sample Number				TPTCA104	TPTCA110	TPTCA119	TPTCA119
				1	7	1	3
Depth (m)				0 00-0.20	0 20-0.90	0 00-0.20	0 50-1.20
Depth (m) Date Sampled				15/03/2022	15/03/2022	15/03/2022	15/03/2022
Time Taken				1526	1344	1209	1212
		Ξ.					
Analytical Parameter (Soil Analysis)	Units	mit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	11	11	11
Total mass of sample received	kg	0.001	NONE	03	03	0.4	0.4
						•	
Asbestos in Soil	Туре	N/A	ISO 17025	-	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A			DBU	DBU
						•	
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	83	8.1	78	83
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1 0	< 10
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1 0	< 1 0
Water Soluble SO4 16hr extraction (2:1 Leachate	a/l	0.00125	MCERTS	-	-	0.89	0 054
Equivalent)	9/-	0.00125		0.040	0.0010	0.05	0 00 1
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0 012	0.0019	-	-
Total Dhamala							
Total Phenois							
i otal Phenois (mononydric)	mg/kg	1	MCERTS	-	-	< 10	< 10
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.52	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	0.49	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.34	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	03	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.37	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.26	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	0.32	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	0.21	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	0.25	< 0.05
T-M-I DAU							
Speciated Total EDA-16 DAMa	man flur	0.9	MCEDIC			2.00	< 0.00
Speciated Total LFA-10 FAITS	шу/ку	0.0	PICERTS	-	-	3.00	< 0.80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	18	12	14
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	06	0 2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0 2	< 0 2	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4 0	< 4 0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	24	20	20
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23	17	12	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	22	11	15	96
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0 3	< 0 3	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	25	17	21

MCERTS

MCERTS

< 1 0

66

< 1 0

43

< 10

34

< 10

34

mg/kg

mg/kg

1

1

Selenium (aqua regia extractable) Zinc (aqua regia extractable)





Analytical Report Number: 22-46172 Project / Site name: Northstowe Your Order No: 14059900

1 Uui	oruer	140.	140333	

Lah Cample Number				2200251	2200252	2200252	2200254
Lab Sample Number				ZZU8351 TPTCA104	ZZU035Z	ZZU8303 TPTCA110	2208354 TPTCA110
Sample Kererence				1PTCA104		1PTCAT19	1FICA119
Sample Number				1	2 0.20.0.00	1	3
Deptn (m)				0 00-0.20	0 20-0.90	0 00-0.20	0 50-1.20
Date Sampled				15/03/2022	15/03/2022	15/03/2022	15/03/2022
		-		1520	1344	1209	1212
Analytical Parameter (Soil Analysis)	Units	imit of detectior	Accreditation Status				
Petroleum Hydrocarbons		3					
	ma/ka	0.1	ISO 17025	< 0.1	< 0.1	_	_
	mg/kg	0.1	MCEDIC	< 0.1	< 0.1	-	
TPH Texas (C10 - C12) == == =====	ma/ka	1	MCERTS	< 1.0	< 1.0	_	_
TPH Texas (C12 - C16) == == == ===	mg/kg	4	MCERTS	< 40	< 10	-	
TPH Texas (C16 - C21) = 0 ID TOTAL	mg/kg	10	MCERTS	< 10	< 10	-	-
TPH Texas (C21 - C40) FIL OL ID TOTAL	ma/ka	10	MCERTS	13	< 10	-	-
	mg/kg	10	NONE	13	< 10	-	-
	ilig/kg	10	NONL	15	< 10		
SVOCe							
Aniline	ma/ka	0.1	NONE	< 0.1	< 0.1	-	_
Phonol	mg/kg	0.1	TEO 1702E	< 0.1	< 0.1		_
2-Chlorophonol	mg/kg	0.2	MCEPTS	< 0.2	< 0.2		
2-chlorophenol Bic(2-chlorophyl)othor	mg/kg	0.1	MCEDTC	< 0.1	< 0.1		_
	mg/kg	0.2	MCEDTS	< 0.2	< 0.2		
1,3-Dichlorobonzono	mg/kg	0.2	MCEDTS	< 0.2	< 0.2	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCEDTS	< 0.1	< 0.1	-	
Bic(2-chloroisopropyl)ether	ma/ka	0.2	MCERTS	< 0.2	< 0.2	_	_
2-Methylphenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	_	-
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Nitrobenzene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
4-Methylphenol	ma/ka	0.5	NONE	< 0.2	< 0.2	-	-
Isophorope	ma/ka	0.2	MCERTS	< 0.2	< 0.2	-	-
2-Nitrophenol	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
2 4-Dimethylphenol	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
Bis(2-chloroethoxy)methane	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
1.2.4-Trichlorobenzene	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
Naphthalene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	-	-
2.4-Dichlorophenol	ma/ka	0.3	MCERTS	< 0.3	< 0.3	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	< 0.1	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0 3	< 0.3	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Azobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0 2	< 0 2	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.99	< 0.05	-	-
Anthracene	mg/kg	0.05	MCERTS	0.22	< 0.05	-	-
Carbazole	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Dibutyl phthalate	ma/ka	0.2	MCERTS	< 0.2	< 0.2	-	-




Analytical Report Number: 22-46172 Project / Site name: Northstowe Your Order No: 14059900

Lab Sample Number				2208351	2208352	2208353	2208354
Sample Reference				TPTCA104	TPTCA110	TPTCA119	TPTCA119
Sample Number				1	2	1	3
Depth (m)				0 00-0.20	0 20-0.90	0 00-0.20	0 50-1.20
Date Sampled				15/03/2022	15/03/2022	15/03/2022	15/03/2022
Time Taken				1526	1344	1209	1212
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Anthraquinone	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	-
Fluoranthene	mg/kg	0.05	MCERTS	2 5	< 0.05	-	-
Pyrene	mg/kg	0.05	MCERTS	2.1	< 0.05	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0 3	< 0 3	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	13	< 0.05	-	-
Chrysene	mg/kg	0.05	MCERTS	0.86	< 0.05	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1	< 0.05	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.76	< 0.05	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.96	< 0.05	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.52	< 0.05	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.63	< 0.05	-	-





* 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 *
2208351	TPTCA104	1	0.00-0.20	Brown clay and loam with gravel and vegetation.
2208352	TPTCA110	2	0.20-0.90	Light brown loam and clay with gravel.
2208353	TPTCA119	1	0.00-0.20	Light brown loam and clay with gravel.
2208354	TPTCA119	3	0.50-1.20	Light brown sand with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH Texas (Soil)	TPH Texas bands C6-C10 by HS/GC-MS & C10-C40 by GC-FID	In-house method	L088/L076	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom. For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out a maximum of 30oC.





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

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





Reg. 13(1) Arcadis Consulting (UK) Ltd HCL House St Mellon's Business Park Cardiff CF3 OEY

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Analytical Report Number : 22-46874

Project / Site name:	Northstowe	Samples received on:	16/03/2022	
Your job number:	10052307	Samples instructed on/ Analysis started on:	22/03/2022	
Your order number:	14059900	Analysis completed by:	30/03/2022	
Report Issue Number:	1	Report issued on:	30/03/2022	
Samples Analysed:	4 soil samples			



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Reg. (13(1) Technical Reviewer For & on behalf of i2 Analytical Ltd.

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

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

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

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

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

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





Project / Site name: Northstowe

Lab Sample Number	2211786	2211787	2211788	2211789			
Sample Reference	WSTCA101	WSTCA106	WSTCA108	WSTCA117			
Sample Number	1	2	2	2			
Depth (m)				0.20	0.50	0.50	0.50
Date Sampled				15/03/2022	15/03/2022	15/03/2022	15/03/2022
Time Taken				1258	1151	1038	1410
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	12	8.4	14	15
Total mass of sample received	kg	0.001	NONE	1.4	1.4	1.4	1.4
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	MLO			

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	78	8 0	78	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1 0	-	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1 0	-	-	-
Equivalent)	g/l	0.00125	MCERTS	2 3	-	-	-
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	-	0.0059	0.0095	0.0094

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	0.39	-	-	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	0.61	-	-	-
Pyrene	mg/kg	0.05	MCERTS	0.58	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.28	-	-	-
Chrysene	mg/kg	0.05	MCERTS	0.34	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.27	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.19	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.28	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.94	-	-	-

Heavy Metals / Metalloids MCERTS Arsenic (aqua regia extractable) mg/kg 1 16 19 13 13 MCERTS Boron (water soluble) mg/kg 0.2 22 mg/kg 0.2 MCERTS < 0 2 < 0 2 < 0 2 Cadmium (aqua regia extractable) < 0 2 4 NONE Chromium (hexavalent) mg/kg < 4 0 < 4 0 < 4 0 < 4 0 Chromium (aqua regia extractable) mg/kg 1 MCERTS 29 32 27 25 1 MCERTS 20 Copper (aqua regia extractable) mg/kg 16 16 16 MCERTS mg/kg Lead (aqua regia extractable) 1 21 15 21 23 Mercury (aqua regia extractable) mg/kg 0.3 MCERTS < 0 3 < 0 3 < 0 3 < 0 3 1 MCERTS Nickel (aqua regia extractable) mg/kg 24 29 22 23 MCERTS mg/kg 1 Selenium (aqua regia extractable) < 1 0 < 10 < 10 < 1 0 mg/kg MCERTS Zinc (aqua regia extractable) 1 68 58 58 62





Project / Site name: Northstowe

Lab Sample Number	2211786	2211787	2211788	2211789			
Sample Reference	WSTCA101	WSTCA106	WSTCA108	WSTCA117			
Sample Number				1	2	2	2
Depth (m)				0.20	0.50	0.50	0.50
Date Sampled	15/03/2022	15/03/2022	15/03/2022	15/03/2022			
Time Taken		_		1258	1151	1038	1410
		Limi	A				
Analytical Parameter	ç	tof	Sta				
(Soil Analysis)	lits	dete	litat				
		acti	tion				
		on		<u> </u>	<u> </u>	<u> </u>	
Petroleum Hydrocarbons							-
TPH Texas (C6 - C8) _{HS_1D_TOTAL}	mg/kg	0.1	ISO 17025	-	< 0.1	< 0.1	< 0.1
TPH Texas (C8 - C10) HS_1D_TOTAL	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
TPH Texas (C10 - C12) EH CU 1D TOTAL	mg/kg	1	MCERTS	-	< 1 0	< 1 0	< 10
TPH Texas (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	-	< 4 0	< 4 0	< 4 0
TPH Texas (C16 - C21) EH_CU_1D_TOTAL	mg/kg	10	MCERTS	-	< 10	< 10	< 10
TPH Texas (C21 - C40) EH_CU_ID_TOTAL	mg/kg	10	MCERTS	-	< 10	< 10	59
TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL	iiig/kg	10	NONE	-	< 10	< 10	59
SV0C-							
SVOCS		0.1	NONE				
Aniline	mg/kg	0.1	NUNE	-	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.2	150 17025 MCEDTC	-	< 0.2	< 0.2	< 0.2
2-Chiorophenol	mg/kg	0.1	MCEDIC	-	< 0.1	< 0.1	< 0.1
Bis(2-chioroethyl)ether	mg/kg	0.2	MCEPTS	-	< 0.2	< 0.2	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCEPTS	-	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
1,4-Dichloroisopropul)othor	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
2-Methylphenol	ma/ka	0.3	MCERTS	-	< 0.1	< 0.1	< 0.1
Hevachloroethane	ma/ka	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Nitrohenzene	ma/ka	0.3	MCERTS	-	< 0.05	< 0.05	< 0.05
4-Methylphenol	ma/ka	0.2	NONE	-	< 0.2	< 0.2	< 0.2
Isonhorone	ma/ka	0.2	MCERTS	-	< 0.2	< 0.2	< 0.2
2-Nitrophenol	ma/ka	0.3	MCERTS	-	< 0.3	< 0.3	< 0.2
2.4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
1.2.4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0 3	< 0 3	< 0 3
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	< 0.1	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0 3	< 0 3	< 0 3
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	-	< 0 3	< 0 3	< 0 3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0 2	< 0 2	< 0 2
nexacriiorobenzene	mg/kg	0.5	MCEDIC	-	< 0.05	< 0.05	< 0.3
Anthrocopo	mg/kg	0.05	MCEDIC		< 0.05	< 0.05	0.35
Anumacene Carbazolo	mg/kg	0.03	MCEDTC		< 0.05	< 0.05	< 0.05
	mg/kg	0.3	MCERTS		< U 3	< U 3	< U 3
	ma/ka	0.2	MCERTS		< 0.2	< 0.2	< 0.2
Fluoranthene	ma/ka	0.05	MCERTS		< 0.05	0.50	06
Pyrene	ma/ka	0,05	MCERTS		< 0.05	0.55	0.0
	5,9				- 0.05	0.05	0.45

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9 9

ab Sample Number			2211786
Sample Reference			WSTCA101
Sample Number			1
Depth (m)			0.20
Date Sampled			15/03/2022
ime Taken			1258
	Limit	Acc	

0.20 0.50 0.50 0.50 5/03/2022 15/03/2022 15/03/2022 15/03/2022 1258 1151 1038 1410 creditation Status Analytical Parameter of detection Units (Soil Analysis) ISO 17025 mg/kg 0.3 Butyl benzyl phthalate < 0 3 < 0 3 < 0 3 mg/kg 0.05 MCERTS < 0.05 0.31 0.33 Benzo(a)anthracene MCERTS 0.05 mg/kg Chrysene -< 0.05 0.37 0.32 MCERTS Benzo(b)fluoranthene mg/kg 0.05 < 0.05 0.22 0.21 Benzo(k)fluoranthene mg/kg 0.05 MCERTS < 0.05 0.17 0.24 -0.05 MCERTS mg/kg Benzo(a)pyrene < 0.05 0.25 0.2 -Indeno(1,2,3-cd)pyrene mg/kg 0.05 MCERTS < 0.05 < 0.05 < 0.05 Dibenz(a,h)anthracene mg/kg 0.05 MCERTS < 0.05 < 0.05 < 0.05 mg/kg 0.05 MCERTS < 0.05 Benzo(ghi)perylene < 0.05 < 0.05 -

2211787

WSTCA106

2

2211788

WSTCA108

2

2211789

WSTCA117

2





* 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 *
2211786	WSTCA101	1	0.2	Brown clay and loam with gravel.
2211787	WSTCA106	2	0.5	Brown clay and loam with gravel.
2211788	WSTCA108	2	0.5	Brown clay and sand with gravel.
2211789	WSTCA117	2	0.5	Brown clay and sand with gravel and vegetation.





Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
TPH Texas (Soil)	TPH Texas bands C6-C10 by HS/GC-MS & C10-C40 by GC-FID	In-house method	L088/L076	D	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom. For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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

Information in Support of Analytical Results





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





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Analytical Report Number : 22-47225

Project / Site name:	Northstowe	Samples received on:	22/03/2022	
Your job number:	10052307	Samples instructed on/ Analysis started on:	22/03/2022	
Your order number:	14059900	Analysis completed by:	31/03/2022	
Report Issue Number:	1	Report issued on:	31/03/2022	
Samples Analysed:	6 soil samples			



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Reg. 18(1) Technical Reviewer (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.





Project / Site name: Northstowe

Lab Sample Number				2213697	2213698	2213699	2213700	2213701
Sample Reference				WS2C106	WS2C108	WS2C114	WS2C120	WS2C121
Sample Number				1	2	2	2	2
Depth (m)				0.20	0.50	0.50	0.50	0.50
Date Sampled				21/03/2022	15/03/2022	16/03/2022	16/03/2022	21/03/2022
Time Taken				1355	1645	1104	1507	1106
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	16	17	15	12	12
Total mass of sample received	kg	0.001	NONE	12	12	12	12	12
					8			
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW	JSW	JSW	JSW
General Inorganics		1	1					
pH - Automated	pH Units	N/A	MCERTS	7.9	7.7	82	83	86
Total Cyanide	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Complex Cyanide	mg/kg	1	MCERTS	-	< 1 0	< 1 0	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1 0	< 1 0	< 10
Total Sulphate as SO4	mg/kg	50	MCERTS	-	17000	2200	-	-
Equivalent)	g/l	0.00125	MCERTS	1.7	-	-	0.09	0 098
Sulphide	mg/kg	1	MCERTS	-	13	< 1 0	-	-
Elemental Sulphur	mg/kg	5	MCERTS	-	< 5 0	< 5 0	-	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 10	< 10	< 1 0	< 10
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH		0.0	MCEDIC					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERIS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80





Project / Site name: Northstowe

Lab Sample Number	2213697	2213698	2213699	2213700	2213701			
Sample Reference	WS2C106	WS2C108	WS2C114	WS2C120	WS2C121			
Sample Number				1	2	2	2	2
Depth (m)				0.20	0.50	0.50	0.50	0.50
Date Sampled	21/03/2022	15/03/2022	16/03/2022	16/03/2022	21/03/2022			
Time Taken				1355	1645	1104	1507	1106
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids	-				-			-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	14	16	12	19
Boron (water soluble)	mg/kg	0.2	MCERTS	2	-	-	0.4	0 6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0 2	< 0 2	< 0 2	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	-	-	< 4 0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	27	32	22	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	-	-	22	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13	13	13	96	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0 3	< 0 3	< 0 3	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	-	-	25	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10	< 1 0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	47	-	-	36	44
Monoaromatics & Oxygenates	ua/ka	1	MCERTS		< 1.0	< 1.0		
Toluono	µg/kg	1	MCERTS	-	< 10	< 10	-	-
Ethylhonzono	µg/kg	1	MCERTS	-	< 10	< 10	-	-
	ug/kg	1	MCERTS		< 10	< 10	-	-
	ug/kg	1	MCERTS		< 10	< 10		-
MTRE (Methyl Tertian/ Butyl Ether)	µg/kg µa/ka	1	MCERTS		< 10	< 10		
The (neury relative bacy rearry	15, 5			_	<10	<10	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $\mu_{c,1D,Al}$	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic > EC6 - EC8 $\mu_{c,1D,AL}$	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic > EC8 - EC10 $\mu_{\rm S}$ to $\mu_{\rm L}$	mg/kg	0.001	MCERTS	-	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic > EC10 - EC12 $_{\text{FH}}$ (1) D Al	mg/kg	1	MCERTS	-	< 1.0	< 1.0	-	-
TPH-CWG - Aliphatic >EC12 - EC16 FH CU ID AL	mg/kg	2	MCERTS	-	< 2.0	< 2.0	-	-
TPH-CWG - Aliphatic >EC16 - EC21 FH CU 1D Al	mg/kg	8	MCERTS	-	< 8 0	< 8 0	-	-
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	-	< 8 0	< 8 0	-	-
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	-	< 10	< 10	-	-
TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	MCERTS	-	< 0 001	< 0 001	-	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-	< 0 001	< 0 001	-	-
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	-	< 0 001	< 0 001	-	-
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	< 10	-	-
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	MCERTS	-	< 10	< 10	-	-



Project / Site name: Northstowe

Lab Sample Number	2213702			
Sample Reference	WS2C123			
Sample Number	1			
Depth (m)				0.20
Date Sampled	21/03/2022			
Time Taken	0947			
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	16
Total mass of sample received	kg	0.001	NONE	12
Ashestes is Call	 Type	NI/A	ICO 1702E	No. data at a district of the second

Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JSW

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.1
Total Cyanide	mg/kg	1	MCERTS	< 10
Complex Cyanide	mg/kg	1	MCERTS	-
Free Cyanide	mg/kg	1	MCERTS	< 10
Total Sulphate as SO4	mg/kg	50	MCERTS	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.11
Sulphide	mg/kg	1	MCERTS	-
Elemental Sulphur	mg/kg	5	MCERTS	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.68
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1
Pyrene	mg/kg	0.05	MCERTS	0.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.52
Chrysene	mg/kg	0.05	MCERTS	0.51
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.39
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.42
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.21
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.26
Total PAH				

local PAR				
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	5.32





Project / Site name: Northstowe

Lab Sample Number	2213702			
Sample Reference				WS2C123
Sample Number				1
Depth (m)				0.20
Date Sampled				21/03/2022
Time Taken				0947
Analytical Parameter (Soil Analysis)	Limit of detection	Accreditation Status		
Heavy Metals / Metalloids				
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16
Boron (water soluble)	mg/kg	0.2	MCERTS	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	22
Copper (aqua regia extractable)		1	MCERTS	21
Lead (aqua regia extractable)		1	MCERTS	20
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	61

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-
Toluene	µg/kg	1	MCERTS	-
Ethylbenzene	µg/kg	1	MCERTS	-
p & m-xylene	µg/kg	1	MCERTS	-
o-xylene	µg/kg	1	MCERTS	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	-
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	-
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 (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	-

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	-
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	-
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	MCERTS	-







* 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 *
2213697	WS2C106	1	0.2	Brown clay and loam with gravel.
2213698	WS2C108	2	0.5	Brown clay with gravel.
2213699	WS2C114	2	0.5	Brown clay with gravel and chalk.
2213700	WS2C120	2	0.5	Brown clay and loam with gravel and chalk.
2213701	WS2C121	2	0.5	Brown clay and loam with gravel and chalk.
2213702	WS2C123	1	0.2	Brown clay and loam with gravel and vegetation.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Hexavalent chromium in soil	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
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	w	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	w	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)) Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	w	MCERTS





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
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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
WS2C108	2	S	2213698	с	Free cyanide in soil	L080-PL	с
WS2C108	2	S	2213698	с	Complex Cyanide in soil	L080-PL	с
WS2C108	2	S	2213698	с	Sulphide in soil	L010-PL	с
WS2C108	2	S	2213698	с	Total cyanide in soil	L080-PL	с





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Analytical Report Number : 22-47463

Project / Site name:	Northstowe	Samples received on:	22/03/2022	
Your job number:	NSTO	Samples instructed on/ Analysis started on:	23/03/2022	
Your order number:	14059900	Analysis completed by:	31/03/2022	
Report Issue Number:	1	Report issued on:	31/03/2022	
Samples Analysed:	5 soil samples			



Reg. 13(1) Senior Quality Specialist For & on behalf of i2 Analytical Ltd.

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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.





Project / Site name: Northstowe

Lab Sample Number	2214824	2214825	2214826	2214827	2214828			
Sample Reference				BH2C102	BHTCA105	BHTCA106	BHTCA107	BHTCA110
Sample Number				2	2	2	1	2
Depth (m)		0.50	0.50-0 50	0.50	0 20	0 50		
Date Sampled				17/03/2022	11/03/2022	15/03/2022	16/03/2022	16/03/2022
Time Taken				0903	0812	1330	1007	1000
		E.						
		nito	Acc					
Analytical Parameter	Uni	ofd	stat					
(Soil Analysis)	s	etec	us					
		tio	9					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	11	11	11	18
Total mass of sample received	kg	0.001	NONE	10	1.0	1.0	1.0	1.0
•								
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	NTK	NTK		NTK	NTK
·								
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	73	7.5	-	7.2	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
Free Cvanide	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
water Soluble SO4 1607 extraction (2:1 Leachate				0.67	0.022		0.30	1.0
Equivalent)	g/I	0.00125	MCERTS	0.67	0.032	-	0.38	1.6
Total Phenois								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
Speciated PAHs		0.05	1105070					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0.42
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	1.1
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0.98
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 56
Chrysene	mg/kg	0.05	MCERIS	< 0.05	< 0.05	-	< 0.05	0 56
Benzo(b)fluoranthene	mg/kg	0.05	MCERIS	< 0.05	< 0.05	-	< 0.05	0 54
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 29
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0.48
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 24
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	< 0 05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	0 31
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	-	< 0.80	5.49





Project / Site name: Northstowe

				0044004	0011005	224 4026	0011007	0044000
Lab Sample Number	2214824	2214825	2214826	2214827	2214828			
Sample Reference		BH2C102	BHICA105	BHICA106	BHICA107	BHICA110		
Sample Number	2	2	2	1	2			
Depth (m)		0.50	0.50-0 50	0.50	0 20	0 50		
Date Sampled				17/03/2022	11/03/2022	15/03/2022	16/03/2022	16/03/2022
Time Taken				0903	0812	1330	1007	1000
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids			-	-	-	-		
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	20	13	-	17	15
Boron (water soluble)	mg/kg	0.2	MCERTS	1.4	0.8	-	0.8	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	-	< 0.2	< 0.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	34	-	27	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	14	-	25	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	15	15	-	22	30
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0 3	-	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	24	-	23	26
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0	< 1 0	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	72	57	- 1	68	61
Monoaromatics & Oxygenates			1000000					
Benzene	µg/kg	1	MCERIS	< 1 0	< 10	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERIS	< 1 0	< 10	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	10	< 1 0	2.9	1.1	3.3
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	mg/kg	2	MCERTS	53	< 2 0	8.4	4.3	7.9
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8 0	14	< 8.0	14
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8 0	39	20	45
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	19	< 10	64	32	71
TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	< 2 0	< 2 0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TDU CIAIC Anomatia (ECE EC2E)	ma/ka	10	MCEDIC					





* 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 *
2214824	BH2C102	2	0.5	Brown clay and loam with gravel and chalk.
2214825	BHTCA105	2	0.50-0.50	Light brown clay and sand with gravel.
2214826	BHTCA106	2	0.5	Brown clay and sand with gravel and chalk.
2214827	BHTCA107	1	0.2	Brown clay and sand with gravel and vegetation.
2214828	BHTCA110	2	0.5	Brown clay with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	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
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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 cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	w	MCERTS
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





Water matrix abbreviations:

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

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

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BHTCA105	2	S	2214825	с	Free cyanide in soil	L080-PL	с
BHTCA105	2	S	2214825	с	Total cyanide in soil	L080-PL	с
BHTCA106	2	S	2214826	b	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
BHTCA106	2	S	2214826	b	TPHCWG (Soil)	L088/76-PL	b
BHTCA107	1	S	2214827	с	Free cyanide in soil	L080-PL	с
BHTCA107	1	S	2214827	с	Total cyanide in soil	L080-PL	с
BHTCA110	2	S	2214828	с	Free cyanide in soil	L080-PL	с
BHTCA110	2	S	2214828	с	Total cyanide in soil	L080-PL	с



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

Analytical Report Number : 22-47721

Project / Site name:	Northstowe	Samples received on:	22/03/2022
Your job number:	10052307	Samples instructed on/ Analysis started on:	25/03/2022
Your order number:	14059900	Analysis completed by:	01/04/2022
Report Issue Number:	1	Report issued on:	04/04/2022
Samples Analysed:	19 soil samples		



Reg. 13(1) Technical Reviewer For & on behalf of i2 Analytical Ltd.

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

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

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

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

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





Lab Sample Number		2216182	2216183	2216184	2216185	2216186		
Sample Reference				TP2C102	TP2C103	TP2C104	TP2C104	TP2C105
Sample Number				1	1	1	2	1
Depth (m)				0.40-1 60	0.00-0.20	0.00-0.20	0.20-0.50	0.00-0.50
Date Sampled				16/03/2022	17/03/2022	16/03/2022	16/03/2022	17/03/2022
Time Taken				1636	1103	1634	1634	1118
		-		1050	1105	1051	1051	1110
Analytical Parameter (Soil Analysis)	Units	imit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	13	13	11	20
Total mass of sample received	kg	0.001	NONE	1.2	1	14	14	0.8
				1.2	-	1.1	1.1	00
Ashastas in Sail	Type	N/A	ISO 17025	Not detected	Not detected	Not detected	Not detected	Not detected
	N/A	N/A	N/A	Not-deletted	Not-detected	Not-delected	Not-delected	
Aspestos Analyst ID	Ny A	N/A	N/A	GFI	GFI	GFI	GFI	GFI
General Inorganics	L							
pH - Automated	pH Units	N/A	MCERTS	8.4	9.8	8.2	8.0	7.9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Fauivalent)	a/I	0.00125	MCERTS	0.12	0.41	0.2	0.54	12
Equivalency	9/1	0.00125	TICERTS					
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.59	0.42	0.24
Anthracene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	1 7	0.79	0.9
	ma/ka	0.05	MCERTS	< 0.05	< 0.05	1.7	0.75	0.5
Ponzo(a)anthracono	ma/ka	0.05	MCERTS	< 0.05	< 0.05	0.80	0.00	0.9
Christopa	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.09	0.41	0.37
	mg/kg	0.05	MCEDTS	< 0.05	< 0.05	0.9	0.39	0.55
Benzo(b)fluoranthene	mg/kg	0.05	MCEDTC	< 0.05	< 0.05	1.1	0.34	0.51
Benzo(k)fluorantnene	iiig/kg	0.05	MCEDTC	< 0.05	< 0 05	0.49	0.29	0.32
Benzo(a)pyrene	iiig/kg	0.05	MCEDTC	< 0.05	< 0 05	0.99	0.4	05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCEDIC	< 0.05	< 0.05	0.55	< 0.05	0.38
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	0.7	< 0.05	0.47
Total PAH		-						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0 80	9.4	3.72	5.34
Heavy Metals / Metalloids								
Arsenic (agua regia extractable)	mg/kq	1	MCERTS	7.2	14	16	20	14
Boron (water soluble)	mg/ka	0.2	MCERTS	1.1	 0.7	1	0.7	15
Cadmium (aqua regia extractable)	ma/ka	0.2	MCERTS	< 0.2	< 0.2	11	< 0.2	< 0.2
Chromium (heyavalent)	ma/ko	4	NONE	< 4 0	< 40	<u> </u>	< 40	< 40
Chromium (aqua regia extractable)	ma/ka	1	MCERTS	× ۲.0 21	ς τ.υ 24	27	ں.ד × 20	2 T.U 2 Q
Conner (aqua regia extractable)	ma/ka	1	MCERTS	£1	27	16	20 F	20 8 0
Lood (aqua regia extractable)	mg/kg	1	MCEDTC	0.2	0.0	24	12	0.9
	mg/kg	1	MCEDIC	9.2	13	24	13	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCEDIC	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickei (aqua regia extractable)	mg/kg	1	MCEDIC	18	21	22	27	25
Selenium (aqua regia extractable)	mg/kg	1	MCENTO	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MUCERTS	37	44	71	51	53





Lab Sample Number				2216182	2216183	2216184	2216185	2216186
Sample Reference				TP2C102	TP2C103	TP2C104	TP2C104	TP2C105
Sample Number				1	1	1	2	1
Depth (m)				0.40-1 60	0.00-0.20	0.00-0.20	0.20-0.50	0.00-0.50
Date Sampled				16/03/2022	17/03/2022	16/03/2022	16/03/2022	17/03/2022
Time Taken				1636	1103	1634	1634	1118
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	14	< 10	12
TPH-CWG - Aromatic (EC5 - EC35) _{EH_CU+HS_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	19	12	16





Lab Sample Number				2216187	2216188	2216189	2216190	2216191
Sample Reference				TP2C107	TP2C107	TP2C109	TP2C110	TP2C111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0 00-0.20	0.20-1.10	0.00-0.20	0.00-0.50	0.00-0.10
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken				1451	1451	1152	1448	1454
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	22	< 0.1
Moisture Content	%	0.01	NONE	18	21	13	12	14
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	1.2	0.8
· · · ·								
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Ashestos Analyst ID	N/A	N/A	N/A	GEI	GEL	GFI	GEI	GEI
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.1	78	8.2	8.1	8.7
Total Cyanide	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
water soluble SO4 16hr extraction (2:1 Leachate	o/I	0.00125	MCERTS	0.34	1.7	0.86	0.22	0.33
Total Phenois	9/1	0.00123	HOERTS					
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.48	0.34	< 0 05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.3	0.84	0.43
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.3	0.78	0.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.75	0.53	0.25
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.64	0.43	0.25
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.7	0.5	0.22
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.47	0.29	0.22
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.74	0.47	0.29
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.47	0.34	< 0 05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0 05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.58	0.41	< 0 05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	7.42	4.93	2.06
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	18	13	21	19	16
Boron (water soluble)	mg/kg	0.2	MCERTS	2.2	1.9	1.1	1.2	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	27	28	29	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	5.5	8.7	9.2	10	7.1
Lead (aqua regia extractable)	mg/kg	1	MCERTS	14	13	15	13	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	33	28	25	24	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	70	63	59	60	48





Lab Sample Number				2216187	2216188	2216189	2216190	2216191
Sample Reference				TP2C107	TP2C107	TP2C109	TP2C110	TP2C111
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0 00-0.20	0.20-1.10	0.00-0.20	0.00-0.50	0.00-0.10
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken				1451	1451	1152	1448	1454
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Monoaromatics & Oxygenates					-			
Benzene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2 0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8 0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
	-		-					
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	ma/ka	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

HTT CONCERNENCE LES LES LES HS_ID_AR	5			4 0.001	\$ 0.001	0.001	< 0.001	0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 EH_CU_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	< 10	13	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	< 10	< 10	13	16	< 10





b Sample Number				2216192	2216193	2216194	2216195	2216196	2216197
Sample Reference				TP2C113	TP2C117	TP2C117	TP2C118	TP2C119	TP2C119
Sample Number				2	1	2	1	1	2
Depth (m)				0 50	0.20	0.50	0.20	0.20	0.50
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken				0949	1645	1645	1122	1132	1132
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	< 0.1
Moisture Content	%	0.01	NONE	16	12	9.5	13	12	12
Total mass of sample received	кд	0.001	NONE	0.8	1.4	1.4	0.8	08	0.8
	-								
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	NTK	NTK	NTK	NTK	NTK	NTK
General Inorganics									
pH - Automated	pH Units	N/A	MCERTS	8.2	8.3	8.5	8.2	8 5	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Fourivalent)	a/l	0.00125	MCERTS	0.2	0.062	0 049	0.13	0.088	0.043
Total Phenois	5,.		MCEDIC						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Speciated PAHs									
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05	< 0.05	< 0.05	< 0.05
Total PAH									
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0 80	< 0.80	< 0.80	< 0.80	< 0.80
Heavy Metals / Metalloids	•								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	15	16	16	16	13	17
Boron (water soluble)	mg/kg	0.2	MCERTS	1.6	0.2	0.2	0.4	0 5	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	27	22	31	26	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	13	8.1	7.2	9.4	68	8.6
Lead (aqua regia extractable)	mg/kg	1	MCERTS	13	9.9	9.4	14	12	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.5	< 0.3	0.6	< 0.3	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	23	23	27	22	28
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	77	38	39	50	40	54





Lab Sample Number		2216192	2216193	2216194	2216195	2216196	2216197		
Sample Reference				TP2C113	TP2C117	TP2C117	TP2C118	TP2C119	TP2C119
Sample Number				2	1	2	1	1	2
Depth (m)				0 50	0.20	0.50	0.20	0.20	0.50
Date Sampled				17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022	17/03/2022
Time Taken				0949	1645	1645	1122	1132	1132
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Monoaromatics & Oxygenates					-		-	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Petroleum Hydrocarbons		-	-						
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2 0
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8 0
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8 0
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 _{HS_1D_AR}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
TPH-CWG - Aromatic >EC12 - EC16 _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2 0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10	< 10





Lab Sample Number				2216198	2216199	2216200
Sample Reference				TP2C122	TP2C124	TP2C124
Sample Number				1	1	2
Depth (m)				0 20	0.20	0.50
Date Sampled				17/03/2022	17/03/2022	17/03/2022
Time Taken	-	•	ī.	1252	1446	1447
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	13	10	14
Total mass of sample received	kg	0.001	NONE	0.4	1.2	1.2
					8	8
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	NTK	NTK	NTK
					•	•
General Inorganics						
pH - Automated	pH Units	N/A	MCERTS	8.2	8.4	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Water Soluble SO4 16hr extraction (2:1 Leachate	۵/۱	0.00125	MCERTS	0 21	0.1	0.14
Equivalency	9/1	0.00125	TICERTS			••••
Total Phoneic						
Total Phenois	ma/ka	1	MCERTS	< 1.0	< 1.0	< 1.0
	5, 5			< 1.0	< 1.0	< 1.0
Speciated PAHs						
Nanhthalene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.5	0.33	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0 05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.2	0.43	< 0.05
Pyrene	mg/kg	0.05	MCERTS	1.1	0.38	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0 64	< 0 05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0 56	< 0 05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0 63	< 0 05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0 36	< 0 05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0 58	< 0 05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.3	< 0 05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	шу/ку	0.05	MCER15	0 34	< 0 05	< 0.05
Total DAM						
Charleted Tatal EDA 16 DAMa	ma/ka	0.8	MCERTS	6.21	1.1.4	< 0.00
Specialeu Iulai EPA-10 PARS	<u>9</u> /kg	0.0		٥ 21	1.14	< 0.80
Honur Motols / Motolloids						
Arsenic (agua regia extractable)	ma/ka	1	MCERTS	19	18	13
Boron (water soluble)	ma/ka	0.2	MCERTS	0.5	0.9	0.7
Cadmium (agua regia extractable)	mg/ka	0.2	MCERTS	0.7	< 0.2	< 0.2
Chromium (hexavalent)	mg/kq	4	NONE	< 4.0	< 4.0	< 4.0
Chromium (agua regia extractable)	mg/kg	1	MCERTS	32	25	31
Copper (aqua regia extractable)	mg/kg	1	MCERTS	12	6.9	9.9
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	13	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	22	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68	48	52





Lab Sample Number	ab Sample Number									
Sample Reference				TP2C122	TP2C124	TP2C124				
Sample Number				1	1	2				
Depth (m)	0 20	0.20	0.50							
Date Sampled	17/03/2022	17/03/2022	17/03/2022							
Time Taken	1252	1446	1447							
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status							
Monoaromatics & Oxygenates					-	-				
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0				
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0				
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0				
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0				
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0				
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0				

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 HS_1D_AL	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 EH CU 1D AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 EH_CU_1D_AL	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) EH_CU+HS_1D_AL	mg/kg	10	MCERTS	< 10	< 10	< 10

TPH-CWG - Aromatic >EC5 - EC7 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 HS 1D AR	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 _{EH_CU_1D_AR}	mg/kg	10	MCERTS	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 EH CU 1D AR	mg/kg	10	MCERTS	12	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	17	< 10	< 10




Analytical Report Number : 22-47721

Project / Site name: Northstowe

* 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 *
2216182	TP2C102	1	0.40-1.60	Light brown clay and sand with gravel.
2216183	TP2C103	1	0.00-0.20	Light brown clay and sand with gravel.
2216184	TP2C104	1	0.00-0.20	Brown clay and loam with gravel.
2216185	TP2C104	2	0.20-0.50	Light brown clay and sand with gravel.
2216186	TP2C105	1	0.00-0.50	Light brown clay and sand with gravel.
2216187	TP2C107	None Supplied	0.00-0.20	Brown clay and sand with gravel.
2216188	TP2C107	None Supplied	0.20-1.10	Grey clay and sand with gravel.
2216189	TP2C109	None Supplied	0.00-0.20	Brown clay and loam with gravel.
2216190	TP2C110	None Supplied	0.00-0.50	Brown clay and loam with gravel and stones.
2216191	TP2C111	None Supplied	0.00-0.10	Brown clay and loam with gravel and vegetation.
2216192	TP2C113	2	0.5	Brown clay and loam with gravel.
2216193	TP2C117	1	0.2	Light brown clay and sand with gravel.
2216194	TP2C117	2	0.5	Light brown clay and sand with gravel.
2216195	TP2C118	1	0.2	Brown clay and loam with gravel.
2216196	TP2C119	1	0.2	Brown clay and sand with gravel.
2216197	TP2C119	2	0.5	Brown clay and sand with gravel.
2216198	TP2C122	1	0.2	Brown clay and loam with gravel.
2216199	TP2C124	1	0.2	Brown clay and sand with gravel and vegetation.
2216200	TP2C124	2	0.5	Light grey clay and sand with gravel.





Water matrix abbreviations:

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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status	
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS	
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS	
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025	
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS	
Hexavalent chromium in soil	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	
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS	
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE	
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodiun hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS	
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS	
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS	
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 cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS	
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS	
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	

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

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

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

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

Information in Support of Analytical Results





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
-	List of HWOL Acrony	ms and Operators		-	
Acronym	Descriptions				
HS	Headspace Analysis				
MS	Mass spectrometry				
FID	Flame Ionisation Detector				

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP2C102	1	S	2216182	с	Free cyanide in soil	L080-PL	с
TP2C102	1	S	2216182	с	Total cyanide in soil	L080-PL	с
TP2C103	1	S	2216183	с	Free cyanide in soil	L080-PL	с
TP2C103	1	S	2216183	с	Total cyanide in soil	L080-PL	с
TP2C104	1	S	2216184	с	Free cyanide in soil	L080-PL	с
TP2C104	1	S	2216184	с	Total cyanide in soil	L080-PL	с
TP2C104	2	S	2216185	с	Free cyanide in soil	L080-PL	с
TP2C104	2	S	2216185	с	Total cyanide in soil	L080-PL	с
TP2C105	1	S	2216186	с	Free cyanide in soil	L080-PL	с
TP2C105	1	S	2216186	с	Total cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216187	с	Free cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216187	с	Total cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216188	с	Free cyanide in soil	L080-PL	с
TP2C107	None Supplied	S	2216188	с	Total cyanide in soil	L080-PL	с
TP2C109	None Supplied	S	2216189	с	Free cyanide in soil	L080-PL	с
TP2C109	None Supplied	S	2216189	с	Total cyanide in soil	L080-PL	с
TP2C110	None Supplied	S	2216190	с	Free cyanide in soil	L080-PL	с
TP2C110	None Supplied	S	2216190	с	Total cyanide in soil	L080-PL	с
TP2C111	None Supplied	S	2216191	с	Free cyanide in soil	L080-PL	с
TP2C111	None Supplied	S	2216191	с	Total cyanide in soil	L080-PL	с
TP2C113	2	S	2216192	с	Free cyanide in soil	L080-PL	с
TP2C113	2	S	2216192	с	Total cyanide in soil	L080-PL	с
TP2C117	1	S	2216193	с	Free cyanide in soil	L080-PL	с
TP2C117	1	S	2216193	с	Total cyanide in soil	L080-PL	с
TP2C117	2	S	2216194	с	Free cyanide in soil	L080-PL	с
TP2C117	2	S	2216194	с	Total cyanide in soil	L080-PL	с
TP2C118	1	S	2216195	с	Free cyanide in soil	L080-PL	с
TP2C118	1	S	2216195	с	Total cyanide in soil	L080-PL	с
TP2C119	1	S	2216196	с	Free cyanide in soil	L080-PL	с
TP2C119	1	S	2216196	с	Total cyanide in soil	L080-PL	с
TP2C119	2	S	2216197	с	Free cyanide in soil	L080-PL	С
TP2C119	2	S	2216197	с	Total cyanide in soil	L080-PL	С
TP2C122	1	S	2216198	с	Free cyanide in soil	L080-PL	С
TP2C122	1	S	2216198	с	Total cyanide in soil	L080-PL	С
TP2C124	1	S	2216199	с	Free cyanide in soil	L080-PL	с
TP2C124	1	S	2216199	с	Total cyanide in soil	L080-PL	с
TP2C124	2	S	2216200	с	Free cyanide in soil	L080-PL	с
TP2C124	2	S	2216200	с	Total cyanide in soil	L080-PL	с





Reg. 13(1) Arcadis Consulting (UK) Ltd HCL House St Mellon's Business Park Cardiff CF3 OEY

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Analytical Report Number : 22-48661

Project / Site name:	Northstowe	Samples received on:	29/03/2022
Your job number:	NSTO	Samples instructed on/ Analysis started on:	30/03/2022
Your order number:	14059900	Analysis completed by:	07/04/2022
Report Issue Number:	1	Report issued on:	07/04/2022
Samples Analysed:	4 soil samples		



Reg. 13(1) Technical Reviewer (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.





Lab Carrier Number				2220060	2220060	2220070	2220071
Lab Sample Number				2220968	2220969	2220970	22209/1
Sample Reference				BHICA301A	BHICA30IA	IPICAII5	1PTCA115
Sample Number				4	0	1	3
Depth (III)				0.30-0.00	1.00-1.10	0.20	1.00
Time Taken				23/03/2022	23/03/2022	Deviating	Deviating
	-	-		1440	1454	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	8.9	10	14	11
Total mass of sample received	kg	0.001	NONE	1.4	1.1	0.9	1
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO	PDO	PDO
General Inorganics		N/A	мсертс				
pH - Automated	pri Units	1N/A	MCEDTS	82	8.1	8.1	8.2
I otal Cyanide	mg/kg	1	MCERTS	< 10	< 1.0	< 1 0	< 1.0
Pree Cyanide	iiig/kg	1	PICER13	< 1 0	< 1.0	< 1 0	< 1.0
Equivalent)	g/l	0.00125	MCERTS	0 054	0.085	18	0.072
Total Phenols Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1 0	< 1.0	< 1 0	< 1.0
Speciated BAHs							
Nanhthalene	ma/ka	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.28	< 0.05	0.91	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Eluoranthene	ma/ka	0.05	MCERTS	1.6	< 0.05	1.9	< 0.05
Pyrene	mg/kg	0.05	MCERTS	1.7	< 0.05	1.7	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.87	< 0.05	0.99	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.75	< 0.05	0.83	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.1	< 0.05	1.1	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.42	< 0.05	0.54	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.92	< 0 05	0.98	< 0.05
Indeno(1.2.3-cd)pyrene	mg/kg	0.05	MCERTS	0.37	< 0 05	0.42	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.48	< 0.05	0.54	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	8.55	< 0 80	9.89	< 0 80
Heavy Metals / Metalloids							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	13	8.3	14	17
Boron (water soluble)	mg/kg	0.2	MCERTS	13	0.6	0.9	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0.2	< 0 2	< 0.2
Chromium (hexavalent)	mg/kg	4	NONE	< 4 0	< 4.0	< 4 0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	21	25	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	7.7	12	11
Lead (agua regia extractable)	mg/kg	1	MCERTS	20	11	18	17

MCERTS

MCERTS

MCERTS

MCERTS

< 0 3

19

< 1 0

58

< 0.3

16

< 1.0

41

< 0 3

22

< 1 0

57

< 0.3

25

< 1.0

51

Mercury (aqua regia extractable)

Selenium (aqua regia extractable)

Nickel (aqua regia extractable)

Zinc (aqua regia extractable)

mg/kg

mg/kg

mg/kg

mg/kg

0.3

1

1

1





Lab Sample Number				2220968	2220969	2220970	2220971
Sample Reference				BHTCA301A	BHTCA301A	TPTCA115	TPTCA115
Sample Number				4	6	1	3
Depth (m)				0.50-0 60	1.00-1.10	0.20	1.00
Date Sampled				23/03/2022	23/03/2022	Deviating	Deviating
Time Taken				1440	1454	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
Toluene	µg/kg	1	MCERTS	< 10	-	< 1 0	-
Ethylbenzene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
p & m-xylene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
o-xylene	µg/kg	1	MCERTS	< 1 0	-	< 1 0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 10	_	< 10	-

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >EC5 - EC6 HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aliphatic >EC6 - EC8 HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aliphatic >EC8 - EC10 HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aliphatic >EC10 - EC12 EH_CU_1D_AL	mg/kg	1	MCERTS	< 10	-	< 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 0	-
TPH-CWG - Aliphatic >EC21 - EC35 EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	-	< 8 0	-
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 10	-	< 10	-

TPH-CWG - Aromatic >EC5 - EC7 HS 1D AR	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aromatic >EC7 - EC8 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
TPH-CWG - Aromatic >EC8 - EC10 HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	-	< 0 001	-
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	11	-	< 10	-
TPH-CWG - Aromatic (EC5 - EC35) FH CUEHS 1D AR	mg/kg	10	MCERTS	13	-	11	-

 $\label{eq:US} U/S = Unsuitable \ Sample \qquad I/S = \ Insufficient \ Sample$





* 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 *
2220968	BHTCA301A	4	0.50-0.60	Brown loam and clay with gravel.
2220969	BHTCA301A	6	1.00-1.10	Brown clay and sand with gravel.
2220970	TPTCA115	1	0.2	Brown loam and clay with gravel and vegetation.
2220971	TPTCA115	3	1	Brown loam and clay with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
Moisture Content	Molsture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	w	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	w	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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 cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	w	MCERTS
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
Hexavalent chromium in soil	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

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

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

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





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

Analytical Test Name Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TPTCA115	1	S	2220970	ab	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TPTCA115	1	S	2220970	ab	Monohydric phenols in soil	L080-PL	b
TPTCA115	1	S	2220970	ab	Speciated EPA-16 PAHs in soil	L064-PL	b
TPTCA115	1	S	2220970	ab	TPHCWG (Soil)	L088/76-PL	b
TPTCA115	3	S	2220971	ab	Monohydric phenols in soil	L080-PL	b
TPTCA115	3	S	2220971	ab	Speciated EPA-16 PAHs in soil	L064-PL	b





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Analytical Report Number : 22-48682

Project / Site name:	Northstowe	Samples received on:	29/03/2022	
Your job number:	NSTO	Samples instructed on/ Analysis started on:	30/03/2022	
Your order number:	14059900	Analysis completed by:	08/04/2022	
Report Issue Number:	1	Report issued on:	08/04/2022	
Samples Analysed:	4 soil samples			



Reg. 13(1) Technical Reviewer (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: 22-48682

Project / Site name: Northstowe

Lab Sample Number	2221053	2221054	2221055	2221056			
Sample Reference	BH2C101	BH2C103	BH2C103	BH2C104			
Sample Number		1	1	2	2		
Depth (m)		0 20-0.30	0.10-0.20	0 50-0.60	0.10-0.20		
Date Sampled				21/03/2022	22/03/2022	22/03/2022	22/03/2022
Time Taken				1804	1135	1136	1451
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				
Stone Content	%	0.1	NONE	< 0.1	< 0.1	8.9	< 0.1
Moisture Content	%	0.01	NONE	19	11	12	88
Total mass of sample received	kg	0.001	NONE	15	15	15	15
Asbestos in Soil	Туре	N/A	ISO 17025	-	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	LFT	LFT
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	73	8 2	8	8.1
Total Cyanide	mg/kg	1	MCERTS	< 10	< 1 0	< 10	< 10
Free Cyanide water Soluble SO4 1607 extraction (2:1 Leachate	mg/kg	1	MCERTS	-	-	< 10	< 1 0
Equivalent)	g/l	0.00125	MCERTS	-	-	0.37	0.13
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	06	-	-
Total Phenols Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10
Speciated PAHs							
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	0.7	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	0.28	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	13	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	0.74	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.29	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	0.26	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05
Total PAH							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	3.58	< 0.80





Analytical Report Number: 22-48682

Project / Site name: Northstowe

Lab Sample Number				2221053	2221054	2221055	2221056
Sample Reference	BH2C101	BH2C103	BH2C103	BH2C104			
Sample Number	1	1	2	2			
Depth (m)	0 20-0.30	0.10-0.20	0 50-0.60	0.10-0.20			
Date Sampled				21/03/2022	22/03/2022	22/03/2022	22/03/2022
Time Taken				1804	1135	1136	1451
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status				

Heavy Metals / Metalloids

Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1 0	2 6	-	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	14	12	15	19
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.93	0.84	-	-
Boron (water soluble)	mg/kg	0.2	MCERTS	28	1	0 5	1
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0 2	< 0 2	< 0 2	< 0 2
Chromium (hexavalent)	mg/kg	4	NONE	-	-	< 4 0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	25	25	37	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	14	11	12	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	13	15	13
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0 3	< 0 3	< 0 3	< 0 3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	25	21	28	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1 0	< 1 0	< 1 0	< 1 0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	45	47	-	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	62	44	60	47

Petroleum Hydrocarbons

TPH6 - Aliphatic (C6 - C8) HS_1D_AL	mg/kg	0.001	MCERTS	< 0 001	< 0 001	-	-
TPH6 - Aliphatic (C8 - C10) HS 1D AL	mg/kg	0.001	MCERTS	< 0 001	< 0 001	-	-
TPH6 - Aliphatic (C10 - C12) EH_CU_1D_AL	mg/kg	1	MCERTS	< 1 0	< 1 0	-	-
TPH6 - Aliphatic (C12 - C16) EH_CU_1D_AL	mg/kg	2	MCERTS	< 2 0	< 2 0	-	-
TPH6 - Aliphatic (C16 - C21) EH_CU_1D_AL	mg/kg	8	MCERTS	< 8 0	< 8 0	-	-
TPH6 - Aliphatic (C21 - C35) EH CU 1D AL	mg/kg	8	MCERTS	< 8 0	< 8 0	-	-
TPH6 - Aliphatic (C6 - C35) EH CU+HS 1D AL	mg/kg	10	NONE	< 10	< 10	-	-

TPH6 - Aromatic (C6 - C8) HS 1D AR	mg/kg	0.001	NONE	< 0 001	< 0 001	-	-
TPH6 - Aromatic (C8 - C10) HS_1D_AR	mg/kg	0.001	MCERTS	< 0 001	< 0 001	-	-
TPH6 - Aromatic (C10 - C12) EH_CU_1D_AR	mg/kg	1	MCERTS	< 10	< 1 0	-	-
TPH6 - Aromatic (C12 - C16) EH_CU_1D_AR	mg/kg	2	MCERTS	< 2 0	< 2 0	-	-
TPH6 - Aromatic (C16 - C21) EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	-	-
TPH6 - Aromatic (C21 - C35) EH CU 1D AR	mg/kg	10	MCERTS	< 10	< 10	-	-
TPH6 - Aromatic (C6 - C35) _{EH_CU+HS_1D_AR}	mg/kg	10	NONE	< 10	< 10	-	-

 ${\sf U}/{\sf S} = {\sf Unsuitable \ Sample} \qquad {\sf I}/{\sf S} = {\sf \ Insufficient \ Sample}$





* 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 *
2221053	BH2C101	1	0.20-0.30	Brown loam and clay with gravel and vegetation.
2221054	BH2C103	1	0.10-0.20	Brown loam and clay with gravel and vegetation.
2221055	BH2C103	2	0.50-0.60	Brown loam and clay with gravel and stones.
2221056	BH2C104	2	0.10-0.20	Brown loam and clay with gravel.





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

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	w	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
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
TPH6 (Soil)	Determination of TPH bands by HS-GC-MS/GC-FID	In-house method with silica gel split/clean up.	L076-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Hexavalent chromium in soil	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

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

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

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

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





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
Analytical rest Nume	Analytical Piction Description	Analytical Method Reference	number	Analysis	Status

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

Sample Deviation Report



Analytical Report Number : 22-48682 Project / Site name: Northstowe

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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2C101	1	S	2221053	с	Total cyanide in soil	L080-PL	с
BH2C103	1	S	2221054	с	Total cyanide in soil	L080-PL	с
BH2C103	2	S	2221055	с	Free cyanide in soil	L080-PL	с
BH2C103	2	S	2221055	с	Total cyanide in soil	L080-PL	с
BH2C104	2	S	2221056	с	Free cyanide in soil	L080-PL	с
BH2C104	2	S	2221056	с	Total cyanide in soil	L080-PL	с





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Analytical Report Number : 22-51163

Project / Site name:	Northstowe	Samples received on:	08/04/2022
Your job number:	10052307	Samples instructed on/ Analysis started on:	11/04/2022
Your order number:	14059900	Analysis completed by:	20/04/2022
Report Issue Number:	1	Report issued on:	21/04/2022
Samples Analysed:	16 water samples		



Reg. 13(1) 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.





Your Order No: 14059900								
Lab Sample Number	2235073	2235074	2235075	2235076	2235077			
Sample Reference				BHTCA101	WSTCA108	BHTCA105D	BHTCA104	BHTCA110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied			
Date Sampled	05/04/2022	05/04/2022	05/04/2022	06/04/2022	06/04/2022			
Time Taken				1045	1503	1612	1107	1415
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	78	7	7	76	7.1
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	458	338	817	509	524
Alkalinity as CaCO3	mg/l	3	ISO 17025	220	540	420	210	380

Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5

Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	< 3 5	< 3 5	< 3 5

Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16





Your Order No: 14059900								
Lab Sample Number				2235073	2235074	2235075	2235076	2235077
Sample Reference				BHTCA101	WSTCA108	BHTCA105D	BHTCA104	BHTCA110
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled			05/04/2022	05/04/2022	05/04/2022	06/04/2022	06/04/2022	
Time Taken				1045	1503	1612	1107	1415
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	1300	130	160	980	110
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0	< 5 0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.45	2.33	1.83	2.08	0.74
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.05	0.08	0.15	0.07	0.08
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	0 5	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	4 5	68	95	4.1	4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2	03	06	0 2	0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	8 5	21	28	73	13
Selenium (dissolved)	µg/l	0.6	ISO 17025	2 3	1.4	18	16	33
Zinc (dissolved)	µg/l	0.5	ISO 17025	66	72	5 5	88	18

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 1 0
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 10	< 1 0
TPH-CWG - Aromatic >C10 - C12 _{EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	ua/l	10	NONE	< 10	< 10	< 10	< 10	< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

< 10

NONE

NONE

µg/l

µg/l

10

10

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

TPH-CWG - Aromatic >C21 - C35 _{EH_1D_AR_#1_#2_MS}

TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS





Your Order No: 14059900								
Lab Sample Number				2235078	2235079	2235080	2235081	2235082
Sample Reference				BHTCA103	BHTCA106	BHTCA107	BHTCA102	WS2C120
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled			05/04/2022	06/04/2022	06/04/2022	05/04/2022	07/04/2022	
Time Taken				1403	1007	1015	1443	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	7	7.7	7 5	73	7 2
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	1090	657	1260	476	1040
Alkalinity as CaCO3	mg/l	3	ISO 17025	370	230	370	270	390

Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5

Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	< 3 5	< 3 5	< 3 5

Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16





Your Order No: 14059900								
Lab Sample Number				2235078	2235079	2235080	2235081	2235082
Sample Reference				BHTCA103	BHTCA106	BHTCA107	BHTCA102	WS2C120
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled			05/04/2022	06/04/2022	06/04/2022	05/04/2022	07/04/2022	
Time Taken				1403	1007	1015	1443	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	600	1000	890	930	95
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0	< 5 0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.64	1.41	1.29	0.86	3.75
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.14	0.05	0.03	0.05	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	< 0 2	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	5.1	4.9	3.9	4 5	5.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	0 2	03	< 0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	56	13	12	7.4	13

1.9

110

9.7

14

15

29

2.1

96

32

8.4

0.6

0.5

µg/l

µg/l

ISO 17025

ISO 17025

Monoaromatics & Oxygenates

Gelenium (dissolved)

Zinc (dissolved)

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 10	< 1 0	< 10	< 10	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
_			-					
TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 10	< 1 0	< 10	< 10	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

< 10

< 10

< 10

< 10

< 10

TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS U/S = Unsuitable Sample I/S = Insufficient Sample





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Your Order No: 14059900								
Lab Sample Number				2235083	2235084	2235085	2235086	2235087
Sample Reference				WS2C112	BH2C103	BH2C104	WSTCA117	BHTCA109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/04/2022	07/04/2022	07/04/2022	07/04/2022	07/04/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

General Inorganics

pH	pH Units	N/A	ISO 17025	7.4	7.4	7	6.9	6.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	936	1390	1380	519	1040
Alkalinity as CaCO3	mg/l	3	ISO 17025	260	280	250	510	610

Phenols by HPLC								
Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5	< 0 5

Total Phenols								
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	< 3 5	< 3 5	< 3 5

Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	μg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total DAH								
		0.16	ICO 1702E					
Total EPA-16 PAHs	μg/i	0.10	130 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16





Your Order No: 14059900								
Lab Sample Number				2235083	2235084	2235085	2235086	2235087
Sample Reference				WS2C112	BH2C103	BH2C104	WSTCA117	BHTCA109
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				07/04/2022	07/04/2022	07/04/2022	07/04/2022	07/04/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	98	930	240	190	330
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0	< 5 0
Arsenic (dissolved)	µg/l	0.15	ISO 17025	1.72	0.7	1.95	1.81	0.55
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.19	0.13	0.13	0.06	0.07
Chromium (dissolved)	µg/l	0.2	ISO 17025	0 2	< 0 2	< 0 2	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	4 5	3	4 2	38	3
Lead (dissolved)	µg/l	0.2	ISO 17025	0 2	< 0 2	< 0 2	0 2	03
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	43	16	32	29	9
Selenium (dissolved)	µg/l	0.6	ISO 17025	40	3	< 0.6	1	3.4
Zinc (dissolved)	µg/l	0.5	ISO 17025	97	11	28	12	11

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 1 0	< 1 0
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 1 0	< 1 0
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 1 0	< 1 0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
			-					
TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS 1D AR	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

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





Your Order No: 14059900				
Lab Sample Number				2235088
Sample Reference				BHTCA108
Sample Number				None Supplied
Depth (m)				None Supplied
Date Sampled				07/04/2022
Time Taken				None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

General Inorganics

рН	pH Units	N/A	ISO 17025	8
Total Cyanide	µg/l	10	ISO 17025	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	804
Alkalinity as CaCO3	mg/l	3	ISO 17025	210

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0 5
Resorcinol	µg/l	0.5	NONE	< 0 5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5
Cresols	µg/l	0.5	NONE	< 0 5
Naphthols	µg/l	0.5	NONE	< 0 5
Isopropylphenol	µg/l	0.5	NONE	< 0 5
Phenol	µg/l	0.5	NONE	< 0 5
Trimethylphenol	µg/l	0.5	NONE	< 0 5

Total Phenols

Total Thendo				
Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5

Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01

Total EPA-16 PAHs	Total FAI				
	Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16





Your Order No: 14059900				
Lab Sample Number		2235088		
Sample Reference	BHTCA108			
Sample Number	None Supplied			
Depth (m)	None Supplied			
Date Sampled	07/04/2022			
Time Taken	None Supplied			
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status	

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	790
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0

Arsenic (dissolved)	µg/l	0.15	ISO 17025	< 0.15
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	0.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	0.07
Nickel (dissolved)	µg/l	0.5	ISO 17025	0 8
Selenium (dissolved)	µg/l	0.6	ISO 17025	7.9
Zinc (dissolved)	µg/l	0.5	ISO 17025	5

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 10
Toluene	µg/l	1	ISO 17025	< 10
Ethylbenzene	µg/l	1	ISO 17025	< 10
p & m-xylene	µg/l	1	ISO 17025	< 10
o-xylene	µg/l	1	ISO 17025	< 10
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 10

Petroleum Hydrocarbons

	Petroleum Range Organics (C6 - C10) HS_1D_TOTAL	µg/l	10	ISO 17025	< 10.0
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TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aliphatic >C10 - C12 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C12 - C16 _{EH_1D_AL_#1_#2_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C16 - C21 _{EH_1D_AL_#1_#2_MS}	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10

TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS 1D AR	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C16 - C21 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10

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





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

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Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, AI=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	w	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	w	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
PRO (Waters)	Determination of hydrocarbons C6-C10 by headspace GC MS. Accredited Matrices SW, PW. GW.	In-house method based on USEPA8260	L088-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	w	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	w	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	w	ISO 17025
Alkalinity in Water (by discreet analyser)	Determination of Alkalinity by discreet analyser (colorimetry). Accredited matrices: SW, PW, GW.	In house method based on MEWAM & USEPA Method 310.2.	L082-PL	W	ISO 17025

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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





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 Analysis Accree	Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2C103	None Supplied	W	2235084	с	pH at 20oC in water (automated)	L099-PL	с
BH2C104	None Supplied	W	2235085	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA101	None Supplied	W	2235073	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA102	None Supplied	W	2235081	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA103	None Supplied	W	2235078	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA104	None Supplied	W	2235076	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA105D	None Supplied	W	2235075	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA106	None Supplied	W	2235079	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA107	None Supplied	W	2235080	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA108	None Supplied	W	2235088	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA109	None Supplied	W	2235087	с	pH at 20oC in water (automated)	L099-PL	с
BHTCA110	None Supplied	W	2235077	с	pH at 20oC in water (automated)	L099-PL	с
WS2C112	None Supplied	W	2235083	с	pH at 20oC in water (automated)	L099-PL	с
WS2C120	None Supplied	W	2235082	с	pH at 20oC in water (automated)	L099-PL	с
WSTCA108	None Supplied	W	2235074	с	pH at 20oC in water (automated)	L099-PL	с
WSTCA117	None Supplied	W	2235086	с	pH at 20oC in water (automated)	L099-PL	с





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Analytical Report Number : 22-51965

Project / Site name:	Northstowe	Samples received on:	14/04/2022	
Your job number:		Samples instructed on/ Analysis started on:	14/04/2022	
Your order number:	14059900	Analysis completed by:	26/04/2022	
Report Issue Number:	1	Report issued on:	26/04/2022	
Samples Analysed:	4 water samples			



Reg. 13(1) Technical Reviewer For & on behalf of i2 Analytical Ltd.

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

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

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

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

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





Lab Sample Number				2239760	2239761	2239762	2239763
Sample Reference				BH2C101	WS2C108	WS2C114	BH2C102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

pH	pH Units	N/A	ISO 17025	7.4	7 5	7.4	73
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	110	< 10
Free Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	1310000	2070000	701000	1900000
Sulphate as SO4	mg/l	0.045	ISO 17025	1310	2070	701	1900
Alkalinity as CaCO3	mg/l	3	ISO 17025	230	250	440	300

Phenols by HPLC

Catechol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Resorcinol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Ethylphenol & Dimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Cresols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Naphthols	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Isopropylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5
Phenol	µg/l	0.5	NONE	< 0 5	< 0 5	950	< 0 5
Trimethylphenol	µg/l	0.5	NONE	< 0 5	< 0 5	< 0 5	< 0 5

Total Phenols

Total Phenols (HPLC)	µg/l	3.5	NONE	< 3 5	< 3 5	950	< 3 5

Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/I	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/I	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/I	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/I	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH							
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16





Analytical Report Number: 22-51965

Project / Site name: Northstowe

Lab Sample Number	2239760	2239761	2239762	2239763			
Sample Reference				BH2C101	WS2C108	WS2C114	BH2C102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	1300	310	130	1100
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5 0	< 5 0	< 5 0	< 5 0

Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.49	0.39	1.65	0.41
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.04	0.05	0.09	0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	< 0 2	0.4	< 0 2	< 0 2
Copper (dissolved)	µg/l	0.5	ISO 17025	2 3	28	4.1	2.1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0 2	< 0 2	< 0 2	< 0 2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	6 5	5.7	11	96
Selenium (dissolved)	µg/l	0.6	ISO 17025	4.1	16	20	13
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.1	16	5 2	29

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
Toluene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
Ethylbenzene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
p & m-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
o-xylene	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10

Petroleum Hydrocarbons

TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 10
TPH-CWG - Aliphatic >C6 - C8 HS 1D AL	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 10
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	µg/l	1	ISO 17025	< 10	< 1 0	< 1 0	< 10
TPH-CWG - Aliphatic >C10 - C12 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 EH 1D AL #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7 HS 1D AR	µg/l	1	ISO 17025	< 10	< 1 0	< 10	< 1 0
TPH-CWG - Aromatic >C7 - C8 HS_1D_AR	µg/l	1	ISO 17025	< 1 0	< 1 0	< 1 0	< 1 0
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 10	< 1 0	< 10	< 1 0
TPH-CWG - Aromatic >C10 - C12 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 EH 1D AR #1 #2 MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) HS+EH_1D_AR_#1_#2_MS	µg/l	10	NONE	< 10	< 10	< 10	< 10

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





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 water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW. AI=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Phenols, speciated, in water, by HPLC	Determination of speciated phenols by HPLC.	In house method based on Blue Book Method.	L030-PL	w	NONE
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	w	ISO 17025
Free cyanide in water	Determination of free cyanide by distillation followed by colorimetry.Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	w	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	w	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	w	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	w	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Alkalinity in Water (by discreet analyser)	Determination of Alkalinity by discreet analyser (colorimetry). Accredited matrices: SW, PW, GW.	In house method based on MEWAM & USEPA Method 310.2.	L082-PL	W	ISO 17025

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

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland. Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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





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 A	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



This 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.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
BH2C101	None Supplied	W	2239760	а	None Supplied	None Supplied	None Supplied
BH2C102	None Supplied	W	2239763	а	None Supplied	None Supplied	None Supplied
WS2C108	None Supplied	W	2239761	а	None Supplied	None Supplied	None Supplied
WS2C114	None Supplied	W	2239762	а	None Supplied	None Supplied	None Supplied


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PHASE 1 DESK STUDY AND PHASE 2 INTRUSIVE INVESTIGATION; INTERPRETATIVE REPORT

Northstowe Phase 2 – Phase 2C

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Phase 1 Desk Study and Phase 2 Intrusive Investigation; Interpretative Report

Northstowe Phase 2 – Phase 2C

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This report dated 01 June 2022 has been prepared for Homes England (the "Client") in accordance with the terms and conditions of appointment dated 01 February 2022(the "Appointment") between the Client and **Arcadis Consulting (UK) Ltd** ("Arcadis") for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1 Introduction

1.1 Terms of Reference

Arcadis Consulting (UK) Limited (Arcadis) was instructed by Homes England, 'the Client', to undertake a ground investigation at the proposed site, known as Phase 2C (the "Site") within the Northstowe development near Cambridge.

No previous investigations have taken place within the Phase 2C boundary. The area was investigated during the wider Phase 2 investigation due to access constraints and archaeological investigation been undertaken in the area.

It should be noted that it is proposed to increase site levels across Phase 2C by approximately 1m to coincide with adjacent road levels. Therefore, near surface soil conditions, are likely to change from those recorded by some exploratory holes and as reported herein. The quality of the imported fills will therefore define near surface land quality in those areas that are filled. Full details of fill areas are not yet known.

The investigation undertaken across Phase 2C was based on a 50m grid, in order to provide greater certainty of the ground conditions and better investigate the presence of the sand and gravel channels that are present in this area. The investigation was undertaken in the area to be developed and did not take place in the area shown in green (western area) on Plan 1 below.

Details of the most recent investigation are provided within the factual report [1].

1.2 Proposed Redevelopment

At the time of writing, it is understood that the development will comprise low rise residential dwellings (up to 3 storeys) with gardens and associated infrastructure and a Neighbourhood Equipped Area of Play (NEAP)

The wider Phase 2 Northstowe development scheme comprises the following;

- Development of the main Phase 2 development area into approximately 3,500 dwellings, schools, town centre including employment uses, formal and informal recreation space and landscaped areas, the eastern sports hub, the busway, a primary road to the southern access, construction haul route and engineering and infrastructure works, and;
- Construction of a highway link (Southern Access Road (West) (SARW)) between the proposed new town of Northstowe and the B1050, improvements to the B1050 and associated landscaping and drainage.

Plan 1, below, shows the Phase 2C area within the main Phase 2 development area.

Plan 1 – Redline boundary for the Northstowe Phase 2C



1.3 Supplementary Reporting

The assessment and recommendations made in this report are based upon the following documents which should be referred to for factual data:

- Arcadis, Northstowe Phase 2C Factual Ground Investigation Report, May 2022 [1];
- WSP Environmental (UK) (2007) Northstowe Zone B Interim Factual Report [2].

A combined exploratory hole location plan is presented within Appendix A.

1.4 Limitations

This report has been prepared for the client in accordance with the terms and conditions of appointment. Arcadis cannot accept any responsibility for any use of or reliance on the contents of this report by any third party. The copyright of this document, including the electronic format shall remain the property of Arcadis.

This report has been compiled from a number of sources, which Arcadis believes to be trustworthy. However, Arcadis is unable to guarantee the accuracy of information provided by others. The report is based on information available at the time. Consequently, there is a potential for further information to become available, which may change this report's conclusion and for which Arcadis cannot be responsible.

It should be noted that ground conditions between exploratory holes may vary from those identified during and ground investigations; any design should take this into consideration. It should also be noted that groundwater levels may be subject to diurnal, seasonal, and climatic variations and those recorded in this report are solely dependent on the time the ground investigations were carried out and the weather before and during the investigations, (carried out at different times).

2 Site Setting

2.1 Site Location and Description

The Northstowe development is centred on the former RAF Oakington Airfield and surrounding farmland which is situated approximately 10km northwest of Cambridge. The National Grid Reference (NGR) is TL 408 665.

The Phase 2C site is approximately 3.6 hectares and generally flat. It is located towards the eastern side of the main Northstowe Phase 2 development. The Northstowe Secondary College is located to the northwest of the Site.

Previous specialist work, for example, UXO and archaeology surveys have been undertaken by others across the area which includes the Phase 2 development.

2.2 Site History

The Phase 2C development area 'the Site' includes open space and limited hardstanding associated with the former RAF Oakington airfield.

It is not the intention of this report to provide a full history, but to identify those past uses on and within the vicinity of the Site that could have resulted in contamination of the soils and/or waters. Significant changes to the land use of the Site and surrounding areas are summarised in Table 2.1 below.

Year	On Site	Off Site
1886 – 1938	The site is undeveloped fields.	The surrounding area is farmland and associated buildings
1938 – 1952	No change.	The area to the south of site is now listed as Airfield.
1958 – 1973	The site contains part of an airfield. This area is mainly undeveloped and is located next to a runway.	The airfield to the south of site has been further developed with additional buildings shown and runways.
1981 – 2006	The site is now listed as Oakington Barracks.	The airfield is now listed as Oakington Airfield, there have been changes to the layout of the runways.
2018	The site is now listed as Oakington Barracks (disused).	The airfield is now listed as Oakington Airfield (disused).

Table 2.1 Site History

2.3 Published Geology, Hydrogeology, Hydrology and Relevant Environmental Information

Below is a summary of site information to assist with providing context to the report.

Table 2.2 Published information

	Superficial Deposit: River Terrace Deposits comprised of clay, sand and gravel.
Geology / Aquifer Status	The superficial deposits (River Terrace Deposits) on the site are classified as a Secondary A aquifer by the Environment Agency (EA). Secondary A aquifers are defined as "permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers".
	Their mode or occurrence is naturally variable and is not persistent across all areas. Where present there is a strong influence on local groundwater conditions.
	Solid Geology: Based on Geological Mapping at 1:50,000 scale, Sheet 187 (drift) Huntingdon and Sheet 188 (solid and drift) Cambridge [3], the geological sequence underlying the locality is River Terrace Deposits over Kimmeridge Clay and Ampthill Clay.
	The bedrock (Kimmeridge Clay Formation and Ampthill Clay Formation) is classified as Unproductive Strata. Unproductive Strata is defined as "rock layers or drift deposits with low permeability that have negligible significance for water
	supply or river base flow"
	supply or river base flow" Phase 2C is mapped as underlain by the Kimmeridge Clay only.
	supply or river base flow" Phase 2C is mapped as underlain by the Kimmeridge Clay only. There are no geological faults located on the site, according to the BGS mapping.
Additional Geological Information	 supply or river base flow" Phase 2C is mapped as underlain by the Kimmeridge Clay only. There are no geological faults located on the site, according to the BGS mapping. The previous borehole/investigations, undertaken by the British Geological Survey between 1980's and 1990's across the whole Northstowe Phase 2 area, encountered between 0.2 m and 1.2 m of medium dense made ground overlying medium dense to dense River Terrace Sand and Gravel between 4 m and 6 m thick before proving the bedrock.
Additional Geological Information	 supply or river base flow" Phase 2C is mapped as underlain by the Kimmeridge Clay only. There are no geological faults located on the site, according to the BGS mapping. The previous borehole/investigations, undertaken by the British Geological Survey between 1980's and 1990's across the whole Northstowe Phase 2 area, encountered between 0.2 m and 1.2 m of medium dense made ground overlying medium dense to dense River Terrace Sand and Gravel between 4 m and 6 m thick before proving the bedrock. The radon risk has been assessed and indicates that the site is not in a radon affected area, as less than 1% of properties are above the action level, therefore no protective measures are necessary.

Licensed Groundwater Abstraction Points	There are a number of groundwater abstractions within 2000m of the site, with groundwater being utilised by multiple sources for spray irrigation and agriculture purposes.
Surface Water Features	A number of field drains within the surrounding agricultural land and Beck Brook located approximately 500m east of the Phase 2C site, which flows in a northerly direction. A number of ponds have been created and are present on the eastern boundary of the Phase 2 development.
Likely Groundwater Flow Direction	Groundwater flow is likely to be to the north and northeast and it is considered likely that groundwater is likely to be in continuity with Beck Brook to the east of the site. Groundwater is often present close to the ground surface.

3 Preliminary Conceptual Site Model

Geo-environmental assessments are required, in accordance with current regulatory guidance (CIRIA C552 [3] and LC:RM [5]), to consider the significance of potential contamination in terms of plausible contaminant source-pathway-receptor contaminant linkages. As part of this process, it is necessary to develop a conceptual model of these potential contaminant linkages by identifying the potential contamination sources, sensitive receptors and potential exposure pathways.

3.1 Potential Contaminant Sources

Based on the information obtained from the environmental site setting, historical mapping and previous investigations, there are a number of potential contaminative sources identified on and off-site. These are summarised in Table 3.1 below.

It should be noted that it is considered unlikely that all these substances would be present at significant concentrations across the Site.

Table 3.1 Potential Contaminant Sources

Source	Potential Contaminants
On Site	
Made Ground/ reworked ground/ imported ground associated with current use and historical use as the RAF Oakington	Metals, polyaromatic hydrocarbons (PAHs), Fuel Spillages – petroleum hydrocarbons (TPHs), asbestos, ground gases and vapours, UXO.
Off Site	
RAF Oakington and former Barracks	Metals, PAH, TPH, asbestos, ground gases, UXO