Table 7.2.3.1 Exceedances in WQS screening values

Determinand	Exceedances (μg/l)	WQS (EQS/DWS) (µg/l)	Exceedances (Yes/No) (Number)	Location of exceedances
Boron	1300	2000 (EQS) and 1000 (DWS)	1 (DWS)	BHTCA101
Cadmium	0.14 and 0.15	0.08 (EQS) and 5 (DWS)	2 (EQS)	BHTCA103 and BHTCA105D
Nickel	Between 28 – 56	26.5 (EQS) and 20 (DWS)	3 (DWS) 3 (EQS)	BHTCA103, BHTCA105D and WSTCA117
Zinc	110	37 (EQS) and 3000 (DWS)	1 (EQS)	BHTCA103

Notes: Bold loca ions denote highest recorded exceedance

The exceedances detailed above are generally marginal when compared to the WQS and the results are not considered to pose a risk to the receptors.

All other concentrations are below the relevant criteria, and no exceedances were recorded.

7.2.3.2 Organics

The groundwater samples were analysed for organic compounds (TPH – total petroleum hydrocarbons, PAH – Polycyclic Aromatic Hydrocarbons, BTEX – Benzene, Toluene, Ethylbenzene and Xylene and phenol).

No exceedance of EQS screening values were encountered.

7.3 Ground Gas Risk Assessment

7.3.1 Introduction

To establish the ground gas regime for the site, the boreholes installations were monitored on three occasions between 5th April 2022 and 20th May 2022. There are considered to be no potential source of ground gases on site (e.g. no landfill sites or significant Made Ground) and therefore the monitoring is included with an expectation to confirm this conceptual model.

The ground gas monitoring was undertaken using an infra-red gas analyser and flow pod. Concentrations of methane (CH4), carbon dioxide (CO2) and oxygen (O2) in %, Hydrogen Sulphide (H2S) and Carbon Monoxide in ppm and ground gas flow in litres per hour (I/hr) were recorded during each visit.

After the monitoring was undertaken, each well was dipped to record the groundwater level in each location.

7.3.2 Atmospheric Pressure

Atmospheric pressure can impact ground gas flow. According to CIRIA C665 Assessing the risks posed by hazardous ground gases to buildings [4]:

"at falling pressure increased emission rates occur as the gas increases in volume. Rising pressure causes air to flow into the ground, diluting soil gas concentrations. The rate of change in barometric pressure is also important. A swift drop over a small range has the potential to release a greater volume of gas than a gradual drop over a greater pressure range".

Atmospheric pressure data from the ground gas monitor utilised on site was recorded at each monitoring location. The following atmospheric pressure conditions were noted during the monitoring rounds:

- 5th to 7th April 2022 high and falling pressures from 1008 to 981 millibar
- 12th April 2022 high and rising pressures between 1004 and 1005 millibar
- 20th May 2022 high and steady pressures between 1017 and 1018 millibar

7.3.3 Gas Monitoring Results

During monitoring visits, it was noted that the response zones were completely flooded in BHTCA101 – BHTCA109 (except BHTCA104 and BHTCA105 (shallow)) and WSTCA108 during the first two visits and WSTCA117 during the third visit due to high groundwater levels. As such only locations where the response zones were not completely flooded and are considered a truer reflection of the ground gas regime of the site and has been used for the assessment.

Below is a summary of the range of ground gas monitoring results recorded during the three monitoring rounds. Full details are provided in the Factual Report [1].

Table 7.3.3: Summary of Gas Monitoring Results

Parameter	Range of Results										
T didiffeter	Round 1	Round 2	Round 3								
Methane (% v/v)	0.1 – 3.7 (WSTCA106)	<0.1 – 3.7 (WSTCA106)	<0.1 – 0.3 (WSTCA108)								
Carbon Dioxide (% v/v)	0.2 - 12.2 (WSTCA109)	0.2 - 6.5 (WSTCA109)	0.2 - 10.2 (WSTCA108)								
Oxygen (%v/v)	1.0 - 21.1 (WSTCA109)	0.2 ¹ - 21.0 (WSTCA109)	1.1 – 21.3 (WSTCA106)								
Carbon Monoxide (ppm)	0 – 5 (BHTCA105 (shallow))	1 – 9 (BHTCA110)	0 – 32								
Hydrogen Sulphide (ppm)	0	0	0								
Ground Gas Flow (l/h)	<0.1 – 0.1 (WSTCA106)	<0.1 – 0.2 (BHTCA110)	<0.1								

Parameter	Range of Results		
raidificion	Round 1	Round 2	Round 3
Atmospheric Pressure (mbar)	981 - 1008	1004 – 1005	1017 - 1018

Notes: Location in brackets represents the highest ground gas concentration or lowest Oxygen concentration

1 Dip to base inconsistent with installed well - potential blockage

2 WSTCA106, BHTCA104, WSTCA108, BHTCA110

A maximum concentration of 9.0 ppm of Carbon Monoxide (CO) was recorded in BHTCA110 during the second round of monitoring. No hydrogen sulphide recorded. The short-term occupation exposure limit (15 minutes) for CO is 200ppm with the long-term exposure limit of 30ppm [23]. The concentrations recorded on site are considerably lower than these limits and therefore not considered to be significant.

7.3.4 Hazardous Ground Gas Assessment

A ground gas risk assessment has been undertaken to evaluate the risk posed to potential receptors of the proposed development. As the proposed development is mainly residential properties, a risk assessment appropriate for this land use has been completed.

BS 8485(2019) +A1 guidance [23] has been used to inform the ground gas assessment.

The Qhg is calculated using the following equation:

Qhg = borehole flow rate (I/h) x gas concentration (%v)/100

The following parameters have been used in the equation:

CH4 (max recorded concentration) = 3.7 % v/v

CO2 (max recorded concentration) = 12.2 % v/v

Flow Rate (max steady flow rate) 0.2 l/hr

Qhg CH4: 3.7/100 x 0.2 = 0.0074 – CS1 Very Low risk

Qhg CO2: 12.2/100 x 0.2 = 0.0244 – CS1 Very Low Risk

With reference to BS 8485 Code of Practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings, if a methane concentration greater than 1 % v/v or carbon dioxide concentration greater than 5% v/v is encountered, consideration should be given to assigning a CS2 classification.

A review of the available ground gas data to date shows elevated carbon dioxide/methane and depleted oxygen in WSTCA109 (all visits), WSTCA106 (visit 2 and 3), BHTCA105 (shallow) (visit 3) and WSTCA108 (visit 3) (presented in Figure 7.3.4 below) within River Terrace Deposits on site. No sources of ground gases, such as landfill or waste, have been identified on or close to the Site and the encountered geology does not indicate any hydrocarbon contamination which might cause oxygen depletion through increased microbial action. As

the results are uncharacteristic it would be prudent to class the area as a Characteristic Situation (CS) 2 and include further ground investigation works to allow further screening of the River Terrace Deposits to try to map the extent of the apparent elevated carbon dioxide/methane and depleted oxygen. If zoning of the site is possible this may reduce the area requiring gas protection. This finding should be discussed with the Regulator early in the development planning, to ensure they accept this finding.

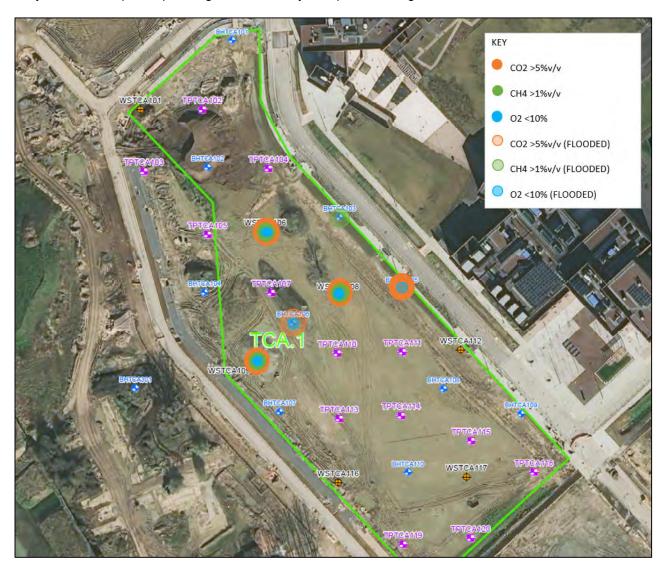


Figure 7.3.4: Location plan of elevated carbon dioxide/methane and depleted oxygen concentrations

8 Quantitative Risk Assessment

8.1 Methodology

Geo-environmental assessments are required to consider the significant 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. A risk assessment is then undertaken to determine the likelihood and significance of these potential linkages.

Risk assessment involves identifying hazards and determining their potential severity and likelihood, if an impact occurs on identified receptors. Risks are generally managed by changing the receptor, isolating the sensitive receptor by intercepting or interrupting the exposure pathway, or removing the source. If no pollutant linkages are formed, there is no risk. The following risk assessment focuses on the potential contaminants identified on the site and the proposed development of the site.

CIRIA guidance C552 [5] states that the designation of risk is based upon a consideration of both:

- The likelihood of an event (probability); (takes into account both the presence of the hazard and the receptor and the integrity of the pathway).
- The severity of the potential consequence (takes into account both the potential severity of the hazard and the sensitivity of the receptor).

Under such a classification system the following categorisation of risk has been developed and the terminology adopted as follows (Table 8.1):

Table 8.1 Risk Categorisation

Risk Term	Description
Very High Risk	There is a high probability that significant harm could arise to a designated receptor from an identified hazard at the site without appropriate remedial action.
High Risk	Significant Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remedial action.
Moderate Risk	It is possible that without appropriate remedial action, harm could arise to a designated receptor, but it is relatively unlikely that any such harm would be severe and if any harm were to occur, it is likely that such harm would be relatively mild.
Low Risk	It is possible that significant harm could arise to a designated receptor from an identified hazard, but it is likely that at worst this harm if realised would normally be mild.

Risk Term	Description
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised, it is not likely to be severe.

Further risk assessment terminology is included in Appendix B.

8.2 Pollutant Linkages – Conceptual Site Model

As discussed above in Section 8.1, for a pollutant linkage to be present on the site, a source, pathway and receptor must all be present at the site. An updated Conceptual Site Model is presented below

Table 8.2: Refined conceptual site model

RPL No	Contaminant Source	Pathway I IValino		Likelihood	Potential Risk	Comments				
RPL1	PAH compounds in underlying soils in shallow Made Ground in TPTCA103 / TPTCA206	llow Human Health Ground Ground CA103 / Human Health Contact Chronic damage (Medium)		7.000.700.70	Low. Contaminant concentrations have been found to be elevated in proposed residential areas, however the contamination is not widespread. In areas of proposed soft landscaping there is a low likelihood that receptors would come into contact with contaminants if present in the surface soils if no remediation /mitigation is undertaken.	Low	Contamination has been encountered in the near surface soils in specific sample locations across the site, however contamination is not found to be widespread. The level of remediation / mitigation required will depend on the final design of the development in the areas where elevated results have been encountered. Either offsite removal or "clean" cover protection is likely to be warranted, focused in soft landscaping areas.			
RPL2	Natural geology	Buildings/ Services	Contact of contaminants with buildings and structures (excluding potable water supply pipes)	Damage to structures (Mild)	Likely. Identified contaminants are unlikely to cause significant damage to new buildings, if appropriate concrete design is used, significant damage to new buildings is unlikely.	Low to moderate	No pH concentrations outside the normal range of 6-9 units have been detected.			
RPL3	Ground Gases (methane and carbon dioxide)	Human Health	Inhalation in confined spaces	Asphyxiation (Severe)	Low. elevated concentrations of methane and carbon dioxide were recorded across the centre of the site. However, based on the current information about proposed site end use, the risk to	Moderate/ Low	No credible source has been identified. However, elevated concentrations of carbon dioxide and methane and depleted oxygen levels have been identified. A CIRIA Characteristic Situation 2 has been calculated. As this is considered to be uncharacteristic			

RPL4	Buildings/Services (on-site)	Accumulation in confined spaces	Explosion (Severe)	residential end users considered to be low.	s	of the encountered geology and lack of potential sources, it would be prudent to undertaken further ground investigation works to determine the extent of these values to see if zoning of the site could be undertaken, thereby reducing the area which would require gas protection.
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8.3 Pollutant Linkages Discussion

Soil

No results from the ground investigations recorded concentrations above the relevant GACs with the exception

of two samples which identified slight exceedances in PAHs. No asbestos was encountered.

While the ground investigation did not encounter any significant contamination within the soil samples tested the

ground investigation only covered discreet locations such that unidentified contamination might still be present

on the site. Therefore, it would be prudent that a watching brief be undertaken during any excavation works and

that, once development plans are known, consideration of clean cover system should be made. A clean cover

system in the areas of soft landscaping would work as a pathway break between any unidentified contamination

and end users.

Groundwater

Marginal exceedances in boron, cadmium, nickel and zinc have been identified when compared to WQS but are

not considered to be pose a substantial impact to the identified receptors.

Gas

A review of the available ground gas data shows elevated carbon dioxide/methane and depleted oxygen in within

River Terrace Deposits across the centre of the site. No sources of ground gases, such as landfill or waste, have been identified on or close to the site and the encountered geology does not indicate any hydrocarbon

contamination which might cause oxygen depletion through increased microbial action.

As the results are uncharacteristic it would be prudent to class the area as a CS2 and include further ground

investigation works to allow screening of the River Terrace Deposits to try to map the extent of the apparent

elevated carbon dioxide/methane and depleted oxygen. If zoning of the site is possible this may reduce the area

requiring gas protection. This finding should be discussed with the Regulator early in the development planning,

to ensure they accept this finding.

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9 Conclusions and Recommendations

9.1 Conclusions

The investigation has provided site specific data for the area of Northstowe known as Phase C1.

The Phase C1 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 northeast of the

Site.

No specific point sources of contamination have been identified on site. Sampling has therefore been undertaken

on a spatial coverage basis.

The ground investigation identified Made Ground deposits overlying granular deposits of the River Terrace

Deposits and the cohesive Kimmeridge Clay Formation.

While no concentrations above the appropriate GACs were identified within the Made Ground or underlying

natural deposits across the site there is still considered to be the possibility for isolated and localised areas of

contamination, though this is considered to be unlikely given the site history.

Site redevelopment proposals have not been finalised but are likely to include a mixed-use end use with areas

of soft landscaping potentially requiring a clean capping layer.

No further remedial measures are likely to be required for the proposed development.

Gas concentrations and flow rates recorded indicate that the site is classified as Characteristic Situation 2, low

risk, such that special protection measures are likely to be required to protect the proposed structures from

hazardous ground gas. However, zoning of the site may be possible with further screening of the River Terrace

Deposits which may reduce the area requiring special protection measures subject to regulatory liaison.

Additionally, marginal exceedances in boron, cadmium, nickel and zinc have been identified when compared to

WQS but are not considered to be pose a substantial impact to the identified receptors. Therefore, the risk to

Controlled Waters is low.

Soakaway testing was completed at a singular location withing the C1 site. Based on the results, adequate

soakage potential is unlikely to be present across the site. Irrespective of this, the application of standard designs

is likely to have limited potential due to the high groundwater level, and the resultant absence of an adequate

unsaturated zone beneath soakaways.

Based on the available data, it is considered likely that groundwater will be encountered in shallow excavations

(i.e. <2.0mbgl) at the site, especially during periods of wet weather. Appropriate groundwater control/dewatering

provisions are likely to be required in excavations.

9.2 Recommendations

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Significant contaminant sources have not been identified on the site however pollutant linkages are considered

present. In order to satisfy and enable the discharge of the likely future relevant Planning Conditions (including

pre-commencement conditions), it is recommended that the findings of this report (with respect to contamination)

be formalised in a development-specific Remediation Statement (detailing the chosen remedial option) and be

submitted to the Local Planning Authority for their approval once fixed development plans are available for the

site.

Additional ground investigation to allow for the zoning of the site with respect to elevated carbon dioxide/methane

and depleted oxygen is recommended. The investigation should include the installation of additional shallow

ground gas monitoring wells within the River Terrace Deposits to the north and south ends of the site.

Limited contamination of concern has been encountered on site during the investigation, during the

redevelopment of the site a watching brief approach should be adopted. If any evidence of significant Made

Ground or visual or olfactory evidence of contamination is encountered during excavation works, work in that

area should be suspended and analysis should be undertaken to determine if the material can remain on site.

Whilst the contractor should be responsible for the watching brief, inspection of any finds and sampling should

be undertaken by an experienced Geo Environmental Engineer.

Whilst contamination levels are typically not elevated, it is recommended that construction workers use

appropriate PPE during the redevelopment.

A number of foundation solutions are deemed viable, and these will need to respond to the variable geology

encountered and the differing development proposals. In general trench or strip foundations are likely to be

suitable in areas of the site where there has not been an increase in site levels. In general trench or strip

foundations are not generally economical at depth of greater than 2mbgl.

Any contaminated materials being excavated for off-site disposal and other materials excess to requirements

and requiring disposal will be waste and will require management under appropriate waste regulations.

Early consultation with local authority highways is recommended to help inform selection of design CBR.

It is unlikely that specific protection measures will be required for potable water supply. It is recommended that

consultation is undertaken with the local supplier to confirm this, and a Water Pipeline Risk Assessment

undertaken.

PHASE 1 DESK STUDY AND PHASE 2 INTRUSIVE INVESTIGATION; INTERPRETATIVE REPORT Northstowe Phase 2 - Phase C1

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10 References

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Appendix A

Exploratory Hole Plan



Appendix B

ESDAT Tables

	Sample	Concension Con	
C SL Public C St. LOM S UL Public LOM S UL Possion (POS) Residential Consumption of Residential - 1% homegrown SOM	Sample Sample Matri Resident al (w thout consumption of homegrown produce	4 Date ime 403-2002 10-03-2002 10	atistical
		No.	umber of Number Minimum Minimum Maximum Average Median Standard Nu
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mg/kg 0.3 15000 mg/kg 0.1 90000 mg/kg 0.1 90000 mg/kg 0.2 300 90000 mg/kg 0.2 17000 mg/kg 0.2 17000 25 900000 900000 90000 90000 90000 90000 90000 90000 90000 90000 90000 90000 900000 90000 90000 90000 90000 900000 900000 900000 900000 9000000	0. 61	63 63 - 63 63 - 7 63 63 63 63 63 63 63 63 63 63 63 63 63	0 <0.3 ND <0.3 ND 0.15 0.15 0.15 0 0.05 0 0.
	0.32	Q1 Q2 - Q1 Q1 - - Q1 Q1 - - Q1 Q1	0 <0.1 ND <0.1 ND 0.05 0.05 0
mg/kg 0 2 2 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9		402 402 - <td>0 <0.2 ND <0.2 ND 0.1 0.1 0 0 <0.2 ND <0.2 ND 0.1 0.1 0</td>	0 <0.2 ND <0.2 ND 0.1 0.1 0 0 <0.2 ND <0.2 ND 0.1 0.1 0
mg/kg 0.3 mg/kg 0.3		$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0 <0.3 ND <0.3 ND 0.15 0.15 0 0 <0.3 ND <0.3 ND 0.15 0.15 0
mg/kg 0.2 mg/kg 0.1		92 92 - 92 92 - 93 92 - 93 92 - 94 92 - 94 92 - 94 92 - 94 92 - 94 92 - 94 92 - 94 92 92 - 94 94 94 94 94 94 94 94 94 94 94 94 94	0 <0.3 ND <0.3 ND 0.15 0.15 0 0 <0.2 ND <0.2 ND 0.1 0.1 0.1 0 0 <0.1 ND <0.1 ND 0.05 0.05 0
mg/kg 0.1 mg/kg 0.1		01 01 01 01 01 01 01 01 01 01 01 01 01 0	0 <0.1 ND <0.1 ND 0.05 0.05 0 0 <0.1 ND <0.1 ND 0.05 0.05 0 0 <0.1 ND <0.1 ND 0.05 0.05 0
mg/kg 0 3 mg/kg 0 3		63 63 -<	0 <0.3 ND <0.3 ND 0.15 0.15 0 0 <0.3 ND 0.3 ND 0.15 0.15 0 0 <0.1 ND 0.1 ND 0.05 0.05 0
mg/kg 0.1 mg/kg 0.1 mg/ka 0.3			0 <0.1 ND <0.1 ND 0.05 0.05 0 0 <0.1 ND <0.1 ND 0.05 0.05 0 0 <0.3 ND <0.3 ND 0.15 0.15 0
mg/kg 0.2 mg/kg 0.3		402 0.2 0	0 <0.2 ND <0.2 ND 0.1 0.1 0 0 <0.3 ND <0.3 ND 0.15 0.15 0
mg/kg 0.2 mg/kg 0.1		d2 d2 d2 d2 d2 d2 d2 d2	0 <0.2 ND <0.2 ND 0.1 0.1 0 0 <0.1 ND <0.1 ND 0.05 0.05 0
mg/kg 0.3 mg/kg 0.3		43 43 - 43 43 43 43 43 - 3 -	0 <0.3 ND <0.3 ND 0.15 0.15 0 0 <0.3 ND <0.3 ND 0.15 0.15 0 0 <0.2 ND <0.2 ND 0.15 0.15 0
mg/kg 0 2 mg/kg 0.1		93 93 - 93 93 - 93 93 - 93 93 - 93 93 93 93 93 93 93 93 93 93 93 93 93	0 <0.2 ND <0.2 ND 0.1 0.1 0.1 0 0 0 0 0 0 0 0 0 0 0 0 0 0
mg/kg 0.2 mg/kg 0.3 16 mg/kg 0.05	(a) 1 ⁸⁶	402 -02 <td>0 <0.2 ND <0.2 ND 0.1 0.1 0.1 0 0 <0.3 ND <0.3 ND 0.15 0.15 0 0 <0.05 ND <0.05 ND 0.025 0.025 0</td>	0 <0.2 ND <0.2 ND 0.1 0.1 0.1 0 0 <0.3 ND <0.3 ND 0.15 0.15 0 0 <0.05 ND <0.05 ND 0.025 0.025 0
mg/hg 0/2 mg/kg 0/3 mg/kg 0/2 mg/kg 0/2 mg/kg 0/3		402 402 <td>0 <0.2 ND <0.2 ND 0.1 0.1 0 0 <0.3 ND <0.3 ND 0.15 0.15 0</td>	0 <0.2 ND <0.2 ND 0.1 0.1 0 0 <0.3 ND <0.3 ND 0.15 0.15 0
mg/kg 0.2 (dir)760 ⁴ mg/kg 1	750	d2 d2 r d2 d2 r r r r r r r r r	0 <0.2 ND <0.2 ND 0.1 0.1 0 0 <1 ND <1 ND 0.5 0.5 0
mg/kg 0.3		43 43 · · · · · · · · · · · · · · · · ·	0 <0.1 ND <0.1 ND 0.05 0.05 0 0 <0.1 ND <0.1 ND 0.05 0.05 0
ma/kg ID.1			0 <0.1 ND <0.1 ND 0.05 0.05 0
% 0.01		7.6 1 10 9.6 11 11 11 11 11 11 11 11 11 11 11 11 11	3 7.6 7.6 18 18 12 12 2.6 2 2 6.7 6.7 10. 10. 10. 8.2 8.1 0.65 6 -0.1 3 35 35 35 3.1 0.05 8. 3 1 1 1 1 1 1 1 1 0

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			Site_II Field II		TCA 1 BHTCA102	TCA BHTCA103	TCA BHTCA104	TCA BHTCA105D	TCA BHTCA106	TCA BHTCA107	TCA BHTCA108	TCA B BHTCA109	TCA BHTCA110	TCA WSTCA108	TCA WSTCA117										
			Location Wel		BH102	BH103	BH104	BH105D	BH106	BH107	BH108	BH109	BH110	WS108	WS117										
		UK Drinking Water Standards	Sampled Date Time UK Freshwater EQS	e 05-04-202	22 05-04-2022	05-04-2022	06-04-2022	05-04-2022	06-04-2022	06-04-2022	07-04-2022	2 07-04-2022	06-04-2022	05-04-2022	07-04-2022	Statistical Summary	,								
Analyto	Unit EG															Number of	Nonel	per Minimum	Minimum Maxim	ım Maximum	Averese	Median	Ctandard	Number of	Number of
Analyte Isopropyl phenol	µg/L 0.5			<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<05	<0.5	<0.5	<0.5	<05	<0.5	12	0	<0.5	ND <0.5		0.25	0.25	0	0	0
Miscellaneous Naphthols	μg/L 0.5	5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	0	<0.5	ND <0.5		0.25	0.25	0	0	0
2,3/3,5-Dimethylphenol + 4-Ethylphenol Metals	μg/L 0.5	b		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<05	<0.5	<0.5	<0.5	<0.5		12	0	<0.5	ND <0.5		0.25	0.25		0	10
Arsenic (Filtered) Boron (Filtered)	μg/L 0.1 μg/L 10	1000#1	50 ^{#2} 2000 ^{#3}	1.45 1300	0.86 930	0.64 600	2.08 980	1 83 160	1.41 1000	1.29 890	<0.15 790	330	0.74 110	2.33 130	1.81 190	12 12	11	<0.15 110	0.55 2 33 110 1300	1300	1.3 618	1.35 695	0.69 0 417 2	2	2
Cadmium (Filtered) Chromium (hexavalent) (Filtered)	μg/L 0.0 μg/L 5	02 5 ^{#1}	0.08 ^{#4} 3.4 ^{#5}	0.05	0.05 <5	0.14 <5	0.07 <5	0.15 <5	0 05 <5	0.03 <5	<0.02 <5	0.07 <5	0 08 <5	0.08 <5		12	0	<0.02 <5	0.03 0.15 ND <5		0.07 2.5	0.065 2.5	0.04 4	12	0
Chromium (Filtered) Copper (Filtered)	μg/L 0.2 μg/L 0.5		3.4 ^{#6} 1(bio) ^{#7}	<0.2 4.5	<0.2 4.5	<0.2 5.1	<0.2 4.1	0.5 9.5	<0.2 4.9	<02 3.9	<0.2 0.7	<0.2	<0.2	<0.2 6.8	<0.2 3.8	12 12	1 12	<0.2 0.7	0.5 0.5 0.7 9.5		0.13 4.6	0.1 4.3	0.12	11	11
Lead (Filtered) Mercury (Filtered)	μg/L 0.2	2000	1.2(bio) ^{#7} 0.07(MAC) ^{#8}	<0.2 <0.05	0.3 <0.05	<0.2 <0.05	0 2 <0.05	0.6 <0.05	<0.2 <0.05	0.2 <0.05	<0.2	0.3 <0.05	0.2 <0.05	0.3 <0.05	0.2 <0.05	12	8	<0.2 <0.05	0.2 0.6 0.07 0.07	0.6	0.23 0.029	0.2		0	0
Nickel (Filtered) Selenium (Filtered)	μg/L 0.5	5 20#1	4(bio)#7	8.5 2.3	7.4	56 1.9	73	28	13	12	0.8	9	13	21	29	12	12	0.8	0.8 56	56	17	12.5	15 1	11	11
Zinc (Filtered) Inorganics	μg/L 0.6 μg/L 0.5	5 3000#9	10.9(bio) ^{#7}	6.6	9.6	110	88	5.5	14	29	5	11	18	7.2	12	12	12	5	5 110		20	10.3	29 6	6	6
Alkalinity (total) as CaCO3 (Filtered)	mg/L 3	#1	.#2	220	270	370	210	420	230	370	210	610	380	540	510	12	12	210	210 610		362	370	139		0
Cyanide (Free) Cyanide Total	μg/L 10 μg/L 10	50 ^{#1}	1#2	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	12	0	<10 <10	ND <10 ND <10	ND ND	5	5	0 1	12	0
Sulphate as SO4 (Filtered) PAH	mg/L 0.0			458	476	1090	509	817	657	1260	804	1040	524	338	519	12	12	338	338 1260		708	590.5	1200	0	<u>IU</u>
Naphthalene (Filtered) Acenaphthene (Filtered)	μg/L 0.0 μg/L 0.0	01	2 ^{#2} No UK EQS	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	12 12	0	<0.01 <0.01	ND <0.01 ND <0.01	ND	0.005	0.005	0 1		12
Acenaphthylene (Filtered) Fluoran hene (Filtered)	μg/L 0.0 μg/L 0.0		No UK EQS 0.0063 ^{#2}	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	12 12	0	<0.01 <0.01	ND <0.01 ND <0.01		0.005	0.005		12 12	0
Anthracene (Filtered) Phenanthrene (Filtered)	μg/L 0.0 μg/L 0.0		0.1 ^{#2} No UK EQS	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	12 12	0	<0.01 <0.01	ND <0.01 ND <0.01		0.005 0.005	0.005		12	0 12
Fluorene (Filtered) Chrysene (Filtered)	μg/L 0.0 μg/L 0.0	01	No UK EQS No UK EQS	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	12	0	<0.01 <0.01	ND <0.01 ND <0.01	ND	0.005 0.005	0.005 0.005	0 1	12	12
Pyrene (Filtered) Benzo(a)anthracene (Filtered)	μg/L 0.0 μg/L 0.0	01	No UK EQS No UK EQS	<0.01 <0.01	<0.01	<0.01 <0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01 <0.01	<0.01 <0.01	<0.01	12	0	<0.01 <0.01	ND <0.01 ND <0.01	ND	0.005	0.005	0 1	12	12
Benzo(b)fluoranthene (Filtered)	μg/L 0.0	0.025 ^{#10}	See BaP ^{#11}	<0.01	<0.01	<0.01	<0.01	<0.01 <0.01	<0.01	<0.01 <0.01	<0.01	<0.01 <0.01 <0.01	<0.01	<0.01	<0.01	12	0	<0.01	ND <0.01	ND	0.005	0.005	0 (0	0
Benzo(k)fluoranthene (Filtered) Benzo(a)pyrene (Filtered)	μg/L 0.0 μg/L 0.0	0 0 0 1 #1	See BaP ^{#11} 0 00017 ^{#11}	<0.01	<0.01	<0.01 <0.01	<0.01 <0.01	<0 01	<0 01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01 <0.01	12	0	<0.01 <0.01	ND <0.01 ND <0.01	ND	0.005	0.005	0 1	12	0
Dibenz(a,h)an hracene (Filtered) Benzo(g,h,i)perylene (Filtered)	μg/L 0.0 μg/L 0.0	0.025 ^{#10}	No UK EQS See BaP#11	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0 01 <0 01	<0.01 <0.01	<0.01 <0.01	<0.01 <0.01	<0 01 <0 01	<0.01 <0.01	<0.01	12 12	0	<0.01 <0.01	ND <0.01 ND <0.01	ND	0.005 0.005	0.005 0.005	$\overline{}$	12 0	0
Indeno(1,2,3-c,d)pyrene (Filtered) PAH 16 Total	μg/L 0.0 μg/L 0.1		See BaP ^{#11}	<0.01 <0.16	<0.01 <0.16	<0.01 <0.16	<0.01 <0.16	<0.16	<0.01 <0.16	<0.01 <0.16	<0.01 <0.16	<0.01 <0.16	<0.16	<0.01 <0.16	<0.01 <0.16	12 12	0	<0.01 <0.16	ND <0.01 ND <0.16		0.005	0.005 0.08		0	0
TPH CWG >C5-C6 Aliphatics	μg/L 1	See TPH	See TPH	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	12	0	<1	ND <1	ND	0.5	0.5	0	12	12
>C6-C8 Aliphatics >C8-C10 Aliphatics	μg/L 1 μg/L 1	See TPH See TPH	See TPH See TPH	<1	<1	<1 <1	<1	<1 <1	<1 <1	<1	<1	<1	<1 <1	<1		12 12	0	<1 <1	ND <1 ND <1		0.5	0.5			12
>C10-C12 Alipha ics >C12-C16 Alipha ics	μg/L 10 μg/L 10		See TPH See TPH	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10		12 12	0	<10 <10	ND <10 ND <10	ND ND	5	5			12 12
>C16-C21 Alipha ics >C21-C35 Aliphatics	μg/L 10 μg/L 10	See TPH	See TPH See TPH	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10	12 12	0	<10 <10	ND <10 ND <10	ND ND	5	5	0 1	12	12 12
Total >C5-C35 Alipha ics >EC5-EC7 Aromatics	μg/L 10 μg/L 1		See TPH See TPH	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	12	0	<10	ND <10 ND <1	ND	5	5	0 1	12	12
>EC7-EC8 Aromatics >EC8-EC10 Aromatics	µg/L 1	See TPH See TPH	See TPH See TPH	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	12	0	<1	ND <1 ND <1	ND	0.5	0.5	0 1	12	12
>EC10-EC12 Aroma ics	μg/L 1 μg/L 10	See TPH	See TPH	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	12	0	<10	ND <10	ND	5	5	0 1	12	12
>EC12-EC16 Aroma ics >EC16-EC21 Aroma ics	μg/L 10 μg/L 10	See TPH	See TPH See TPH	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10		12	0	<10 <10	ND <10 ND <10	ND ND	5	5	0 1	12	12
>EC21-EC35 Aroma ics Total >EC5-EC35 Aromatics	μg/L 10 μg/L 10		See TPH See TPH	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10	<10 <10		12 12	0	<10 <10	ND <10 ND <10	ND ND	5	5			12
BTEX and MTBE Benzene	μg/L 1	1#1	10#2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		12	0	<1	ND <1		0.5	0.5		0	0
Toluene E hylbenzene	μg/L 1 μg/L 1	700 ^{#12} 300 ^{#12}	74 ^{#2} 20 ^{#13}	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1 <1	<1	<1	<1 <1	<1 <1	<1	12 12	0	<1 <1	ND <1 ND <1	ND	0.5	0.5	0 1	0	0
Xylene (m & p) Xylene (o)	μg/L 1 μg/L 1	250 ^{#14} 250 ^{#14}	15 ^{#15} 15 ^{#15}	<1 <1	<1	<1 <1	<1	<1 <1	<1 <1	<1 <1	<1	<1	<1	<1 <1		12 12	0	<1	ND <1 ND <1	_	0.5 0.5	0.5	0 0	0	0
MTBE SVOC	µg/L 1	15#18	15#17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		0	<1	ND <1		0.5	0.5	0 0	0	#VALUE!
catechol (o-dihydroxybenzene) Phenolics	μg/L 0.5	5		<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	12	0	<0.5	ND <0.5	ND	0.25	0.25	0 0	0	0
Cresol Total Phenol	μg/L 0.5		7 7#2	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<05 <05	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	12	0	<0.5 <0.5	ND <0.5 ND <0.5		0.25	0.25		0	0
Phenolics Total	μg/L 3.5	5	7.7*2	<3.5	<3.5	<3.5	<35	<3.5	<3.5	<35	<3.5	<3.5	<3.5	<3.5	<3.5	12	0	<3.5	ND <3.5	ND	1.8	1.75	<u> </u>	0	0
resorcinol (m-dihydroxybenzene) Trimethylphenol	μg/L 0.5 μg/L 0.5			<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<05 <05	<0.5 <0.5	<0.5 <0.5	<0.5 <0.5	<05 <05	<0.5 <0.5	12 12	0	<0.5 <0.5	ND <0.5 ND <0.5		0.25 0.25	0.25 0.25	0 0	0	0
Other pH (Lab)	pH Units 0	6.5-9.5 ^{#1}	6-9(MAC) ^{#19}	7.8	7.3	7	7.6	7	7.7	7.5	8	6.9	7.1	7	6.9	12	12	6.9	6.9 8	8	7.3	7.2	0.39	0	0

UK Drinking Water Standards: UK Drinking Water Standards: UK Drinking Water Standards - Water Supply (Water Quality) Regulations, 2016 [http://www.legisla ion.gov.uk/uksi/2016/614/pdfs/uksi_20160614_en pdf] plus other key CoC. To be used to assess risk to an aquifer. UK Freshwater EQS:UK freshwater EQS Annual Average (AA) [https://www.gov.uk/guidance/surface-water-pollu ion-risk-assessment-for-your-environmental-permit] plus other key CoC. 'UK Freshwater EQS - fur her assessment' provides fur her assessment of criteria dependent CoC.

Env Stds Comments

#1:Water Supply (Water Quality) Regulations 2016.
#2:Water Framework Directive (Standards and Classifica ion) Directions (England and Wales) 2015. #3:Operational Targets and EQS. EA, April 2018

#3:Water Framework Directive (Standards & Classification) Directions (England & Wales) 2015. Dissolved fraction. Lowest criteria presented (<40mg/l of CaCO3). See 'further assessment' if criteria exceeded and hardness (CaCO3) data available.

#5:Water Framework Directive (Standards & Classification) Directions (England & Wales) 2015. Dissolved fraction.

#6:Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015. Dissolved Fraction. If hexavalent chromium (CrVI) data is available, a value of 4.7µg/l may be appropriate for the remaining trivalent chromium (CrIII).

#7:Water Framework Directive (Standards & Classification) Directions (England & Wales) 2015. Dissolved & bioavailable (bio) frac ion plus background. M-BAT tool to assess: http://wfduk.org/resources/rivers-lakes-metal-bioavailability-assessment-tool-m-bat

#8:Water Framework Directive (Standards and Classifica ion) Directions (England and Wales) 2015. Dissolved Fraction. MAC adopted in absence of AA value.

#9:Guidelines for Drinking-water Quality, 4th Edition. WHO, 2011. Based on taste rather than a formal guideline.
#10:Water Supply (Water Quality) Regula ions 2016. Value of 0.1µg/l for PAH split between four individual PAH. Requires summation of benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(ghiperylene and indeno(123cd)pyrene to use 0.1µg/l value.

#11:Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015. Benzo(a)pyrene can be considered as a marker for other PAH for comparison with he corresponding AA-EQS in water #11:Water Prairiework (standards and classification) WHO, 2011.
#12:Guidelines for Drinking-water Quality, 4th Edition. WHO, 2011.
#13:Proposed Environmental Quality Standard, in absence of legislative standard (Ayscough et al., 2002). https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/291223/sp2-115-tr4-e-e pdf #14:Guidelines for Drinking-water Quality, 4th Edition. WHO, 2011. Value of 500µg/l for sum xylenes split between isomers. Requires summation of m,p & o isomers to use 500µg/l value.
#15:Operational Targets and EGS. EA, April 2018. Value of 30µg/l for sum xylenes split between isomers. Requires summation of m,p & o isomers to use 30µg/l value.

#16:The taste and odour threshold of 15µg/l is commonly adopted as a guide.
#17:The taste and odour threshold of 15µg/l is commonly adopted as a guide.
#18:US EPA Regional Screening Levels, May 2019. https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables
#19:Operational Targets and EQS. EA, April 2018. Maximum Allowable Concentration (MAC) adopted in absence of Annual Average (AA) value.

Appendix C

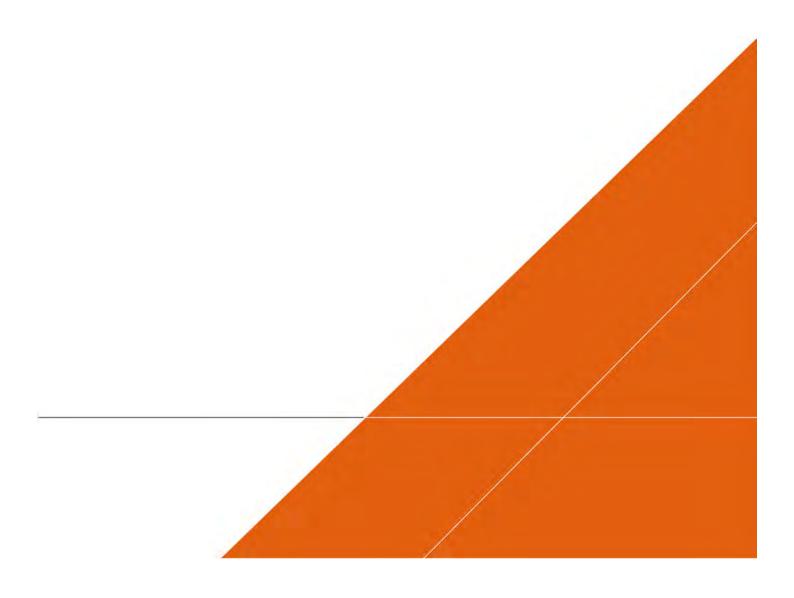
Phase C1 Factual Report



NORTHSTOWE PHASE 2 - PARCEL C1

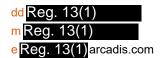
Ground Investigation Factual Report

MAY 2022



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Northstowe Phase 2 - Parcel C1

Ground Investigation Factual Report

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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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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

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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.

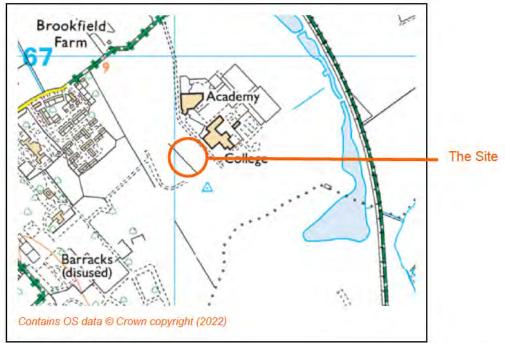


Figure 2-1 Site Location

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 Geolndex [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.

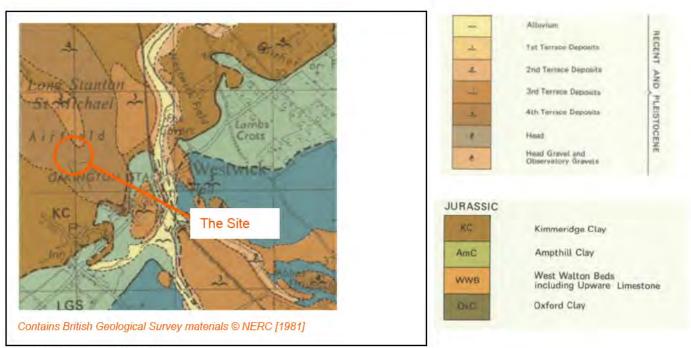


Figure 2-2: Geological Setting

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 geo-environmental aspects of the ground investigation complied with the general requirements of BS 10175+A2:2017 [9].

Table 3-1 Initial ground investigation scope

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

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.

Table 3-2. Summary of completed exploratory holes

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	СР	09 March 2022	10 March 2022	17.45	Unable to seal groundwater

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, E _r %
BHTCA101, BHTCA102 BHTCA104, BHTCA106 BHTCA107,	·	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.

Table 3-4 Summary of trial pit soakage tests

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.

Table 3-5 Summary exploratory hole installations

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

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.

Table 4-1 Summary of geotechnical test data

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

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 matrix

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

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Cyanide 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

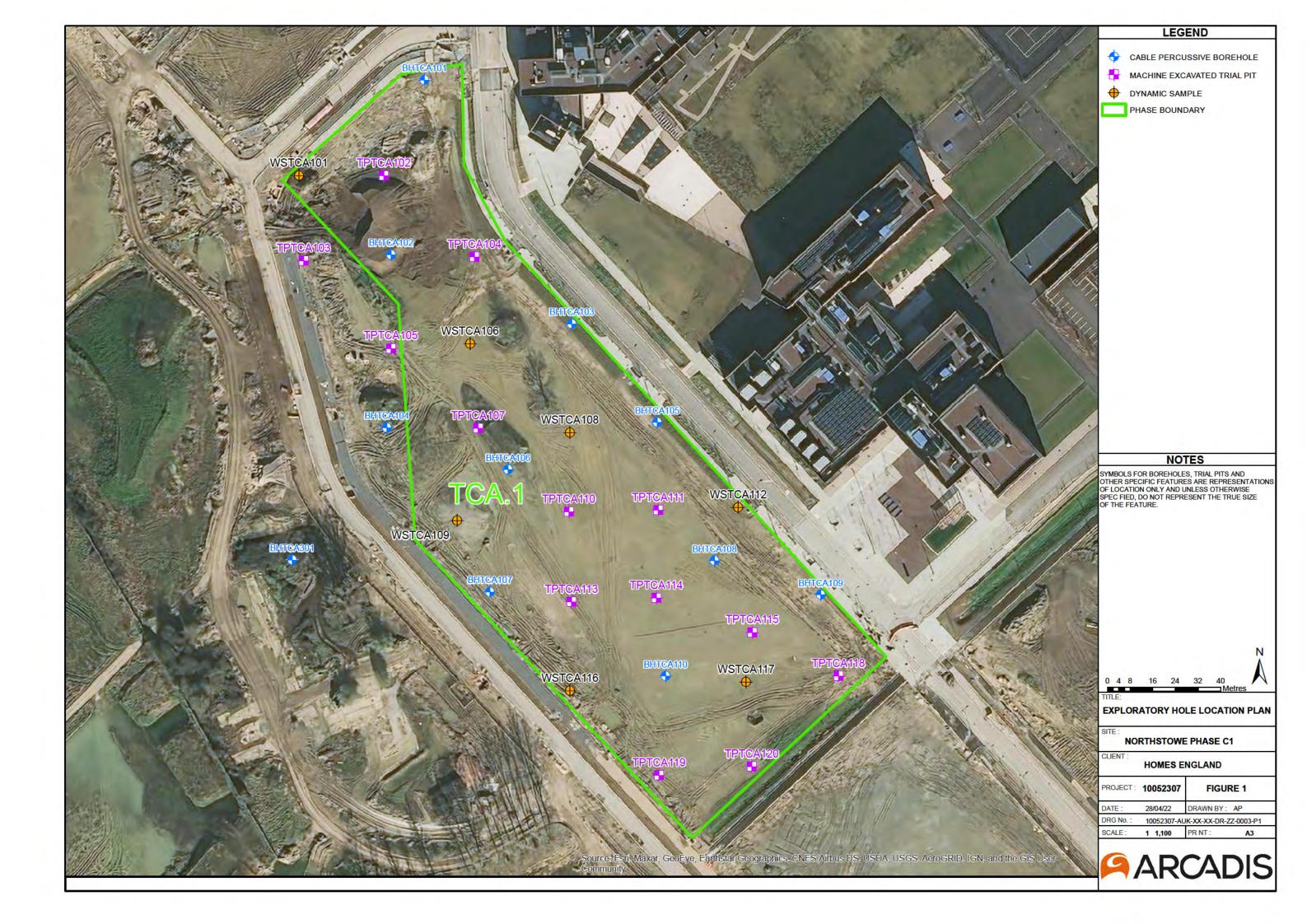
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APPENDIX A

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 headspace and low storage te potential for volatilisation and laydrocarbon compounds prior	piodegradation of petroleum	Not required.
Decontamination	Disposable gloves were worn and changed between sample collection to prevent cross-contamination.	Groundwater samples were collected using dedicated disposable tubing / bailers, that were changed between monitoring well locations in order to prevent crosscontamination.	Disposable gloves were worn and changed between sample collection to prevent cross contamination.
Transport	and analytical requests were re	ample boxes provided by the labo ecorded on the laboratory chain o ing to laboratory for analysis. Sar sampling.	of custody form included

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.
- 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

SAMPLE TYPES

B Bu k disturbed sample ES Environmental soil sample U Undisturbed sample

C Core sample EW Environmental water sample UT Undisturbed thin wall sample

CBR-D Disturbed sample from CBR test area G Gas sample W Water sample

CBR-U Undisturbed sample from CBR test area L Liner sample

D Small disturbed sample SPT SPT split spoon 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 guoted 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)

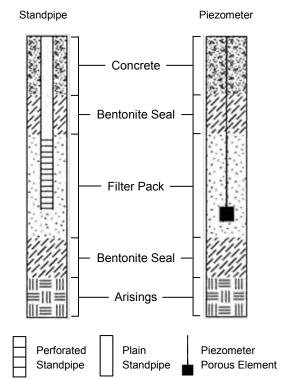
FI Fracture Spacing (average fracture spacing; in mm, over indicated length

of core) * *

NI Non-Intact Core

AZCL Assumed Zone of Core Loss

INSTALLATION & BACKFILL DETAILS



STRATUM BOUNDARIES

Unit boundary

GROUNDWATER

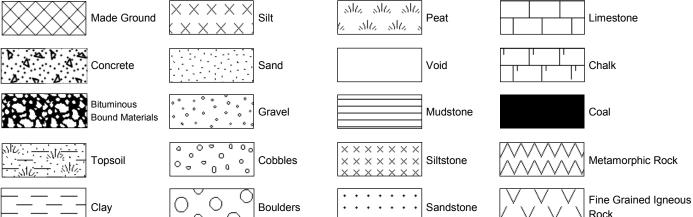
 \searrow

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.

APPENDIX C

EXPLORATORY HOLE LOGS



Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540986.40

Ground Level (mAOD) 11.70 Northing (OS mN) 266823.71

Start Date 09/03/2022 End Date 10/03/2022

Scale 1:50 Sheet 1 of 3

Samples		Tests		Progre		Strata		Depth	150	Ins
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water	Description	Legend	(Thickness)	Level	Bac
(B1) 0.20-0.40 (ES1) 0.20			Бери	09/03/2022 09:30	0.00 Dry	MADE GROUND: Very soft to soft bluish grey mottled light greyish brown slightly sandy gravelly CLAY. Gravel is				1
(B) 0.50-0.70						subangular to subrounded fine to coarse flint, concrete, ceramics and brick. Sand is fine to coarse. Occasional rootlets. Occasional			ł	23
(B2) 0.50-0.70 (ES2) 0.50						pockets (up to 50mm diameter) of soft organic clay. [MADE GROUND]		(1.20)	Ī	4
(B3) 1.00-1.20										11
(ES3) 1.00 (B4) 1.20-1.70	SPT(C) 1.20	N=32 (2,4/6,8,10,8)	Dry				$\otimes \otimes \otimes$	1.20	10.50	23
(ES4) 1.20-1.70	- 1(0)					Dense yellowish brown slightly silty gravelly SAND Gravel is angular to subrounded fine and medium rarely coarse flint. Sand	XXX	***	1	1
						is fine to coarse. [RIVER TERRACE DEPOSITS]	× ×	(0.80)	1	13
(B5) 1.70-2.00						[RIVER TERRACE DEPOSITS]	××		1	1
(B) 2.00-2.50	SPT(C) 2.00	N=31 (4,6/9,9,8,5)	Dry				×××	2.00	9.70	11
(B6) 2.00-2.50			1371			Dense light yellowish brown, orangish brown and brown clayey very sandy GRAVEL Gravel is angular to subrounded fine to	- 3		1	4
						coarse flint. Sand is fine to coarse. [RIVER TERRACE DEPOSITS]		(0.70)	‡	11
450 0 50 0 60						[NYEN TERROLOGIES GOTTO]			‡	1
(B7) 2.70-3.00		1.5.4.4				Firm dark bluish grey silty CLAY with thinly laminated siltstone. Rare selenite crystals.		2.70	9.00	11
(B9) 3.00-3.50	SPT(S) 3.00	N=10 (1,2/2,2,3,3)	Dry			[KIMMER DGE CLAY FORMATION]	X		Ŧ	4
(D8) 3.00-3.45 (ES5) 3.00-3.50		974 64					X		I	14
(D10) 3.50-4.00							x		‡	
							X		1	
							X-X-		‡	
(B12) 4.00-4.50 UT11) 4.00-4.45		UT11 90 blows 100% rec.	Dry				×-		‡	
							x_		1	
(D13) 4.50-5.00						Siltstone band, 4.5-4.7m bgl			Ŧ	
						Silistone band, 4.5-4.711 bgr	LX.		1	7.0
(D) C 00 C C0	CDT/C) 5 BB	N 00 /0 F/0 F 5 7)					X		1	
(B) 5.00-5.50 (B15) 5.00-5.50	SPT(S) 5.00	N=23 (3,5/6,5,5,7)	Dry			Becoming stiff.	X-I-		Ŧ	. 4
(D14) 5.00-5.45							x===		Ŧ	
(D16) 5.50-6.00							X		t	
							X_		1	
UT17) 6.00-6.10	An arms	UT17 120 blows 0%rec.	Dry				<u>x</u> _		‡	
(B18) 6.10-6.60	SPT(S) 6.10	N>50 (25 for 25mm/37,13 for 45mm)	Dry			Siltstone band, 6,2-6 5m bgl			‡	
						Silistone band. 0.2-0 Sili bgr] ×====		‡	
(D19) 6.60-7.00							X		Ŧ	* 3
							X		1	
(B21) 7.00-7.50 (D20) 7.00-7.45	SPT(S) 7.00	N>50 (5,5/6,7,16,21 for 30mm)	Dry			Becoming very stiff.	X		Ŧ	
(020) 7.00-7.45		Solimi					×-X-		ł	
(D22) 7.50-8.00							X		‡	
							X_X_		‡	
Collin Max		ACTION AND ADDRESS OF THE PARTY					<u>x</u>		‡	
(B25) 8.00-8.50 UT23) 8.00-8.45		UT23 121 blows 75% rec.	Dry				x_	4	‡	
									1	
(D24) 8.45-8.55 (D26) 8.50-9.00							X	4	Ŧ	
							X		ł	
(B28) 9.00-9.50	SPT(S) 9.00	N=27 (4,5/6,7,7,7)	Dry				X-T-		1	
(D27) 9.00-9.45	1107 5.00	Clearing				Becoming stiff.	xx_		‡	
							X		‡	
D29) 9.50-10.00							X		‡	
							<u> </u>	1	1	
B32) 10.00-10.50		UT30 65 blows 100%	Dry				X	1	+	
ЛТ30) 10.00-10.45 DR LLING	TECHNIQUE	rec.	NG		1	VATER OBSERVATIONS HOLE/CASING DIAME	TER I	WATE	RADD	ED
rom To	Туре	Hard Strata From To	Duratio		ime De	pth Strike Time Elapsed Rise To Depth Casing Depth Hole Dia. Depth Casing Dia.	Depth		_	/olume
.00 1.20 .20 20.45	Inspection Pit Cable Percussion		00:33 01:10	A	10 30	15.90 20 15.44 13.85 200 3.00 200 150	3.00 13.15			
100		11.40 11.60 15.60 15.90	00:33 01:05						-4	

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.90m. No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540986.40

Ground Level (mAOD) 11.70 Northing (OS mN) 266823.71

Start Date 09/03/2022 End Date 10/03/2022

Scale 1:50 Sheet 2 of 3

Samples		Tests	l de la constant	Progre		Strata		Depth	17.4	Instal
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Backf
(D31) 10.45-10.55 (D33) 10.50-11.00 (D34) 11.00-11.50				09/03/2022 17:30 10/03/2022 08:00	3.00 8.99 3.00	Firm dark bluish grey silty CLAY with thinly laminated siltstone. Rare selenite crystals. [KIMMER DGE CLAY FORMATION]	X-X- X-X- X-X- X-X-			
(B36) 11.50-12.00 (D35) 11.50-11.95	SPT(S) 11.50	N>50 (6,3/9,39,2 for 5mm)	10.55				X—————————————————————————————————————			
(D37) 12.00-12.50							X		‡	
D38) 12.50-13.00							xx xx xx			
B40) 13.00-13.50 JT39) 13.00-13.45		UT39 66 blows 100% rec.	Dry				X X X X		<u> </u>	
D41) 13.50-14.00							x		ŧ	
B42) 14.00-14.50							X			
B44) 14.50-15.00 D43) 14.50-14.95	SPT(S) 14.50	N=30 (4,6/6,7,8,9)	10.55				X—————————————————————————————————————			
D45) 15.00-15.50							×	(17.75)	‡	: =
D46) 15.50-16.00			_			Siltstone band, 15.6-15 9m bgl	X x x	(11.15)		
B48) 16.00-16.50 JT47) 16.00-16.45		UT47 70 blows 90%rec.	10.55				X-X- X-X- X-X-			
D49) 16.50-17.00							X		Ī	
B50) 17.00-17.50							X X		<u> </u>	
B52) 17.50-17.95 D51) 17.50-17.95	SPT(S) 17.50	N=41 (4,6/7,10,11,13)	10.55				x x		ļ	
B53) 18.00-18.50							X-X-		Ī	
(D54) 18.50-19.00							X		<u> </u>	
(B56) 19.00-19.50 JT55) 19.00-19.45		UT55 101 blows 100% rec.	10.55				X		‡	
(D57) 19.50-20.00							<u> </u>		<u> </u>	
D58) 20.00-20.45	SPT(S) 20.00	N>50 (8,8/9,9,11,21 for 55mm)	10.55				X-X-		+	-
DR LLING	TECHNIQUE	CHISELL	NG			NATER OBSERVATIONS HOLE/CASING DIAME	TER	1 WATE	RADD	ED
rom To	Туре	Hard Strata From To	Duratio	n Date & T		pth Strike Time Elapsed Rise To Depth Casing Depth Hole Dia. Depth Casing Dia.	Depth	From	To 1	Volume

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.90m.

No evidence of contamination observed.

20.45m





Project **Northstowe** Client Homes England Project No. **10052307** Easting (OS mE) 540986.40 Ground Level (mAOD) 11.70 Northing (OS mN) 266823.71

Start Date **09/03/2022** End Date 10/03/2022 Scale **1:50** Sheet 3 of 3

Sar	nples		Tests		Progr	ess	Strata		Donth		Install/
Туре	+ Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness)	Level	Backfill
-				Берит		Depth	Firm dark bluish grey silty CLAY with thinly laminated siltstone.		-		
Ŀ					10/03/2022	13.15 16.88	Firm dark bluish grey silty CLAY with thinly laminated siltstone. Rare selenite crystals. [KIMMER DGE CLAY FORMATION]	×	20.45	-8.75	* * •
					12:45	16.88	(INIMINER DGE GEAT FORMATION)	1			
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	חם וויים	TECHNICHE	0.00	11. NO	1,	<u> </u>	WATER ORGERWATIONS	TED	14/4	J V C.C.	
From	To DR LLING	TECHNIQUE Type	Hard Strata	LL NG Duratio	on Date & T		WATER OBSERVATIONS HOLE/CASING DIAME pth Strike Time Elipsod (mins) Rise To Depth Casing Sealed Sealed Sealed Sealed Hole Dia. Depth Casing Dia.	TER Depth	WATE		ED /olume (ltr)
0.00	1.20	Inspection Pit Cable Percussion	From 1	70 00:33	10/03/2022		15.90 20 15.44 13.65 200 3.00 200	3.00		'	. z.a.no (III)
1.20	20.45	Capie Percussion	11.40 11	50 01:10 .60 00:33 .90 01:05			150	13.15			
Remarks			15.00 15	.50 01:05	'						
				ina taraat d							

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.90m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540975.91 Ground Level (mAOD) 11.62 Northing (OS mN) 266761.53

Start Date 10/03/2022 End Date 11/03/2022

Scale 1:50 Sheet 1 of 2

Type + Depth	Time & Donth	and the same of th						Depth		In
	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Ba
(B1) 0.20-0.40 (ES1) 0.20	PID () 0.20	<1ppm		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 flint, concrete, brick and rare ceramics.		(0.00)		4
(B) 0.50-0.70 (B2) 0.50-0.70 (ES2) 0.50		<1ppm				Occasional rootlets. [MADE GROUND]		(0.80)	Ì	1
(B3) 1.00-1.20 (ES3) 1.00	The second second	<1ppm				Orangish brown and brown slightly silty gravelly SAND Gravel is angular to subrounded fine to coarse flint. [RIVER TERRACE DEPOSITS]		(0.40)	10.82	1
(B4) 1.20-1.70 (ES4) 1.20-1.70		N=36 (3,5/6,9,11,10) <1ppm	Dry			Medium dense yellowish brown and light brown slightly clayey sandy GRAVEL Gravel is angular to subrounded fine to coarse flint.		1.20	10.42	11/2
(D5) 1.70-2.00	0					[RIVER TERRACE DEPOSITS] Becoming dense.		(1.30)	İ	1
(B6) 2.00-2.50	SPT(C) 2.00	N=11 (3,2/3,2,4,2)	Dry						İ	11
(B7) 2.50-3.00 (ES5) 2.50-3.0		<1ppm				Stiff to very stiff bluish grey silty CLAY with bands of thickly laminated extremely weak and very weak siltstone.	- : -×-	2.50	9.12	1
(B10) 3.00-3.5 (UT8) 3.00-3.4		UT8 29 blows 100%rec.	Dry			[KIMMER DGE CLÁY FORMATIOŃ]	<u>x</u>		‡	1
(D9) 3.45-3.55 (D) 3.50-4.00	5						×		ļ	1
(D11) 3.50-4.00	0		2.5				x_^		-	1
(B13) 4.00-4.5 (D12) 4.00-4.4	0 SPT(S) 4.00 5	N>50 (3,3/7,33,10 for 55mm)	Dry				<u>-x</u> -		Ī	1
(D14) 4.50-5.0	0					Siltstone band. 4.4-4 6m bgl	X		-	11
(B17) 5.00-5.5 (UT15) 5.00-5.4	0 45	UT15 70 blows 100% rec.	Dry				x		-	13
(D16) 5.45-5.5 (D18) 5.50-6.0	5						x x		Ī	1
(B20) 6.00-6.50	0 SPT(S) 6.00	N=27 (5,5/6,6,7,8)	Dry						1	11
(D19) 6.00-6.4			2.5	10/03/2022	3.00		×		‡	1
(D21) 6.50-7.0	0			17:20 11/03/2022 08:00	4.87 3.00 Dry		x		ļ	1
(B24) 7.00-7.5 (UT22) 7.00-7.4		UT22 109 blows 100% rec.	Dry				<u>-x</u> -		‡	1
(D23) 7.45-7.50 (D25) 7.50-8.00							<u> </u>		‡	1
(B27) 8.00-8.5	0 SPT(S) 8.00	N>50 (4,5/5,6,19,20 for	Dry			Siltstone band. 7.7-7 8m bgf	x		‡	1
(D26) 8.00-8.4		60mm)				Siltstone band. 8.4-8 6m bgl	x			1
(D28) 8.50-9.0	U					Ontologic Many, 6,470 Ulti Mgi			Ī	1
(B30) 9.00-9.50 (UT29) 9.00-9.4		UT29 59 blows 100% rec.	Dry				x		1	1
(D31) 9.50-10.0	00						x x		Ī	11
(B33) 10.00-10.9	50 SPT(S) 10.00	N=23 (3,4/5,5,6,7)	Dry				<u>~_×</u> - ×		-	1
	NG TECHNIQUE	CHISELL	NG		1	NATER OBSERVATIONS HOLE/CASING DIAME	TER T	WATE	RADDI	ED
From To 0.00 1.20	Type Inspection Pit	Hard Strata From To 4.40 4.60	Duratio 00:33		ime De	pth Strike Time Elapsed Rise To Depth Casing Beaked Hole Dia. Depth Casing Dia. 15.70 20 14.92 9.15 200 3.00 200	3.00 9.15		_	Volur

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.70m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540975.91 Ground Level (mAOD) 11.62 Northing (OS mN) 266761.53

Start Date 10/03/2022 End Date 11/03/2022

Scale 1:50 Sheet 2 of 2

Type + Dupth Type + Dupth Results Voget Cas 4 Tree Voget Cas 5 Tree Cas 5 Tree Cas 6 Tree	Samples		Tests		Progr		Strata		Depth	7.7	Ins
Section Sect	Type + Depth	Type + Depth	Results		Date & Time	Water Denth	Description	Legend	(Thickness)	Level	Ba
(039) 12-0-12-00 (039) 12-0-13-00 (039) 13-0-13-00 (039) 13-00 (039) 13-00 (039) 13-00 (039) 13-00 (039) 13-00 (039) 13-00 (0	(D34) 10.50-11.00			Борат		Depth	laminated extremely weak and very weak siltstone.	X			
(038) 12.00.12.50 (039) 12.00.12.50 (039) 12.00.12.50 (040) 13.00.13.45 (040) 13.00.13.45 (040) 13.00.13.45 (040) 13.00.13.45 (040) 13.00.13.45 (040) 13.00.13.45 (040) 14.00.14.50 (050) 17.00.17.50 (050) 17.00.	(B35) 11,00-11.50							x x			
(039) 12-50-13-00 (B41) 13:00-13-50 (D40) 13:00-13-65 (D40) 13:00-	(B37) 11.50-12.00 (UT36) 11.50-11.95			Dry							
(841) 13.06-13.45 SPT(S) 13.00 N-24 (4,45,56,7) Dry (P40) 13.06-13.45 SPT(S) 13.00 N-24 (4,45,56,7) Dry (P41) 13.06-13.45 SPT(S) 13.00 N-24 (4,45,56,7) Dry (P43) 14.00-14.50 SPT(S) 13.00 UT44 79 blows 100% Dry (P44) 14.50-14.50 SPT(C) 18.00 N-35 (25 for more series) SPT(C) 18.00 N-35 (25 for more series) SPT(C) 18.00 N-35 (25 for more series) SPT(C) 18.00 N-37 (7,89,8,9,10) Dry (R54) 17.50-18.50 UT51 130 blows 100% 15.00 SPT(S) 19.00 N-37 (7,89,8,9,10) Dry (R55) 17.50-18.50 SPT(S) 19.00 N-37 (7,89,8,9,10) Dry (R55) 19.00-18.50 SPT(S) 19.00 N-37 (7,89,8,9,10) Dry (R56) 19.00-18.50 SPT(S) 19.00 N-37 (7,89,8,9,10) Dry (R57) 19.50-19.00 SPT(S) 19.00 N-37 (7,89,8,9,10) Dry	(D38) 12.00-12.50							x			1
(040) 13.00-13.45 (042) 13.50-14.00 (043) 14.00-14.50 (043) 14.00-14.50 (043) 14.00-14.50 (044) 14.50-14.95 (046) 15.00-15.50 (046) 15.00-15.50 (047) 15.50-16.00 (048) 16.00-16.50 SPT(C) 16.00 N-50 (25 for 35mm/41.9 for 45mm) Sillistone band. 16.2-16.4m big (050) 17.00-17.50 (050) 17.50-17.50 (050) 17.50-17.50 (050) 17.50-17.50 (050) 17.50-18.50 (050) 18.00-18.50 (050)	(D39) 12.50-13.00							x			
[B45] 14.00-14.50 [B45] 14.00-14.50 [B45] 14.00-14.50 [B45] 14.00-14.50 [B45] 15.00-15.50 [B47] 15.50-16.00 [B48] 16.00-16.50 [B48] 16.00-16.50 [B49] 16.50-17.00 [B50] 17.00-17.50 [B50] 17.00-17.50 [B50] 17.00-17.50 [B50] 17.00-18.50 [B50] 18.00-18.50 [B50] 18.00-1	(B41) 13.00-13.50 (D40) 13.00-13.45	SPT(S) 13.00	N=24 (4,4/5,6,6,7)	Dry				<u> </u>			11/11/11
B45) 14.50.15.00 D74) 14.50-15.50 D85) 15.00-15.50 B46) 16.00-16.50 SPT(C) 16.00 N>-50 (25 for Shm) Sillstone band. 16.2-16.4m [st] N-50 (25 for Shm) Sillstone band. 16.2-16.4m [st] N-50 (25 for Shm) Sillstone band. 16.2-16.4m [st] N-7 N-7 N-7 N-7 N-7 N-7 N-7 N-7 N-7 N-7	(D42) 13.50-14.00							xx-			1
UT44 14:50-14:95 rec.	(B43) 14.00-14.50							x			12/1
[B47) 15.50-16.00 N>-50 CS for 35mm41,9 for 45mm) Dry Sillstone band. 16.2-16.4m bg TOS0) 17.00-17.50 UTS1 130 blows 100% 15.00 rec. UTS1 130 blows 100% 15.00 rec. SPT(C) 19.80 N=57 (7,89,9,9,10) Dry SPT(S) 19.00-19.50 SPT(S) 19.00-19.50 SPT(C) 19.80 N=57 (7,89,9,9,10) Dry Sillstone band. 19.7-19.80m bgl SPT(C) 19.80 N-56 (25.0 for 0mm/25,15,10,2 for 10mm) SIllstone band. 19.7-19.80m bgl				Dry				x			11
B48) 16.00-16.50 SPT(C) 16.00 N-50 (25 for Smmi41,9 for 45mm) B49) 16.50-17.00 N-50 (25 for Smmi41,9 for 45mm) Dry Sillistone band. 16.2-16.4m bgl A A B50) 17.50-17.50 UT51 130 blows 100% rec. Dry B52) 17.50-18.00 T53) 18.00-18.50 SPT(S) 19.00 N-37 (7,878,9.9,10) Dry SIllistone band. 19.7-19.80m bgl A A A A A A A A A A A A A	(D46) 15.00-15.50							x	(17.61)		/
[849] 16.50-17.00 Siltstone band. 16.2-16.4m bg	(B47) 15.50-16.00							x			
[B49] 16.50-17.00 [D50] 17.00-17.50 [B52] 17.50-18.00 [D75] 17.50-17.95 [D53] 18.00-18.50 [D53] 18.00-18.50 [B54] 18.50-19.00 [B54] 18.50-19.00 [B55] 19.00-19.50 [B57] 17.50-19.80 [B57] 19.50-19.80 [B57] 19.50-	(B48) 16.00-16.50	SPT(C) 16.00	N>50 (25 for 35mm/41,9 for 45mm)	Dry	1			x	0.		
(B52) 17.50-18.00	(B49) 16.50-17.00						Siltstone band. 16.2-16.4m bg	XX			
Control 17.50-17.95 rec.	(D50) 17.00-17.50							x x			
(B54) 18.50-19.00 (B56) 19.00-19.50 (D55) 19.00-19.50 (D57) 19.50-19.80 SPT(C) 19.80 N>50 (25,0 for Omm/23, 15, 10,2 for 10mm) 11/03/2022 9.15 12:10 18.03	(B52) 17.50-18.00 UT51) 17.50-17.95			15.00				X			
(B54) 18.50-19.00 (B56) 19.00-19.50 (D55) 19.00 N=37 (7,8/9,9,9,10) Dry (D57) 19.50-19.80 SPT(C) 19.80 N>50 (25,0 for Omm/23,15,10,2 for 10mm) N>50 (25,0 for Omm/23,15,10,2 for 10mm) 11/03/2022 9.15 12:10 18.03	(D53) 18.00-18.50							x			
(B56) 19.00-19.50 (D55) 19.00 N=37 (7,8/9,9,9,10) Dry (D57) 19.50-19.80 SPT(C) 19.80 N>50 (25,0 for Omm/23,15,10,2 for 10mm) Dry (Sittstone band. 19.7-19.80m bg) X Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z	(854) 18.50-19.00							<u>x</u>			
(D57) 19.50-19.80 SPT(C) 19.80 N>50 (25,0 for Omm/23,15,10,2 for 10mm) Dry 11/03/2022 9.15 21:10 18.03	(B56) 19.00-19.50 (D55) 19.00-19.45	SPT(S) 19.00	N=37 (7,8/9,9,9,10)	Dry				X			
SPT(C) 19.80 N>50 (25,0 for Omm/23,15,10,2 for 10mm) Dry 11/03/2022 9.15 20.11 18.03	(D57) 19.50-19.80							X			9
12:10 18.03		SPT(C) 19.80	0mm/23,15,10,2 for	Dry		9.15	Siltstone band. 19.7-19.80m bg		20.11	-8.49	
Hard Strata David David David David Depth	DR LLING	TECHNIQUE	CHISELL	NG		18.03	VATER OBSERVATIONS HOLE/CASING DIAM	IETER			

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.70m.

No evidence of contamination observed.







Project
Northstowe
Client
Homes England

Project No. 10052307 Easting (OS mE) 541033.69 Ground Level (mAOD) 11.60 Northing (OS mN) 266738.05 Start Date **08/03/2022** End Date **08/03/2022**

Scale 1:10 Sheet 1 of 1

SAM	PLES		TESTS	}	er		STRATA		Denth		Install/
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes		Description	Legend	Depth (Thickness)	Level	Backfill
- 0.20	ES1	-				wood. [MADE GROUND]	Firm dark greyish brown mottled slightly sandy gravelly subrounded fine to coarse of flint, brick concrete and rich state of the same of t		(0.20) 0.20	11.40	
-		-								1	
		-							_		
-		-									
-		-									
-		-								-	
		- - -									
_		-									
PLAN DET	TAILS	<u> </u>		Long Axis Shoring /		on:	Remarks Borehole terminated at 0.40m due to concrete obstruct to BHTCA103A. No groundwater encountered. No evidence of contamination observed.	lion within h	I and pit. Bore	l hole relo	ocated
				Stability: Groundwa	ater (desc	ription):				0.40n	

Insulated Hand Tools



Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541033.69

Ground Level (mAOD) 11.60 Northing (OS mN) 266738.05

Start Date 09/03/2022 End Date 10/03/2022

Scale 1:50 Sheet 1 of 2

Samples		Tests	1 144	Progre		Strata		Depth	Level	ir
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	В
(B) 0.20-0.50 (B1) 0.20-0.50				09/03/2022 15:15	0.00 Dry	MADE GROUND: Soft to Firm greyish brown sandy gravelly CLAY with frequent brick fragments and ceramic. Gravel is very angular to subrounded fine to coarse flint and red brick. MADE GROUND!		(0.40) 0.40	11.20	4
(ES2) 0.50						MADE GROUND: Firm dark greyish brow sandy gravelly CLAY with wood and brick fragments. Gravel is very angular to subrounded fine to coarse flint and red brick. Hydrocarbon odour noted and purplish black staining noted at 0 5m bgl.		(1.10)		1
(ES3) 1.00 (B2) 1.20-1.50	SPT(C) 1.20	N=29 (5,8/7,5,9,8)	Dry			[MADE GROUND]		(1.10)		1
(D3) 1.80-2.00			_			Medium dense light orangish yellow slightly gravelly SAND Gravel is subangular to subrounded fine to coarse flint. [RIVER TERRACE DEPOSITS]		1.50	10,10	1
(B4) 2.00-2.50 (ES6) 2.00	SPT(C) 2.00	N=16 (2,3/3,4,5,4)	Dry					(1.20)		11/1
(D5) 2.70-3.00		1 1				Stiff becoming very stiff fissured greenish grey silty slightly sandy		2.70	8.90	
(UT6) 3.00-3.45		UT6 30 blows 95%rec.	3.00	09/03/2022 17:09 10/03/2022	3.00 1.9 3.00	CLAY with rare gravel size pockets of orangish brown silt and rare fine decaying rootlets. [KIMMER DGE CLAY FORMATION]	X-X-			1/1/2
(D7) 3.45-3.50				08:00	Dry		X_X			1
(B) 4.00-4.50 (B8) 4.00-4.50	SPT(S) 4.00	N=14 (2,3/3,3,4,4)	Dry				X X X X			
(D9) 4.80-5.00							^ x x			1
(UT10) 5.00-5.45		UT10 100 blows 50% rec.	Dry				xx_ xx_			11/1
(D11) 5.45-5.50							X—X—			1
(B12) 6.00-6.50	SPT(S) 6.00	N=33 (9,15/14,7,6,6)	Dry			No decayed rootlets below 6m bgl.	X—X— X—X— X—X—			100
(D13) 6.80-7.00							x x	(14.75)		11/1/20
(UT14) 7.00-7.45		UT14 100 blows 75% rec.	Dry				X			1
(D15) 7.45-7.50							X X			1
(B16) 8.00-8.45	SPT(S) 8.00	N=26 (8,6/5,5,7,9)	Dry				X			11/1
(D17) 8.80-9.00						Extremely weak light grey siltstone band.	X X X			1
(UT18) 9.00-9.45		UT18 100 blows 60% rec.	Dry				X——— X————		İ	1
(19) 9.45-9.50							X X X			11/1
(B20) 10.00-10.50	SPT(S) 10.00	N=28 (3,6/6,8,7,7)	Dry				X			2
DR LLING	TECHNIQUE Type	CHISELI Hard Strata	NG Duratio	n Date & Ti		VATER OBSERVATIONS HOLE/CASING DIAME	TER	WATE	RADD	ÉD

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m and 16.10m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541033.69

Ground Level (mAOD) 11.60 Northing (OS mN) 266738.05

Start Date 09/03/2022 End Date 10/03/2022

Scale 1:50 Sheet 2 of 2

Samples			111		Carine		-	Depth	Lound	Inst
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Bac
						Stiff becoming very stiff fissured greenish grey sitly slightly sandy CLAY with rare gravel size pockets of orangish brown silt and	X=			1
						rare fine decaying rootlets. [KIMMER DGE CLAY FORMATION]	X		f l	1
						[KIMMER DGÉ ČLAY FORMATION]	x_		f t	11
021) 10.80-11.00							^		1	1
						Fig. 1	X	8	1	1
						Fine sand size selenite crystals present.	X-T-		1	4
							×		1	12
							x-		t t	
							AT-2		1	
150 40 00 40 45		UT 100 blows 60%rec.	200				X-T-			. 3
UT) 12.00-12.45		U1 100 blows 60%rec.					x	1 10	F	
			- 1				-x-	1 3		
022) 12.45-12.50										
						Fine to coarse gravel size shell fragments present.	X		1	
							X		1	
323) 13.00-13.50							x	1	t l	
							X-		f l	1
224) 42 50 44 50	CDT/C) 40.50	N=30 /F 0/7 7 7 7							1	
24) 13.50-14.00	SPT(S) 13.50	N=28 (5,6/7,7,7,7)	Dry				X	3	f l	
		1					X-T-		F 1	
							x	1 1	1	3
							<u> </u>	. 3	‡ Î	
025) 14.40-14.70							X		‡	
4 (1110 11110							X		t 1	
							X		t 1	, S.
TOG) 45 00 45 45		LITTLE 400 bloom FOR	D-V				X			
T26) 15.00-15.45		UT26 100 blows 50% rec.	Dry				x-		F	
							X		1	
27) 15.45-15.50							X		‡ l	
							×-×-		‡	
							×		‡	
28) 16.00-16.50			∇						† 1	
7 2 7 3						Extremely weak light grey siltstone band,	X		1	
29) 16.50-17.00	SDT/S) 4e En	N=35 /5 6/8 44 7 0	12.10				X		ł I	
10.00-17.00	SPT(S) 16.50	N=35 (5,6/8,11,7,9)	12.10				X		f l	
							×		f l	
	SPT(S) 17.00	N=31 (6,7/7,8,8,8)	12.10				x-		1	1
					5.4		X	1	f f	
				10/03/2022	3.00	.*	X-CH	17.45	-5.85	
				14:56		1			-	
									‡ I	
									<u> </u>	
		11.						1 4	‡	ł
								1		
									ł I	
								1.0	-	
								1.33		
									‡	ł
									‡ I	
									1	
4									F I	
	ECHNIQUE	OUTOTIL	NO		1	VATER OBSERVATIONS HOLE/CASING DIAME	TED	MATE	DADDE	-D
DR LLING T		CHISELL Hard Strata							RADDE	_
DR LLING T om To 00 120	Type Inspection Pit	Hard Strata From To 8.40 8.50	Duratio 00:20		ime De	Time Elapzed Rise To Depth Depth Select Hole Dia. Depth Casing Dia.	Depth 3.00			/olum

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m and 16.10m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540977.05

Ground Level (mAOD) 11.74 Northing (OS mN) 266696.64

Start Date 14/03/2022 End Date 14/03/2022

Scale 1:50 Sheet 1 of 3

Samples		Tests		Progre		Strata		Depth	1	In
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Ba
	1.00		Осра	14/03/2022	0.00	MADE GROUND: Soft to firm brown locally mottled bluish grey	XXX			13
(B1) 0.20-0.40 (ES1) 0.20	PID () 0.20	<1ppm		09:00	Dry	slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to rounded fine to coarse flint, concrete, brick			1	1
(B) 0.50-0.70	PID () 0.50	<1ppm				and ceramic.		44.40	1	13
(B2) 0.50-0.70 (ES2) 0.50	1.12 () 0.00					[MADE GROUND]		(1.10)	i l	1
(ES40) 0.50						that the same of t			i	6
(B3) 1.00-1.20	PID () 1.00	<1ppm					$\times\!\!\times\!\!\times$	1.10	10.64	1
(ES3) 1.00 (B4) 1.20-1.40	SPT(C) 1.20	N=21 (3,2/2,5,8,6)	Dry			Medium dense orangish brown and brown slightly silty very	××××	1.10	10.04	(
(ES4) 1.20-1.70	PID () 1.20	<1ppm				gravelly SAND Gravel is angular to subrounded fine to coarse flint.	X X		Ŧ	1
(DE) 4 70 0 00	1 100					[RIVER TERRACE DEPOSITS]	× ×		Ţ	1
(D5) 1.70-2.00		1000000					× × ×	(1.40)	Ŧ	1/2
(B6) 2.00-2.50	SPT(C) 2.00	N=10 (2,2/2,2,3,3)	-				×××		1	1
		1					×××		1	1
							X X		1	1
(B7) 2.50-3.00 (ES5) 2.50-3.00	PID () 2.50	<1ppm				Firm to stiff bluish grey silty CLAY with bands of thickly laminated	_×-	2.50	9.24	1
£	1		10.5			extremely weak to weak siltstone. [KIMMER DGE CLAY FORMATION]	X		1	1
(B) 3.00-3.50	10 15	UT8 30 blows 90%rec.	3.00			[MINISTED CONTROL OF MINISTER]	×		<u> </u>	1
(B9) 3.00-3.50 (UT8) 3.00-3.45			1				<u>x_x</u>		‡	
(510) 5.00-5.45									1	
(D10) 3.50-4.00		1 0 4 1					×_		t	
							X		t	
(B12) 4.00-4.50	SPT(S) 4.00	N=19 (10,5/5,4,4,6)	Det				×		I	* .
(D11) 4.00-4.45	SF1(S) 4.00	14-13 (10,3/3,4,4,6)	Dry			Siltstone band, 4.10 - 4.20m bgl	×=×=		Ŧ	
							x-		1	
(Dq3) 4.50-5.00							×-		Į	
							×		Ī .	7.
march ein		1000	4.0				X		1	
(B15) 5.00-5.50 (UT14) 5.00-5.45		UT14 81 blows 100% rec.	Dry				×		Ŧ	1
		1 1 1					×		†	
(D16) 5.50-6.00		1.0 1	11 4				×-		‡	
							x_		‡	
and the second	CALLES ALT. I	aless seems a	5				×		‡ !	
(B18) 6.00-6.50 (D17) 6.00-6.45	SPT(S) 6.00	N=38 (5,6/13,10,8,7)	Dry				x		‡ !	
		0.00				Siltstone band, 6,30 - 6,40m bgl	×		‡	
(D) 6.50-7.00						Silistone band, 6.30 - 6.40m bgr	×_×-		‡ !	
(D19) 6.50-7.00	10.						x-		1	
									‡	
(B22) 7.00-7.50 (UT20) 7.00-7.45		UT20 52 blows 100% rec.	Dry				X		†	13
* * * * * * * * * * * * * * * * * * * *							×		‡ !	
(D21) 7.45-7.55							×		‡	
(D23) 7.50-8.00							×		‡	
		1.000					x-		‡	
(B25) 8.00-8.50 (D24) 8.00-8.45	SPT(S) 8.00	N=21 (3,3/4,5,6,6)	Dry						‡	
And the same	10 6 4						X		‡	
(D26) 8.50-9.00							X		‡	
							×x-		‡	
		1-0	20				X_X-		‡	
(B28) 9.00-9.50 (UT27) 9.00-9.45		UT27 76 blows 100% rec.	Dry				x-		†	
12.12.7 0.00-0.10							×		†	
(D29) 9.50-10.00		11 6 6 11					X		<u>†</u>	
							x		<u>†</u>	
							X		1	
(B31) 10.00-10.50 (D30) 10.00-10.45	SPT(S) 10.00	N=26 (4,4/6,6,7,7)	Dry				<u>x</u> _		+	
	TECHNIQUE	CHISELL	NG		· ·	VATER OBSERVATIONS HOLE/CASING DIAME	TER T	WATE	RADDE	ED
From To	Туре	Hard Strata From To	Duratio	the second second	īme De	pth Strike Time Elapsed (mins) Rise To Casing Sealed Hole Dia. Depth Casing Dia.	Depth	From		/olu
0.00 1.20 1.20 20.16	Inspection Pit Cable Percussion	4.10 4.20 6.30 6.40	00:15 00:25		10 40	2.30 20 2.11 1.70 150 20.18 150	3.00			
		15.30 15.60 16.10 16.30	00:30	()			1		- 11	

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540977.05 Ground Level (mAOD) 11.74 Northing (OS mN) 266696.64

Start Date 14/03/2022 End Date 14/03/2022

Scale 1:50 Sheet 2 of 3

Samples		Tests		Progr		Strata		Donth	i Ins
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness)	
(B32) 10.50-11.00			Бори		Depin	Firm to stiff bluish grey silty CLAY with bands of thickly laminated extremely weak to weak siltstone. [KIMMER DGE CLAY FORMATION]	x x		
(D33) 11.00-11.50							x x		
(B35) 11.50-12.00 UT34) 11.50-11.95		UT34 48 blows 100% rec.	Dry				x x		
D36) 12.00-12.50		100					x		
B37) 12.50-13.00						16	× ×		
B39) 13.00-13.50 D38) 13.00-13.45	SPT(S) 13.00	N=30 (3,3/6,6,9,9)	Dry				X X X		
B40) 13.50-14.00							<u>x</u>		
D41) 14.00-14.50							x		
344) 14.50-15.00 1T42) 14.50-14.95		UT42 72 blows 100% rec.	Dry				x		
043) 14.95-15.05 045) 15.00-15.50							x x	(17,66)	
346) 15.50-16.00						Siltstone band. 15.30 - 15.60m bgl	x		
847) 16.00-16.50	SPT(C) 16.00	N=32 (18,7 for 35mm/9,8,7,8)	Dry			Si <u>ltstone band. 16.10 - 16</u> 30m bgl.	x	4-18	
B48) 16.50-17.00							x		
D49) 17.00-17.50							x x		
351) 17.50-18.00 1T50) 17.50-17.95		UT50 91 blows 100% rec.	Dry				X		
052) 18.00-18.50							X		
353) 18.50-19.00							X X	8	
B55) 19.00-19.50 D54) 19.00-19.45	SPT(S) 19.00	N=37 (7,8/8,9,10,10)	Dry				X X		
056) 19.50-20.00							X X		
057) 20.00-20.16	SPT(S) 20.00	N>50 (25 for 50mm/42,8 for 35mm)	Dry			Siltstone band. 19.90 - 20.16m bgl		20.16	-8.42
DDILLING	TECHNIQUE	CHISELL	NG	1		WATER OBSERVATIONS HOLE/CASING DIAME	1		R ADDED

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m.

No evidence of contamination observed.





Project Northstowe Homes England Project No. **10052307** Easting (OS mE) **540977.05** Ground Level (mAOD) 11.74 Northing (OS mN) 266696.64

Start Date **14/03/2022** End Date 14/03/2022 Scale **1:50** Sheet 3 of 3

San	mples		Tests			Progre	ess				Strata						Donth		Instal
Type ·	+ Depth	Type + Depth	Results	6	Water Depth	Date & Time	Casing & Water Depth			Desc	ription					Legend	Depth (Thicknes	s) Leve	Backf
						14/03/2022 17:30	9.15 <i>Dry</i>											†	
																		‡	
																		Ŧ	
																		1	
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	DD I LINO	TECHNICUE		ec. 1	NC			MATER ORDERS	ATIONS			LIC! F	/C A C''	VIC D1 *	NACT	-гр Т	10/07		
From	To DR LLING	TECHNIQUE Type		HISELL Strata To	Duratio		me D	WATER OBSERV epth Strike Time Elapsed (mins)	Rise To	Depth Casing				NG DIA Casing D		ER Depth	From	ER ADI	Volume
0.00 1.20	1.20 20.16	Inspection Pit Cable Percussion	4.10 6.30	4.20 6.40	00:15 00:25		10 40	2.30 20	2.11	1.70	1	50	20.16	150		3.00			
	i 1		15.30	15.60	00:30	1	- 1	1	1	1	- 1			1		- 1			

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541064.71

Ground Level (mAOD) 11.53 Northing (OS mN) 266703.08

Start Date 11/03/2022 End Date 15/03/2022

Scale 1:50 Sheet 1 of 2

Samples		Tests		Progre		Strata		Depth	15.00	Inst
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Bac
(B) 0.10-0.50 (B1) 0.10-0.50 (ES1) 0.20	PID (1) 0.10	<1ppm	Сори	10/03/2022 16:00	0.00 Dry	MADE GROUND: Soft to firm dark brown slightly sandy gravelly CLAY with occasional pockets of dark green clay. Gravel is fine to coarse, subangular to subrounded of flint, brick and concrete.				4
(B2) 0.50-0.90 (ES2) 0.50	PID (2) 0.50	<1ppm				[MADE GROUND]		(1.00)	‡	
(ES3) 1.00								1.00	10.53	
(B3) 1.20-1.70	SPT(C) 1.20 PID (3) 1.20	N=17 (2,3/5,4,3,5) <1ppm	Dry	10/03/2022 17:00 14/03/2022 08:00	0.00 Dry 0.00 Dry	Soft to firm orangish brown sandy gravelly CLAY Gravel is subangular to subrounded fine to coarse of flint. [RIVER TERRACE DEPOSITS]				
(D4) 1.80-2.00		40.24	•	1				(1.30)	‡	
(B5) 2.00-2.50	SPT(C) 2.00	N=15 (1,3/2,4,4,5)	VIV					-	<u> </u>	E
						Firm to stiff dark bluish grey silty CLAY with occasional pockets of orangish brown silty clay.	-x-	2.30	9.23	11
201212			11 6			orangish brown silty clay. [KIMMER DGE CLAY FORMATION]	××-		1	15
(D6) 2.80-3.00 (UT7) 3.00-3.45		UT7 75 blows 100%rec.	3.00				×_×_		Ī	12
(×===		‡	1/2
(D8) 3.45-3.50							×		Ī	15
							××-	(2.60)	-	33
(00) 4 00 4 50	CDT(0) 4.00	N 40 (0 0 0 0 0 0 0 0	4.0				×_=_	1 6	-	12
(B9) 4.00-4.50	SPT(S) 4.00	N=12 (2,3/3,3,3,3)	1.9				×		Ī	25
		7					* <u>-</u> x			23
							×		İ	12
(D10) 4.80-5.00		1777					x	4.90	6.63	23
(B11) 5.00-5.50	SPT(C) 5.00	N=25 (13,12 for 55mm/9,6,5,5)	1.9			Firm to stiff dark bluish grey silty CLAY with bands of thickly laminated extremely weak to weak light grey and grey siltstone.	×X-	1.54	†	11
						[KIMMER DGE CLÁY FORMATION] Band of extremely weak light grey siltstone.	×		•	11
							x		ŧ	13
(D12) 5.80-6.00							<u>x_</u> _		1	1/
	SPT(S) 6.00	N=47 (14,11 for	1.9						‡	
		35mm/17,18,6,6)				Band of extremely weak light grey siltstone.	x		ŧ	
		1					×_		Ι	
15 Sec. 15							x_			*
(D14) 6.80-7.00		UT15 50 blows 100%					x-		1	
(UT15) 7.00-7.45		rec.	Dry				×-		Ŧ	
(D16) 7.45-7.50			∇						1	
(016) 7.45-7.50				14/03/2022 17:00	3.00 7.2			1	†	* * *
There is				15/03/2022 08:00	3.00 7.2		×		Ī	
(B17) 8.00-8.50	SPT(S) 8.00	N=25 (4,5/6,6,6,7)	Dry						‡	
							×		1	
							_×		Ŧ	
(D18) 8.80-9.00							—×—	1 8	‡	*
(UT19) 9.00-9.45		UT19 100 blows 60%	7.00				x		1	-
* 1.5		rec.				-	×		Ī	11
(D20) 9.45-9.50							x		‡	1/
							X		‡	7%
(B21) 10.00-10.50	SPT(S) 10.00	N=27 (4,6/6,7,7,7)	Dry				x_^_		1	33
	750.00			-		MATER OPPORTUNITIONS	v —	12147	DADE	7
DR LLING T	TECHNIQUE Type	CHISELL Hard Strata From To	NG Duratio	n Date & Ti		MATER OBSERVATIONS HOLE/CASING DIAME spth Strike Time Elapsed Rise To Obepth Casing Depth Hole Dia. Depth Casing Dia.	Depth Depth		R ADD	ED /olume

Borehole terminated on Engineer's Instruction on achieving target depth. No groundwater encountered.

No evidence of contamination observed.





Project **Northstowe** Client Homes England Project No. **10052307** Easting (OS mE **541064.71** Ground Level (mAOD) 11.53 Northing (OS mN) 266703.08

Start Date 11/03/2022 End Date 15/03/2022 Scale **1:50** Sheet 2 of 2

S	Samples		Te	ests			Progre						Strata	а					Depth		T	Install/
Тур	pe + Depth	Type + Depth		Results		Water Depth	Date & Time	Casing & Water Depth				Desc	ription					Legend	/Th:-!	ss) Le	vel E	Backfill
-								·	lamina	o stiff darl ated extre IER DGE	mely wea	ak to we	ak light	with bai grey ai	nds of th nd grey	nickly siltston	ne.	X		<u> </u>	1/1/1	
- (D22	2) 11.00-11.50																	× × × × × × × × × × × × × × × × × × ×	7	‡ ‡		
-																		×	-		7.777	
	3) 12.00-12.45 3) 12.45-12.50		UT23	75 blows 70	0%rec.	7.00												X_X_	7	İ		
-	i) 13.00-13.50																	×_×_		1		
	s) 13.50-14.00	SPT(S) 13.50	N=2	25 (5,6/6,6,	6,7)	Dry												×	74	ļ		
-																		×_×_		<u> </u>		
- (D27	") 14.50-14.70					•												×	71	+	7.7/	
— (UT2i	8) 15.00-15.45		UT28	3 100 blows rec.	s 75%	Dry												×	(15.10) +	7//	
(D29) 15.45-15.50																	×	-	‡		
) 16.00-16.50										Ba	and of ex	tremely	/ weak l	ight grey	y siltsto	ne.	X	7	+		
- (B31) 16.50-16.70	SPT(S) 16.50	N=36	(11,14/17,	7,6,6)	Dry												X		1		
- (D32	2) 17.50-17.80																	×	1	<u> </u>		
- (B33	3) 18.00-18.50	SPT(S) 18.00	N=3	33 (6,7/7,8,	9,9)	Dry												X X X		‡		
-																		×		‡		
	19.20-19.50																	× × × × × × × × × × × × × × × × × × ×	-	‡		
-	5) 19.50-19.95 6) 19.95-20.00		UT35	5 100 blows rec.	s 75%	14.70	15/03/2022	3.00										X	20.00	† 	3.47	
-							17:00	17.3										<u>L.</u> .				
From		TECHNIQUE Type		CH Hard St From	IISELL I trata To	NG Duration	n Date & T		WATER (OBSERVA Time Elapsed (mins)	ATIONS Rise To	Depth Casing	Depth Sealed	HOI Hole Dia	LE/CAS Depth			TER Depth	From	TER A	$\overline{}$	ume (Itr)
0.00 1.20	1.20 20.00	Inspection Pit Cable Percussion		5.10 6.10 16.40	5.30 6.40 16.60	00:20 00:30 00:20	14/03/2022 14/03/2022	10 00 15 00	2.10 7.50 16.40	20 20 20 20	1.90 7.00 14.70	1.50 3.00 3.00	3.00	200	20.00	200		3.00				

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth.

No groundwater encountered.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541016.73 Ground Level (mAOD) 11.34 Northing (OS mN) 266686.81

Start Date 15/03/2022 End Date 15/03/2022

Scale 1:50 Sheet 1 of 3

Type + Depth										
	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Ins Ba
(B) 0.20-0.40 (B1) 0.20-0.40 (ES1) 0.20 (B2) 0.50-0.70 (ES2) 0.50			-Par	15/03/2022 09:00	0.00 Dry	MADE GROUND: Soft to firm brown locally mottled bluish grey slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to rounded fine to coarse of flint, concrete, brick and ceramics. [MADE GROUND]				4.0
(B3) 1.00-1.20 (ES3) 1.00 (B4) 1.20-1.70	SPT(C) 1.20	N=11 (2,2/2,2,3,4)						(1.70)		
(B) 1.70-2.00 (B5) 1.70-2.00 (ES4) 1.70-2.00 (B7) 2.00-2.50 (D6) 2.00-2.45	SPT(S) 2.00	N=12 (2,2/2,3,3,4)				Firm to stiff dark bluish grey mottled greyish brown silty slightly sandy CLAY with occasional selenite crystals. Sand is fine and medium. [KIMMER DGE CLAY FORMATION]	X X X X X X	1.70	9.64	
(D8) 2.50-3.00							X_X_			
(B11) 3.00-3.50 (ES5) 3.00-3.50 (UT9) 3.00-3.45		UT9 40 blows 100%rec.	Dry				X-X- X-X- X-X-			1111
(D10) 3.45-3.55 (D12) 3.50-4.00							X X X	(3.80)		1
(B) 4.00-4.50 (B14) 4.00-4.50 (D13) 4.00-4.45	SPT(S) 4.00	N=47 (3,18/18,14,9,6)				Siltstone band. 4 20-4.40m bgl	X—X—		<u> </u>	
(D15) 4.50-5.00							 X			
(B17) 5.00-5.50 (UT16) 5.00-5.45		UT16 103 blows 80% rec.	Dry			Siltstone band. 5 20-5.50m bqf	^ X x_		İ	
(D18) 5.50-6.00		(()				Firm to stiff bluish grey silty CLAY with bands of thickly laminated to medium bedded extremely weak to weak light grey siltstone.	x x	5.50	5.84	
(B20) 6.00-6.50 (D19) 6.00-6.45	SPT(S) 6.00	N=21 (16,8/4,4,5,8)				[KIMMER DGE CLAY FORMATION] Siltstone band. 5 90-6.40m bgl	x x			2
(D21) 6.50-7.00						, l	XX		Ī	
(B) 7.00-7.50 (B22) 7.00-7.50	SPT(C) 7.00	N>50 (25 for 60mm/19,17,14 for 70mm)					x		-	
(D23) 7.50-8.00							x_=_			1
(B25) 8.00-8.50 (UT24) 8.00-8.45		UT24 97 blows 100% rec.	Dry				x			
(D26) 8.50-9.00							x			
(B28) 9.00-9.50 (D27) 9.00-9.45	SPT(S) 9.00	N=22 (3,4/5,5,6,6)					x x		‡	
(D29) 9.50-10.00							x x			
(B31) 10.00-10.50 (UT30) 10.00-10.45	1	UT30 75 blows 100% rec.	Dry				<u>x_x</u>		1	7
	TECHNIQUE	CHISELL Hard Strata	NG	J.F.	- 1	VATER OBSERVATIONS HOLE/CASING DIAME	ER T	WATE	RADD	ED

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.50m. No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541016.73 Ground Level (mAOD) 11.34 Northing (OS mN) 266686.81

Start Date 15/03/2022 End Date 15/03/2022

Scale 1:50 Sheet 2 of 3

Samples		Tests		Progr		Strata		Depth	1.5	Insta
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Back
					Depart	Firm to stiff bluish grey silty CLAY with bands of thickly laminated	X		5	1
(000) 40 50 44 00						to medium bedded extremely weak to weak light grey siltstone. [KIMMER DGE CLAY FORMATION]	<u>x_x</u> -		‡	4
(B32) 10.50-11.00							x_		7	1
							×-		1	4
(D33) 11.00-11.50		1 2 4 1					×		-	13
-							X		Ŧ	1
(B35) 11.50-12.00	SPT(S) 11.50	N=24 (4,4/5,5,7,7)					X		I	11
(D34) 11.50-11.95	3F1(3) 11.30	14-24 (4,415,5,1,1)					×		1	13
							×		1	2
(D36) 12.00-12.50							××_		†	11
									1	/
(B37) 12.50-13.00							-8-		1	12
		0 1					×		‡	1
		and the second	10.00				X		1	11
(B39) 13.00-13.50 UT38) 13.00-13.45		UT38 106 blows 70% rec.	Dry				x		-	17
							×===			1
(B40) 13.50-14.00							×		1	13
1							<u>×</u> _×		1	1
							_×-		‡	11
D41) 14.00-14.50		0.00					×	3	Ŧ	
		1000					X		1	
(B) 14.50-15.00	SPT(C) 14.50	N=27 (4,5/6,6,7,8)					×		‡	-
B43) 14.50-15.00 D42) 14.50-14.95		ra Th					×		‡	-
D44) 45 00 45 50							<u>x</u> _		-	
D44) 15.00-15.50			V			Siltstone band. 15.00-15.30m bgl	x-	(14.95)	Ŧ	: =
									1	: E
(B45) 15.50-16.00							X		Ŧ	
4 21 2							×		Ī	
(B47) 16.00-16.50		UT46 90 blows 100%	15.10				x		Ŧ	
UT46) 16.00-16.45		rec.	15.10				×		i	
							×		İ	3
(B) 16.50-17.00 (B48) 16.50-17.00							×-		<u>†</u>	. =
(040) 10.50-17.50							X		1	· . =
(D49) 17.00-17.50							×	9	1	• ,* -
		14 1					×		‡	
1017		26.000					×		‡	-
B51) 17.50-18.00 D50) 17.50-17.95	SPT(S) 17.50	N>50 (6,8/9,9,32,0 for 0mm)					×		‡	· ·
							××_		‡	. E
D52) 18.00-18.50									‡	. =
200									‡	Ė
Dan January						Siltstone band. 18.30-18.50m bgl			1	
(B53) 18.50-19.00							X		‡	
							x		‡	
(B55) 19.00-19.50	Atman	UT54 130 blows 10%	15.10				×		‡	
JT54) 19.00-19.45	SPT(C) 19.10	rec. N>50 (25 for 40mm/50	1.00				x		Ţ	
200h1/25 90 0/		for 50mm)					×-		‡	
D56) 19.50-20.00						Siltstone band. 19.50-19.60m bgl	×_		Ŧ	
						7,000	×		1	
(D57) 20.00-20.45	SPT(S) 20.00	N>50 (25 for					X		1	i t
		50mm/36,14 for 65mm)	-				<u>~_x</u> -			× 13.
	TECHNIQUE	CHISELI Hard Strata				VATER OBSERVATIONS HOLE/CASING DIAME			RADDI	_
rom To 0.00 1.20 1.20 20.45	Type Inspection Pit Cable Percussion	From To	Duratio 00:20	15/03/2022		put Strike (mins) Rise to Casing Sealed Profe Dia. Depth Casing Dia.	Depth 1.80	From	To \	/olume
.20 20.45	Cable Percussion	5.20 5.50 15.00 15.30	00:20	1000000	100	15.50 20 15.11 1.80 200 1.80 20.45				

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.50m. No evidence of contamination observed.





Project **Northstowe** Client Homes England Project No. **10052307** Easting (OS mE) **541016.73** Ground Level (mAOD)
11.34
Northing (OS mN)
266686.81

Start Date 15/03/2022 End Date 15/03/2022

Scale **1:50** Sheet 3 of 3

Sample	s		Tests		Progr	ess	Strata		Donth		Install/
Type + De	pth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness)	Level	Backfill
-				Верин		Depth	Firm to stiff bluish grey silty CLAY with bands of thickly laminated to medium bedded extremely weak to weak light grey siltstone.	×	-		
-					15/03/2022 17:00	1.80 18.23	to medium bedded extremely weak to weak light grey siltstone. [KIMMER DGE CLAY FORMATION]	F = -	20.45	-9.11	*****
-					17.00	70.23					
-											
-											
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-									-		
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DD I	LLINGT	ECHNIQUE	Chic	SELL NG	<u> </u>	<u> </u>	WATER OBSERVATIONS HOLE/CASING DIAME	TER T	WATE	S VDD	-D
From 1	Го	Туре	Hard Stra From	ta Duratio		ime De	pth Strike Time Elapsed (mins) Rise To Depth Casing Sealed Hole Dia. Depth Casing Dia.	Depth			/olume (ltr)
0.00 1. 1.20 20	.20).45	Inspection Pit Cable Percussion	4.20 5.20	4.40 00:20 5.50 00:20		14 30	15.50 20 15.11 1.80 200 1.80 200 150 20.45	1.80			
			15.00	15.30 00:40 18.50 00:20							
Remarks				ning toract d							

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 15.50m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541011.56

Ground Level (mAOD) 11.44 Northing (OS mN) 266642.42

Start Date 16/03/2022 End Date 16/03/2022

Scale 1:50 Sheet 1 of 3

Sar	mples		Tests		Progre		Strata	Depth	4.7.7	Ins
Туре	+ Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description Legend (1	Thickness)	Level	Bac
			/		16/03/2022 08:00	0.00 Dry	MADE GROUND: Soft to firm locally stiff dark brown and brown		5=1	4
	0.20-0.40 S1) 0.20				50.50	Liy	slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded fine to coarse of flint, concrete,	1		-
	0.50-0.70						brick and ceramics. [MADE GROUND]	(1.00)		1
(ES	52) 0.50						[MADE GROUND]			4
	V 20 1 1 2									11
	1.00-1.20 S3) 1.00	110,500	STATES	Carlo.			Firm brown mottled orangish brown and bluish grey slightly	1.00 - (0.20) - 1.20 -	10.44	1
(B4)	1.20-1.70 1.20-1.70	SPT(C) 1.20	N=12 (2,2/2,3,3,4)	Dry			sandy slightly gravelly CLAY Gravel is subangular to subrounded fine to coarse flint.	1.20	10.24	11
				V			[RIVER TERRACE DEPOSITS]			1
(B5)	1.70-2.00						Soft to firm light brown mottled bluish grey sandy slightly gravelly CLAY Gravel is angular to subrounded fine to coarse of flint.	(1.00)		1
		W. T. W. W.	10.1540.0	4.11			Occasional pockets (up to 30mm diameter) of soft dark grey organic clay.			1
		SPT(S) 2.00	N=15 (3,5/6,5,2,2)	Dry			[RIVER TERRACE DEPOSITS]			1
	2.20-2.60 2.20-2.60			∇			Stiff becoming very stiff bluish grey mottled greyish brown silty	2.20	9.24	1:
/							CLAY Rare selenite crystals. [KIMMER DGE CLAY FORMATION]	7		1
(D7)	2.60-3.00						- X-		1	13
									1	1
	3.00-3.45		UT8 34 blows 100%rec.	Dry			<u> </u>	-		4
(ES6)	3.00-3.50						X			1
(D9)	3.45-3.55						x=^=	(2.40)	ŧ l	
(D11)	3.50-4.00						<u>*_*_</u>		1	
		1					<u>-x</u> -		1	
(B13)	4.00-4.50 4.00-4.45	SPT(S) 4.00	N>50 (3,3/4,5,15,26 for 70mm)	Dry			_		-	
(012)	4.00.4.45		Zunitty				X			
(D14)	4.50-5.00						<u>x</u>			
(014)	4.50-5.00						Stiff bluish grey silty CLAY interbedded with closely to widely	4.60	6.84	
							spaced thickly laminated to medium bedded extremely weak and			
	5.00-5.45	SPT(C) 5.00	N>50 (25 for	Dry			very weak siltstone. [KIMMER DGE CLAY FORMATION]		-	
(815)	5.00-5.50		25mm/41,9 for 35mm)				Siltstone band, 5 20-5.40m bgl		-	
									8 1	
(D16)	5.50-6.00						Siltetono hand 5.60.5.90m hal	1		. 3
							Silistorie barid, 3 00-3.60m bgi			
	6.00-6.50	11	UT17 62 blows 100%	Dry			X	1 2		
(UT17)	6.00-6,45		rec.				<u>x</u> _	3		
							<u> </u>	(1	-	
(D19)	6.50-7.00						X		-	*3
							<u>×</u>		-	
	7.00-7.50	SPT(S) 7.00	N=23 (3,4/4,6,6,7)	Dry			x_x_		- 1	
(D20)	7.00-7.45		1000				xx-			
	22.72						<u>x_</u>	2	-	
(B22)	7.50-8.00								-	
			1000				<u>x</u>			
(B24)	8.00-8.50		UT23 77 blows 90%rec.	Dry			<u>x</u>	4	-	
(0123)	8.00-8.45		2000	11.4			x_*		4	
(Doc.	0.50.0.00						x			2
(D25)	8.50-9.00						<u>~_x</u> <u>1</u>	7		
			2.00				<u></u>		f	
	9.00-9.50	SPT(S) 9.00	N=28 (4,4/6,6,8,8)	Dry			X	1	1	
(D26)	9.00-9.45	77	1367				<u>×</u>			.0
							x	N.	1	
(D28)	9.50-10.00							4		
							<u>x</u>	1		
(B30) 1	10.00-10.50		UT29 100 blows 100%	Dry			×	4	1	
(UT29)	10.00-10.45	TEOLES	rec.				V			
		TECHNIQUE	CHISELI Hard Strata		n - n		ATER OBSERVATIONS HOLE/CASING DIAMETER Shike Time Elapsed Rice To Depth Depth Hole Dia Depth Casing Dia Depth Casing Dia		RADDE	_
From 0.00	To 120	Type Inspection Pit	From To 5.20 5.40	Duration 00:20	16/03/2022	to the second	30 20 1.49 1.65 2.60 200 2.60 200 2.60	rom	To V	/olume
1.20	20.45	Cable Percussion	5.60 5.80	00:30		1.0	150 20.00			

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m. No evidence of contamination observed.

20.45m





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541011.56

Ground Level (mAOD) 11.44 Northing (OS mN) 266642.42

Start Date 16/03/2022 End Date 16/03/2022

Scale 1:50 Sheet 2 of 3

Samples		Tests		Progr		Strata		Depth	7.7.1	Insta
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)	Level	Back
(B31) 10.50-11.00			Бора		Depth	Stiff bluish grey silty CLAY interbedded with closely to widely spaced thickly laminated to medium bedded extremely weak and very weak siltstone. [KIMMER DGE CLAY FORMATION]	x x			
(D32) 11.00-11.50							X X			
(B34) 11.50-12.00 (D33) 11.50-11.95	SPT(S) 11.50	N=27 (3,5/6,6,7,8)	Dry				x x			
(D35) 12.00-12.50		11.01					×			
(B36) 12.50-13.00							x			
(B39) 13.00-13.50 UT37) 13.00-13.45		UT37 59 blows 100% rec.	Dry				X X			
(D38) 13.45-13.55 (B40) 13.50-14.00							XX			
(D41) 14.00-14.50		12					X_X_			
B43) 14.50-15.00 D42) 14.50-14.95	SPT(S) 14.50	N=31 (4,6/6,8,8,9)	Dry				<u>x</u>			
D44) 15.00-15.50							x	(15.85)		· · · -
(845) 15.50-16.00						Siltstone band. 15:30-15:70m bgf	x x			
B47) 16.00-16.50 JT46) 16.00-16.45		UT46 79 blows 100% rec.	Dry				x			
(B48) 16.50-17.00							x x			
(D49) 17.00-17.50							x			
(B51) 17.50-18.00 (D50) 17.50-17.95	SPT(S) 17.50	N=32 (3,5/6,8,8,10)	Dry				x			
(D52) 18.00-18.50							x			
(853) 18.50-19.00							X			
(B55) 19.00-19.50 UT54) 19.00-19.45		UT54 87 blows 100% rec.	Dry				x			
(D56) 19.50-20.00							x x			
	SPT(C) 20.00	N>50 (25 for 40mm/50 for 50mm)	Dry			Siltstone band. 19.80-20.00m bgl	<u>x</u>			
DR LLING	TECHNIQUE	CHISELI	NG			NATER OBSERVATIONS HOLE/CASING DIAME	TER	1 WATE	RADDI	ED
From To 0.00 1.20	Type Inspection Pit Cable Percussion	Hard Strata From To 5.20 5.40	Duratio	16/03/2022		pth Strike Time Elapsed Rise To Depth Casing Depth Hole Dia. Depth Casing Dia. 2.30 20 1.49 1.55 2.80 200 2.60 200 2.60 200	Depth 2.60	From	To \	/olume
1.20 20.45	Cable Percussion	5.60 5.80 15.30 15.70 19.80 20.00	00:30			150 20.00				

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m.

No evidence of contamination observed.





Project **Northstowe** Client Homes England Project No. **10052307** Easting (OS mE **541011.56** Ground Level (mAOD)
11.44
Northing (OS mN)
266642.42

Start Date 16/03/2022 End Date 16/03/2022

Scale **1:50** Sheet 3 of 3

San	nples		Tests		Progre	ess	Strata		Donth		Install/
Type +	+ Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness)	Level	Backfill
-				- Jopan		Бери	Stiff bluish grey silty CLAY interbedded with closely to widely spaced thickly laminated to medium bedded extremely weak and	×			
-					16/03/2022 17:00	2.60 <i>Dry</i> .	\ very weak siltstone.		20.45	-9.01	
-					17.00	Diy.	\[KIMMER DGE CLAY FORMATION]	/			
-										†	
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	DR LLING	TECHNIQUE	CHIS	ELL NG	1	\\	 NATER OBSERVATIONS HOLE/CASING DIAME	TER T	WATE	R ADD	L ED
From	То	Туре	Hard Strata	To Duratio		ime De	epth Strike Time Elapsed (mins) Rise To Depth Casing Sealed Hole Dia. Depth Casing Dia.	Depth			/olume (Itr)
0.00 1.20	1.20 20.45	Inspection Pit Cable Percussion	5.20 5.60	5.40 00:20 5.80 00:30		09 45	2.30 20 1.49 1.65 2.60 200 2.60 200 150 20.00	2.60			
			15.30 1	5.70 00:40 0.00 00:30							
Remarks				vina torant d					'		

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 2.30m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541092.29 Ground Level (mAOD) 11.30 Northing (OS mN) 266654.52

Start Date 11/03/2022 End Date 14/03/2022

Scale 1:50 Sheet 1 of 3

Samples		Tests		Progre		Strata	_	Depth	4.5.4	Ins
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	(Thickness)		Ba
	PID (1) 0.10	<1ppm		11/03/2022	0.00	MADE GROUND: Soft brownish orange sandy gravelly CLAY.	XXXX		4	ŀ.
				08:00	Dry	Gravel is fine to coarse angular to subangular of brick, flint, concrete.				7
(B) 0.50-0.80	PID (2) 0.50	<1ppm				[MADE GROUND]		(0.80)		
(B1) 0.50-0.80	110 (2) 0.50	тррш							+ 6	1
(ES40) 0.50-0.60						C-A to E	\times	0.80	10.50	1
(B2) 1.00-1.20			46.			Soft to firm greenish grey silty sandy CLAY. [POSSIBLE REWORKED NATURAL]			1 1	1
(ES41) 1.00-1.10	SPT(S) 1.20	N=19 (3,4/4,5,5,5)	Dry				\times		i V	11
(B4) 1.20-1.65 (D3) 1.20-1.65	PID (3) 1.20	<1ppm	Lity				XXX	1	Ŧ /	1
(ES42) 1.20-1.30			200	1000			XXX	(1.30)	1 /	2
				11/03/2022	1.20			1	i P	1
				14:00 14/03/2022	0.5 1.20				+ 2	1
(UT5) 2.00-2.45	PID (4) 2.00	<1ppm	Dry	07:30	Dry		$\times\!\!\times\!\!\times$		1	1
		UT5 32 blows 78%rec.	100			Firm to stiff dark blueish grey CLAY.	X X X X	2.10	9.20	5
						[KIMMER DGE CLAY FORMATION]	-		t V	
(D6) 2.45-2.50									Į .	1
			11						I K	1
			10-						i C	1
(B8) 3.00-3.50	SPT(S) 3.00	N=9 (2,2/2,2,3,2)	Dry					1 3	+ 1	13
(D7) 3.00-3.45		9 7 7 7 1						1 12	Ŧ	1
								1 1 1	‡ [/	1
							5		t K	1
									1 6	8
D							-=-		1 1	3
(UT9) 4.00-4.45		UT9 19 blows 100%rec.	Dry						‡ [3	9
			. 1				-=-	(4.10)	† ľ	1
(D10) 4.45-4.50								14.0	1	1
(J 10) 4.45-4.50							2		‡	1
								1 1 3	1	3
matrice.	STATE OF THE PARTY OF		2					1 3	Ŧ K	3
(B12) 5.00-5.50 (D) 5.00-5.45	SPT(S) 5.00	N=15 (2,2/3,4,4,4)	Dry				-5-5		† [1
(D11) 5.00-5.45									i k	1
									Ŧ .	1
							100		‡ [/	1
									t K	1
// ITT42\ C 00 C 4E		1 IT 12 DC blows C79/ rose	Des						1 6	1
(UT13) 6.00-6.45		UT13 96 blows 67%rec.	Dry				5-2-		Ŧ P	1
		1 (100)	0.01			Extremely weak light grey SILTSTONE. Recovered as light grey	XXXXX	6.20	5.10	2
(D14) 6.45-6.50						clayey fine to coarse angular to subangular siltstone gravel.	×××××		t l	1
						[KIMMER DGE CLAY FORMATION]	XXXXX		+ 2	5
							XXXXX		1 6	3
(B15) 7.00-7.50	SPT(C) 7.00	N>50 (25 for 30mm/50	Dry				XXXXX	(1.40)	t b	1
(615) 1.00-1.00	3F1(C) 7.00	for 60mm)	Liy				XXXXX		t k	1
		1,000,000,000					X X X X X		Į į	1
							XXXXX	112.6	‡ /	17
						Stiff dark bluish grey slightly silty CLAY	X	7.60	3.70	1
							×		+ 1	1
(UT16) 8.00-8.45		UT16 53 blows 100%	Dry				X		Į ľ	1
		rec.	7				××_		t 12	1
4.74.4							×_	1	t P	1
(D17) 8.45-8.50							×		F 13	2
							×_^_		1	1
							-X-		1	/
(B19) 9.00-9.50	SPT(S) 9.00	N=23 (3,4/4,5,7,7)	Dry						+ 1	1
(D18) 9.00-9.45		1.1.76944.7	100				X		Į l	1
							××-		t R	3
							×_		t C	1
		0 0 0					X		1 2	1
							x		‡ ľ	1
UT20) 10.00-10.45		UT20 54 blows 89%rec.	Dry				_ <u>x</u> _		1 2	1
DR LLING	TECHNIQUE	CHISELL	NG		1	NATER OBSERVATIONS HOLE/CASING DIAM	ETER	WATE	RADDE	D
	Туре	Hard Strata From To	Duratio	n Date & Ti		pth Strike Time Elapsed Rise To Depth Depth Sedied Hole Dia. Depth Casing Dia.	Depth	-	To Vol	

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 16.45m. No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541092.29

Ground Level (mAOD) 11.30 Northing (OS mN) 266654.52

Start Date 11/03/2022 End Date 14/03/2022

Scale 1:50 Sheet 2 of 3

Samples		Tests		Progr		Strata		Denth	1	Insta
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness	Level	Back
	1.34.7		Берит		Depth	Stiff dark bluish grey slightly silty CLAY.	X			21
/D24) 40 45 40 50						The state of the s	x-		1	1
(D21) 10.45-10.50							_×_		‡	1
							×	1	1	1
(D22) 11.00-11.10							X		‡	13
							X		‡	1/2
(P24) 44 50 42 00	CDT/C) 44 FD	N 24 (4 4/4 C 7 7)	D-1				x==		Ŧ	11
(B24) 11.50-12.00 (D23) 11.50-11.95	SPT(S) 11.50	N=24 (4,4/4,6,7,7)	Dry				×		I	13
							×		I	2
(D25) 12.00-12.10							×_		+	11
							X-	(6.60)	1	1
							×-		1	12
							×		‡	1/
			liuca.				X		1	11
(UT26) 13.00-13.45		UT26 49 blows 100% rec.	Dry				X		Ŧ .	12
							x=_=		Ŧ	2
(D27) 13.45-13.50							×		1	13
							××-		Ŧ	1
(D28) 14.00-14.10							<u>x</u> _		I	12
(020) 11.00 11.10								14.20	-2.90	1
100	350	0.00				Stiff to very stiff dark blueish grey CLAY with frequent extremely weak light grey siltstone bands.	-==		1	11
(B30) 14.50-15.00 (D29) 14.50-14.95	SPT(S) 14.50	N=29 (4,5/6,7,8,8)	Dry			[KIMMER DGÉ CLAY FORMATION]	===		‡	10
North Ches Villa		0.00	V						‡	19
(D31) 15.00-15.10							EE		1	23
									Ī	1
									‡	6
									Ŧ	1
							3-3-		I	11
(UT32) 16.00-16.45		UT32 47 blows 89%rec.	Dry						Ŧ	5
		- V							‡	*,*H
(D33) 16.45-16.50									‡	*,* =
							33		‡	
76 Landa 2017 a 16									‡	=
(D34) 17.00-17.10									Ŧ	
		T 2						(6.25)	Ŧ	ું ⊢
(B36) 17.50-18.00 (D35) 17.50-17.95	SPT(S) 17.50	N=31 (4,5/6,8,8,9)	Dry						Ŧ	
(0.50) 17.50-17.95							E-3-	1	I	: E
		9 1							<u> </u>	
								1	‡	* .* -
							-1-1		1	
							E		Ť.	
0.4 10		15-7-2							‡	: =
(UT37) 19.00-19.45		UT37 61 blows 89%rec.	18.10						Ī	
							-5-5		I	3
(D38) 19.45-19.50									£	
							3-3-	1	1	
		0.500	3.8						‡	
(D39) 20.00-20.45	SPT(S) 20.00	N=26 (5,5/5,6,8,7)	18.40				-		‡	
DDILLING	TECHNICUE	OU HOE !	NO			WATER ORDER VATIONS		1414	DADO	
DR LLING	TECHNIQUE Type	CHISELI Hard Strata From To	NG Duratio	n Date & 7		VATER OBSERVATIONS HOLE/CASING DIAM pth Strike Time Elapored Rise To Depth Casing Depth Genied Hole Dia. Depth Casing Dia.	Depth Depth	From	To N	ED Volume
0.00 1.20 1.20 20.45	Inspection Pit Cable Percussion	From To		14/03/2022		(mins) Casing Sealed 150 20.45 200	1.20			
The same of the sa									/ III	

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 16.45m. No evidence of contamination observed.

20.45m





Project **Northstowe** Client Homes England Project No. **10052307** Easting (OS mE) 541092.29 Ground Level (mAOD) 11.30 Northing (OS mN) 266654.52

Start Date 11/03/2022 End Date 14/03/2022 Scale **1:50** Sheet 3 of 3

Samples		Tests		Progre	ess	Strata				
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness)	Level	Install/ Backfill
			Бериі		Depth	Stiff to very stiff dark blueish grey CLAY with frequent extremely		-		
				14/03/2022 13:50	1.20 <i>Dry</i>	Stiff to very stiff dark blueish grey CLAY with frequent extremely weak light grey siltstone bands. [KIMMER DGE CLAY FORMATION]	 	20.45	-9.15	
				15.50	Diy					
_									[
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	TECHNIQUE		LL NG			VATER OBSERVATIONS HOLE/CASING DIAME			R ADDE	
From To	Type	Hard Strata From	To Duratio			pth Strike Time Elapsed (mins) Rise To Depth Casing Depth Sealed Hole Dia. Depth Casing Dia. 16.45 20 14.80 3.00 150 20.45 200	Depth	From	To V	Volume (Itr)
	Inspection Pit			14/03/2022	12 10	16.45 20 14.80 3.00 150 20.45 200	1.20 I	- 1		
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			

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 16.45m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541123.46

Ground Level (mAOD) 11.37 Northing (OS mN) 266640.37

Start Date 14/03/2022 End Date 16/03/2022

Scale 1:50 Sheet 1 of 3

Samples		Tests		Progre		Strata		Depth	1.5	Ins
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water	Description	Legend	(Thickness)	Level	Ba
(B1) 0.10-0.30	44.7		Depui	14/03/2022	Depth 0.00	MADE GROUND: Soft brownish orange sandy gravelly CLAY.	XXXX			4.
(ES2) 0.20-0.30				14:00	Dry	Gravel is fine to coarse angular to subangular of brick, flint,	\times	(0.30)		'n
						concrete. \[MADE GROUND]		0.30	11.07	Δ.
(B3) 0.50-0.70 (ES4) 0.50-0.60						MADE GROUND: Stiff to very stiff greyish brown gravelly CLAY.	$^{\prime}$	(0.40)	1 1	4.
(E34) 0.30-0.60						Gravel is fine to coarse, angular to subrounded of brick and	XXXX	0.70	10.67	1
						concrete. [MADE GROUND]	/ <u> </u>			11
(B5) 1.00-1.20 (ES6) 1.00-1.10		R 70270	200	100.00		Firm brown silty sandy CLAY	x	(0.60)	† †	1
(B8) 1.20-1.50	SPT(S) 1.20	N=6 (1,2/2,2,1,1)	0.60	14/03/2022	0.00	[POSSIBLE RÉWORKED NATURAL]	-×-	4.20	40.07	51
(D7) 1.20-1.65 (ES9) 1.30-1.40				17:00 16/03/2022	Dry 0.00	Medium dense yellow brown slightly clayey gravelly SAND.		1.30	10.07	1
(200) 1.00 1.10		/ W/ H		07:30	Dry	Gravel is fine to coarse, subangular to subrounded of chert. [RIVER TERRACE DEPOSITS]		(0.50)		13
(040) 4 00 2 00						[RIVER TERRACE DEPOSITS]	<u> </u>	4.00	0.5	1
(B10) 1.80-2.00 (ES11) 1.80-1.90		and the second second	the state of			Firm to stiff bluish grey slightly sandy silty CLAY		1.80	9.57	11
(UT12) 2.00-2.45		UT12 41 blows 100% rec.	Dry			[KIMMER DGE CLAY FORMATION]	X		t l	1
6 6 6		100.					x		1	10
(D13) 2.45-2.50							X			11
(013) 2.43-2.30							× Tu		t l	4
							X		+ 1	1
Was address.		To the state of	7.4				-×-		1	/
(B15) 3.00-3.50 (D14) 3.00-3.45	SPT(S) 3.00	N=7 (2,2/2,1,2,2)	Dry					(2.40)	t 1	1
(014) 3.00-3.45							X			12
							X	1	1	4
									1	
							X			. 3
		T					x			40
(UT16) 4.00-4.45		UT16 71 blows 67%rec.	Dry						1	1
		1.1 1.11.1				Extremely weak light grey SILTSTONE interbedded with stiff	X	4.20	7.17	. 4
						bluish grey CLAY	XXXXX		1	
(D17) 4.45-4.50						[KIMMER DGE CLAY FORMATION]	XXXXX	3		
						The state of the s	X X X X X X			7.3
100000000		7					X	22 500		
(B18) 5.00-5.50	SPT(C) 5.00	N=24 (4,5/6,6,5,7)	Dry				X	(1.50)	+ [
							X × X × X		1	3
							X × × × ×			
		400000					X × X × X			
							****	5.70	5.67	
		P-70-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0-0				Stiff blueish grey CLAY with occasional selenite crystals. [KIMMER DGE CLAY FORMATION]		21.27		
(UT19) 6.00-6.45		UT19 51 blows 100%	Dry			[KIMINIER DOL CLAT I ORIVIATION]				
		rec.							1	
Carlotta Co									-	
(D20) 6.45-6.50								,	1	
									1	
(B22) 7.00-7.50	SPT(S) 7.00	N=21 (2,4/4,5,5,7)	Dry				=7-7		1	
(D21) 7.00-7.45			,							
									-	
										. 4
(UT23) 8.00-8.45		UT23 52 blows 100%	Dry							
120/0.00-0.43		rec.	5.7						1	
							-1-1		ļ l	
(D24) 8.45-8.50									t l	-
							-2-2		‡ ŀ	
(Bac) 0.00 0.50	CDT/C) 0.00	N=22 (4 FIE F C C)	Dec							
(B26) 9.00-9.50 (D25) 9.00-9.45	SPT(S) 9.00	N=22 (4,5/5,5,6,6)	Dry						Ţ	
A CONTRACT OF THE REAL PROPERTY OF THE PERTY							5-1		1	
										9
A 17071 40 07 17 17		LITTON CO.L.							1	14
(UT27) 10.00-10.45		UT27 58 blows 100% rec.	Dry							×1
DR LLING T	TECHNIQUE	CHISELL	NG	1 = -		VATER OBSERVATIONS HOLE/CASING DIAME	TER	WATE	RADDE	D
		Hard Strata				pth Strike Time Elapsed Rise To Depth Depth Strike (mins) Rise To Casing Septed Hole Dia. Depth Casing Dia.				

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 16.60m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541123.46 Ground Level (mAOD) 11.37 Northing (OS mN) 266640.37

Start Date 14/03/2022 End Date 16/03/2022

Scale 1:50 Sheet 2 of 3

Samples		Tests		Progr		Strata		Depth	4 7 4	In
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	PTL: bernen	Level	Ba
(D28) 10.45-10.50 (D29) 11.00-11.10			J. G. G. G. G. G. G. G. G. G. G. G. G. G.		Бери	Stiff blueish grey CLAY with occasional selenite crystals. [KIMMER DGE CLAY FORMATION]				
(831) 11.50-12.00 (030) 11.50-11.95	SPT(S) 11.50	N=18 (2,3/4,4,5,5)	Dry							
1733) 13.00-13.45 034) 13.45-13.50		UT33 48 blows 100% rec.	Dry					(10.30)		
035) 14.00-14.10 337) 14.50-15.00 036) 14.50-14.95	SPT(S) 14.50	N=26 (3,4/6,6,7,7)	Dry							
D38) 15.00-15.10 D39) 16.00-16.45 D40) 16.45-16.50		UT39 53 blows 100% rec.	Dry			Stiff to very stiff bluish grey CLAY with frequent extremely weal light grey siltstone bands up to 15mm thick. [KIMMER DGE CLAY FORMATION]		16.00	4.63	
D41) 17.00-17.10 B43) 17.50-18.00 D42) 17.50-17.95 D44) 18.00-18.10	SPT(S) 17.50	N=31 (4,6/6,8,5,9)	17.30					(4.45)		
IT45) 19.00-19.45 D46) 19.45-19.50		UT45 59 blows 100% rec.	18.80						- - - - - - - - - - - - - - - - - - -	
D47) 20.00-20.45	SPT(S) 20.00	N=27 (4,5/5,7,7,8)	19.60							A
	TECHNIQUE	CHISELI			1	WATER OBSERVATIONS HOLE/CASING DIA			RADD	-

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 16.60m. No evidence of contamination observed.





Project **Northstowe** Client Homes England Project No. 10052307 Easting (OS mE **541123.46** Ground Level (mAOD) 11.37 Northing (OS mN) 266640.37

Start Date **14/03/2022** End Date 16/03/2022 Scale **1:50** Sheet 3 of 3

Sar	nples	Tests		Progi	ess	Strata		Donth		Install/	
Туре	+ Depth	Type + Depth	Results	Wat Dep	er Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness)	Level	Backfill
-				239		Deptil	Stiff to very stiff bluish grey CLAY with frequent extremely weak	<u> </u>			
-							Stiff to very stiff bluish grey CLAY with frequent extremely weak light grey siltstone bands up to 15mm thick. [KIMMER DGE CLAY FORMATION]	F	20.45	-9.08	
-											
F											
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-									-		
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From	DR LLING	TECHNIQUE Type	Hard	HISELL NG	ration Date &		MATER OBSERVATIONS HOLE/CASING DIAME spth Strike Time Elapsed (mins) Rise To Depth Casing Saaled Hole Dia. Depth Casing Dia.	TER Depth	From		ED /olume (ltr)
0.00	1.20 20.45	Inspection Pit Cable Percussion	From	To Du	16/03/202		16.60 5 16.50 3.00 Sealed Tible Dia. Depth Casing Dia. 150 20.00 150 150 20.45	3.00		+	(iu)
Remarks			atruction on or	· · · · · · · · · · · · · · · · · · ·	1						

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 16.60m.

No evidence of contamination observed.





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541072.33

Ground Level (mAOD) 11.29 Northing (OS mN) 266613.52

Start Date 16/03/2022 End Date 17/03/2022

Scale 1:50 Sheet 1 of 2

	Depth	10000000			Progre		Tests		Samples	
th Level II	(Thickness)	Legend	Description	Casing & Water	Date & Time	Water Depth	Results	Type + Depth	Type + Depth	
·4	×	XXXX	MADE GROUND: Very soft to soft light bluish grey and greyish	0.00	16/03/2022	Depui		1 44. 2 22. 4	(B1) 0.00-0.20	
T	(0.30)	\times	brown slightly sandy gravelly CLAY. Gravel is angular to	Dry	09:00				(ES1) 0.25	
10.99	0.30		subrounded fine to coarse flint, brick and chert. [MADE GROUND]	311					(B) 0.40-0.60	
n t	× (0.50)	\times	MADE GROUND: Soft to firm light greyish brown slightly sandy						(B2) 0.40-0.60 (ES2) 0.50	
1		\times	gravelly CLAY Gravel is angular to subrounded fine to coarse				1.44			
+ //	0.80		brick, concrete and flint. [MADE GROUND]	1.16		\sim			(B3) 0.80-1.20	
" ± 1/	× (0.40) -		MADE GROUND: Firm dark brown slightly sandy slightly gravelly				3.7		(ES3) 1.00	
10.09	1.20		CLAY. Gravel is angular to subrounded fine to medium flint and			∇	N=23 (4,5/4,7,6,6)	SPT(C) 1.20	(B4) 1.20-1.70	
1 2			brick. [MADE GROUND]						(ES4) 1.20-1.70	
1 /			Medium dense light vellowish brown and vellowish brown clavey			. 1				
n t	(1.10)	$\vdash \cdots$	gravelly SAND. Gravel is angular to subrounded fine to coarse						(DE) 4 90 2 00	
1 2			flint.				Contract Contracts	Salling	(D5) 1.80-2.00	
1 3			[RIVER TERRACE DEPOSITS]				N=23 (5,9/8,7,4,4)	SPT(C) 2.00	(B6) 2.00-2.50	
8.99	2.30		and the second s							
1 0.99	2.30	×-	Firm to stiff bluish grey silty CLAY with beds of thickly laminated							
1 3	3	^	to medium bedded extremely weak to weak light grey and grey siltstone.	11						
+ 6	-	x	[KIMMER DGE CLAY FORMATION]						(07) 2 00 2 00	
Ŧ .		x_							(D7) 2.80-3.00	
1 1								B		
i i	3	X					N=11 (2,3/2,3,3,3)	SPT(S) 3.20	(B8) 3.20-3.70	
1 1		×								
1 13	1	-×-	1							
1 63	1	×							(DO) 3 PO 4 DO	
1		×	· · · · · · · · · · · · · · · · · ·			-	SERVICE CONTRACTOR		(D9) 3.80-4.00	
‡ :	1	x-					UT10 100 blows 70% rec.		(UT10) 4.00-4.45	
+ *;	1	<u>^</u>	Siltstone band. 4 20-4.50m bgl				700.			
Ty is		X							(D11) 4.45-4.50	
1 1		-×-							(011)4.454.50	
1 7.		x_								
1		X					A dell'alternation	3207 a 45 T	2010	
T		×_X					N=37 (6,9/12,12,7,6)	SPT(S) 5.00	(B12) 5.00-5.50	
i i	-	x-	Siltstone band. 5 20-5.80m bgl				4			
1	ā .	×	200000000000000000000000000000000000000							
1		×					11			
i s	1	x-							(D13) 5.80-6.00	
1	3		18						(13) 3.00-0.00	
T		X					N=42 (8,12/15,17,5,5)	SPT(C) 6.00		
1 3		×x					. 11			
1	-	×_							(D4 1) 0 50 7 00	
I (:		X							(B14) 6.50-7.00	
1		×							(D15) 6.80-7.00	
+ 1		-×-					17740 400 11 000			
T 1:							UT16 100 blows 0%rec.		(B17) 7.00-7.50 (UT16) 7.00-7.45	
1 .	3	×							* De Roo Cource	
+ 1		×-×-								
T S	1 6	x_								
1	4	X					-41 , 9		(D18) 7.80-8.00	
+	-	×					N>50 (25,0 for	CDT/C) 0 00		
T L		x_	Siltstone band, 8.10-8.50m bgl				0mm/22,18,10 for	SPT(S) 8.00	(B19) 8.00-8.50	
1 .	3	×	Sitistorie Dana, 6, 10-6,50m bgi				35mm)			
1		x_^_								
Ŧ [S		×-×-	7							
1	3								(D20) 8.80-9 nn	
+ 1		X					LETTA 400 bloom 000)		2000	
T R		x					UT21 100 blows 80% rec.		(0121) 9.00-9,45	
1 3	-	-×-					2001			
19		X					4 11	7.0	(D22) 9.45-9.50	
T 8		×							(B23) 9.50-10.00	
1	1	—×-								
	4	X					N-20 (0.20 4.07)	COTION AS SO	(P24) 40 00 40 FF	
T		×				-	N=20 (2,3/3,4,6,7)	SPI(S) 10.00	(024) 10.00-10.50	
ATER ADDED	WATE	TER	VATER OBSERVATIONS HOLE/CASING DIAME	V		NG	CHISELL	TECHNIQUE	DR LLING	
To Volu	From					Duration	From To	Туре		
		3.00	1.30 20 0.90 1.20 200 3.00 200 4.20 20 4.00 3.00 150 20.05	2 00	16/03/2022	00:45	5.20 5.80	Inspection Pit Cable Percussion	0.00 1.20 1.20 20.05	
<i>II</i>		X	oth Strike Time Elapsed (mins) Rise To Depth Casing Depth Hole Dia. Depth Casing Dia. 1.30 20 0.90 1.20 200 200 3.00 200	0 15 2 00	16/03/2022	Duration 00:20	N=20 (2,3/3,4,6,7) CHISELL Hard Strata From To 4,20 5,20	Type Inspection Pit	DR LLING From To 0.00 1.20	

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 1.30m, 4 20m and 15.80m. No evidence of contamination observed.





Project Northstowe Homes England Project No. 10052307 Easting (OS mE) **541072.33** Ground Level (mAOD) 11.29 Northing (OS mN) 266613.52

Start Date 16/03/2022 End Date 17/03/2022 Scale **1:50** Sheet 2 of 2

Trips = Clay Trips Token Token Trips Token Trips Token Trips Token Trips Token Token Trips Token Token Trips Token Token Trips Token Token Trips Token Token Trips Token		Samples	Tests				Progre		Strata								Depth			Install/			
0.025 13.01-12.0 1.05-12.0	Ty	/pe + Depth	Type + Depth		Results			Date & Time	Casing & Water Depth				Desc	ription						/Th:-!		vel l	Backfill
1973-2022 3.00 1973-11.20									·	Firm to	stiff bluis	sh grey si led extre	ilty CLA` melv we	Y with back to w	eds of	thickly I	amina	ated rev	×	-2	į	/	7//
(0.05) 1 (0.01 2.00 1 (0.01 2.	-									siltston	e.		-		3	5 ,	3	,		-	‡		
FORD 12 do	Ė									[[CINVIIVII	LINDOL	OD III C	71 (1717) (1 1	011					1×— —	-	İ		///
(850) 1500-1620	- (D2	5) 11.00-11.20						16/03/2022	3.00										L×	-	1		7//
COURTY 12-03-12-04	,	,						17:00 17/03/2022	<i>Dry</i> 3.00										×— —	-2			///;
Curry 12 06-19-46	(B2	6) 11 50-12 00						08:30	Dry										L×	-2	Ī		///
(UT27) 12.00-12.00 (B30) 13.00-13.00 (B30) 13.00 (B	(52	0) 11.00-12.00																	×	-2	ļ		9/9
(028) 12.40-12.50 (029) 13.00-13.00 (030) 13.50-14.00 9PT(5) 13.50 14.00-14.20 UT32 70 blows 60*/mec. (033) 15.40-10.50 PT(5) 16.50 (033) 15.40-10.50 9PT(5) 16.50 UT32 70 blows 60*/mec. (033) 15.40-10.50 PT(5) 16.50 (033) 15.40-10.50 PT(5) 16.50 UT32 70 blows 60*/mec. (033) 15.40-10.50 PT(5) 16.50 PT(5) 16.50 PT(5) 16.50 PT(5) 16.50 PT(5) 16.50 PT(5) 16.50 PT(6) 16.50 PT(6) 16.50 PT(7) 16.50 PT(7) 16.50 PT(8) 16.50		7) 10 00 10 15			7 400 11	700/													L×— —	-2	ļ	-	7/2
(UT32) 15.00 15.45 (UT32) 15.00 15.46 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT32) 15.00 15.45 (UT33) 15.00 15.45 (UT34) 10.00 10.00 (UT35) 10.00 10.00 (UT35) 10.00 10.00 (UT36) 10.00 10.00 (UT37)	- (012	27) 12.00-12.45		012		/S 70%													×	-2	Ŧ		7/1
(829) 13 09-13 00 (829) 13 09-1	(D2	8) 12 45-12 50																	L×	-2	-		3/1
(830) 13.00-14.00 SPT(S) 13.00 N=24 (3.08.6.8.7) (931) 14.00-14.20 (931) 15.00-15.45 (933) 15.45-15.50 (934) 15.00-18.45 (935) 16.00-18.45 (936) 16.00-18.45 (937) 16.45-18.50 (937) 16.45-18.50 (938) 16.00-18.45 (- (02	0) 12.45-12.50																	×	-	Ť	<i>\f</i>	7//
(836) 13.50 14.00 SPT(6) 13.50 N-24 (3.55.6.6.7) (931) 14.00-14.20 UT32 70 tiows 99%/sec. (933) 15.00-15.45 UT32 70 tiows 99%/sec. (934) 16.00-16.50 SPT(6) 15.50 N-28 (14.118.6.7.7) (934) 16.00-16.50 UT32 70 tiows 99%/sec. (934) 16.00-16.50 SPT(6) 16.50 N-28 (14.118.6.7.7) (935) 16.50-17.00 SPT(6) 16.50 N-28 (14.118.6.7.7) (936) 16.00-18.45 UT38 100 blows 60% rec. (937) 18.45-16.50 UT38 100 blows 60% rec. (938) 19.00-19.50 SPT(6) 19.00 N-32 (5.67.8.8.9) (938) 19.00-19.00 SPT(6) 19.00 N-32 (5.67.8.8.9) (938) 19.00 SPT(6) 19.00 N-32 (5.67.8.8.9) (938) 19.00 SPT(6) 19.00 N-32 (5.67.8.8.9) (938) 19.00 SPT(6) 19.00 N-32 (5.67.8.8.	[L×— —	-	Ī		7//
(B30) 14.00-14.20 SPT(S) 13.50 N=24 (3.56.6.67) (B31) 14.00-14.20 SPT(S) 13.50 N=24 (3.56.6.67) (B31) 14.00-14.20 UT32 70 Blows 80%rec. (B32) 15.00-15.45 UT32 70 Blows 80%rec. (B33) 15.45-15.50 UT35 70 Blows 80%rec. (B33) 16.50-17.00 SPT(S) 16.50 N=28 (14.118.6.7.7) (B33) 16.50-17.00 SPT(S) 16.50 N=28 (14.118.6.7.7) (B33) 18.00-16.45 UT36 100 blows 60% rec. (B33) 18.00-16.45 UT36 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B33) 18.00-18.45 UT38 100 blows 60% rec. (B34) 18.00-18.45 UT38 100 blows 60% rec. (B35) 18.45-18.50 UT38 100 blows 60% rec. (B35) 18.45-18.50 UT38 100 blows 60% rec. (B36) 18.00-18.45 UT38 100 blows 60% rec. (B37) 18.45-18.50 UT38 100 blows 60% rec. (B37) 18.45-18.50 UT38 100 blows 60% rec. (B38) 18.00-18.45 UT38 100 blows 60% rec. (- (B2	9) 13.00-13.50																	×— —		+		25
(B34) 16.00-16.50 (B35) 16.50-17.00 SPT(S) 16.50 N=26 (14.118.6.7.7)	-																		×		ŧ		777.
(031) 14.00-14.20 - (UT32) 15.00-15.45 - (UT32) 15.00-15.45 - (UT32) 15.00-15.45 - (UT32) 15.00-15.45 - (UT32) 15.00-15.45 - (UT33) 15.45-15.50 - (UT34) 15.00-16.50 - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 16.50 N=28 (14.118.6.7.7) - (UT36) 18.00-18.45 - (- (B3	0) 13.50-14.00	SPT(S) 13.50	N=	=24 (3,5/5,6	5,6,7)													×— —	-	Ŧ		7//
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Cast 16.00-16.50	(D3	3) 15.45-15.50																	<u>×_×</u> _	-	İ		7//
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(B35) 16.50-17.00 SPT(S) 16.50 N=28 (14.11/8.6,7.7) - (UT36) 18.00-18.45 UT36 100 blows 60% rec. (D37) 18.45-18.50 SPT(S) 19.60 N=32 (5.6/7.8.8.9) - (B38) 19.00-19.50 SPT(S) 19.60 N=32 (5.	- (B3	4) 16.00-16.50																	<u>×_×</u> _	-	Ŧ		9//
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Continue	[<u>×_×</u> _	-	Ī		
Control Cont	-																		×	-	+	· -	757.
Company Comp	-																			-	ļ		7//
Company Comp	-																		1×— —	-	Ŧ		2/1
Control Cont	-																		<u>×</u> _×	1		1	777.
(B38) 19.00-19.50 SPT(S) 19.60 N=32 (5.6/7,8.8.9) 17/03/2022 3.00 12:00 18.2 DR LLING TECHNIQUE CHISELL NG WATER OBSERVATIONS HOLE/CASING DIAMETER WATER ADDED	_ (UT:	36) 18.00-18.45	i	UT3		rs 60%													<u>×</u> _×	1	‡		7//
Chisell NG	[rec.														<u>×_×</u>	1	I		
Continue Chisell NG Water Observations Rise to Casing Dia Depth Depth D	_ (D3	7) 18.45-18.50																	<u>×_×</u>	1	‡		///
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SPT(S) 19.60 N=32 (5,6/7,8,8,9) 17/03/2022 3.00 17/03/2022 3.00 17/03/2022 3.00 17/03/2022 3.00 17/03/2022 3.00 17/03/2022 3.00 17/03/2022 3.00 17/03/2022 3.00 18.2 20.05 -8.76 -8.76	, ,	., .1.00 10.00																	<u>×</u> ×	1			///
17/03/2022 3.00	Ė																		××	3	†		
17/03/2022 3.00 18.2 20.05 -8.76 -8.76 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 20.05 2	F		SPT(S) 19.60	N=	32 (5,6/7,8	3,8,9)													×	3	Ī		977
Trop To Type Trop Type Trop Tr	-																		×	7			7//
From To Type Hard Strata From To Log Strata Strata Duration Date & Time Depth Strike Time Elapsed (mins) Rise To Casing Dia. Depth Sealed Date Strata Sealed Hole Dia. Depth Depth Depth Sealed Hole Dia. Depth Depth Depth Depth Depth Depth Sealed Hole Dia. Depth	Ė							17/03/2022 12:00	3.00 18.2										<u> ^</u>	20.05	† -8	3.76	//,/
From To Type Hard Strata From To Log Strata Strata Duration Date & Time Depth Strike Time Elapsed (mins) Rise To Casing Dia. Depth Sealed Date Strata Sealed Hole Dia. Depth Depth Depth Sealed Hole Dia. Depth Depth Depth Depth Depth Depth Sealed Hole Dia. Depth		DR LLING	TECHNIQUE					S HOLE/CASING DIAMETER						TER	l WA	TER A	DDE)					
1.20 20.05 Cable Percussion 5.20 5.80 00:45 16/03/2022 12 00 4.20 20 4.00 3.00 150 20.05		n To	Туре	Type Hard Strata Duration				ime De	epth Strike	Time Elapsed (mins)	Rise To		Depth Sealed	Hole Dia.	Depth	Casir	ng Dia.	Depth			$\overline{}$		
	1.20	20.05	Cable Percussion		5.20	5.80	00:45	16/03/2022	12 00	4.20	20	4.00	3.00				2	.00	3.00				

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 1.30m, 4 20m and 15.80m. No evidence of contamination observed.

Termination Depth: 20.05m

Checked By





ARCADIS Cable Percussive Borehole Log

Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540924.36 Ground Level (mAOD) 11.61 Northing (OS mN) 266675.09

Start Date 23/03/2022 End Date 24/03/2022

Scale 1:50 Sheet 1 of 3

Samples		Tests		Progr		Strata		Dorth	1	Ins
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water	Description	Legend	Depth (Thickness)	Level	Ba
(B1) 0.10-0.40 (ES2) 0.10-0.20			Бери	23/03/2022 15:00	0.00 Dry	MADE GROUND: Soft light orangish brown slightly sandy gravelly CLAY Sand is fine to coarse. Gravel is subangular to		(0.30)		d
(B3) 0.50-0.80						subrounded fine to coarse flint and brick . [MADE GROUND]		0.30	11.31	
(BS) 0.50-0.60 (ES4) 0.50-0.60						MADE GROUND: Firm light greyish brown slightly sandy gravelly CLAY Sand is fine to coarse. Gravel is subangular to		(0.90)	Ī	F
(DC) 4 00 4 20						subrounded fine to coarse flint and brick. [MADE GROUND]		(0.90)	1	ŀĘ
(B5) 1.00-1.20 ES6) 1.00-1.10 (B8) 1.20-1.65	SPT(S) 1.20	N=8 (1,2/2,2,2,2)	Dry					1.20	10.41	
(D7) 1.20-1.65						Light yellowish brown slightly clayey gravelly SAND Sand is fine to coarse. Gravel is angular to subrounded fine to coarse flint.			‡	
						[RIVER TERRACE DEPOSITS]	-		Ī	-
Zara II. ali	SELECTION OF		2.1						1	
B10) 2.00-2.50 (D9) 2.00-2.45 ES11) 2.00-2.10	SPT(S) 2.00	N=14 (2,4/3,3,4,4)	Dry				77.	(1.70)	Ī	
.511) 2.00-2.10									1	
		1 11							ŧ	
ST ST ST	Street Street	Total Control	100			Firm to Stiff bluish grey silty CLAY. Frequent closely to widely	77.7	2.90	8.71	* -
B13) 3.00-3.50 D12) 3.00-3.45	SPT(S) 3.00	N=9 (2,2/2,3,2,2)	Dry			spaced thickly laminated to medium bedded extremely weak and very weak light grey Siltstone beds.	<u>-x</u> -		İ	1/
S14) 3.00-3.10				fun nem	7	[KIMMER DGE CLAY FORMATION]	<u></u>		1	2
				23/03/2022	Dry		×_×		Ŧ	1
	1.0			24/03/2022 07:30			x_x_		Ī	11
JT15) 4.00-4.45		UT15 27 blows 100% rec.					×		Ŧ	2
D46) 4.45.4.50							×		1	1
016) 4.45-4.50						Frequent claystone bands.	x_×_		Ī	1
	N. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10	The second second					x		Ī	1
B17) 5.00-5.50 D18) 5.00-5.10	SPT(C) 5.00	N=24 (4,5/5,6,6,7)	Dry				×		Ŧ	1
							×		Ī	13
		1 0 1					×		ŧ	1
	12000000	2.574.54					×		Ī	1
B20) 6.00-6.50 D19) 6.00-6.10	SPT(C) 6.00	N=23 (4,5/5,6,6,6)	Dry				×		Ť	13
	17						X		Ī	1
							X		-	1
									Ī	11
T21) 7.00-7.45		UT21 39 blows 78%rec.				T _i	x		ŧ	13
2001 7 45 7 50									Ī	1
022) 7.45-7.50							x		Ŧ	1
contractors of	Constant	18.77 mg							1	1
B24) 8.00-8.50 D23) 8.00-8.45	SPT(S) 8.00	N=15 (2,3/3,4,4,4)	Dry						İ	1
							××		1	1
							<u> </u>		Ī	13
	Y						<u>x_x</u>		1	1
JT25) 9.00-9,45		UT25 43 blows 100% rec.					×=×=		Ŧ	1/
D26) 9.45-9.50							××-		‡	11
JES J 3.43-3.30							×		Ī	5
Santalasson.c.	and in take	in Transition 5					x			1
28) 10.00-10.50 27) 10.00-10.45	SPT(S) 10.00	N=17 (3,4/4,4,5,4)	Dry				~_×_			1
DR LLING	TECHNIQUE Type	CHISELL Hard Strata From To	NG Duratio	n Date & T		VATER OBSERVATIONS HOLE/CASING DIAME pth Strike Time Elapade Rise To Depth Casing Depth Grain Beautiful Casing Dia.	TER Depth		R ADDI	ED Volum
.00 1.20	Inspection Pit	From 10	- 1	24/03/2022		16.50 5 18.50 3.00 150 20.00 20.00 20.00	3.00			-

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at m. No evidence of contamination observed.





BHTCA301A

Ground Level (mAOD)
11.61
Northing (OS mN)
266675.09 Start Date 23/03/2022 End Date 24/03/2022 Project **Northstowe** Client Project No. **10052307** Scale **1:50** Easting (OS mE) 540924.36 Homes England Sheet 2 of 3

Sam	nples		Tests			Progr					;	Strata						D. "		Inctall/
Type +	+ Depth	Type + Depth	Results	3	Water Depth	Date & Time	Casing 8 Water Depth	k			Descrip	tion				Lege	nd	Depth (Thickness)	Level	Install/ Backfill
-					-						ilty CLAY. to mediur					<u>×_</u>			1	11.11
								very wea	ak light o	rey Silts	tone beds	S.	aca exti	omory v	voun une	×			1	1///
								[KIMME	R DGE (CLAY FO	RMATION	N]				×			ł	17/1
																× 3	< 1		İ	1/2/
- (D29) 11	1.00-11.10																		†	1/1/
																×	, -		1	2///
– (UT30) 1	11.50-11.95		UT30 47 blows	89%rec.												×			‡	122
- ` ´ ´																×	\rightarrow		ļ	6973
· (D21) 11	1 05 12 00															×_			‡	1///
(D32) 12	1.95-12.00 2.00-12.10															×			Ť	1///
																×			†	1/2/2
-																	_ 1		‡	1///
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(DOA) 40	200 40 50	ODT(0) 40 00	N-40 (0.4(4)		D											×			Ŧ	1///
(D33) 13	3.00-13.50 3.00-13.45	SPT(S) 13.00	N=19 (3,4/4,	0,5,5)	Dry											×		·	Ŧ	25/1
																\times —			Ŧ	1///
- -																×			Ŧ	1/2/
																×			ł	25%
– (D35) 14	4.00-14.10															× 3	₹ :		1	17/1
(500) 1-	4.00-14.10																		1	1///
																×			ł	1///
- (B36) 14	4.50-15.00															×			t	12/
																×	_		İ	1///
– (D37) 15	5.00-15.10																	(47.40)	1	1///
(==:, ::																×		(17.10)	1	1/2/
																	< 1		ļ	6573
-																			ţ	1//
																×			‡	17/1
(B38) 16	6.00-16.50	SPT(C) 16.00	N=28 (4,6/6,6	6,7,9)	Dry											×			‡	1///
																×			‡	17/1
					\blacksquare											×			†	12/1
=																×			Ť	1///
																X_	_]		Ŧ	2.77
- (D39) 17	7.00-17.10															2			+	11/
																<u> </u>			ł	1///
- (B40) 17	7.50-18.00																\rightarrow		1	25%
(040) 17	7.50-10.00															<u>×_</u>			1	17/1
																×	\rightarrow		İ	1///
- (D41) 18	8.00-18.10															1×—	J		†	1///
																×			ļ	1/2/
																×	₹ :		‡	1/1/
																F 5			‡	1///
																<u> ^-</u> ,			‡	1///
- (B42) 19	9.00-19.50	SPT(C) 19.00	N=23 (5,6/5,	5,5,8)	18.90											1×—	1		Ť	1///
																			‡	1///
- (UT43) 1	9.50-19.95		UT43 51 blows	100%	19.10											×			‡	1///
			rec.													×			1	1/2/2
_ (D44) 19	9.95-20.00					24/02/0000	3.00									×		20.00		
,						24/03/2022 16:00	3.00 <i>Dry</i>											20.00	-8.39	,
Г	DR LLING	TECHNIQUE		HISELL I	NG	<u> </u>	L.,	WATER OF	BSERVA	TIONS		$\overline{}$	HOI F	E/CASIN	NG DIAN	ETER	\top	WATE	RADD	ED
From	То	Туре		Strata To	Duratio		ime D	epth Strike	ne Elapsed (mins)	Rise To	Depth C Casing S	Depth Sealed H	Hole Dia.	Depth	Casing Dia	Depth	t			Volume (Itr)
0.00 1.20	1.20 20.00	Inspection Pit Cable Percussion				24/03/2022	12 10	16.50	5	16.50	3.00		150 200	20.00 20.00	200	3.00				

Remarks

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at m. No evidence of contamination observed.

Termination Depth: 20.45m



Checked By Logged By

NM

CPr



BHTCA301A

Project **Northstowe** Client Homes England Project No. **10052307** Easting (OS mE) **540924.36** Ground Level (mAOD)
11.61
Northing (OS mN)
266675.09

Start Date 23/03/2022 End Date 24/03/2022

Scale **1:50** Sheet 3 of 3

Samples		Tests		Progre	ess			Strata				Denth		Install/
Type + Depth	Type + Depth	Results	Water	Date & Time	Casing & Water Depth		De	scription			Legend	Depth (Thickness)	Level	Install/ Backfill
			Depth		Depth									
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	TECHNIQUE	CHIS Hard Stra	SELL NG	Date 0 =		VATER OBSERVA	TIONS	Depth	HOLE/CAS				R ADDI	
From To 0.00 1.20 1.20 20.00	Type Inspection Pit Cable Percussion	Hard Stra From	To Duration	Date & T 24/03/2022		pth Strike Time Elapsed (mins) 16.50 5	Rise To Deptr Casing 16.50 3.00	Depth Sealed H	fole Dia. Depth 150 20.00	Casing Dia.	Depth 3.00	From	To \	Volume (Itr)
1.20 20.00	Cable Percussion								200 20.00					
Demonto														
Remarks														

Borehole terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at m. No evidence of contamination observed.

Termination Depth: 20.45m



Sheet 1 of 1

Scale **1:25**



 Project
 Project No.
 Ground Level (mAOD)
 Start Date

 Northstowe
 10052307
 11.73
 11/03/2022

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 540972.99
 266791.37
 11/03/2022

SAMPLI	ES		TESTS	S	-Se		STRATA					Incta"/
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes		Description	Legen	Dept (Thickn		.evel	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 - 0.20 - 0.50 - 0.50 - 1.00 - 0.50 - 1.00 - 0.50 - 1.00	B1 D1 ES1 B2 D2 ES2 B3 D D3 ES3	- - - - - - - - - - - - - - - - - - -	No.			MADE GROUND: Soft yell coarse, angular to subang [MADE GROUND]	lowish brown sandy gravelly CLAY. Gravel is fine t ular of flint, brick, concrete.		(1.00			
-1.00 - 2.00 -1.00 - 2.00 -1.00 - 2.00	B4 D4 ES4	- - - - - - - - - - - - - - - - - - -			•	Yellowish brown very grave flint. [RIVER TERRACE DEPO:	elly SAND Gravel is subangular fine and medium o	of	1.00		10.73	
									2.00		9.73	
PLAN DETAIL	LS	3.0		Shoring / Stability: u	Support: l	None from 1.10	Remarks Trial pit terminated on Engineer's Instruction on act No groundwater encountered. No evidence of contamination.	chieving target c		Termina 2.	ation D	- 1



 Project
 Project No.

 Northstowe
 10052307

 Client
 Easting (OS mE)

 Homes England
 540948.28

Ground Level (mAOD) 11.89
Northing (OS mN) 266760.22

Start Date 10/03/2022 End Date 10/03/2022

Scale 1:25 Sheet 1 of 1

SAMPLE	ES		TEST	S	er		STRATA		Depth		Install/
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes		Description	Legend	(Thickness)	Level	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			ish grey gravelly CLAY with rootlets. Gravel is fine to rounded of brick, concrete, chert.		(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 cl fine to coarse of flint and c [RIVER TERRACE DEPO	ayey gravelly SAND with rootlets. Gravel is subangular thert. SITS]		0.50	11.39	
- - - - - - - - - - - - - - - - - - -	B4 D4 ES4	- - - - 1.00 - - -	PID	<1ppm		Yellowish brown gravelly 9 medium of flint. [RIVER TERRACE DEPO	SAND. Gravel is subangular to subrounded, fine to SITS]		0.90	10.99	
	B5 D5	- - - - - - - - - - - - - - - - - - -	PID	<1ppm	•				(1.50)		
2.00 - 3.00	ES5	- - - - - - - - - - - - - - - - - - -				Firm to stiff bluish greenis [KIMMERIDGE CLAY FOR	h mottled dark grey CLAY. RMATION]		2.40	9.49	
-		3.00	PID	<1ppm					3.00	l	== : = ==
-		- - - - - - -									
-		- - - - - -									
-		- - - - - - - -									
		- - - -									
PLAN DETAIL	.S	3.0		Long Axis	Orientati	on:	Remarks Trial pit terminated on Engineer's Instruction on achievir No groundwater encountered. No evidence of contamination.	ng target de	epth.		
0.6				Shoring / Stability: I	Unstable t	from 2.00 to 2.40m bgl			Tern	ination l	.



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.64
 15/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541003.49
 266764.06
 15/03/2022
 Sheet 1 of 1

	gianu				I	34100		13/03/202		neet i o	
SAMPLE			TEST		Water Strikes		STRATA	T	Depth		nstall/
Depth	Type/ No.	Depth	Type/ No.	Results	Stri		Description	Legend	(Thickness)		Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.20 - 0.80 0.20 - 0.80 0.20 - 0.80 0.20 - 0.80	B1 D1 ES1 B2 D D2 ES2	- - - 0.20 -	PID	<1ppm		rootlets. Gravel is subangu fabric. Organic odour note [MADE GROUND] MADE GROUND: Soft to f angular to subrounded fine	k brown sandy slightly gravelly CLAY with freque llar to subrounded fine to coarse of brick, plastic d irm dark brown slightly sandy gravelly CLAY. Gra e to coarse of brick and flint.	and	(0.20)	11.44	!≣
- - - - - - - - 0.80 - 1.70	В3	- - - - - - - - - - -	DID	dans		[MÅDE GROUND]			(0.60)		
- 0.80 - 1.70 - 0.80 - 1.70 - 0.80 - 1.70 -	D3 ES3	- 0.80 - - - - - -	PID	<1ppm		Light orangish yellow clayerounded fine to coarse flint [RIVER TERRACE DEPO:	ey very gravelly SAND Gravel is subangular to w t and chert, Sand is fine to coarse. SITS]	ell	(0.90)	‡ 	
- - - - - - - - - - - - - - - - - - -	В4	- - - - - - - - - - - - - - - - - - -	PID	<1ppm					1.70		
- 1.70 - 3.00 - 1.70 - 3.00 - 1.70 - 3.00	D4 ES4	- 1.70 	טו ז	- ippill		Firm to stiff dark bluish gre pockets [KIMMERIDGE CLAY FOR	ey slightly silty CLAY with occasional light grey sil	X	1.70		
-		- - - - - - - - -						X X	(1.30)		
-		- - - - 3.00 - -	PID	<1ppm				X X X	3.00	8.64	╚╗╗
-		- - - - - - -									
-		- - - - - - -									
- - - - - -		- - - - - - -									
-		-									
DI ANI DETA	<u> </u>	<u>-</u>					Pomorko				
PLAN DETAIL	.8	3.0		Long Axis	(0.00	Remarks Trial pit terminated on Engineer's Instruction on No groundwater encountered. No evidence of contamination.	achieving target de	epth.		
0.6				Stability:	Stable				Terr	nination De	epth:

CAT 308 GR



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.50
 10/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 540975.04
 266728.80
 10/03/2022
 Sheet 1 of 1

	9.4					-				
SAMPLE	S		TEST	S	es	STRATA		Depth		Insta
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes	Description	Legend	(Thickness)	Level	Back
0.00 - 0.20	B1		NO.			MADE GROUND: Grass over soft yellowish grey gravelly CLAY with fragments of				
0.00 - 0.20 0.00 - 0.20	D1 ES1	_				wood and occasional rootlets. Gravel is subangular fine and medium of brick and concrete.		(0.20)		≣Щ
0.20 - 0.50 0.20 - 0.50	B2 D	0.20	PID	<1ppm		MADE GROUNDI		0.20	11.30	≡≡
0.20 - 0.50 0.20 - 0.50 0.20 - 0.50	D2					MADE GROUND: Medium dense orangish yellow clayey gravelly SAND brick fragments Gravel is subangular flint			1	╙╦
0.20 - 0.50	ES2	_				[MADE GROUND]	$\otimes \otimes \otimes$			Π₩
0.50 - 1.00	B3	0.50	PID	<1ppm						
0.50 - 1.00 0.50 - 1.00	D3 ES3	F							-	
		F						(1.00)	I	IIII≡
		Ē							1	
		-							t	≡≡
-1.00 - 2.00	B4	1.00	PID	<1ppm				1	‡	
1.00 - 2.00 1.00 - 2.00	D4 ES4	-							1	
		-				Orangiah vallay gravally SAND. Craval is subangular fine to source of flint	$\times\!\!\times\!\!\times$	1.20	10.30	Π₩
		-				Orangish yellow gravelly SAND. Gravel is subangular fine to course of flint. [RIVER TERRACE DEPOSITS]			1	≣Ш
		-								
		_						(0.60)	1	
		_						. (====)	1	
		_							1	∭
		-					1	1.80	9.70	
						Firm to Stiff dark grey CLAY [KIMMERIDGE CLAY FORMATION]	E-E-	1.60	3.70	
2.00 - 3.00	B5	2.00	PID	<1nnm		[MINIMERIBOE SEATT STANIATION]	<u></u>		-	<u> </u>
2.00 - 3.00	D5	2.00	PID	<1ppm			<u> </u>		Ŧ	Щ
2.00 - 3.00	ES5	Ē							-	
		-					H		1	
		-							1	
		-					<u> </u>	(1.20)	1	
		-					H	-	†	
		_							1	╙≣
							<u> </u>			Π₩
		_					E-=-		1	ЩЩ
							<u> </u>		8.50	╙╥
		3.00	PID	<1ppm				3.00	+ 8.50	ш=
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AN DETAIL	.S					Remarks				
		3.0		Long Axis	Orientati	on: Trial pit terminated on Engineer's Instruction on achieving	g target de	epth.		
\top						No groundwater encountered. No evidence of contamination.				
						Stadios of softaminatori.				
				Shoring /	Support:	None				
6				Stability:						
				Groundwa		cription):		Terr	nination l	Depth
				J. Suriawa	(4000	' '				
									3.00n	II



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.40
 11/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541006.30
 266700.60
 11/03/2022
 Sheet 1 of 1

SAMPL	ES		TESTS	S	Se Se	_	STRATA		D ::	Π.	note"/
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes		Description	Legend	Depth (Thickness)		nstall/ Backfill
0.00 - 0.20 0.00 - 0.20 - 0.20 - 0.20 - 0.50	D1 ES1 B2 D2	-	110.			is angular medium to coars [MADE GROUND]			(0.30)		
0.20 - 0.50 - 0.50 - 0.50 - 1.00 - 0.50 - 1.00	B3 D3 ES3	- - - -				MADE GROUND: Firm sal angular to subangular of b [MADE GROUND]	ndy gravelly CLAY. Gravel is angular medium to coarse, rick and concrete.		(0.60)		= : = = : = :
- - - - 0.90 - 1.50 - 1.00 - 2.00	B3	- - - - - -				Brownish yellow very grav	elly coarse SAND. Gravel is medium to coarse,		0.90	10.50	
- 1.00 - 2.00	ES4	- - - - - -				[RIVEŘ TERRACE DEPO:			(0.60)		
- - - - - -		- - - - - -			•	Firm to stiff bluish dark gre [KIMMERIDGE CLAY FOR	ey silty CLAY with frequent light grey silt pockets. RMATION]	X X X X X X X X X X	1.50	9.90	
	D5 ES5	- - - - -						X_ X X_ X			
- - - - - - - - - - -		- - - - - - - -						X	(1.50)		
- - - - - - -		- - - - - - -						X	3.00		
- - - - -		-									
- - - -		- - - - -									
· - - - -		- - - - -									
- - - -		- - - - - -									
- - - - - -		- - - - - -									
PLAN DETAII	LS	3.0		Long Axis	Orientati	on:	Remarks Trial pit terminated on Engineer's Instruction on achievin No groundwater encountered. No evidence of contamination.	g target de	epth.		
0.6				Shoring / Stability:	Unstable	from 0.90 to 1.50m bgl			Teri	mination De	epth:
1										3.00m	



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.23
 15/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541037.86
 266671.20
 15/03/2022
 Sheet 1 of 1

	9										
SAMPLE	ES		TEST	s	er		STRATA		Depth		Install/
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes		Description	Legend	(Backfil
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.00 - 0.20	B1 D1 ES1 B2	- - - - 0.20	PID	<1ppm		Gravel is angular to subro [MADE GROUND]	k brown sandy gravelly CLAY with frequent rootlets. unded fine to coarse of brick, and concrete.		(0.20)	11.02	== = = ==
- 0.20 - 0.90 - 0.20 - 0.90 	D2 ES2	- - - - - - - -				MADE GROUND: Firm to fine orange sand pockets fine to coarse of brick, cor [MADE GROUND]	stiff dark brown sandy gravelly CLAY with occasional and wood fragments. Gravel is angular to subrounded crete and flint.		(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 of subrounded fine to coarse [RIVER TERRACE DEPO	elayey gravelly SAND. Gravel is subangular to of flint and chert. SITS]		0.90	10.32	
-		- - - - - -							(0.80)		== = == = == = ==
- 1.70 - 3.00 - 1.70 - 3.00 - 1.70 - 3.00 - 1.70 - 3.00	B4 D4 ES4	- - - - - - - - -	PID	<1ppm		Firm to stiff dark bluish gre [KIMMERIDGE CLAY FOR	ey slightly silty slightly sandy CLAY RMATION]	X	1.70	9.52 	
- - - - - - - - - -		- - - - - - - - - - - - -						X X X X X X X X X X X X X X X X X X X	(1.30)		= = = = = = = =
- - - - - -		3.00	PID	<1ppm				X- X- X- X- X- X- X- X- X- X- X- X- X- X	3.00	8.22	= = == = = ==
-										+ - - - - - - - - - - - - - - - - - - -	
-											
- - - - - -		- - - - - - -									
PLAN DETAIL	S	3.5		Long Axis	C	0.00	Remarks Trial pit terminated on Engineer's Instruction on achievin No groundwater encountered. No evidence of contamination.	ng target de	epth.		
0.6				Shoring / Stability: Groundwa	Unstable f	from 0.90m to 1.70m bgl.			Ten	mination De	



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.24
 10/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541069.43
 266672.33
 10/03/2022
 Sheet 1 of 1

	9									
SAMPLE	S		TEST	'S			STRATA			
					Water Strikes				Depth	Level Inst
Depth	Type/ No.	Depth	Type/ No.	Results	Str		Description	Legend	(Thickness)	Bac
0.00 - 0.20	B1		140.			MADE GROUND: Soft to fi	irm brownish dark grey sandy gravelly CLAY. Gravel is	XXX		III=
0.00 - 0.20	D1	-				fine to coarse, angular to s	subangular of flint, brick and concrete.		(0.20)	
0.00 - 0.20 0.20 - 0.50	ES1 B2	- - 0.20	PID	<1ppm		[MADE GROUND]			0.20	11.04
0.20 - 0.50	D2	- 0.20	PID	- ippiii		Soft to firm yellowish grey	sandy gravelly CLAY with occasional rootlets. Gravel is		0.20	I 11.04
0.20 - 0.50	ES2	_				subangular fine to medium	of flint.		-	
						[RIVER TERRACE DEPOS	5115]	-	-	
- 0.50 - 1.00	В3	- - 0.50	PID	<1mm					Ť	⊥ ≌ ī
0.50 - 1.00	D3	- 0.50	PID	<1ppm					-	‡ ∭
0.50 - 1.00	ES3	-							1	† ⊨ ∥
		_						-	1	‡ <u>∭</u>
		-								<u> </u>
		_							1	<u></u>
		-							4	
-1.00 - 2.00	B4	1.00	PID	<1ppm					(1.50)	↓ ≌ї
1.00 - 2.00	D4	-		''					i	† III <u> </u>
1.00 - 2.00	ES4								1	‡ <u></u> ≣∥
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		_							1	
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		-							1	+ ⊨∥
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		 							1 70	, , ≣ □
							elly SAND. Gravel is angular subangular fine to medium		1.70	9.54 ≡
		-				of flint.				ļ
		-				[RIVER TERRACE DEPOS	SITS]		(0.30)	. ⊨∥
										∮ ∭ ≝
-2.00 - 3.00 2.00 - 3.00	5 B5	— 2.00 -	PID	<1ppm		Firm bluish dark grey CLA	Y with occasional rootlets an light grey silt pockets.		2.00	9.24
2.00 - 3.00	D5	-				[KIMMERIDGE ČLAÝ FOR	RMATION]	L	-	+ =
		-						<u> </u>	-	<u> </u>
		-						<u> </u>	-	!
		_							-]	
		-						<u> </u>	-	∤ ≌ ī
		_						H	(1.00)	⊥ III≡
		-						<u> </u>	- (1.00)	∤
		-							1	<u> </u>
		-						L	-	
								H	-	
		-							1	<u> </u>
:		-						E-I-	-]	⊺ ≡∥
_		— 3.00	PID	<1ppm					3.00	↓ _{8.24}
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PLAN DETAIL	.S						Remarks			
		3.0		Long Axis	Orientati	ion:	Trial pit terminated on Engineer's Instruction on achievi	ng target de	epth.	
-		0.0			23		No groundwater encountered.	5 5		
T					(0.00	No evidence of contamination.			
				Shoring /	Support.	None				
0.6				I						
				Stability:	Stable					
				Groundwa	ater (desc	cription):			Terr	nination Deptl
										2 00
										3.00m



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.32
 11/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541039.11
 266640.03
 11/03/2022
 Sheet 1 of 1

	9									
SAMPLE	S		TEST	S	₽ X		STRATA			
I	Type/	Depth	Type/	Results	Water Strikes		Description	Legend	Depth (Thickness)	Level
Depth	No.	Debtu	No.	results	> Ø		·	Legend		
0.00 - 0.20 0.00 - 0.20	B1 D1	-				MADE GROUND: Soft to F	Firm yellowish light brown gravelly CLAY with I is fine to medium, angular to subangular of brick and		(0.20)	
0.00 - 0.20	ES1	-				concrete.	to modium, angular to subangular of bilok and		4	11.12
0.20 - 0.50 0.20 - 0.50	B1 D2	-				[MADE GROUND]	de bessere anno alle CLAV with a consistent and an about	<u> </u>	0.20	
0.20 - 0.50	ES2	-				wood fragments. Gravel is	k brown gravelly CLAY with occasional rootlets and subangular fine to coarse of brick, flint, concrete.		(0.30)	
	ŀ	-				[MADE GROUND]	5		1	
0.50 - 1.00	В3	_				Vellowish brown very grave	elly SAND. Gravel is fine to coarse, subangular to		0.50	10.82
0.50 - 1.00 0.50 - 1.00	D3 ES3	-				subrounded of flint.				∤
		-				[RIVER TERRACE DEPOS	SITS]			İ
		-							(0.50)	
		-								† ⊨
		-								ļ <u>U</u>
.00 - 2.00 .00 - 2.00	B4 D4	_				Soft to firm bluish grey slig	htly sandy CLAY with occasional light grey silt pockets.		1.00	10.32
.00 - 2.00	ES4	-				[KIMMERIDGE CLAY FOR	rmation]			10.02
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		-								
		-								! ⊨
		-							(1.00)	<u> </u>
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		-								†
		-							:	!
	-	-							1	. ⊨
.00 - 3.00	В	2.00	HV(1)	340()kPa		Stiff greenish dark grey CI	AY with rootlets and silt pockets		2.00	9.32
.00 - 3.00 .00 - 3.00	B5 D5	2.00 - 2.00	HV(2) HV(3)	350()kPa 370()kPa		[KIMMERIDGE CLAY FOR	RMATION]			† III
.00 - 3.00	ES5	-	` ′					<u> </u>		†
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		- - 3.00	HV(1)	470()kPa					3.00	8.32
		- 3.00 - 3.00	HV(2) HV(3)	500()kPa 500()kPa						1
			110(3)	300()KI a						<u>†</u>
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N DETAIL	9	_				<u> </u>	Pamarke			
AN DETAIL	J				<u> </u>		Remarks		41-	
-		3.0		Long Axis	Orientati	on:	Trial pit terminated on Engineer's Instruction on achievir No groundwater encountered.	ig target de	eptn.	
T i				i			No evidence of contamination.			
				Shoring /	Support:	None				
				-		from 1.00m to 1.30m bgl.				
									Tern	nination De
				Groundw	ater (desc	ութսoп).				
⊥└──										3.00m



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.31
 11/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541068.91
 266640.68
 11/03/2022
 Sheet 1 of 1

SAMPLI	ES		TESTS	3	9F 3S		STRATA		D"		lpot-"
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes		Description	Legend	Depth (Thickness)	Level	Install Backfi
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 B B2 D2	- - - - -				coarse, angular to subang [MADE GROUND]	owish light brown gravelly CLAY. Gravel is fine to ular of flint, brick and concrete. enish brown gravelly CLAY. Gravel is fine to coarse, eramic and brick.		(0.20)	11.11	m#ī
0.20 - 0.50	ES2	-				[MĂDE GROUND]			(0.30)		
- 0.50 - 1.00 - 0.50 - 1.00 - 0.50 - 1.00 - 0.50 - 1.00	B B3 D3 ES3	- - - - -					owish brown sandy gravelly CLAY with occasional fine to medium of flint and brick.		(0.50)	10.81	
-1.00 - 2.00 1.00 - 2.00 1.00 - 2.00	B4 D4 ES4	- - - - - - -				Light creamish yellow grav subrounded of flint. [RIVER TERRACE DEPOS	relly SAND. Gravel is fine and medium, subangular to		1.00	10.31	
-		- - - - - -							(1.00)		
-2.00 - 3.00 2.00 - 3.00 2.00 - 3.00	B5 D5 ES5	- - - - - - -			•	Firm to stiff bluish dark gre	ry CLAY. RMATION]		2.00	9.31	
-		- - - - - - -							(1.00)		
									3.00	8.31	
-		-								† † † † † † †	
		-								† 	
-		— - - - - - -									
		- - - - - - -								<u> </u>	
		-								<u> </u>	
- PLAN DETAIL	S	<u>-</u> -					Remarks			Ī	
T TETAL		3.0		Long Axis		on:	Trial pit terminated on Engineer's Instruction on achievi No groundwater encountered. No evidence of contamination.	ng target de	epth.		
0.6				Shoring / Stability: S	Stable				Tern	nination	Depth:
					,					3.00r	n



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.32
 15/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541102.98
 266628.75
 15/03/2022
 Sheet 1 of 1

SAMPLES TESTS Depth Type/ No. Depth No. Depth No. Results MADE GROUND: Soft to firm brown locally more slightly gravelly CLAY Gravel is angular to rour brick and rare ceramics. [MADE GROUND] MADE GROUND: Soft to firm brown locally more slightly gravelly CLAY Gravel is angular to rour brick and rare ceramics. [MADE GROUND]	Legendottled bluish grey slightly sandy	Depth (Thickness)	Level Insta
MADE GROUND: Soft to firm brown locally more slightly gravelly CLAY Gravel is angular to rour brick and rare ceramics. [MADE GROUND: Soft to firm brown locally more slightly gravelly CLAY Gravel is angular to rour brick and rare ceramics. [MADE GROUND]	ottled bluish grey slightly sandy	(T1 : 1)	
MADE GROUND: Soft to firm brown locally more slightly gravelly CLAY Gravel is angular to rour brick and rare ceramics. [MADE GROUND: Soft to firm brown locally more slightly gravelly CLAY Gravel is angular to rour brick and rare ceramics. [MADE GROUND]	ottled bluish grey slightly sandy unded fine to coarse flint, concrete,		
		X X X	
		× × × × × ×	
Soft to firm becoming stiff bluish grey, light brov and slightly gravelly CLAY Gravel is subangu	wn and orangish brown slightly	0.90	
1.00 - 1.10 B2 filmt 1.00 - 1.10 D1 [RIVER TERRACE DEPOSITS]		(0.70)	
Orangish brown and yellowish brown clayey sa subangular to subrounded, fine to coarse of filin	andy GRAVEL Gravel is	1.60	
- 1.70 - 1.80	/ CLAY with occasional selenite	1.90	!
2.10 ESS ESS ESS ESS ESS ESS ESS ESS ESS ES	X	90: 1 que 4 que	
	X. T	(1.10)	
	X X X	3.00	
			†
		.	<u> </u>
No groundwater enc	on Engineer's Instruction on achieving target d	epth.	
0.00 No evidence of contact Shoring / Support: None	tamination.		
Stability: Stable. Groundwater (description):			nination Depth:



Project
Northstowe
Client
Homes England

Project No. 10052307 Easting (OS mE) 541133.51 Ground Level (mAOD)
11.40
Northing (OS mN)
266613.21

Start Date 10/03/2022 End Date 10/03/2022

Scale 1:25 Sheet 1 of 1

SAMPLES	S		TEST	S	es		STRATA		Depth		Install/
Depth	Type/ No.	Depth	Type/ No.	Results	Water Strikes		Description	Legend	(Thickness)	Level	Backfill
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 0.00 - 0.20 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 t [MADE GROUND]	ark brown sandy gravelly CLAY. Gravel is fine to coarse, prick and concrete.		(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		MADE GROUND: Firm to light grey silt pockets. Gra plastic. [MADE GROUND]	stiff bluish grey sandy gravelly CLAY with occasional vel is fine to coarse, angular to subangular of flint, brick,		0.50	10.90	
-1.00 - 2.00 - 1.00 - 2.00 - 1.00 - 2.00	B4 D4 ES4	1.00	PID	<1ppm		Firm bluish dark grey silty [KIMMERIDGE CLAY FOI	CLAY with occasional light grey silt pockets. RMATION]	X	1.00	10.40	
-		- - - - - - -						X	(1.00)		
-2.00 - 3.00 - 2.00 - 3.00 - 2.00 - 3.00	B5 D5 ES5	2.00	PID	<1ppm		Stiff bluish grey CLAY with [KIMMERIDGE CLAY FOI	n occasional light grey silt pockets. RMATION]	×_×_	2.00	1	
-		-							(1.00)		
-		3.00	PID	<1ppm					3.00	8.40	 = =
		- - - - - -									
-		- - - - - - - -									
		-									
		-					lndu			+	
PLAN DETAILS	<u> </u>	3.0		Long Axis	(0.00	Remarks Trial pit terminated on Engineer's Instruction on achievin No groundwater encountered. No evidence of contamination.	g target de	epth.		
0.6				Stability: Groundwa		ription):			Terr	nination 3.00r	



 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 10052307
 11.34
 15/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541069.88
 266578.92
 15/03/2022
 Sheet 1 of 1

	9									
SAMPLE	ES .		TEST	S	_ o		STRATA			
	Type/		Type/	1	Water Strikes				Depth (Thickness)	Level Insta
Depth	No.	Depth	No.	Results	≥£		Description	Legend	(Triickriess)	
0.00 - 0.20 0.00 - 0.20 0.00 - 0.20	B1 D1 ES1	-				MADE GROUND: Grass o subangular fine to coarse [MADE GROUND]	over yellowish brown clayey sandy GRAVEL. Gravel of brick and concrete.	s	(0.20)	
- 0.20 - 0.50 - 0.20 - 0.50 - 0.20 - 0.50	B2 D2 ES2	- 0.20 - -	PID	<1ppm		MADE GROUND: Soft to f	irm greenish brown sandy gravelly CLAY. Gravel is fi ngular of brick, wood, and concrete.	ne	0.20	11.14 =
-		_				[MADE CITOCIAD]				+ III=
- 0.50 - 1.20 - 0.50 - 1.20 - 0.50 - 1.20	B3 D3 ES3	- 0.50 - - -	PID	<1ppm		Orangish yellow slightly cla angular to subangular med [RIVER TERRACE DEPO:	ayey gravelly SAND with occasional rootlets Gravel i dium to coarse of flint. SITS]	**************************************	0.50	10.84
- - - -		- - - -							(0.70)	
	B4		PID	<1ppm		Firm to stiff bluich dayl, gra	ey CLAY with rare sand pockets and silt pockets.		1.20	
- 1.20 - 3.00 - 1.20 - 3.00 -	D4 ES4	- - - -				[KIMMERIDGE CLAY FOR	ey CLAY with rare sand pockets and siit pockets. RMATION]			
- - - -		- - - -							- - -	
- - -		- - - -								
									(1.80)	
- - - -		- - - -							- - -	
- - - -		- - - -							- - - -	
- - - -		- - - -							-	
- - -		3.00	PID	<1ppm					3.00	8.34
- - - -		- - - -								
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PLAN DETAIL	_S	2.4		Long Axis	Orientati	ion:	Remarks Trial pit terminated on Engineer's Instruction on achi	eving target d	epth.	
T		2.7		2597 (Ala		0.00	No groundwater encountered. No evidence of contamination.	J 9-14		
0.6					Unstable t	from 1.30m to 2.00m bgl.				-
				Groundwa	ater (desc	cription):			Terr	nination Depth 3.00m

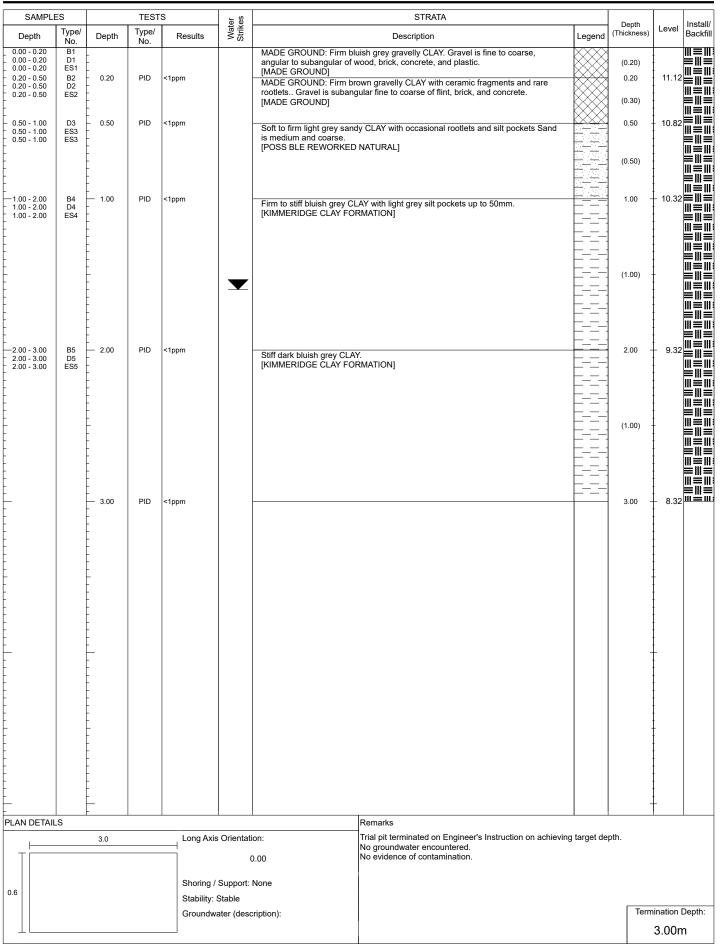


 Project
 Project No.
 Ground Level (mAOD)
 Start Date
 Scale

 Northstowe
 1005230
 11.32
 10/03/2022
 1:25

 Client
 Easting (OS mE)
 Northing (OS mN)
 End Date

 Homes England
 541103.14
 266581.24
 10/03/2022
 Sheet 1 of 1





WSTCA101

Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540946.83 Ground Level (mAOD) 11.90 Northing (OS mN) 266791.17

Start Date 15/03/2022 End Date 15/03/2022

Scale 1:50 Sheet 1 of 1

Remarks

Window Sample terminated due to refusal at 1.65m. No groundwater encountered. No evidence of contamination:

1.65m





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541003.41

Ground Level (mAOD) 11.26 Northing (OS mN) 266730.51

Start Date 15/03/2022 End Date 15/03/2022

Scale 1:50 Sheet 1 of 1

Samples		Tests		Progre		Strata		Dont	7.7.1	Ins
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth	Description	Legend	Depth (Thickness)	Level	Bac
(ES1) 0.20 (ES2) 0.50			•	21/03/2022 09:40	0.00	MADE GROUND: Grass over soft dark brown silty gravelly CLAY with occasional rootlets. Gravel is subangular to subrounded fine to coarse of flint and chalk. [MADE GROUND]		(0.70)	10.56	4
(ES3) 1.00 (B1) 1.20-1.80	SPT(C) 1.20	N=24 (7,7/9,6,5,4)	Dry			Medium dense yellowish orange sandy GRAVEL. Gravel is subangular to subrounded fine to coarse of flint. [RIVER TERRACE DEPOSITS]		(1.10)		
(ES4) 1.90 (B2) 2.00-2.50	SPT(S) 2.00	N=10 (1,1/2,2,3,3)	Dry			Firm to stiff bluish grey silty slightly gravelly CLAY with occasional selenite crystals and rare shell fragments. Gravel is fine to	× ×	1.80	9.46	
B3) 2.50-3.00						coarse, subangular of sittstone. [KIMMER DGE CLAY FORMATION]	x - × - × - × - × - × - × - × - × - × -	(1.65)		
	SPT(S) 3.00	N=10 (2,2/3,2,2,3)	Dry	21/03/2022	2.00		× × ×	3.45	7.81	

Window Sample terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 0.70m. No evidence of contamination:





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541038.42 Ground Level (mAOD) 11.33 Northing (OS mN) 266699.80

Start Date 15/03/2022 End Date 15/03/2022

Scale 1:50 Sheet 1 of 1

Type + Depth (ES1) 0.20 (ES2) 0.50 (B1) 0.80-1.20 (ES3) 1.00 (B2) 1.20-1.50 (ES4) 1.50-1.60 (B3) 1.60-2.00 (B4) 2.00-2.50 (B5) 2.50-3.00	Type + Depth SPT(S) 1.20 SPT(S) 2.00	Results N=12 (2,1/2,3,4,3) N=9 (2,1/2,2,3,2)	Water Depth	Date & Time 15/03/2022 07:30	Casing & Water Depth 0.00 Dry	Description MADE GROUND: Grass over soft dark brown and brown mottled sandy silty gravelly CLAY with gravel size pockets of organic clay and fine roots. gravel is subangular-subrounded fine to coarse flint and rare brick fragments [MADE GROUND] Soft orangish brown sandy gravelly CLAY gravel is occasional subangular-subrounded fine to coarse flint. [POSSIBLE REWORKED NATURAL] Firm greenish grey silty slightly gravelly CLAY. Gravel is subangular fine to coarse of siltstone. [KIMMER DGE CLAY FORMATION] Yellowish brown sandy GRAVEL gravel is subangular-	Legend	(0.80) (0.80) (0.80) (0.40) (0.30) (0.30) (1.50) (1.60)	10.53	Inst Back
(ES2) 0.50 (B1) 0.80-1.20 (ES3) 1.00 (B2) 1.20-1.50 (ES4) 1.50-1.60 (B3) 1.60-2.00 (B4) 2.00-2.50	SPT(S) 2.00		4		0.00	sandy silty gravelly CLAY with gravel size pockets of organic clay and fine roots, gravel is subangular-subrounded fine to coarse flint and rare brick fragments [MADE GROUND] Soft orangish brown sandy gravelly CLAY gravel is occasional subangular-subrounded fine to coarse flint. [POSSIBLE REWORKED NATURAL] Firm greenish grey silty slightly gravelly CLAY. Gravel is subangular fine to coarse of siltstone. [KIMMER DGE CLAY FORMATION] Yellowish brown sandy GRAYEL gravel is subangular-		0.80 (0.40) - 1.20 (0.30)	10.13	
(B3) 1.60-2.00 (B4) 2.00-2.50		N=9 (2,1/2,2,3,2)	.4			[KIMMER DGE CLAY FORMATION] Yellowish brown sandy GRAVEL gravel is subangular-		1.50		Š.
	SPT(S) 3.00	100				subrounded fine to coarse flint [RIVER TERRACE DEPOSITS] Firm to stiff greenish grey silty slightly gravelly CLAY with occasional selenite crystals and rare shell fragments. Gravel is fine to coarse angular to subangular of claystone. [KIMMER DGE CLAY FORMATION]	× - × - × - × - × - × - × - × - × - × -	(1.85)	9.73	
		N=11 (2,1/3,2,3,3)	A	22/05/2022 09:30			* × × × × × × × × × × × × × × × × × × ×	3.45	7.88	
			L NE			to control to a second control to the second	1	9		
		CHISELI	NG							_
DR LLING T	TECHNIQUE Type	Hard Strata From To	Duratio	on Date/Ti		VATER OBSERVATIONS HOLE/CASING DIAME trike At Time (mins) Rise To Casing Sealed Hole Dia. Depth Casing Dia.	TER Depth		R ADDE	D

Window Sample terminated on Engineer's Instruction on achieving target depth. Groundwater encountered at 0.40m. No evidence of contamination:

Checked By Logged By HS CPr

Termination Depth: 3.45m



Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 540997.10

Ground Level (mAOD) 11.53 Northing (OS mN) 266666.42

Start Date 14/03/2022 End Date 14/03/2022

Scale 1:50 Sheet 1 of 1

Samples Type + Depth (ES1) 0.10 (ES2) 0.50 (B1) 0.70-1.45 (ES3) 1.00	Type + Depth	Tests Results	Water Depth	Progre Date & Time 14/03/2022 14:00	Casing & Water Depth 0.00	Strata Description MADE GROUND: Firm mottled dark brown and brown slightly	Legend	Depth (Thickness)	Level	Bac
(ES1) 0.10 (ES2) 0.50 (B1) 0.70-1.45	Type + Deput	Results	Depth	14/03/2022 14:00	Depth 0.00		XXXX			_
(ES2) 0.50 (B1) 0.70-1.45				14/03/2022	0.00	MADE GROUND: Firm mottled dark brown and brown slightly	N/X/X			4
(B1) 0.70-1.45				14.00	Dry	sandy gravelly CLAY with rare fine roots, gravel is occasional				9
(B1) 0.70-1.45						subangular-subrounded fine to coarse flint and rare clay stone	$\times\!\!\times\!\!\times$	(0.70)	9 1	2
						MADE GROUND: Firm mottled dark brown and brown slightly sandy gravelly CLAY with rare fine roots, gravel is occasional subangular-subrounded fine to coarse flint and rare day stone and brick fragments. [MADE GROUND]				-4
(ES3) 1.00						Orangish brown slightly silty gravelly SAND. Gravel is fine to	XXXX	0.70	10.83	
(ESS) 1.00						Orangish brown slightly silty gravelly SAND. Gravel is fine to coarse subangular to subrounded of flint. [RIVER TERRACE DEPOSITS]	x × x		5	3
	(12.20.712.)	0.22.20.02.03.0	- C.			[RIVER TERRACE DEPOSITS]	. X x	(0.75)		
4.00	SPT(S) 1.20	N=25 (7,6/10,7,5,3)	Dry				×××			1
(B2) 1.45-2.00						Stiff greenish grey slightly silty CLAY with rare pockets of	XI X	1.45	10.08] ز
						orangish brown silty clay and occasional selenite crystals and	×-			1
			4.5			shell fragments. [KIMMER DGE CLAY FORMATION]	×			11
(B) 2.00-3.00 (B3) 2.00-3.00 (ES4) 2.00	SPT(S) 2.00	N=13 (2,4/5,3,3,2)	Dry			rame, see an arrange of	X	-		1/
(ES4) 2.00							×	1		21
							<u>-x</u> -	(2.00)		1
							_×-			22
		C-10					X			1
	SPT(S) 3.00	N=6 (1,2/1,0,2,3)	Dry				X-1-2			11
		E	- *				××-			3
				4.4100.00000	0.00		x-	245	0.00	21,
				14/03/2022 15:00	2.00 Dry			3.45	8.08	
									'n	
								4		
								1 9	4	
								1		
								1		
									2	
									20	
								-		
									4	
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								1		
									8	
									,	
	ECHNIQUE	CHISELL	NG		V	VATER OBSERVATIONS HOLE/CASING DIAM	ETER	WATE	RADDE	_
DR LLING T		Hard Strata	Duratio	n Dote/Ti	me c	trike At Time (mins) Rise To Casing Sealed Hole Dia Denth Casing Dia	Depth	From	To V	olum
DR LLING Tom To 120 20 3.45	Type Inspection Pit Dynamic Sample	Hard Strata From To	Duratio	on Date/Ti	ime S	trike At Time (mins) Rise To Casing Sealed Hole Dia. Depth Casing Dia 87 2.00 87 77 3.45	. Depth 2.00	From	To V	olum

Window Sample terminated on Engineer's Instruction on achieving target depth. No groundwater encountered. No evidence of contamination:



Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541092.78 Ground Level (mAOD) 11.38 Northing (OS mN) 266673.43

Start Date 14/03/2022 End Date 14/03/2022

Scale 1:50 Sheet 1 of 1

Samples		Tests		Progre		Strata		Depth	771	Ins
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water	Description	Legend	(Thickness)	Level	Ba
(ES1) 0.10	2002 2000		Depui	14/03/2022	Depth 0.00	MADE GROUND: Firm dark brown silty sandy gravelly CLAY.	XXXX			4.
				10:00	Dry	MADE GROUND: Firm dark brown silty sandy gravelly CLAY. Gravel is subangular to subrounded fine to coarse of flint and				19
Charles of the Con-						brick. [MADE GROUND]		(0.90)		1
(ES2) 0.50					11	Marries Eliza Files		,,		
VALUE OF THE PARTY								1		
(B) 0.90-1.30 B1) 0.90-1.30		4,,4				Firm orangish brown sandy gravelly CLAY. Gravel is subangular	1	0.90	10.48	
(ES3) 1.00 (ES4) 1.20	SPT(S) 1.20	N=8 (2,2/2,2,2,2)	Dry			to subrounded fine to coarse of flint. [POSSIBLE REWORKED NATURAL]		(0.40)		
(B2) 1.30-2.00	200,000					Stiff bluish grey slightly silty CLAY with rare 50mm pockets of		1.30	10.07	. 4
		0.00				orangish brown silty clay and rare selenite crystals. [KIMMER DGE CLAY FORMATION]				-
						[KINNINER DOE CENT ORWATION]	===			1
(B3) 2.00-2.50	SPT(S) 2.00	N=11 (1,2/2,3,3,3)	Dec					1		13
(ES5) 2.00	SP1(S) 2.00	N=11 (1,212,3,3,3)	Dry							1
								(2.15)	1	13
(B4) 2.50-3.00								(2.13)		1
										13
	- T.		100						1	1
	SPT(S) 3.00	N=12 (2,1/2,3,3,4)	Dry							12
		7 - 1		. 1						1
		1 0 7 1		14/03/2022	0.00			3.45	7.92	1
				11:30	Dry					
										Ш
								3		Ш
										Ш
								1		
									-	Ш
								3		Ш
									1	
										Н
								3		
								9		
								1 5	-	
								100		
								-		
DR LLING	TECHNIQUE Type	CHISEL Hard Strata From To	L NG Duration	on Date/Ti	_	NATER OBSERVATIONS HOLE/CASING DIAME Strike At Tirme (mins) Rise To Casing Sealed Hole Dia. Depth Casing Dia.	$\overline{}$		RADDI	ED Volum

Window Sample terminated on Engineer's Instruction on achieving target depth. No groundwater encountered. No evidence of contamination:





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541038.99 Ground Level (mAOD) 11.42 Northing (OS mN) 266609.86

Start Date 14/03/2022 End Date 14/03/2022

Scale 1:50 Sheet 1 of 1

Depth level inst			Tests		Progre	ess	Strata		27V.	7 = 1	Las
(ES1) 0.10 (ES2) 0.50 (ES2) 0.50 (ES3) 1.00 (ES3) 1.00 (B1) 1.20-1.50 (B2) 1.50-2.00 (B3) 2.00-2.50 (ES4) 2.00 SPT(S) 3.00 N=19 (2,34,4,5,6) Dry 14/03/2022 0.00 11/30 11	Type + Depth	Type + Depth	Results	Water		Casing & Water	Description	Legend	Depth (Thickness)	Level	Insta Back
(B2) 1.50-2.00 (B3) 2.00-2.50 (ES4) 2.00 (B4) 2.50-3.00 SPT(S) 3.00 N=16 (2,2/3,4,4,5) Dry Stiff greenish grey slightly silty CLAY with occasional pockets of orangish brown silty clay and occasional selenite crystals. [KIMMERDIGE CLAY FORMATION] SPT(S) 3.00 N=16 (2,2/3,4,4,5) Dry Stiff greenish grey slightly silty CLAY with occasional pockets of orangish brown silty clay and occasional selenite crystals. [KIMMERDIGE CLAY FORMATION] SPT(S) 3.00 N=16 (2,2/3,4,4,5) Dry 13/03/2022 0.00	(ES2) 0.50 (ES3) 1.00	SPT(S) 1.20	N=9 (1,2/1,2,3,3)			0.00	MADE GROUND: Firm dark brown sandy gravelly CLAY with occasional rootlets. Gravel is subangular to subrounded, fine to coarse of flint, brick, and igneous lithologies. [MADE GROUND] MADE GROUND: Soft orangish brown sandy gravelly CLAY with occasional pockets of soft grey clay. Gravel is subangular to subrounded fine, to coarse of flint, brick, and concrete. [MADE GROUND] Firm mottled brown and green slightly sandy gravelly CLAY gravel is fine and medium, subangular to subrounded of flint. [POSSIBI F RFWORKED NATURAL]	X	0.40 (0.30)	10.72	
13/03/2022 0.00	(B3) 2.00-2.50 (ES4) 2.00	SPT(S) 2.00	N=19 (2,3/4,4,5,6)	Dry			Stiff greenish grey slightly silty CLAY with occasional pockets of orangish brown silty clay and occasional selenite crystals.	x	(2.55)		
		SPT(S) 3.00	N=16 (2,2/3,4,4,5)	Dry	13/03/2022 13:30	0.00 Dry		x - x - x - x - x - x - x - x - x - x -	3.45	7.97	
				1						+ -	

Window Sample terminated on Engineer's Instruction on achieving target depth. No groundwater encountered. No evidence of contamination:





Project Northstowe Client Homes England

Project No. 10052307 Easting (OS mE) 541101.11

Ground Level (mAOD) 11.22 Northing (OS mN) 266611.82

Start Date 15/03/2022 End Date 15/03/2022

Scale 1:50 Sheet 1 of 1

Samples		Tests		Progre		Strata		Depth	62.0	Inst
Type + Depth	Type + Depth	Results	Water Depth	Date & Time	Casing & Water Depth 0.00	Description	Legend	(Thickness)	Level	Bac
(ES1) 0.20			Берат	15/03/2022 13:30	0.00 Dry	MADE GROUND: Soft dark brown gravelly CLAY. Gravel is subangular to subrounded fine to coarse of flint and brick. [MADE GROUND]		(0.70)		4
(ES2) 0.50					- 11	[m be stroome]		(0.70)		* * E
						Firm mottled brown and greenish grey silty gravelly CLAY with	×	0.70	10.52	
(ES3) 1.00						rare 50mm pockets of sandy gravel. Gravel is subangular to subrounded, fine and medium of flint and chert.	*			
(B1) 1.20-1.50 (ES4) 1.20	SPT(S) 1.20	N=11 (1,2/2,2,3,4)	Dry			[RIVER TERRACE DEPOSITS]	×			
(B) 1.50-2.00 (B2) 1.50-2.00	100	b					X X	14.001		
(B2) 1.50-2.00							*	(1.80)		
(B3) 2.00-2.50	SPT(S) 2.00	N=6 (1,1/0,1,2,3)	Dry				×			
		Contract.					×	1		
(B) 2.50-2.80					- 4	Chiff are said a serve like CLAV with a serve in all a state of a service	*===	2.50	8.72	17.
(B4) 2.50-2.80						Stiff greenish grey silty CLAY with occasional pockets of orangish brown silty clay and occasional selenite crystals. [KIMMER DGE CLAY FORMATION]	×			11
	SPT(S) 3.00	N=15 (2,2/3,3,4,5)	Dry			[KIMMER DGE CLAY FORMATION]	×	(0.95)		15
			10.5				x			13
				15/03/2022 14:40	2.00 Dry		xx-	3.45	7.76	11
DR LLING	TECHNIQUE Type	CHISELI Hard Statia From I To	L NG Duratio	n Date/Ti		WATER OBSERVATIONS HOLE/CASING DIAME Strike At Time (mins) Rise To Casing Sealed Hole Dia. Depth Casing Dia.	TER Depth	-	RADDE	ED:

Window Sample terminated on Engineer's Instruction on achieving target depth. No groundwater encountered. No evidence of contamination:



Trial Pit Soakaway Test

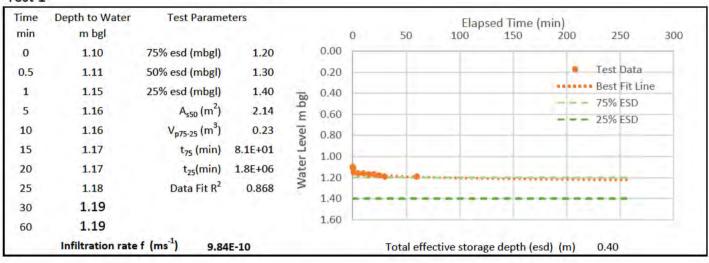
ARCADIS Of the state of the sta

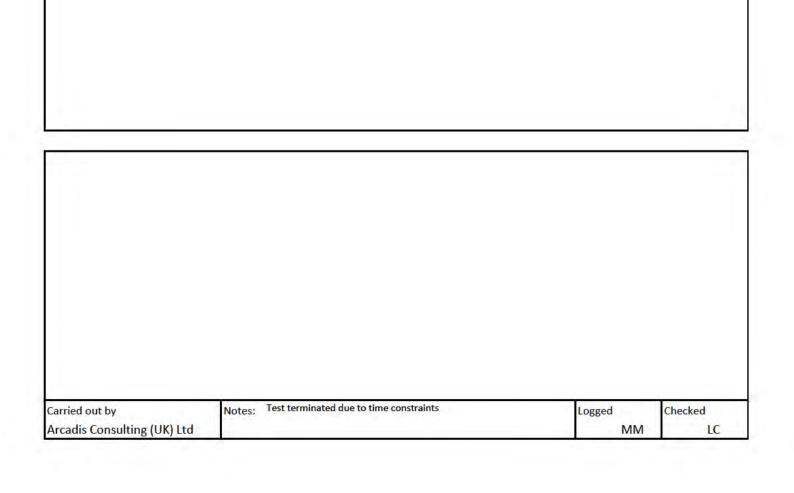
Based on BRE I	OG 365:2016	- WAITOADI	built assets
Project	Northstowe	Status	LOCATION ID
Project ID	10052307	CHECKED	TPTCA104

Trial	Pit	Deta	ils
HIIA	110	Dett	ano.

	Test 1	Test 2	Test 3	Ground Level	mAOD	Date Excavated	16/03/2022
Depth	1.50	1.50		Coordinates	mE	Date Tested	16/03/2022
Width	0.60	0.60		Coordinates	mN		
Length	1.90	1.90					

Test 1





APPENDIX D

CERTIFICATION OF FIELD APPARATUS

SPT Hammer Energy Test Report





Unit 8
Orton Enterprise Centre
Orton Southgate
Peterborough
PE2 6XU

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

Test Operator: PR

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

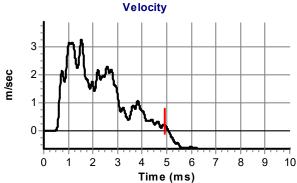
SPT Hammer Information

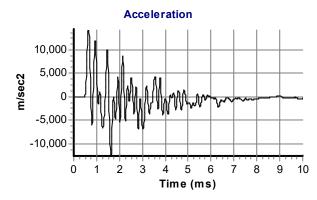
Hammer Mass m (kg): 63.0 Falling Height h (mm): 760 SPT String Length L (m): 15.0

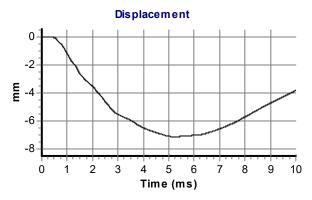
Comments / Location

Maximum calibration interval is 6 months









Calculations

Area of Rod A (mm2): 944 Theoretical Energy E_{theor} (J): 473 Measured Energy E_{meas} (J): 366

Energy Ratio E_r (%):

77

Reg. 13(1)

Signed: PR

Title: Operator

SPT Hammer Energy Test Report





Unit 8
Orton Enterprise Centre
Orton Southgate
Peterborough
PE2 6XU

SPT Hammer Ref: DART489
Test Date: 27/02/2022
Report Date: 27/02/2022
File Name: DART489.spt

Test Operator: PR

Instrumented Rod Data

Diameter d_r (mm): 54

Wall Thickness t_r (mm): 6.3

Assumed Modulus E_a (GPa): 208

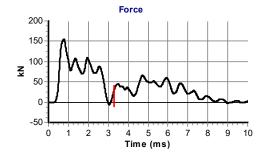
Accelerometer No.1: 11853

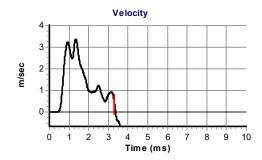
Accelerometer No.2: 10332

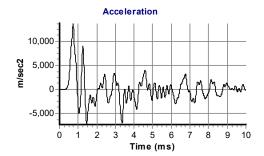
SPT Hammer Information

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

Comments / Location









Calculations

Area of Rod A (mm2): 944 Theoretical Energy E_{theor} (J): 473 Measured Energy E_{meas} (J): 390

Energy Ratio E_r (%):

82

Reg. 13(1)

Signed: PR

Title: Operator

Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005



Dynamic sampling

Unit 8

Victory parkway

Victory rd Derby

DE24 8ZF

Hammer Ref:

1.11.18

Test Date:

04/08/2021

Report Date:

04/08/2021

File Name:

1.11.18.spt

Test Operator:

AΡ

Instrumented Rod Data

Diameter d_r (mm):

54

Wall Thickness t_r (mm):

6.0

Assumed Modulus Ea (GPa): 208

Accelerometer No.1:

62901

Accelerometer No.2:

62902

Hammer Information

Hammer Mass m (kg): 63.5

Falling Height h (mm): 760

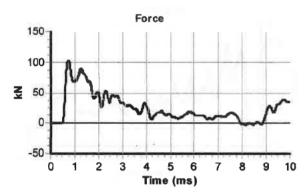
String Length L (m):

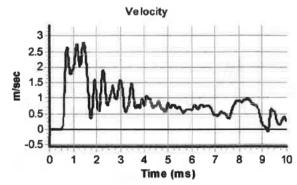
15.0

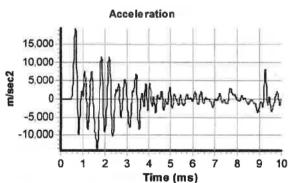
Comments / Location

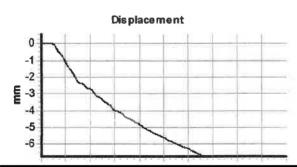
CJ associates hammer tested at Dynamic

samplings yard.









Calculations

Area of Rod A (mm2):

905

Theoretical Energy Etheor (J):

473

Measured Energy E_{meas} (3):

336

Energy Ratio E_r (%):

71

Title: Associate Director

The recommended calibration interval is 12 months



SPT Calibration Report

Hammer Energy Measurement Report

Type of Hammer Test No Client SPT HAMMER

EQU3039_2 CJ ASSOCIATES

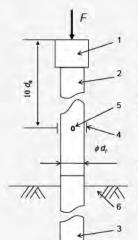
Test Depth (m) 9 80

Mass of hammer m = 63 5kg

Falling height h = 0.76m $E_{\text{theor}} = m \times g \times h = 473$ J

Characteristics of the instrumented rod

Diameter $d_r = 0.052 \text{ m}$ Length of instrumented rod0 558 mAreaA = 11.61 cm²Modulus $E_a = 206843 \text{ MPa}$



Key

- 1 Anvil
- 2 Part of instrumented rod
- 3 Drive Rod
- 4 Strain Gauge
- 5 Accelerometer
- 6 Ground
- F Force
- d_r Diameter of rod

Fig. B.1 and B.2

BS EN ISO 22476-3: 2005 + A1: 2011

DATE OF TEST

VALID UNTIL

HAMMER ID

21/10/2021 21/10/2022

AR2521

E meas =

0.374 kN-m

E theor =

0.473 kN-m

Comments

Equipe SPT Analyzer Operator Ce

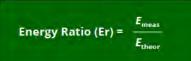


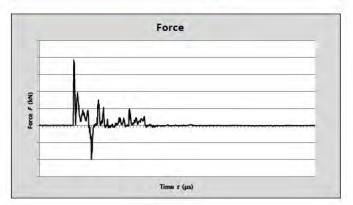
Reg. 13(1)

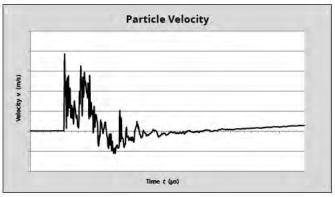
Reg. 13(1)

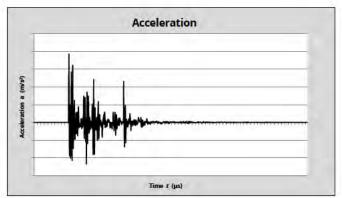
Certificate date

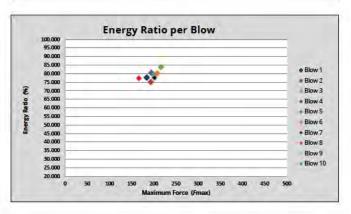
03/11/2021











APPENDIX E

MONITORING DATA

	5 · T			51 1/1 6: 1	FI 1/1 01			2.0/	1126	0.1			24/1 / 60			
	Date Time E 05/04/2022 09:41	1008	n Rel BH Pres mbar Peak 90.25	15.7	1.9	18	0.2	0.9	<u>рт тах н25 рг</u> 5	0 0 max	2 % last CH 18	0.2	0.9	om last H2S p	0 pm last Depth to v	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
HTCA105D	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
HTCA105S	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
VSTCA101	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
VSTCA106	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
VSTCA108	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
HTCA104	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
HTCA106	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
HTCA107	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
VSTCA109	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
VSTCA116	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
VSTCA117	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
HTCA108	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
HTCA109	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
HTCA301A	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 wind
VSTCA112	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

	Date Time		BH Pres mbar Peak						piiiiiax nzs p	Jili Illax O.		4 /0 last CO		σιτιαστ 1125 μ	piniast Deptinto W	
BHTCA101 1	12/04/2022 09:32	1004	0.5	-0.2	-0.2	19.4	0.2	0.6	2	0	19.4	0 2	0.6	2	0	3.000 Clear
BHTCA102 1	12/04/2022 10 03	1004	0.1	0	0	18.7	0.2	0 8	0	0	20.6	0 2	0.1	0	0	1.800 Clear
BHTCA103A 1	12/04/2022 11:15	1005	1.02	0	0	11.3	2.9	3	11	0	17	0 2	2.8	1	0	1.490 Clear
BHTCA104 1	12/04/2022 11:27	1005	0.24	0	0	17.1	0.2	2 5	3	0	20.5	0.1	0.4	2	0	2.630 Clear
BHTCA105D 1	12/04/2022 13 03	1005	0.03	0	0	10.3	0.1	4.1	1	0	15.9	0.1	2.3	1	0	1.989 Clear
BHTCA105S 1	12/04/2022 12:58	1005	1.62	0	0	10.2	0.1	4.4	2	0	10.2	0.1	4.4	1	0	2.411 Clear
BHTCA106 1	12/04/2022 11:56	1005	0.14	0	-0.1	6.3	0.1	6 2	1	0	21	0.1	0.1	0	0	2.301 Clear
BHTCA107 1	12/04/2022 13:14	1004	0.03	0	0	15.9	0.1	2 2	7	1	19.1	0.1	0.8	6	0	2.634 Clear
BHTCA108 1	12/04/2022 14:23	1005	0.09	0	0	21	0.1	0.6	4	0	21.4	0	0	2	0	2.632 Clear
BHTCA109 1	12/04/2022 14:13	1005	1.2	0.2	0.2	20.9	1	0.7	4	0	20.9	0.1	0.7	3	0	1.050 Clear
BHTCA110 1	12/04/2022 13:54	1004	0.96	0.2	0.2	20	0.1	2	9	0	20	0.1	2	2	0	0.967 Clear
BHTCA301A 1	12/04/2022 11:37	1005	0.19	0	0	20.5	0.2	0.6	2	0	20.9	0.1	0.4	1	0 Dry	Clear
WSTCA101 1	12/04/2022 09:53	1004	0.2	0	0	18	0.2	1.1	1	0	18.1	0 2	1.1	0	0	1.810 Clear
WSTCA106 1	12/04/2022 10:13	1004	0.3	-0.1	-0.1	0.2	3.7	5 5	1	0	0.2	3.7	5.5	0	0 Dry	Clear
WSTCA108 1	12/04/2022 12 07	1005	0.26	0	0	19.9	0.2	2 2	2	0	19.9	0 2	2.2	1	0	0.410 Clear
WSTCA109 1	12/04/2022 11:46	1005	0.05	0	0	4.8	0.2	6 5	2	0	4.8	0 2	6.5	1	0 Dry	Clear
WSTCA112 1	12/04/2022 14:30	1005	0.09	0	0	21	0.1	0 3	4	0	21	0	0.3	4	0 Dry	Clear
WSTCA116 1	12/04/2022 13:24	1004	0.16	0.1	0	20	0.1	0 8	3	0	20.9	0.1	0.1	2	0	0.994 Clear
WSTCA117 1	12/04/2022 14 04	1005	0	0.1	0.1	21	0	0.4	3	0	21.1	0	0.1	3	0	0.888 Clear

Well ID	Date Time	Raro mhar Rel	BH Pres mbar Peak	Flow I/h Steads	/ Flow I/h O	% min CH	1 % may CO	2 % may C(nnm may H2S n	nm may O	0 % last CH	M % last CO	% last CO r	nnm last H2S nr	om last. Denth to V	Vater (m bgl) Weather
BHTCA101	20/05/2022 09:45		38.35	5.6	0.6	18.4	0.1	0.8	5 ppiii iiiax 1123 p	0	18.4	0	0.8	5	0	2 334 cloudy, cool
BHTCA102	20/05/2022 10:19		0.03	0	0	20.8	0	0 2	2	0	21	0	0.1	1	0	1 553 cloudy, cool
BHTCA103	20/05/2022 10:44	1019	0.43	0	0	20.7	0	0.6	0	0	20.7	0	0.6	0	0	1.168 cloudy, cool
BHTCA104	20/05/2022 10:58	3 1019	0.21	0	0	20.9	0	0.6	3	0	21.5	0	0.1	1	0	2 355 cloudy, cool
BHTCA105D	20/05/2022 12:32	1018	-6.13	15	0.2	15.5	0	3	3	0	15.5	0	3	3	0	2.434 cloudy, cool
BHTCA105S	20/05/2022 12:17	7 1018	-0.1	0	0	11.2	0	5.4	1	0	11.2	0	5.4	1	0 Dry	cloudy, cool
BHTCA106	20/05/2022 11:53	1018	0.19	0	0	21.9	0	0 2	2	0	22	0	0.1	1	0	2.138 cloudy, cool
BHTCA107	20/05/2022 11:40	1018	0.09	0	0	19.9	0	12	3	0	21.1	0	0.7	2	0	2.496 cloudy, cool
BHTCA108	20/05/2022 13:42	1017	-0.03	0	0	21.5	0	0.1	1	0	21.5	0	0.1	0	0	2.508 cloudy, cool
BHTCA109	20/05/2022 13:53	3 1017	0.6	0	0	20.3	0	1.3	5	0	20.5	0	0 5	3	0	1 038 cloudy, cool
BHTCA110	20/05/2022 14:26	1018	0.22	0	0	19.4	0	1.2	3	0	19.6	0	1	1	0	1 009 cloudy, cool
BHTCA301A	20/05/2022 14:43	1018	0.05	0	0	21	0	0.4	2	0	21	0	0.4	1	0 Dry	cloudy, cool
WSTCA101	20/05/2022 10:08	1018	-0.1	0	0	16.7	0	1.5	2	0	16.7	0	15	1	0 Dry	cloudy, cool
WSTCA106	20/05/2022 10:32	1019	-0.05	0	0	1.1	0	8.7	3	0	1.1	0	8.7	2	0	1.89 cloudy, cool
WSTCA108	20/05/2022 12:06	1018	0.22	0	0	7.9	0 3	10.2	3	0	8.1	03	9 9	2	0	0.957 cloudy, cool
WSTCA109	20/05/2022 11:33	1018	-0.21	0	0	12.6	0.1	7.1	2	0	12.6	0	7.1	2	0 Dry	cloudy, cool
WSTCA112	20/05/2022 13:33	1017	0.02	0	0	21.3	0.1	0.8	1	0	21.3	0	0 8	1	0 Dry	cloudy, cool
WSTCA116	20/05/2022 14:34	1018	0.14	0	0	20.7	0	0.2	2	0	20.9	0	0 2	1	0	0.912 cloudy, cool
WSTCA117	20/05/2022 14:17	1017	0.05	0	0	20.1	0	0.2	2	2	20.1	0	0 2	1	0	0.488 cloudy, cool

APPENDIX F

GEOTECHNICAL LABORATORY TEST DATA





Contract Number: 58610

Client Ref: 10052307

Report Date: 27-04-2022

Client PO: 14059902

Client Arcadis

Fortran Rd St Mellons Cardiff CF3 0EY

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

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

Test Description	Qty
Samples Received	898
- @ Non Accredited Test	
Moisture Content of Soil	99
BS1377 : Part 2 : Clause 3.2 : 1990 - * UKAS	
4 Point Liquid & Plastic Limit	98
BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	
PSD Wet & Dry Sieve method	29
BS 1377:1990 - Part 2 : 9.2 - * UKAS	
BRE Full Suite	48
includes pH, water & acid soluble sulphate, total sulphur, magnesium, chloride and nitrate	
Sub-contracted Test	
CBR: Remoulded Specimen and tested at top only	13
BS 1377:1990 - Part 4 : 7 - * UKAS	
One-dimensional Consolidation 75mm or 50mm diameter specimens (5 days)	8
BS 1377:1990 - Part 5 : 3 - * UKAS	

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)





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.

Approved Signatories:

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Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk

GSTI	Natural Moisture Content (BS 1377:1990 - Part 2 : 3.2)	
	DESCRIPTIONS	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	18/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	C	epth (r	n)	Descriptions
WSTCA117	1	В	1.20	127	1.50	Brown silty CLAY
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				1297		

Operators	Checked	26/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	26/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	Natural Moisture Content (BS 1377:1990 - Part 2 : 3.2)	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	18/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	Type Depth (m)			Moisture Content %	Remarks
WSTCA117	1	В	1.20	27	1.50	28	
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				8			
				9			
				-		1	
				-5-			
	-			9-1		1	
				(A)		1	
				20			
				281			

Operators	Checked	26/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	26/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	18/04/2022	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	D	Depth (n	n)	Descriptions
TPTCA103	2	D	0.20	1141	0.50	Brown gravelly sandy silty CLAY
TPTCA103	5	В	2.00	(Far	3.00	Brown silty clayey sandy GRAVEL
TPTCA105	4	D	1.00	(191)	2.00	Brown silty CLAY
TPTCA107	3	D	0.50	(19.)	1.00	Brown gravelly sandy silty CLAY
TPTCA111	1	D	0.00	$(r_{e}r_{e})$	0.20	Brown gravelly silty CLAY
TPTCA113	4	D	1.00	(190)	2.00	Brown gravelly sandy silty CLAY
TPTCA114	5	D	2.00	(1.93)	3.00	Brown silty clayey sandy GRAVEL
TPTCA118	4	D	1.00	(15-1)	2.00	Brown silty CLAY
TPTCA118	5	D	2.00	15.1	3.00	Grey silty CLAY
TPTCA204	4	В	1.00	0.30	2.00	Brown gravelly silty CLAY
TPTCA204	5	D	2.00	(Earl)	3.00	Brown gravelly sandy silty CLAY
TPTCA205	4	В	1.00	90	2.00	Brown gravelly silty CLAY
TPTCA208	5	D	2.00	The Line	3.00	Brown gravelly silty CLAY
BHTCA101	7	В	2.70	0.80	3.00	Brown gravelly silty CLAY
BHTCA101	8	D	3.00	10-5	3.45	Grey silty CLAY
BHTCA101	14	D	5.00	(rien)	5.45	Brown silty CLAY
BHTCA101	16	D	5.50	ltet)	6.00	Grey silty CLAY
BHTCA202	9	D	2.50	[-]	3.00	Brown silty CLAY
BHTCA202	14	D	4.00	(11)	4.45	Brown silty CLAY
BHTCA202	24	D	7.00	(10-1)	7.45	Grey silty CLAY
WSTCA109	2	В	1.45	$(0, \tilde{\xi}_0)$	2.00	Brown silty CLAY
WSTCA112	1	В	0.90	(ien)	1.30	Brown sandy gravelly silty CLAY
WSTCA112	2	В	1.30	J. Gr	2.00	Brown silty CLAY
WSTCA112	4	В	2.50	10.9%	3.00	Brown silty CLAY

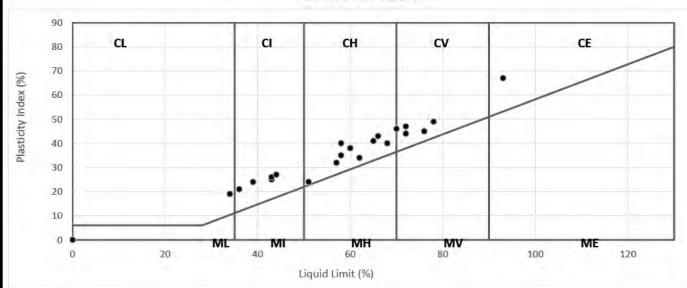
Operators	Checked	25/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	25/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Project Location	Northstowe	
Date Tested	18/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	D	epth (n	n)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
TPTCA103	2	D	0.20		0.50	14	36	15	21	89	CI Intermediate Plasticity
TPTCA103	5	В	2.00	(19.1)	3.00	13		NP		20	
TPTCA105	4	D	1.00	(191)	2.00	25	60	22	38	100	CH High Plasticity
TPTCA107	3	D	0.50	(15)	1.00	15	39	15	24	89	CI Intermediate Plasticit
TPTCA111	=1-	D	0.00		0.20	18	43	18	25	95	CI Intermediate Plasticit
TPTCA113	4	D	1.00	(197)	2.00	33	76	31	45	88	CV Very High Plasticity
TPTCA114	5	D	2.00		3.00	11		NP		21	122 11 27 20 20
TPTCA118	4	D	1.00	(Red)	2.00	27	60	22	38	100	CH High Plasticity
TPTCA118	5	D	2.00	J.S.J	3.00	31	65	24	41	100	CH High Plasticity
TPTCA204	4	В	1.00	0.30	2.00	31	51	27	24	89	CH High Plasticity
TPTCA204	5	D	2.00	(ilen)	3.00	19	43	17	26	89	CI Intermediate Plastici
TPTCA205	4	В	1.00	90	2.00	28	58	23	35	89	CH High Plasticity
TPTCA208	5	D	2.00		3.00	13	44	17	27	87	CI Intermediate Plastici
BHTCA101	7	В	2.70	(537)	3.00	23	68	28	40	89	CH High Plasticity
BHTCA101	8	D	3,00	19	3.45	33	72	28	44	100	CV Very High Plasticity
BHTCA101	14	D	5.00	(Fer)	5.45	27	57	25	32	100	CH High Plasticity
BHTCA101	16	D	5.50	teti	6.00	20	58	18	40	100	CH High Plasticity
BHTCA202	9	D	2.50	([-])	3.00	29	72	25	47	100	CV Very High Plasticity
BHTCA202	14	D	4.00	(1.4)	4.45	33	62	28	34	100	CH High Plasticity
BHTCA202	24	D	7.00	(39)	7.45	32	66	23	43	100	CH High Plasticity
WSTCA109	2	В	1.45	uşú	2.00	39	78	29	49	100	CV Very High Plasticity
WSTCA112	_ 1	В	0.90	(L-1)	1.30	13	34	15	19	84	CL Low Plasticity
WSTCA112	2	В	1.30	(50)	2.00	29	93	26	67	100	CE Extremely High Plasti
WSTCA112	4	В	2.50	191	3.00	32	70	24	46	100	CH/V High/HighPlastici

Symbols: NP : Non Plastic #: Liquid Limit and Plastic Limit Wet Sieved



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



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	18/04/2022	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	D	Depth (m)		Descriptions
WSTCA116	1	В	1.20		1.50	Brown silty CLAY
WSTCA116	3	В	2.00	(Far	2.50	Brown silty CLAY
WSTCA116	4	В	2.50	0.90	3.00	Brown silty CLAY
BHTCA102	10	В	3.00	(191)	3.50	Grey silty CLAY
BHTCA102	9	D	3.45	(5-0)	3.55	Brown silty CLAY
BHTCA102	14	D	4.50	150	5.00	Grey silty CLAY
BHTCA102	21	D	6.50	(1.50)	7.00	Grey gravelly silty CLAY
BHTCA102	23	D	7.45	(15-1)	7.55	Brown silty CLAY
BHTCA103A	5	D	2.70	13.	3.00	Brown silty CLAY
BHTCA103A	7	D	3.45	0.30	3.50	Brown silty CLAY
BHTCA103A	12	В	6.00	(in	6.50	Grey silty CLAY
BHTCA103A	15	D	7.45	90	7.50	Brown silty CLAY
BHTCA103A	17	D	8.80		9.00	Grey silty CLAY
BHTCA103A	24	В	13.50	(620)	14.00	Grey silty CLAY
TPTCA104	3	D	0.80	10 45	1.70	Brown gravelly silty CLAY
TPTCA104	4	D	1.70	(rien)	3.00	Brown gravelly silty CLAY
TPTCA119	4	D	1.20	i rati	3.00	Brown silty CLAY
BHTCA104	5	D	1.70	(4-)	2.00	Brown gravelly sandy silty CLAY
BHTCA104	6	В	2.00	(La)	2.50	Brown silty CLAY
BHTCA104	11	D	4.00	(19)	4.45	Grey silty CLAY
BHTCA104	16	D	5.50	$[\cdot, \xi_0]$	6.00	Brown silty CLAY
BHTCA104	19	D	6.50	(1-0)	7.00	Grey silty CLAY
BHTCA108	6	D	2.45	(9)	2.50	Brown silty CLAY
BHTCA108	7	D	3.00	0.90	3.45	Brown silty CLAY

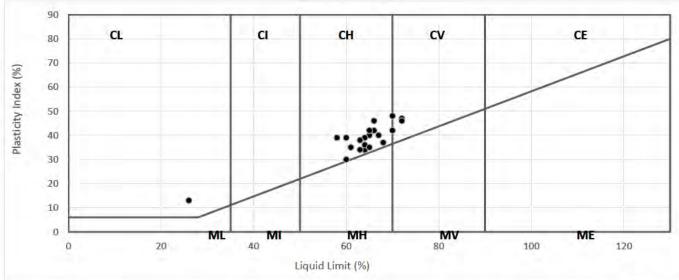
Operators	Checked	26/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	26/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Project Location	Northstowe	
Date Tested	18/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	D	epth (n	n)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
WSTCA116	1	В	1.20		1.50	32	63	25	38	100	CH High Plasticity
WSTCA116	3	В	2.00	(-8-1	2.50	28	65	25	40	100	CH High Plasticity
WSTCA116	4	В	2.50	(igt)	3.00	38	60	30	30	100	CH High Plasticity
BHTCA102	10	В	3.00	(1-1)	3.50	29	67	27	40	100	CH High Plasticity
BHTCA102	9	D	3.45		3.55	46	64	30	34	100	CH High Plasticity
BHTCA102	14	D	4.50	(19.0	5.00	28	64	25	39	100	CH High Plasticity
BHTCA102	21	D	6.50	(1.72)	7.00	34	64	30	34	87	CH High Plasticity
BHTCA102	23	D	7.45	(Bal)	7.55	26	70	22	48	100	CH/V High/HighPlasticit
BHTCA103A	5	D	2.70	150	3.00	37	64	30	34	100	CH High Plasticity
BHTCA103A	7	D	3.45	0.30	3.50	27	72	25	47	100	CV Very High Plasticity
BHTCA103A	12	В	6.00	(191)	6.50	27	58	19	39	100	CH High Plasticity
BHTCA103A	15	D	7.45	90	7.50	26	66	24	42	100	CH High Plasticity
BHTCA103A	17	D	8.80	TE.	9.00	33	63	29	34	100	CH High Plasticity
BHTCA103A	24	В	13.50	(carri	14.00	30	68	31	37	100	CH High Plasticity
TPTCA104	3	D	0.80	0.45	1.70	30	64	28	36	94	CH High Plasticity
TPTCA104	4	D	1.70		3.00	34	72	26	46	90	CV Very High Plasticity
TPTCA119	4	D	1.20	l et	3.00	26	65	23	42	100	CH High Plasticity
BHTCA104	5	D	1.70	(4)	2.00	14	26	13	13	69	CL Low Plasticity
BHTCA104	6	В	2.00	(1-4)	2.50	36	65	30	35	100	CH High Plasticity
BHTCA104	11	D	4.00	139	4.45	29	66	20	46	100	CH High Plasticity
BHTCA104	16	D	5.50	u Soi	6.00	25	60	21	39	100	CH High Plasticity
BHTCA104	19	D	6.50		7.00	35	61	26	35	100	CH High Plasticity
BHTCA108	6	D	2.45	(50)	2.50	31	63	25	38	100	CH High Plasticity
BHTCA108	7	D	3.00	0.90	3.45	27	70	28	42	100	CH/V High/HighPlasticit

Symbols: NP : Non Plastic #: Liquid Limit and Plastic Limit Wet Sieved



Operators	Checked	26/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	26/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	18/04/2022	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Depin (m)		n)	Descriptions		
BHTCA108	14	D	6.45	141	6.50	Brown silty CLAY	
WSTCA106	2	В	2.00	Far	2.50	Brown gravelly silty CLAY	_
WSTCA106	3	В	2.50	1090	3.00	Brown silty CLAY	
WSTCA108	3	В	1.60	(15)	2.00	Brown clayey SILT	
WSTCA117	4	В	2.50	(0-0)	2.80	Brown silty CLAY	Ξ
WS2C101	2	D	1.20	150	1.65	Brown silty CLAY	
WS2C106	2	D	1.20	(1.52)	1.65	Brown gravelly silty CLAY	
WS2C106	3	D	2.00	(1941)	2.45	Grey silty CLAY	=
WS2C108	1	D	1.20	13.	1.65	Brown silty CLAY	
WS2C108	2	D	2.00	0.30	2.45	Brown silty CLAY	=
WS2C112	_ 1 _	В	0.80	i ilan	1.20	Brown silty CLAY	
WS2C112	1	D	1.20	90	1.65	Brown silty CLAY	_
WS2C114	1	В	1.50	11.5	2.00	Brown silty CLAY	
WS2C120	11	D	1.20	(EE)	1.65	Brown silty CLAY	_
WS2C120	3	D	2.70	11-5	2.80	Brown silty CLAY	Ξ
WS2C121	2	D	1.20	(iia)	1.65	Brown silty CLAY	_
WS2C121	3	D	2.00	irati	2.45	Brown silty CLAY	
WS2C123	1	D	0.70			Brown silty CLAY	
WS2C123	3	D	2.00	(1	2.45	Brown clayey SILT	
BHTCA107	3	В	1.00	(13-)	1.20	Grey silty CLAY	
BHTCA107	.5	В	1.70	(1- 2 0)	2.00	Brown gravelly silty CLAY	_
BHTCA107	7	D	2.60	(1-0-1)	3.00	Grey silty CLAY	
BHTCA107	9	D	3.45	(6-0	3.55	Brown silty CLAY	
BHTCA107	14	D	4.50	0.90	5.00	Grey silty CLAY	

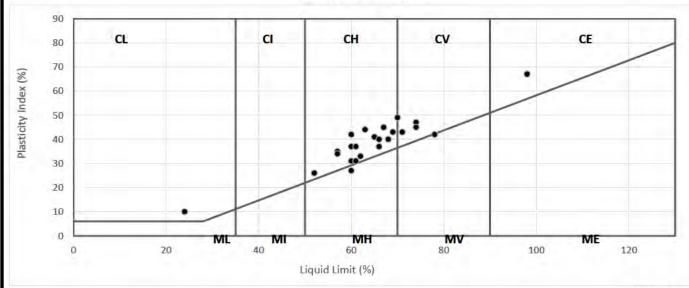
Operators	Checked	25/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	25/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Project Location	Northstowe	
Date Tested	18/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	D	epth (n	n)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BHTCA108	14	D	6.45	1-1	6.50	10	24	14	10	100	CL Low Plasticity
WSTCA106	2	В	2.00	(731)	2.50	30	74	27	47	88	CV Very High Plasticity
WSTCA106	3	В	2.50	(191)	3.00	35	71	28	43	100	CV Very High Plasticity
WSTCA108	3	В	1.60	(1-1	2.00	45	78	36	42	100	MV Very High Plasticity
WSTCA117	4	В	2.50		2.80	34	98	31	67	100	CE Extremely High Plasticity
WS2C101	2	D	1.20	(190)	1.65	28	69	26	43	100	CH High Plasticity
WS2C106	2	D	1.20	(1.53)	1.65	22	52	26	26	91	CH High Plasticity
WS2C106	3	D	2.00	(Ba)	2.45	28	60	23	37	100	CH High Plasticity
WS2C108	1	D	1.20	150	1.65	18	67	22	45	100	CH High Plasticity
WS2C108	2	D	2.00	0.30	2.45	33	63	19	44	100	CH High Plasticity
WS2C112	_ 1	В	0.80	(Earl)	1.20	31	68	28	40	100	CH High Plasticity
WS2C112	1	D	1.20	9	1.65	27	70	21	49	100	CH/V High/HighPlasticity
WS2C114	1	В	1.50	ure.	2.00	27	61	24	37	100	CH High Plasticity
WS2C120	1	D	1.20	(090)	1.65	31	65	24	41	100	CH High Plasticity
WS2C120	3	D	2.70	1 45	2.80	29	60	18	42	100	CH High Plasticity
WS2C121	2	D	1.20	(rien)	1.65	37	60	29	31	100	CH High Plasticity
WS2C121	3	D	2.00	(rati	2.45	30	74	29	45	100	CV Very High Plasticity
WS2C123	1	D	0.70	(-1)		29	62	29	33	100	CH High Plasticity
WS2C123	3	D	2.00	(1,4,1)	2.45	34	60	33	27	100	MH High Plasticity
BHTCA107	3	В	1.00	(49)	1.20	37	61	30	31	100	CH High Plasticity
BHTCA107	.5	В	1.70	u Sui	2.00	27	57	22	35	88	CH High Plasticity
BHTCA107	7	D	2.60	(Len)	3.00	28	66	26	40	100	CH High Plasticity
BHTCA107	9	D	3.45	(5-1)	3.55	37	66	29	37	100	CH High Plasticity
BHTCA107	14	D	4.50	0.90	5.00	26	57	23	34	100	CH High Plasticity

Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved



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



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	18/04/2022	
	DESCRIPTIONS	

BHTCA107	16	D	5.50	100	6.00	Grey silty CLAY
BHTCA107	25	D	8.50		9.00	Grey silty CLAY
BHTCA110	7	D	2.80	i git	3.00	Brown silty CLAY
BHTCA110	9	D	3.80	15-1	4.00	Grey silty CLAY
BHTCA110	12	В	5.00	(nan)	5.50	Grey silty CLAY
BHTCA110	15	D	6.80	-	7.00	Grey silty CLAY
BHTCA301A	10	В	2.00	1.0	2.50	Brown silty clayey GRAVEL
BHTCA301A	12	D	3.00	(mad)	3.45	Grey silty CLAY
BHTCA301A	16	D	4.45	12.	4.50	Grey silty CLAY
BHTCA301A	19	D	6.00	0.30	6.10	Grey silty CLAY
BHTCA301A	22	D	7.45	(ilian)	7.50	Grey silty CLAY
BH2C101	11	D	2.45	90	2.50	Brown silty CLAY
BH2C101	15	D	4.45	TI-	4.50	Grey silty CLAY
BH2C101	18	D	6.45	0.30	6.50	Brown silty CLAY
BH2C102	7	D	2.50	1 45	3.00	Brown silty CLAY
BH2C102	10	D	3.50	(rien)	4.00	Grey silty CLAY
BH2C102	12	D	4.45	trati	4.55	Grey silty CLAY
BH2C102	20	D	6.50	(-)	7.00	Grey silty CLAY
BH2C103	17	D	1.20	(Lag)	1.65	Brown silty CLAY
BH2C103	19	D	4.45	(39)	4.50	Brown silty CLAY
BH2C103	20	D	6.45	0.50	6.50	Brown silty CLAY
BH2C103	21	D	7.00	(140)	7.45	Brown silty CLAY
BH2C104	14	В	3.70	(90)		Brown gravelly silty CLAY
BH2C104	18	D	5.00	0.96	5.45	Brown silty CLAY

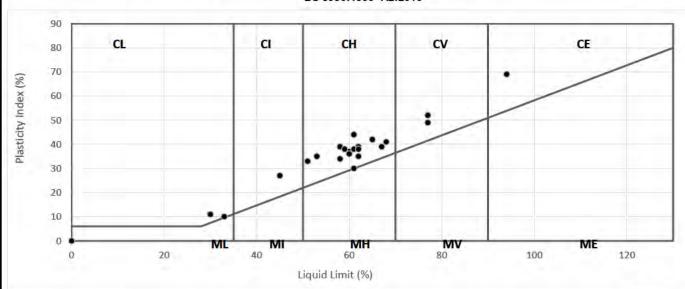
Operators	Checked	25/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	25/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Project Location	Northstowe	
Date Tested	18/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	D	epth (n	n)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BHTCA107	16	D	5.50		6.00	27	60	23	37	100	CH High Plasticity
BHTCA107	25	D	8.50	(1.8.1)	9.00	28	62	23	39	100	CH High Plasticity
BHTCA110	7	D	2.80	(igi)	3.00	35	77	25	52	100	CV Very High Plasticity
BHTCA110	9	D	3.80	11-1	4.00	32	67	28	39	100	CH High Plasticity
BHTCA110	12	В	5.00	(E-n)	5.50	34	62	27	35	100	CH High Plasticity
BHTCA110	15	D	6.80	(191)	7.00	36	61	31	30	100	CH High Plasticity
BHTCA301A	10	В	2.00	(1.5.2)	2.50	10		NP		18	
BHTCA301A	12	D	3.00	(Red)	3.45	24	58	19	39	100	CH High Plasticity
BHTCA301A	16	D	4.45	150	4.50	18	61	17	44	100	CH High Plasticity
BHTCA301A	19	D	6.00	0.30	6.10	20	51	18	33	100	CH High Plasticity
BHTCA301A	22	D	7.45		7.50	23	61	23	38	100	CH High Plasticity
BH2C101	11	D	2.45	9	2.50	16	30	19	11	100	CL Low Plasticity
BH2C101	15	D	4.45	ile.	4.50	17	33	23	10	100	CL Low Plasticity
BH2C101	18	D	6.45	0,000	6.50	27	94	25	69	100	CE Extremely High Plastic
BH2C102	7	D	2.50	0.45	3.00	27	58	24	34	100	CH High Plasticity
BH2C102	10	D	3.50	(10)	4.00	35	60	24	36	100	CH High Plasticity
BH2C102	12	D	4.45	trati	4.55	27	65	23	42	100	CH High Plasticity
BH2C102	20	D	6.50		7.00	39	68	27	41	100	CH High Plasticity
BH2C103	17	D	1.20	(Lag)	1.65	19	53	18	35	100	CH High Plasticity
BH2C103	19	D	4.45	(leg)	4.50	30	77	28	49	100	CV Very High Plasticity
BH2C103	20	D	6.45	U.Su	6.50	28	65	23	42	100	CH High Plasticity
BH2C103	21	D	7.00		7.45	26	62	24	38	100	CH High Plasticity
BH2C104	14	В	3.70	(G1)		22	45	18	27	89	CI Intermediate Plasticity
BH2C104	18	D	5.00	0.90	5.45	24	59	21	38	100	CH High Plasticity

Symbols: NP : Non Plastic #: Liquid Limit and Plastic Limit Wet Sieved



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



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	18/04/2022	
	DESCRIPTIONS	

Sample/Hole Sa Reference Nu	Sample Number	Sample Type	ple Depth (m)		0)	Descriptions	
BH2C104	21	D	6.45	-	6.50	Grey silty CLAY	
BH2C104	26	D	8.45	[-31]	8.50	Brown silty CLAY	
	-			(191)	- 4 1 5 -	U - F - L	
	727			(9)			
	0.0			(ren)	20.1		
				Part 1			_
	A			1.5			_
				(181)			_
				-			_
	4			0.50			_
				1.00			_
	_			-			_
				0.51			_
				5			_
				(nen)			_
	-			1121			_
				-			_
	7			1-0			
				9.1			
	S 24	P1	4 4	J.G.			_
	40-11			(Len)			
				(3)			
				90			

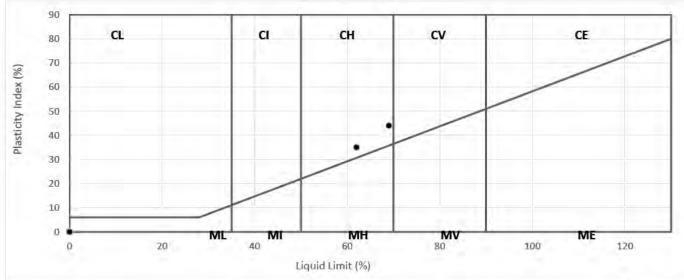
Operators	Checked	25/04/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	25/04/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	58610	
Project Location	Northstowe	
Date Tested	18/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	D	epth (m	a)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BH2C104	21	D	6.45		6.50	26	69	25	44	100	CH High Plasticity
BH2C104	26	D	8.45	(F3:1)	8.50	30	62	27	35	100	CH High Plasticity
			-	1191					-		
				(131) (131)				-			
				-	_				7		
	1000			(1.5)		0 0					
				(1940)							
				150		U, Tall					
	5			-		-					
				3		1		-			
				-		1					
		1		œj.					7		
	3			1			1				
				(n=)							
				-		-					
	7						-				
		(12		90		() == 10					
	, and	H		(NEW		QF===3					
				(1-0)		9					
				20		0					

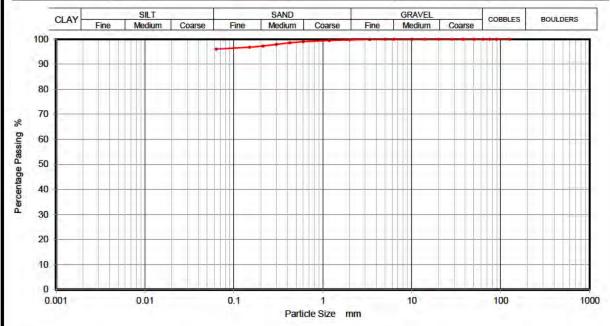
Symbols: NP : Non Plastic #: Liquid Limit and Plastic Limit Wet Sieved



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



CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JICE	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BH2C101
Site Name	Northstowe	Sample No.	9
	Security Section 1	Depth Top	1.20
Soil Description	Grey slightly fine to coarse sandy SILT/CLAY	Depth Base	1.65
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		-
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		7
20	100		
14	100		()
10	100		11
6.3	100		
5	100		
3.35	100		
2	100	1	
1.18	100	=	1
0.6	99		
0.425	99		
03	98		
0.212	97		
0.15	97	1	
0.063	96		

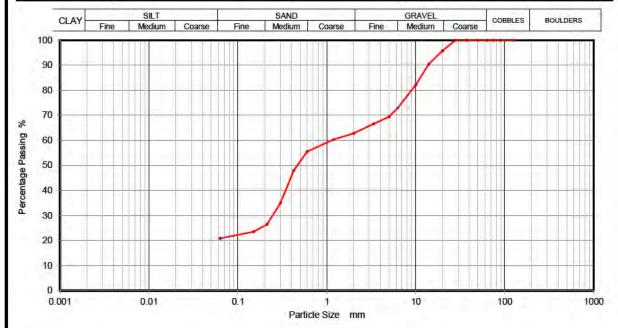
Sample Proportions	% dry mass
Cobbles	0
Gravel	0
Sand	4
Silt and Clay	96

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	25/04/2022	Reg. 13(1)
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)



CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JICK	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BH2C102
Site Name	Northstowe	Sample No.	4
		Depth Top	1,40
Soil Description	Brown silty/clayey fine to coarse gravelly fine to coarse SAND	Depth Base	1.70
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	96		
14	90		7
10	82		
63	73		
5	69		
3.35	67		
2	63		
1.18	60		
0.6	56		
0.425	48		
0.3	35		
0.212	26	1	
0.15	24	1	
0.063	21		

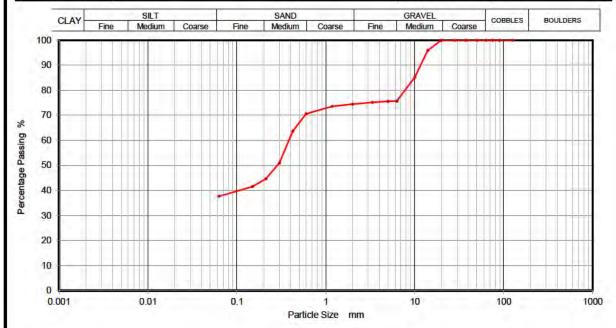
Sample Proportions	% dry mass
Cobbles	0
Gravel	37
Sand	42
Silt and Clay	21

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	24/04/2022	Reg. 13(1)
Reg. 13(1	Approved	25/04/2022	Reg. 13(1)



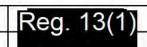
CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JICK	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BH2C103
Site Name	Northstowe	Sample No.	9
3.0420.05400		Depth Top	1.00
Soil Description	Grey fine to medium gravelly fine to coarse sandy SILT/CLAY	Depth Base	1.20
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-1
50	100		
37.5	100		
28	100		
20	100		
14	96		7
10	85		
63	76		
5	76		MI -
3.35	75		
2	74		1
1.18	74	- '	
0.6	71		
0.425	64		
0.3	51		
0.212	45	1	
0.15	42	1	
0.063	38	1	

Sample Proportions	% dry mass
Cobbles	0
Gravel	26
Sand	36
Silt and Clay	38

Operator	Checked	25/04/2022	Reg. 13(1)
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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JICE	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BH2C104
Site Name	Northstowe	Sample No.	3
Soil Description	Brown silty/clayey fine to medium gravelly fine to coarse SAND	Depth Top	0.50
	brown silly/dayey line to medium gravelly line to coarse SAND	Depth Base	1.00
Date Tested	19/04/2022	Sample Type	В



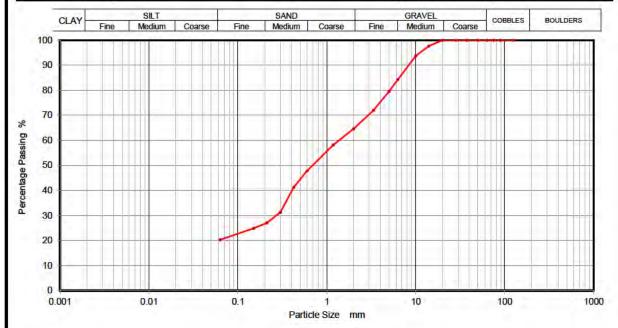
Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		
20	100		
14	97		
10	92		11
6.3	82		
5	78		
3.35	. 72		
2	65	1	
1.18	59	=	1
0.6	49		
0.425	43		
0.3	33	-	
0.212	29		
0.15	26		
0.063	21		

Sample Proportions	% dry mass
Cobbles	0
Gravel	35
Sand	44
Silt and Clay	21

Operator	Checked	25/04/2022	Reg. 13(1)	Reg. 13
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)	



CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HICK	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BH2C104
Site Name	Northstowe	Sample No.	8
0.110	Brown clayey/silty fine to medium gravelly fine to coarse SAND	Depth Top	2.00
Soil Description	brown dayey/siiiy line to medium graveliy line to coarse SAND	Depth Base	2.45
Date Tested	19/04/2022	Sample Type	D



Sieving		Sedime	ntation		
Particle Size mm	mm % Passing mm		% Passing		% Passing
125	100		-		
90	100				
75	100				
63	100				
50	100				
37.5	100		,		
28	100		7		
20	100				
14	98				
10	94		11		
6.3	84				
5	80				
3.35	72				
2	65	L	1-		
1.18	58	=	2		
0.6	48				
0.425	41				
0.3	31	-			
0.212	27				
0.15	25				
0.063	20	. =			

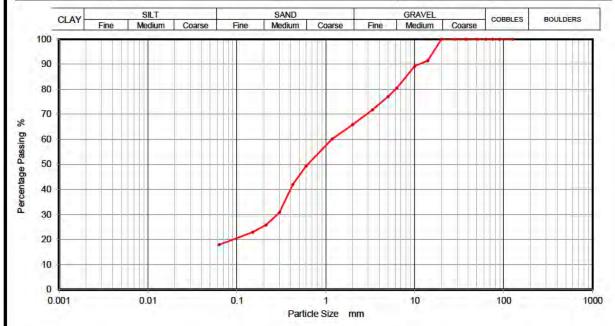
Sample Proportions	% dry mass
Cobbles	0
Gravel	35
Sand	45
Silt and Clay	20

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	24/04/2022	Reg. 13(1)
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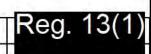
CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
BIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BH2C104
Site Name	Northstowe	Sample No.	11
	Consideration (city for to studies according to the control CAND	Depth Top	3.00
Soil Description	Grey clayey/silty fine to medium gravelly fine to coarse SAND	Depth Base	3.45
Date Tested	19/04/2022	Sample Type	D



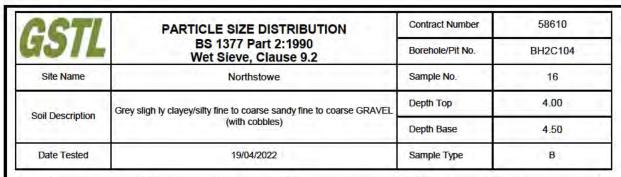
Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-1
50	100		
37.5	100		
28	100		
20	100		
14	91		
10	89		
6.3	80		
5	77		ST.
3.35	72		
2	66		1
1.18	60		
0.6	49		
0.425	42		
03	31		
0.212	26	1	
0.15	23		
0.063	18	1	

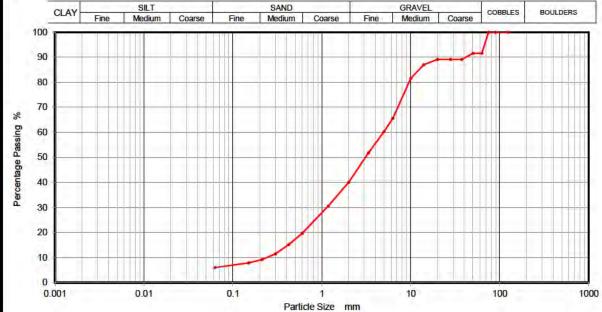
Sample Proportions	% dry mass
Cobbles	0
Gravel	34
Sand	48
Silt and Clay	18

Operator	Checked	25/04/2022	Reg. 13(1)
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)









Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		-
90	100		
75	100		
63	92		
50	92		
37.5	89		,
28	89		7
20	89		
14	87		r
10	82		11
6.3	66		
5	60		
3.35	52		
2	40	1	
1.18	31		1
0.6	20		
0.425	15		
0.3	- 11		/ 10
0.212	9	1	
0.15	8	1	
0.063	6		

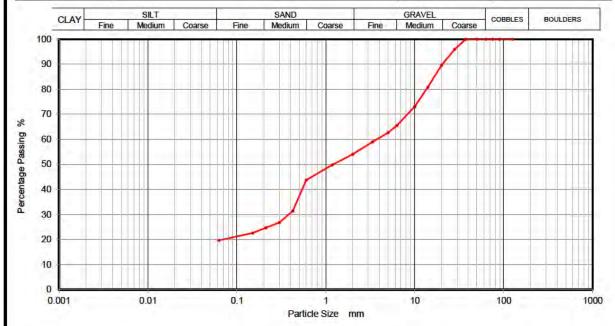
Sample Proportions	% dry mass
Cobbles	8
Gravel	52
Sand	34
Silt and Clay	6

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	24/04/2022	Reg. 13(1)
Reg. 13(1	Approved	25/04/2022	Reg. 13(1)



CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
BS 1377 Part 2:1990 Wet Sieve, Clause 9.2		Borehole/Pit No.	BHTCA101
Site Name	Northstowe	Sample No.	3
Soil Description Grey silty	Consultividades of the state of	Depth Top	1.00
	Grey silty/clayey fine to coarse sandy fine to coarse GRAVEL	Depth Base	1.20
Date Tested	19/04/2022	Sample Type	В



Sie	/ing	Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	96		
20	90		
14	81		7
10	73		71
63	65		
5	63		MI -
3.35	59		
2	54		
1.18	50		
0.6	44		
0.425	31		
03	27		
0.212	25	1	
0.15	23	1	
0.063	20	1.	

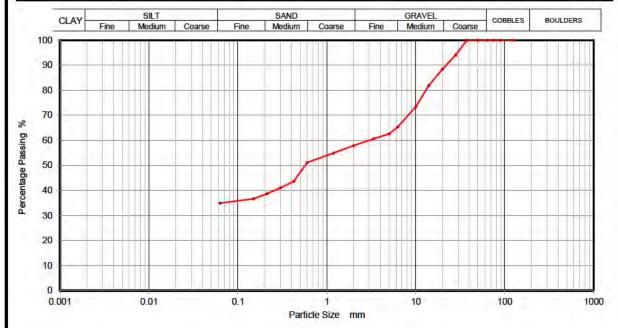
Sample Proportions	% dry mass
Cobbles	0
Gravel	46
Sand	34
Silt and Clay	20

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	25/04/2022	Reg. 13(1)
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)



CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
BS 1377 Part 2:1990 Wet Sieve, Clause 9.2		Borehole/Pit No.	BHTCA101
Site Name	Northstowe	Sample No.	6
Soil Description Greyish	Grevish brown fine to coarse sandy fine to coarse gravelly	Depth Top	2.00
	SILT/CLAY	Depth Base	2.50
Date Tested	19/04/2022	Sample Type	В

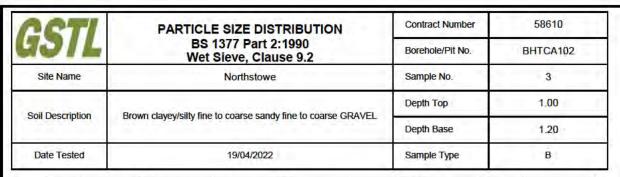


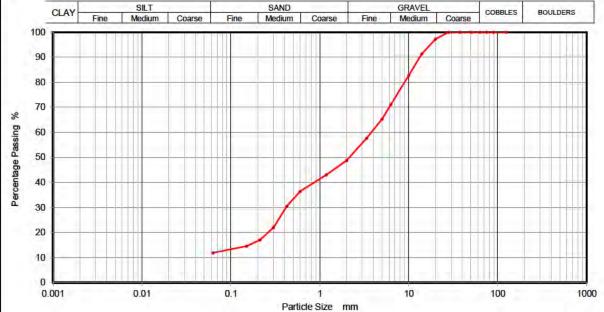
Sieving		Sedime	Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing	
125	100			
90	100			
75	100			
63	100			
50	100			
37.5	100		,	
28	94			
20	88			
14	82		()	
10	73			
6.3	65			
5	63			
3.35	61			
2	58		T	
1.18	55		2	
0.6	51			
0.425	44			
0.3	41			
0.212	39			
0.15	37			
0.063	35			

Sample Proportions	% dry mass
Cobbles	0
Gravel	42
Sand	23
Silt and Clay	35

Operator	Checked	25/04/2022	Reg. 13(1)	Reg. 13(1)
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)	







Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		5
37.5	100		,
28	100		
20	97		-
14	91		
10	83		
6.3	71		T.
5	65		JI.
3.35	58		
2	49		1
1.18	43		2
0.6	36		
0.425	31		
03	22		
0.212	17	1	
0.15	15	1	
0.063	12		

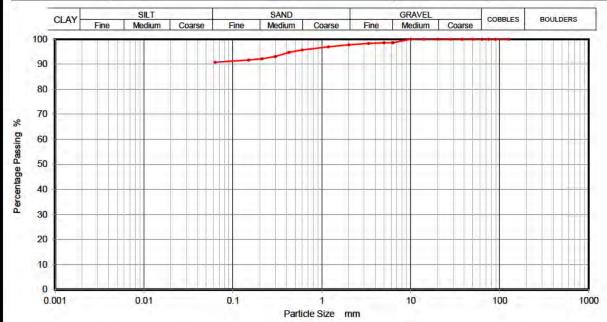
Sample Proportions	% dry mass
Cobbles	0
Gravel	51
Sand	37
Silt and Clay	12

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	24/04/2022	Reg. 13(1)
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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HOIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BHTCA102
Site Name	Northstowe	Sample No.	6
Soil Description Grey slightly fine to medium gravelly fine to coarse sandy SILT/CL/	Convalidabilità in a constanti di managara di Cili T/CI AV	Depth Top	2.00
	Grey slightly line to medium gravelly line to coarse sarray SiLT/CLAY	Depth Base	2.50
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		
20	100		
14	100		(
10	100		
6.3	99		
5	99		
3.35	. 98		
2	98	h + (7-
1.18	97		2
0.6	96		
0.425	95		
03	93		
0.212	92		
0.15	92	1	
0.063	91		

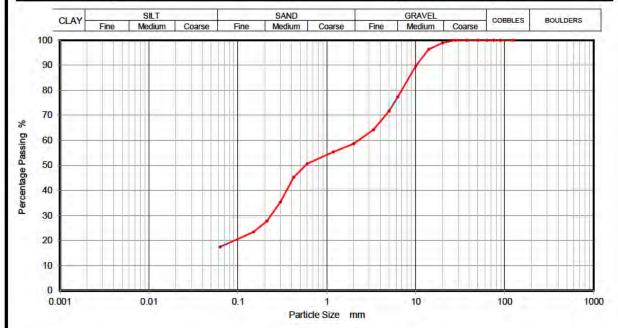
Sample Proportions	% dry mass
Cobbles	0
Gravel	2
Sand	7
Silt and Clay	91

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CCTI	PARTICLE SIZE DISTRIBUTION		58610
JIICE	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BHTCA103A
Site Name	Northstowe	Sample No.	3
		Depth Top	1.80
Soil Description	Brown clayey/silty fine to coarse gravelly fine to coarse SAND	Depth Base	2.00
Date Tested	19/04/2022	Sample Type	D



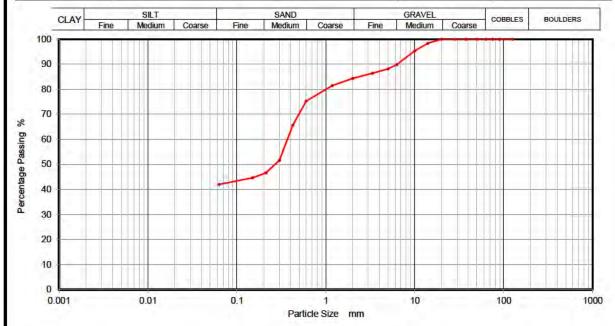
Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-1
50	100		
37.5	100		,
28	100		
20	99		
14	96		()
10	90		71
6.3	- 77		
5	72		
3.35	.64		
2	59	L	7-
1.18	55	=	2
0.6	51		
0.425	45		
0.3	35	-	
0.212	28		
0.15	23		
0.063	17	_ =	

Sample Proportions	% dry mass
Cobbles	0
Gravel	41
Sand	42
Silt and Clay	17

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JICE	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BHTCA104
Site Name	Northstowe	Sample No.	3
		Depth Top	1.00
Soil Description Grey fine to medium	Grey fine to medium gravelly fine to coarse sandy SILT/CLAY	Depth Base	1.20
Date Tested	19/04/2022	Sample Type	В



Sie	/ing	Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	98		·
10	95		
63	90		
5	88		
3.35	86		
2	84		
1.18	81		
0.6	75		
0.425	66	1	
03	52		
0.212	47	1	
0.15	45	1	
0.063	42		

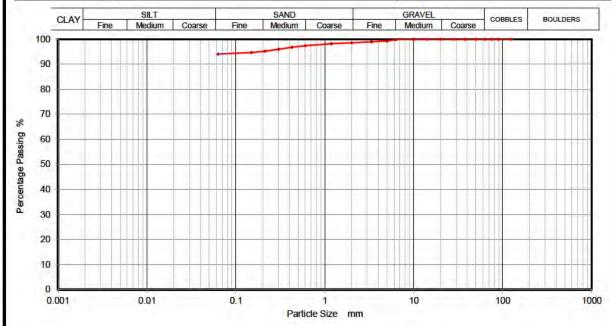
Sample Proportions	% dry mass
Cobbles	0
Gravel	16
Sand	42
Silt and Clay	42

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Operator	Checked	25/04/2022	Reg. 13(1)
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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JOIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BHTCA107
Site Name	Northstowe	Sample No.	4
Cail Departation		Depth Top	1.20
Soil Description Grey slightly fine to medium gravelly fine to coarse sandy SILT/CLA	Depth Base	1.70	
Date Tested	19/04/2022	Sample Type	В



Sie	/ing	Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		-
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		7
20	100		
14	100		()
10	100		
6.3	100		
5	99		
3.35	99		
2	99	L (1
1.18	98	=	2
0.6	97		
0.425	97		
0.3	96	-	
0.212	95		
0.15	95		
0.063	94		

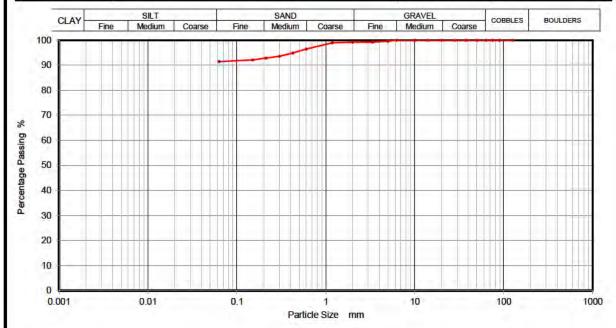
% dry mass
0
1
5
94
- 1 = -

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CCTI	PARTICLE SIZE DISTRIBUTION		58610
JICK	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	BHTCA110
Site Name	Northstowe	Sample No.	4
Coil Departmen		Depth Top	1.20
Soil Description Brown slightly fine gravelly fine to coarse sandy silty CLAY		Depth Base	1.70
Date Tested	19/04/2022	Sample Type	В



Siev	/ing	Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		-
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		7
20	100		
14	100	P	
10	100		11
6.3	100		
5	100		
3.35	. 99		
2	99		1
1.18	99		2
0.6	96		
0.425	95		
0.3	94		
0.212	93		
0.15	92		
0.063	91		

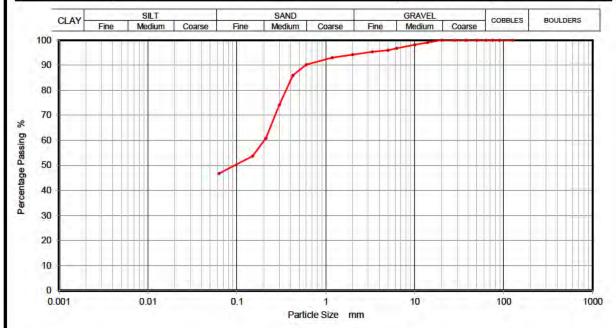
Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	8
Silt and Clay	91

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Operator	Checked	25/04/2022	Reg. 13(1)
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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JICE	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA102
Site Name	Northstowe	Sample No.	4
Coil Departation	Soil Description Brown fine to medium gravelly fine to coarse sandy SILT/CLAY	Depth Top	1.00
Soil Description		Depth Base	2.00
Date Tested	19/04/2022	Sample Type	В



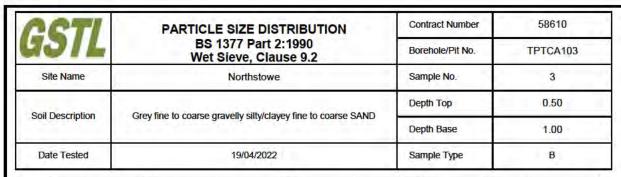
Sie	/ing	Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-1
50	100		
37.5	100		
28	100		
20	100		
14	99		7
10	98		
6.3	97		
5	96		ST.
3.35	95		
2	94		1
1.18	93	- '	
0.6	90		
0.425	86		
03	74		
0.212	61	1	
0.15	54	1	
0.063	47	1	

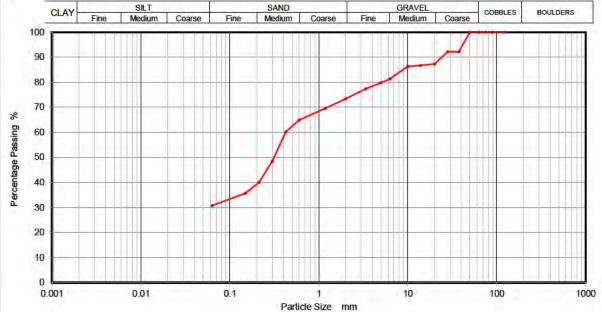
% dry mass
0
6
47
47

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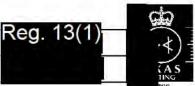


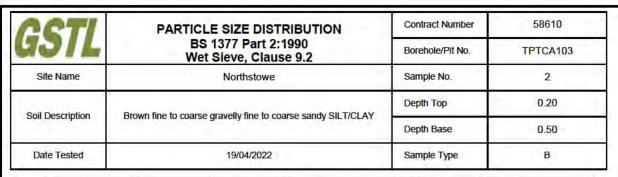


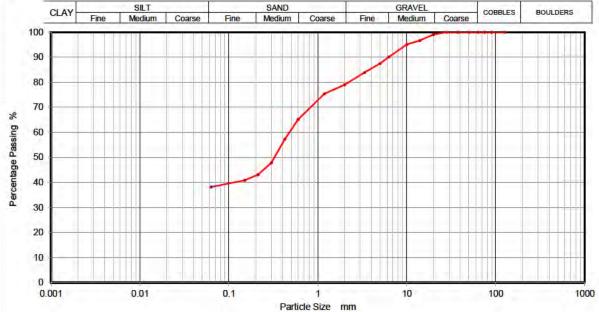
Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-5
50	100		
37.5	92		
28	92		
20	87		
14	87		
10	86		71
63	81		
5	80		
3.35	.77		
2	73	1	7-
1.18	70	- 1	1
0.6	65		
0.425	60		
03	48		
0.212	40	1	
0.15	36	1	
0.063	31		

Sample Proportions	% dry mass
Cobbles	0
Gravel	27
Sand	42
Silt and Clay	31

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Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-2
50	100		
37.5	100		,
28	100		
20	99		
14	97		
10	95		
6.3	90		T. T.
5	88		
3.35	84		
2	79		
1.18	75		2
0.6	65		
0.425	57		
0.3	48		
0.212	43	1	
0.15	41	1	
0.063	38	1 =	

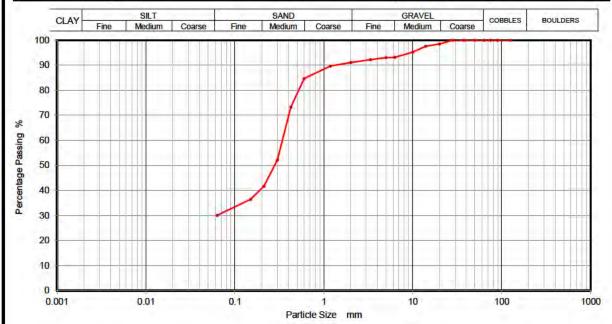
% dry mass
0
21
41
38
1

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CCTI	PARTICLE SIZE DISTRIBUTION		58610
HOIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA103
Site Name	Northstowe	Sample No.	4
Poil Depariation	oil Description Brown fine to coarse gravelly silty/clayey fine to coarse SAND		1.00
Soil Description	Brown line to coarse gravelly slity/clayey line to coarse SAND	Depth Base	2.00
Date Tested	19/04/2022	Sample Type	В

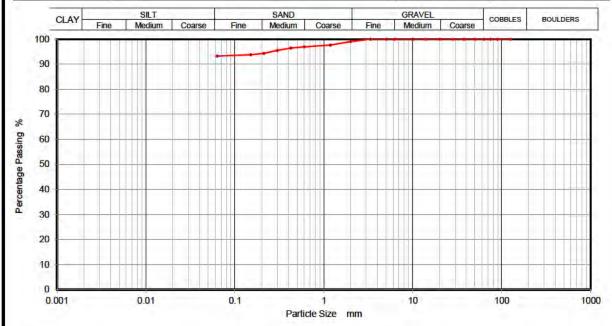


Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		
20	98		
14	98		()
10	95		11
6.3	93		
5	93		
3.35	92		
2	91	1	T
1.18	90	=	2
0.6	85		
0.425	73		
0.3	52		
0.212	42		
0.15	36		
0.063	30		

Sample Proportions	% dry mass
Cobbles	0
Gravel	9
Sand	61
Silt and Clay	30

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JIICE	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA105
Site Name	Northstowe	Sample No.	4
	Prouga eligibility fine gravally fine to energy condy CILT/CLAV	Depth Top	1.00
Soil Description Brown sligh ly fine gravelly fine to coarse sandy SILT/CLAY		Depth Base	2.00
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedime	ntation	
Particle Size mm	% Passing		% Passin	
125	100		-	
90	100			
75	100			
63	100			
50	100			
37.5	100		,	
28	100		7	
20	100			
14	100		()	
10	100		11	
6.3	100			
5	100			
3.35	100			
2	99	L		
1.18	98	=	2	
0.6	97			
0.425	96			
0.3	96	-		
0.212	94			
0.15	94			
0.063	93	_ =		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	6
Silt and Clay	93

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HOIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA110
Site Name	Northstowe	Sample No.	2
	Proug fine to more from group to the fine to accome county CH T/CLAV	Depth Top	0.20
Soil Description	I Description Brown fine to medium gravelly fine to coarse sandy SILT/CLAY		0.90
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-1
50	100		
37.5	100		
28	100		
20	100		
14	99		·
10	98		
6.3	95		
5	94		ST.
3.35	91		
2	87	-	
1.18	84	- '	
0.6	80		
0.425	77		
03	71		
0.212	63		
0.15	57	1	
0.063	49	1 =	

Sample Proportions	% dry mass
Cobbles	0
Gravel	13
Sand	38
Silt and Clay	49

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HOIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA113
Site Name	Northstowe	Sample No.	3
	Brown fine to coarse sandy fine to coarse gravelly SILT/CLAY	Depth Top	0.50
Soil Description	brown line to coarse sarray line to coarse gravely SiLT/CLAY	Depth Base	1.00
Date Tested	19/04/2022	Sample Type	D



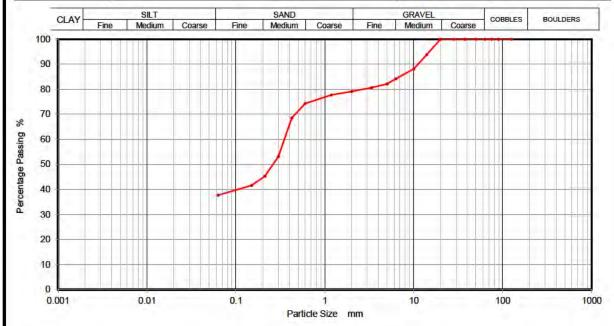
Sieving		Sedimentation		
Particle Size mm	% Passing	Particle Size mm	% Passing	
125	100		-	
90	100			
75	100			
63	100			
50	100			
37.5	94		, —	
28	90		7	
20	83			
14	79		()	
10	76			
6.3	72			
5	70			
3.35	68			
2	65	1	1-	
1.18	62	=	2	
0.6	59			
0.425	56			
0.3	49			
0.212	43			
0.15	40			
0.063	36			

Sample Proportions	% dry mass
Cobbles	0
Gravel	35
Sand	29
Silt and Clay	36

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CCTI	PARTICLE SIZE DISTRIBUTION	E DISTRIBUTION Contract Number 586		
JIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA114	
Site Name	Northstowe	Sample No.	4	
Soil Description	Drawn fine to madium arrayally fine to engree condy SILT/CLAV	Depth Top	Depth Top 1.00	
	Brown fine to medium gravelly fine to coarse sandy SILT/CLAY	Depth Base	2.00	
Date Tested	19/04/2022	Sample Type	В	



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		
20	100		-
14	94		7
10	88		
63	84		
5	82		JT-
3.35	81		
2	79	-	
1.18	78		
0.6	74		
0.425	69		
0.3	53		
0.212	45	1	
0.15	42		
0.063	38	1	

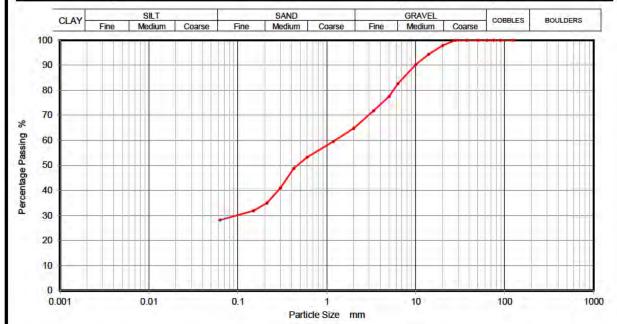
Sample Proportions	% dry mass
Cobbles	0
Gravel	21
Sand	41
Silt and Clay	38

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number 58610	
HICK	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA119
Site Name	Northstowe	Sample No.	2
Soil Description	Grey silty/clayey fine to coarse gravelly fine to coarse SAND	Depth Top	0.20
	Grey siny/crayey line to coarse gravery line to coarse SAND	Depth Base	0.50
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		,
28	100		
20	98		
14	94		()
10	90		
6.3	83		
5	77		
3.35	72		
2	65	1	T
1.18	60	= (
0.6	53		
0.425	49		
0.3	41		
0.212	35		
0.15	32		
0.063	28		

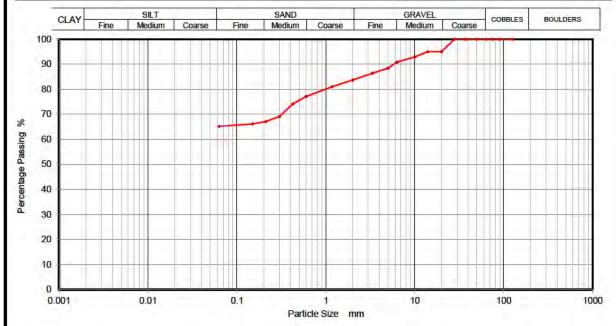
Sample Proportions	% dry mass
Cobbles	0
Gravel	35
Sand	37
Silt and Clay	28

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HICK	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA201
Site Name	Northstowe	Sample No.	4
0.10	Crowling to copyed grouply fine to copyed goods CILT/CLAV	Depth Top	0.90
Soil Description	Grey fine to coarse gravelly fine to coarse sandy SILT/CLAY	Depth Base	1.20
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedimentation											
Particle Size mm	% Passing Particle Size % F	% Passing	% Passing		% Passing		% Passing		% Passing %		% Passing		% Passing
125	100		4										
90	100												
75	100												
63	100												
50	100												
37.5	100		,										
28	100		7										
20	95												
14	95												
10	93		11										
6.3	91												
5	88												
3.35	86												
2	84												
1.18	81												
0.6	77												
0.425	74												
03	69												
0.212	67												
0.15	66	1											
0.063	65												

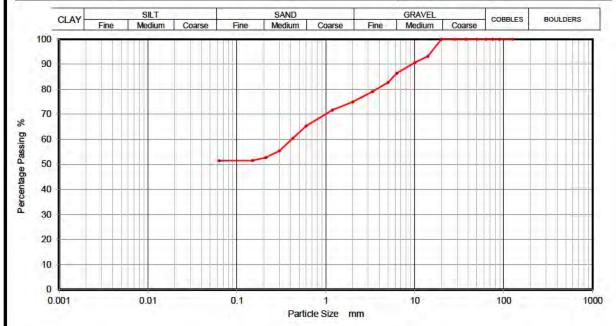
Sample Proportions	% dry mass
Cobbles	0
Gravel	16
Sand	19
Silt and Clay	65

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HICK	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	TPTCA204
Site Name	Northstowe	Sample No.	4
0.10	One of the second secon	Depth Top	1.00
Soil Description	Grey fine to coarse sandy fine to medium gravelly SILT/CLAY	Depth Base	2.00
Date Tested	19/04/2022	Sample Type	D



Sieving		Sedimentation								
Particle Size mm	% Passing Particle Size mm %	% Passing mm % Pa	% Passing	% Passing	υ/ ₀ D		0/2	% Passing % Pa	% Passing % Pa	% Passing
125	100		-							
90	100									
75	100									
63	100									
50	100									
37.5	100		,							
28	100		7							
20	100									
14	93		()							
10	91		11							
6.3	86									
5	83									
3.35	79									
2	75									
1.18	72	=	1							
0.6	65									
0.425	60									
03	55									
0.212	53									
0.15	52									
0.063	52									

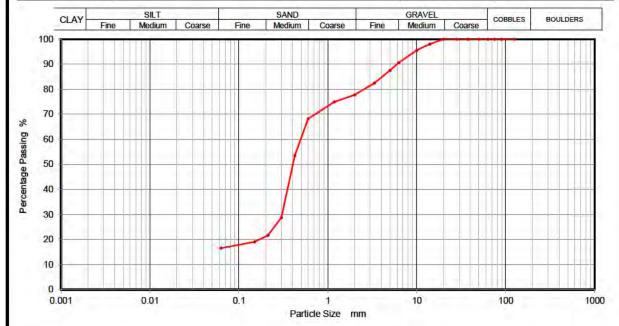
% dry mass
0
25
23
52

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CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HOIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	WSTCA101
Site Name	Northstowe	Sample No.	1.
Out Describing	Brown clayey/silty fine to medium gravelly fine to coarse SAND	Depth Top	1.10
Soil Description	brown dayey/siliy line to medium gravelly line to coarse SAND	Depth Base	1.45
Date Tested	19/04/2022	Sample Type	В



Sieving		Sieving Sedimentation										
Particle Size mm	% Passing Particle Size % F	% Passing	% Passing	% Passing		% Passing		% Passing		% Passing		% Passing
125	100											
90	100											
75	100											
63	100											
50	100											
37.5	100		,									
28	100											
20	100											
14	98		()									
10	96											
6.3	91											
5	88											
3.35	. 83											
2	78		7-									
1.18	75		2									
0.6	68											
0.425	54											
0.3	29											
0.212	22											
0.15	19											
0.063	17											

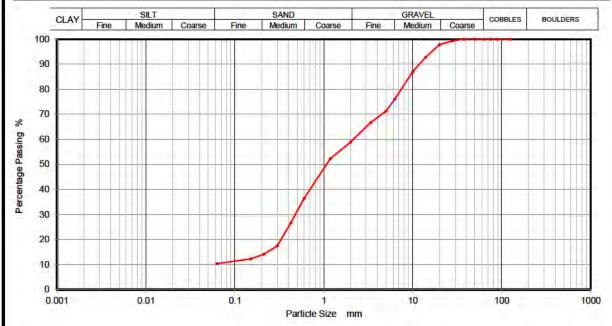
Sample Proportions	% dry mass
Cobbles	0
Gravel	22
Sand	61
Silt and Clay	17

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	24/04/2022	Reg. 13(1)
Reg. 13(1	Approved	25/04/2022	Reg. 13(1)



CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
HOIL	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	WSTCA106
Site Name	Northstowe	Sample No.	1
Soil Description	Brown clayey/silty fine to coarse gravelly fine to coarse SAND	Depth Top	1.20
		Depth Base	1.80
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedime	ntation
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		-
90	100		
75	100		
63	100		
50	100		
37.5	100		, —
28	99		7
20	98		
14	93		()
10	87		
6.3	76		
5	71		
3.35	67		
2	59	1	1
1.18	52	=	2
0.6	36		
0.425	27		
0.3	18		
0.212	14		
0.15	12		
0.063	10		

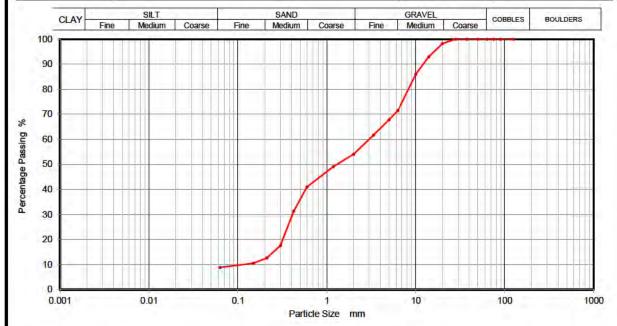
Sample Proportions	% dry mass
Cobbles	0
Gravel	41
Sand	49
Silt and Clay	10

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	24/04/2022	Reg. 13(1)
Reg. 13(1	Approved	25/04/2022	Reg. 13(1)



CCTI	PARTICLE SIZE DISTRIBUTION	Contract Number	58610
JICE	BS 1377 Part 2:1990 Wet Sieve, Clause 9.2	Borehole/Pit No.	WSTCA109
Site Name	Northstowe	Sample No.	1
Soil Description	Brown clayey/silty fine to coarse sandy fine to coarse GRAVEL	Depth Top	0.70
		Depth Base	1.45
Date Tested	19/04/2022	Sample Type	В



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		1-1
50	100		
37.5	100		,
28	100		
20	98		
14	93		
10	86		71
6.3	71		
5	68		
3.35	62		
2	54	1	7-
1.18	49	=	2
0.6	41		
0.425	31		
0.3	18		///
0.212	13		
0.15	11		
0.063	9		

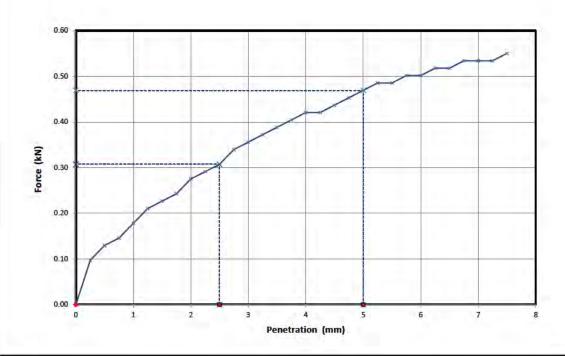
Sample Proportions	% dry mass
Cobbles	0
Gravel	46
Sand	45
Silt and Clay	9

Preparation and testing in accordance with BS1377 unless noted below

Operator	Checked	24/04/2022	Reg. 13(1)
Reg. 13(1	Approved	25/04/2022	Reg. 13(1)



CCTI	California Bearing Ratio	Contract Number	58610 TPTCA107	
JIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.		
Site Name	Northstowe	Sample No.	2	
Soil Description	Brown fine to coarse gravelly sandy silty CLAY	Depth Top	0 20	
Compaction Method	2.5 Kg Rammer	Depth Base	0 50	
Retained 20mm (%)	4	Sample Type	В	
Date Tested	14/04/2022			



Initial Sample Conditions		
Moisture Content (%)	15	
Moisture Top (%)	15	
Moisture Bottom (%)		
Bulk Density (Mg/m3)	2.09	
Dry Density (Mg/m3)	1.82	

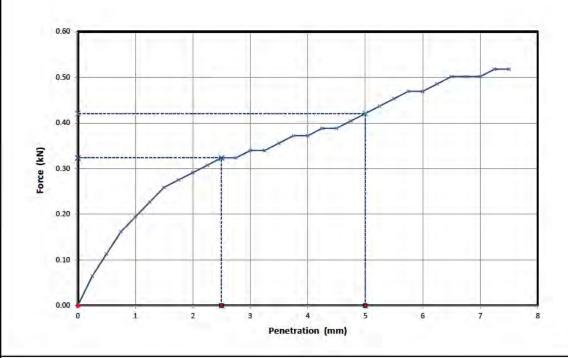
2
2
N/A
N/A

	CBR T	est Values
2.5mm Top	23	2 5mm Bottom
5mm Top	23	5mm Bottom
CBR Value %	2.3	CBR Value %

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



CCTI	California Bearing Ratio	Contract Number	58610	
JIIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA107	
Site Name	Northstowe	Sample No.	3	
Soil Description	Brown fine to coarse gravelly sandy silty CLAY	Depth Top	0 50	
Compaction Method	2.5 Kg Rammer	Depth Base	1 00	
Retained 20mm (%)	3	Sample Type	В	
Date Tested	14/04/2022			



Initial Sample Co	onditions
Moisture Content (%)	14
Moisture Top (%)	14
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.05
Dry Density (Mg/m3)	1.80

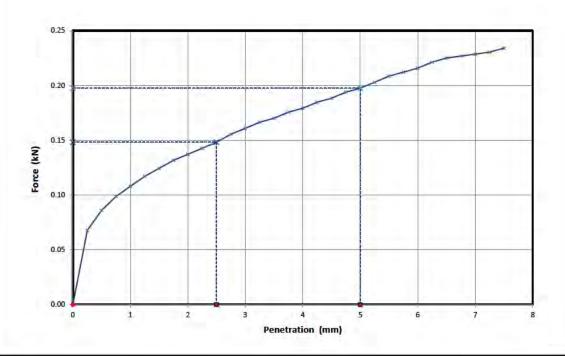
2
N/A
N/A

	CBRT	est Values
2.5mm Top	25	2 5mm Bottom
5mm Top	2.1	5mm Bottom
CBR Value %	2.5	CBR Value %

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



CCTI	California Bearing Ratio	Contract Number	58610 TPTCA110
JJIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	
Site Name	Northstowe	Sample No.	1
Soil Description	Brown sandy fine to coarse gravelly silty CLAY	Depth Top	0 00
Compaction Method	2.5 Kg Rammer	Depth Base	0 20
Retained 20mm (%)	2	Sample Type	В
Date Tested	14/04/2022		



Initial Sample Co	onditions
Moisture Content (%)	24
Moisture Top (%)	24
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.02
Dry Density (Mg/m3)	1.62

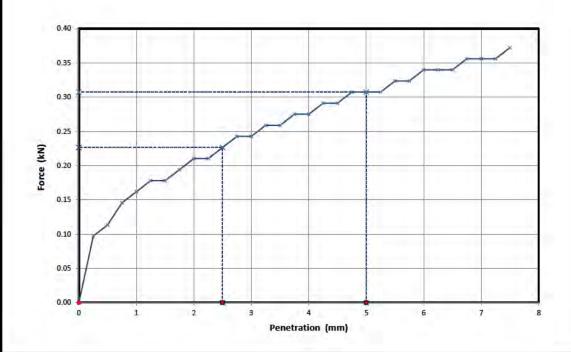
arameters
2
N/A
N/A

	CBR Te	est Values	
2.5mm Top	1.1	2 5mm Bottom	
5mm Top	0.99	5mm Bottom	
CBR Value %	1.1	CBR Value %	

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



CCTI	California Bearing Ratio	Contract Number	58610 TPTCA110
HOIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	
Site Name	Northstowe	Sample No.	2
Soil Description	Brown fine to medium gravelly fine to coarse sandy S LT/CLAY	Depth Top	0 20
Compaction Method	2.5 Kg Rammer	Depth Base	0.90
Retained 20mm (%)	0	Sample Type	В
Date Tested	14/04/2022		



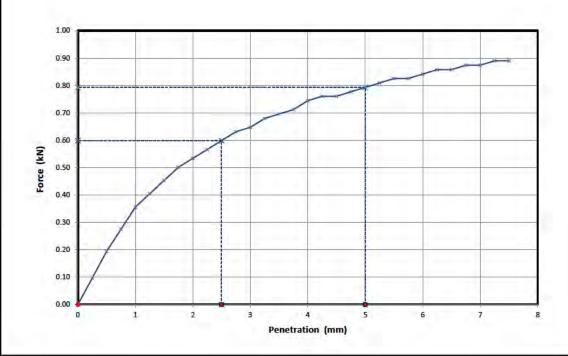
Initial Sample Co	onditions
Moisture Content (%)	22
Moisture Top (%)	22
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.05
Dry Density (Mg/m3)	1.68

Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	
-	

	CBR T	est Values
2.5mm Top	1.7	2 5mm Bottom
5mm Top	15	5mm Bottom
CBR Value %	1.7	CBR Value %

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

CCTI	California Bearing Ratio	Contract Number	58610
JIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA111
Site Name	Northstowe	Sample No.	2
Soil Description	Brown silty sandy fine to coarse gravelly CLAY	Depth Top	0 20
Compaction Method	2.5 Kg Rammer	Depth Base	0 50
Retained 20mm (%)	t'	Sample Type	В
Date Tested	14/04/2022		



Initial Sample Co	ATUILIONS
Moisture Content (%)	21
Moisture Top (%)	21
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.06
Dry Density (Mg/m3)	1.71

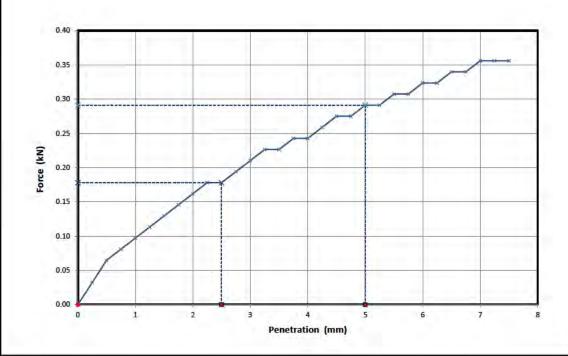
2
-
N/A
N/A

	CBR T	est Values
2.5mm Top	4.5	2 5mm Bottom
5mm Top	4	5mm Bottom
CBR Value %	4.5	CBR Value %

Operators	Checked	25/04/2022	Reg. 13(1)	Rea. 13(1)_
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)	



CCTI	California Bearing Ratio	Contract Number	58610
JJIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA113
Site Name	Northstowe	Sample No.	3
Soil Description	Brown sandy fine to coarse gravelly sitly CLAY	Depth Top	0 50
Compaction Method	2.5 Kg Rammer	Depth Base	1 00
Retained 20mm (%)	4	Sample Type	B
Date Tested	14/04/2022		



Initial Sample Co	onditions
Moisture Content (%)	19
Moisture Top (%)	19
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.03
Dry Density (Mg/m3)	1.71

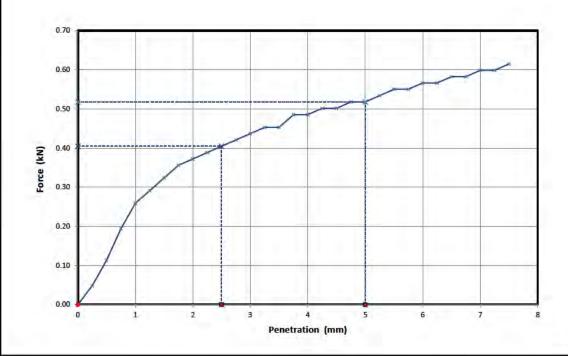
arameters
2
N/A
N/A

	CBRT	est Values
2.5mm Top	13	2 5mm Bottom
5mm Top	15	5mm Bottom
CBR Value %	1.5	CBR Value %

Operators	Checked	25/04/2022	Reg. 13(1)	Reg. 13(1)
Reg. 13/1	Approved	26/04/2022	Reg. 13(1)	3



CCTI	California Bearing Ratio	Contract Number	58610
JIICE	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA201
Site Name	Northstowe	Sample No.	2
Soil Description	Grey silty fine to coarse gravelly sandy CLAY	Depth Top	0 20
Compaction Method	2.5 Kg Rammer	Depth Base	0 50
Retained 20mm (%)	2	Sample Type	В
Date Tested	14/04/2022		



Initial Sample Co	onditions
Moisture Content (%)	29
Moisture Top (%)	29
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.49

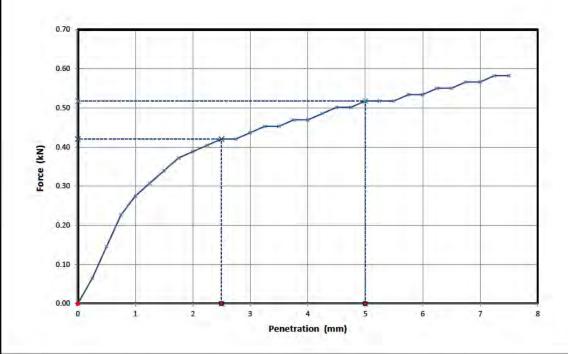
2
N/A
N/A

	CBRT	est Values
2.5mm Top	3.1	2 5mm Bottom
5mm Top	26	5mm Bottom
CBR Value %	3.1	CBR Value %

Operators	Checked	25/04/2022	Reg. 13(1)	Reg. 13(1
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)	3



CCTI	California Bearing Ratio	Contract Number	58610	
JIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA201	
Site Name	Northstowe	Sample No.	3	
Soil Description	Grey silty fine to coarse gravelly sandy CLAY	Depth Top	0 50	
Compaction Method	2.5 Kg Rammer	Depth Base	0.90	
Retained 20mm (%)	4	Sample Type	В	
Date Tested	14/04/2022			



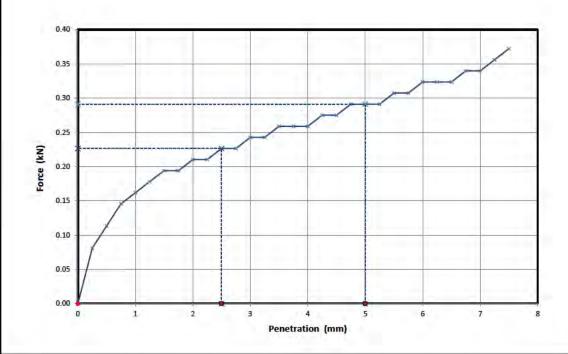
Initial Sample Co	onditions
Moisture Content (%)	29
Moisture Top (%)	29
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.91
Dry Density (Mg/m3)	1.48

2
N/A
N/A

	CBRT	est Values
2.5mm Top	32	2 5mm Bottom
5mm Top	26	5mm Bottom
CBR Value %	3.2	CBR Value %

Operators	Checked	25/04/2022	Reg. 13(1)	Reg. 13(1)
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)	4

CCTI	California Bearing Ratio	Contract Number	58610
JIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA205
Site Name	Northstowe	Sample No.	2
Soil Description	Grey sandy fine to coarse gravelly silty CLAY	Depth Top	0 20
Compaction Method	2.5 Kg Rammer	Depth Base	0 50
Retained 20mm (%)	3	Sample Type	В
Date Tested	14/04/2022		



Initial Sample Co	onditions
Moisture Content (%)	22
Moisture Top (%)	22
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.04
Dry Density (Mg/m3)	1.68

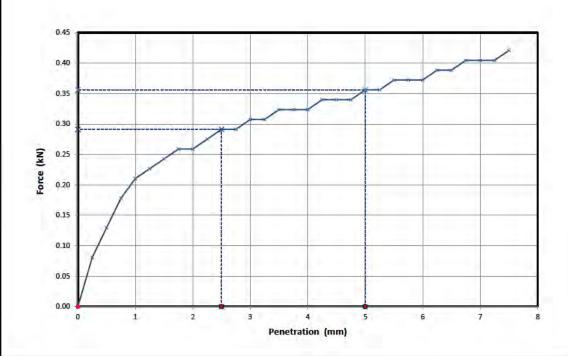
rameters
2
N/A
N/A

	CBRT	est Values
2.5mm Top	1.7	2 5mm Bottom
5mm Top	15	5mm Bottom
CBR Value %	1.7	CBR Value %

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



CCTI	California Bearing Ratio	Contract Number	58610
JIICE	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA205
Site Name	Northstowe	Sample No.	3
Soil Description	Grey sandy fine to coarse gravelly silty CLAY	Depth Top	0 50
Compaction Method	2.5 Kg Rammer	Depth Base	1 00
Retained 20mm (%)	2	Sample Type	В
Date Tested	14/04/2022		



Initial Sample Co	onditions
Moisture Content (%)	25
Moisture Top (%)	25
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.03
Dry Density (Mg/m3)	1.63

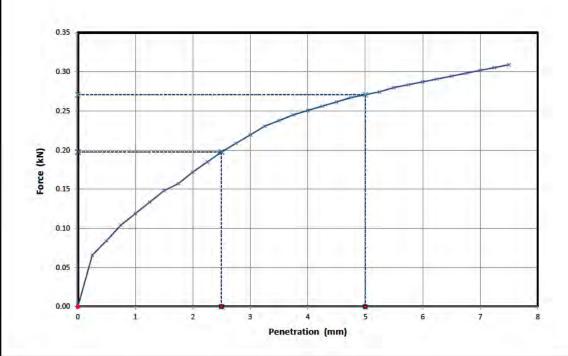
0	2
Surcharge (Kg)	2
Soaking Time (hours)	N/A
Swelling (mm)	N/A
Remarks	
<u></u>	

	CBRT	est Values
2.5mm Top	22	2 5mm Bottom
5mm Top	18	5mm Bottom
CBR Value %	2.2	CBR Value %

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



CCTI	California Bearing Ratio	Contract Number	58610
JIICE	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA206
Site Name	Northstowe	Sample No.	1
Soil Description	Grey fine gravelly silty CLAY	Depth Top	0 00
Compaction Method	2.5 Kg Rammer	Depth Base	0 20
Retained 20mm (%)	0	Sample Type	В
Date Tested	14/04/2022		



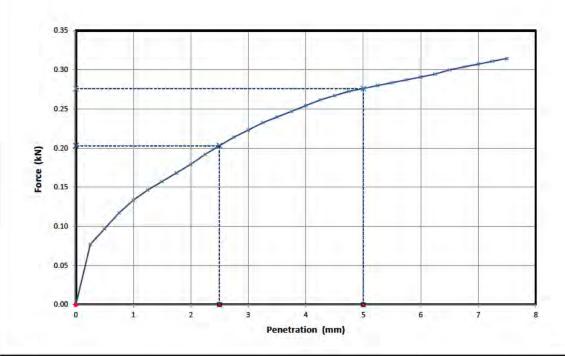
Initial Sample Co	onditions
Moisture Content (%)	33
Moisture Top (%)	33
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.92
Dry Density (Mg/m3)	1.45

2
N/A
N/A

	CBR T	est Values
2.5mm Top	15	2 5mm Bottom
5mm Top	1.4	5mm Bottom
CBR Value %	1.5	CBR Value %

Operators	Checked	25/04/2022	Reg. 13(1)	Rea. 13(1	
Reg. 13/1	Approved	26/04/2022	Reg. 13(1)	3	′

CCTI	California Bearing Ratio		58610	
JIICE	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	TPTCA206	
Site Name	Northstowe	Sample No.	2	
Soil Description	Grey fine gravelly silty CLAY	Depth Top	0 20	
Compaction Method	2.5 Kg Rammer	Depth Base	0 50	
Retained 20mm (%)	0	Sample Type	В	
Date Tested	14/04/2022			



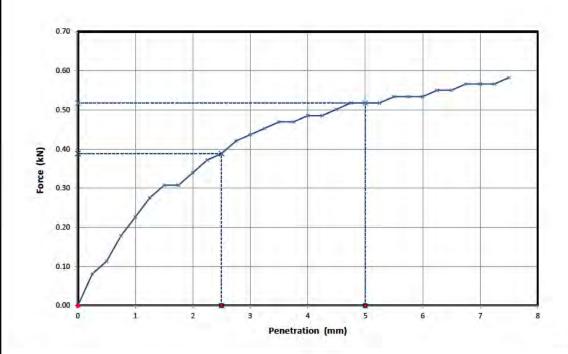
Initial Sample Co	inditions
Moisture Content (%)	33
Moisture Top (%)	33
Moisture Bottom (%)	
Bulk Density (Mg/m3)	1.91
Dry Density (Mg/m3)	1.43

rameters
2
N/A
N/A

	CBRT	est Values
2.5mm Top	15	2 5mm Bottom
5mm Top	1.4	5mm Bottom
CBR Value %	1.5	CBR Value %

Operators	Checked	25/04/2022	Reg. 13(1)	Peg 13(1)
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)	110g. 13(1)

CCTI	California Bearing Ratio	Contract Number	58610
JIL	BS 1377: Part 4: 1990 Clause 7	Borehole/Pit No.	WSTCA108
Site Name	Northstowe	Sample No.	1
Soil Description	Brown fine to coarse gravelly silty sandy CLAY	Depth Top	0 80
Compaction Method	2.5 Kg Rammer	Depth Base	1 20
Retained 20mm (%)	3	Sample Type	В
Date Tested	14/04/2022		



Initial Sample Co	onditions
Moisture Content (%)	19
Moisture Top (%)	19
Moisture Bottom (%)	
Bulk Density (Mg/m3)	2.11
Dry Density (Mg/m3)	1.78

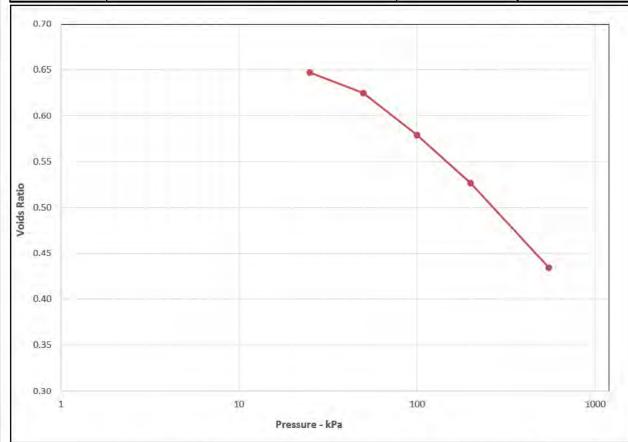
2
N/A
N/A

	CBR T	est Values
2.5mm Top	29	2 5mm Bottom
5mm Top	26	5mm Bottom
CBR Value %	2.9	CBR Value %

Operators	Checked	25/04/2022	Reg. 13(1)	Reg. 13(1
Reg. 13(1	Approved	26/04/2022	Reg. 13(1)	5



CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610
331L	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BH2C101
Site Name	Northstowe	Sample No.	10
Soil Description	20-11-11-11-11-11-11-11-11-11-11-11-11-11	Depth Top (m)	2.00
7	Grey silty CLAY	Depth Base (m)	2.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	08/04/2022		

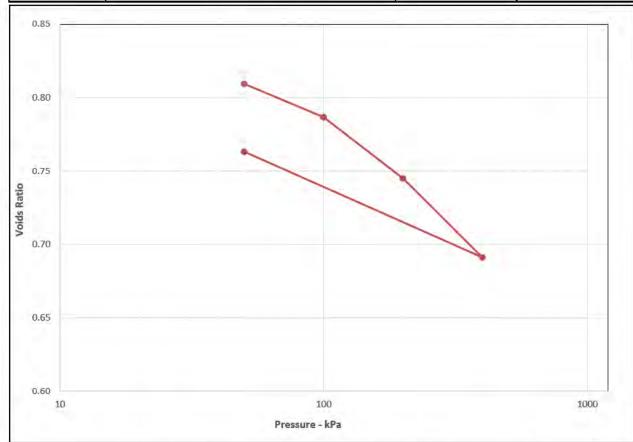


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range		Mv m2/MN	Cv m2/yr
Moisture Content (%)	27	0	3-1	25	1	12		-1		
Bulk Density (Mg/m3)	1.99	25	1327	50	0.54	1.7		9		
Dry Density (Mg/m3)	1.57	50	, ė.l.	100	0.56	23		8.		
Voids Ratio	0.6896	100	[6]	200	0.33	10				
Degree of saturation	103.3	200		550	0.17	0.94		-		
Height (mm)	20.11		Nell					- 1		
Diameter (mm)	75,11		L-I					-3 6		
Particle Density (Mg/m3)	2.65		391	-			-			

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



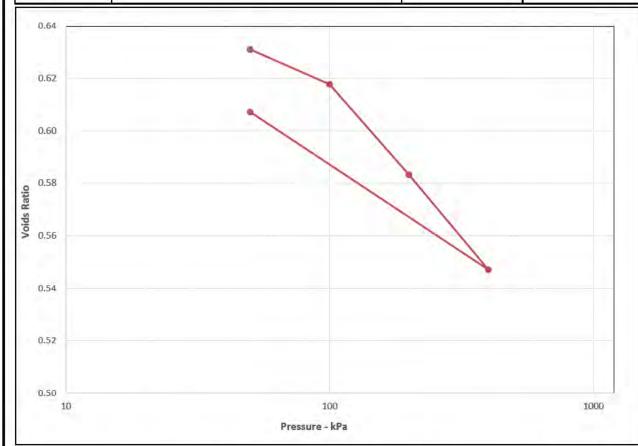
CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610
JIICR	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA102
Site Name	Northstowe	Sample No.	8
Soil Description	20-11-11-11-11-11-11-11-11-11-11-11-11-11	Depth Top (m)	3.00
	Grey silty CLAY	Depth Base (m)	3.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	08/04/2022		



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range	Mv m2/MN	Cv m2/yr
Moisture Content (%)	34	0	1	50	0.25	16	-		
Bulk Density (Mg/m3)	1.94	50	1527	100	0.25	6.6	9		
Dry Density (Mg/m3)	1.45	100	[6]	200	0.23	1.6			
Voids Ratio	0.8321	200	[9]	400	0.15	40	0)		
Degree of saturation	109.4	400	-	50	0.12	0.62	- 1		
Height (mm)	19.72		Mel					16-	
Diameter (mm)	75.1		UFE.				- 13	=0	
Particle Density (Mg/m3)	2.65		1341	-					

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

CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610	
JIIL	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA103A	
Site Name	Northstowe	Sample No.	10	
Soil Description	Constitution of the Consti	Depth Top (m)	5,00	
	Grey silty CLAY	Depth Base (m)	5.45	
Lab Temperature	20°c	Sample Location	Тор	
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT	
Date Tested	08/04/2022			

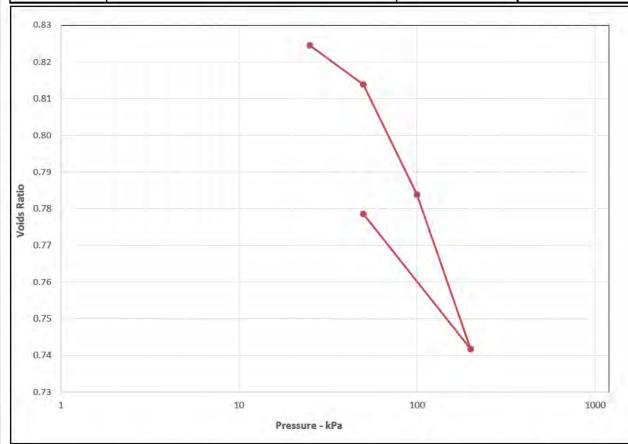


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range	Mv m2/MN	Cv m2/yr
Moisture Content (%)	28	0	15.	50	0.16	9.7		16	
Bulk Density (Mg/m3)	2.06	50	152.1	100	0.16	2.7			
Dry Density (Mg/m3)	1.61	100	1.5	200	0.21	1.6	181	- 0	
Voids Ratio	0.6446	200	[5]	400	0.11	1.6			
Degree of saturation	113.4	400	-	50	0.11	0.8			
Height (mm)	19.65		141						
Diameter (mm)	75.15		143				- 1		
Particle Density (Mg/m3)	2.65		3+1				- 5		

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



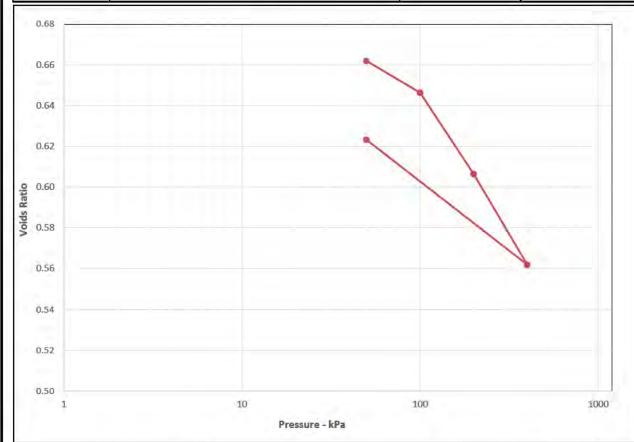
CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610
JIIL	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA107
Site Name	Northstowe	Sample No.	8
Soil Description	Councillo Of N	Depth Top (m)	3.00
	Grey silty CLAY	Depth Base (m)	3.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	08/04/2022		



Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range		My m2/MN	Cv m2/yr
Moisture Content (%)	33	0	13	25	SWELL	SWELL				
Bulk Density (Mg/m3)	1.97	25	13-1	50	0.23	11		(4)		
Dry Density (Mg/m3)	1.48	50	j.e.l	100	0.33	73		81		
Voids Ratio	0.7932	100	[6]	200	0.24	70		P) (
Degree of saturation	111.8	200	1.2	50	0.14	0.37		-		
Height (mm)	20.15		-					×]		
Diameter (mm)	75.15		Œ					E-8 E		
Particle Density (Mg/m3)	2.65		3-1	-				54]		

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CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610
JIICE	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No. Sample No. Depth Top (m) Depth Base (m) Sample Location Sample Type	BHTCA202
Site Name	Northstowe	Sample No.	10
oil Description	20-11-11-11-11-11-11-11-11-11-11-11-11-11	Depth Top (m)	3.00
	Grey silty CLAY	Depth Base (m)	3.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	08/04/2022		

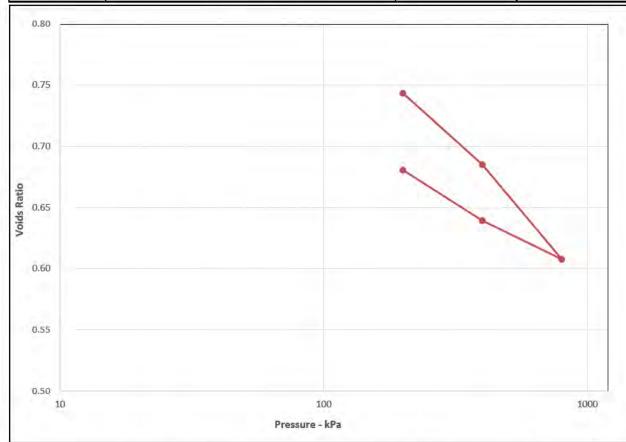


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Rang	ge Mv m2/MN	Cv m2/yr
Moisture Content (%)	31	0	13:1	50	0.23	34			
Bulk Density (Mg/m3)	2.06	50	737	100	0.19	9.6	- 1911		
Dry Density (Mg/m3)	1.58	100	[e]	200	0.24	3			
Voids Ratio	0.6814	200	[9]	400	0.14	4.4	0.1		
Degree of saturation	120.4	400	-	50	0.11	0.49	- 1		
Height (mm)	19.8		MI						
Diameter (mm)	75.11		160				- 1		
Particle Density (Mg/m3)	2.65		341				57 -		

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CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610
JIIL	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA202
Site Name	Northstowe	Sample No.	34
oil Description	Constant of M	Depth Top (m)	10.00
1	Grey silty CLAY	Depth Base (m)	10.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	08/04/2022		

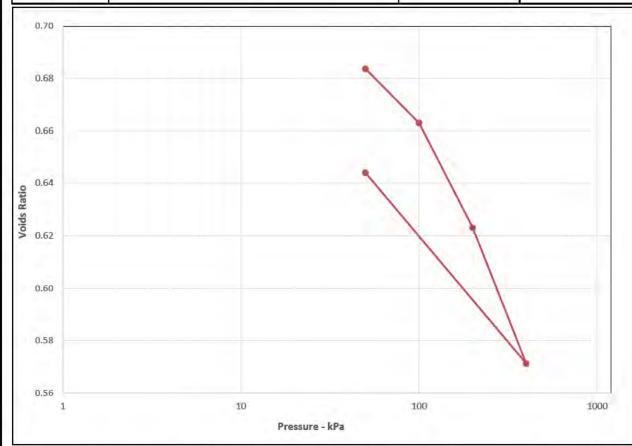


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range	Mv m2/MN	Cv m2/yr
Moisture Content (%)	33	0	19.0	200	0.095	15	13/1		
Bulk Density (Mg/m3)	1.99	200	152.1	400	0.17	3.7	- 191		
Dry Density (Mg/m3)	1.49	400	J.	800	0.11	2.7	181		
Voids Ratio	0.7772	800	[5]	400	0.05	03	- 0		
Degree of saturation	113.1	400	-	200	0.13	0.18			
Height (mm)	18.81		N-I				× 1		
Diameter (mm)	75.09		U-E				- 1		
Particle Density (Mg/m3)	2.65		341				54		

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CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610
131L	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA301A
Site Name	Northstowe	Sample No.	15
Soil Description	Councillo Of N	Depth Top (m)	4.00
7	Grey silty CLAY	Depth Base (m)	4.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	08/04/2022		

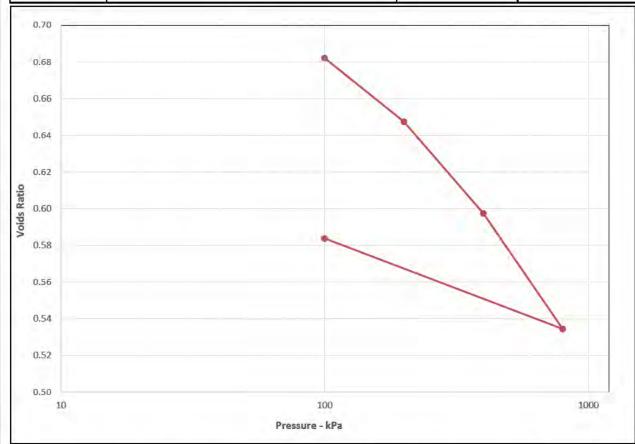


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range		Mv m2/MN	Cv m2/yr
Moisture Content (%)	31	0	19.5	50	0.13	15		3/1)		
Bulk Density (Mg/m3)	2.04	50	727	100	0.25	9	- 7	- 1		
Dry Density (Mg/m3)	1.56	100	1.5	200	0.24	39		8.1		
Voids Ratio	0.6945	200	[6]	400	0.16	28				
Degree of saturation	116.5	400	-	50	0.13	0.71		-		
Height (mm)	18.54		-					-1		
Diameter (mm)	75.23		ΙFE					-1		
Particle Density (Mg/m3)	2.65		3-1					-1		

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CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	58610
JIIL	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	21 7.00 7.45
Site Name	Northstowe	Sample No.	21
Soil Description	Councilla Di Av	Depth Top (m)	7.00
	Grey silty CLAY	Depth Base (m)	7.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	07/04/2022		

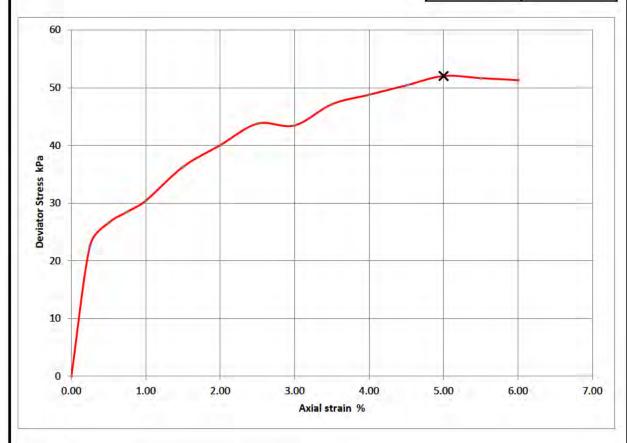


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Rai	nge Mv m2/MN	Cv m2/yr
Moisture Content (%)	31	0	15.1	100	0.28	25	- 3		
Bulk Density (Mg/m3)	2.01	100	1727	200	0.21	1.6	- 191		
Dry Density (Mg/m3)	1.53	200	J.e.L	400	0.15	28		4	
Voids Ratio	0.7299	400	[9]	800	0.10	23			
Degree of saturation	114.3	800	1.2	100	0.046	0.98	- 1		
Height (mm)	19.9		N. I				, m		
Diameter (mm)	50.21		U-E				- 1		
Particle Density (Mg/m3)	2.65		341						

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
SIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BH2C101
Site Name	Northstowe	Sample No.	10
	Constraint Of AV	Depth Top (m)	2 00
Soil Description	Grey silty CLAY	Depth Base (m)	2.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

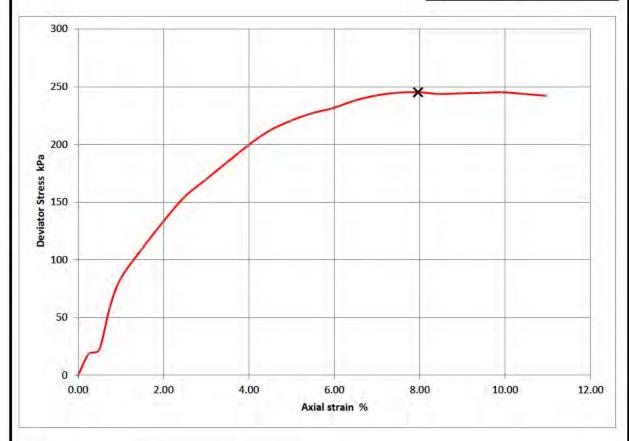


Moisture Content (%)	24
Bulk Density (Mg/m³)	2.22
Dry Density (Mg/m³)	1,79
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	52
Undrained Shear Strength (kPa)	26
Failure Strain (%)	5
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
CIL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BH2C101
Site Name	Northstowe	Sample No.	14
	One of the Olive	Depth Top (m)	4 00
Soil Description	Grey silty CLAY	Depth Base (m)	4.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

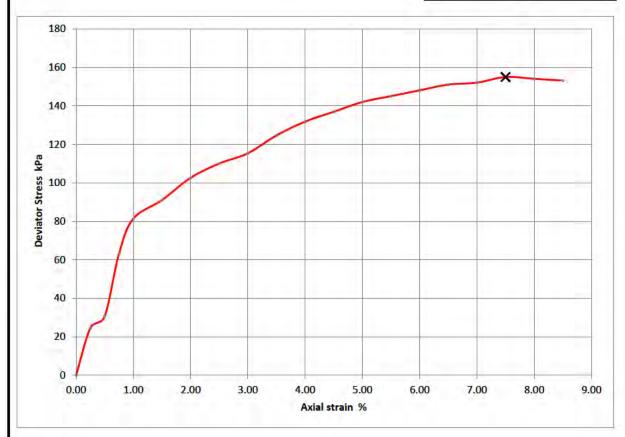


Moisture Content (%)	30
Bulk Density (Mg/m³)	2.23
Dry Density (Mg/m³)	1,71
Specimen Length (mm)	201
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	245
Undrained Shear Strength (kPa)	123
Failure Strain (%)	8
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.49

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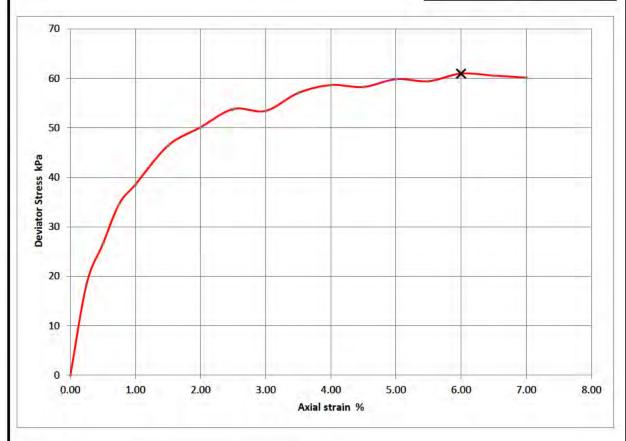
CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
SIL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BH2C101
Site Name	Northstowe	Sample No.	17
Soil Description		Depth Top (m)	6 00
	Dark grey silty CLAY	Depth Base (m)	6.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan



Moisture Content (%)	29
Bulk Density (Mg/m³)	2.14
Dry Density (Mg/m³)	1.67
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	155
Undrained Shear Strength (kPa)	78
Failure Strain (%)	8
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
SOIL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BH2C102
Site Name	Northstowe	Sample No.	11
	Red constitution and	Depth Top (m)	4 00
Soil Description	Dark grey silty CLAY	Depth Base (m)	4.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan

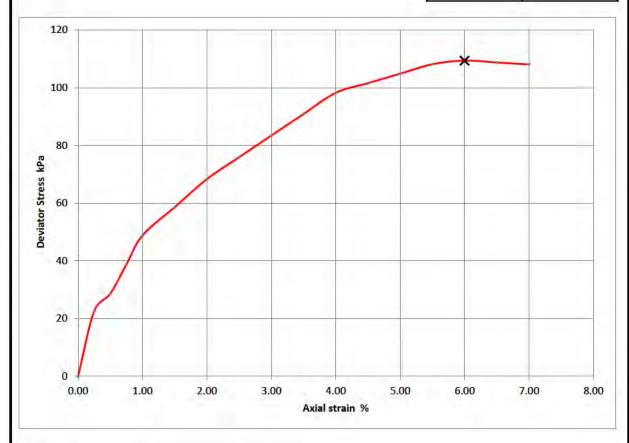


Moisture Content (%)	27
Bulk Density (Mg/m³)	2.06
Dry Density (Mg/m³)	1.62
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	61
Undrained Shear Strength (kPa)	30
Failure Strain (%)	6
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
SIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BH2C102
Site Name	Northstowe	Sample No.	18
	Destruction of AV	Depth Top (m)	6 00
Soil Description	Dark grey silty CLAY	Depth Base (m)	6.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan

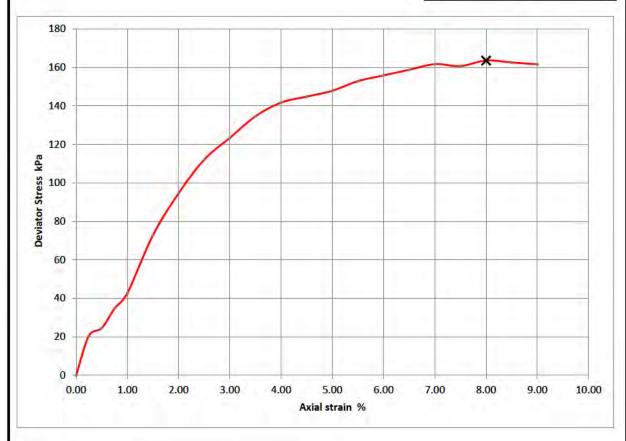


Moisture Content (%)	29
Bulk Density (Mg/m³)	2.06
Dry Density (Mg/m³)	1,60
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	109
Undrained Shear Strength (kPa)	55
Failure Strain (%)	6
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
BIL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BH2C103
Site Name	Northstowe	Sample No.	31
		Depth Top (m)	4 00
Soil Description	Dark grey silty CLAY	Depth Base (m)	4.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

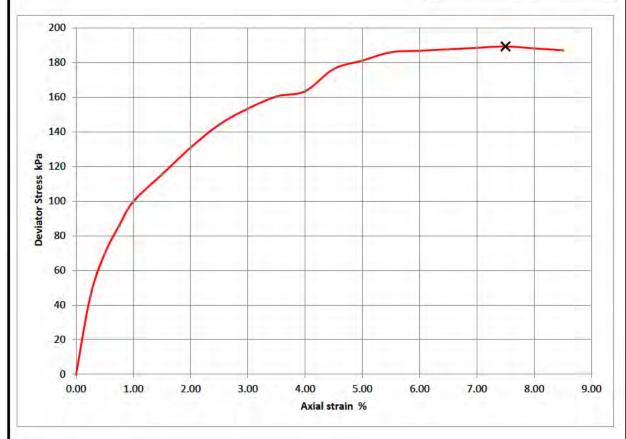


Moisture Content (%)	32
Bulk Density (Mg/m³)	2.06
Dry Density (Mg/m³)	1.57
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	164
Undrained Shear Strength (kPa)	82
Failure Strain (%)	8
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
PILO	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BH2C103
Site Name	Northstowe	Sample No.	32
Soil Description Dark grey silt	Rest constitution AV	Depth Top (m)	6 00
	Dark grey stity CLAY	Depth Base (m)	6.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan

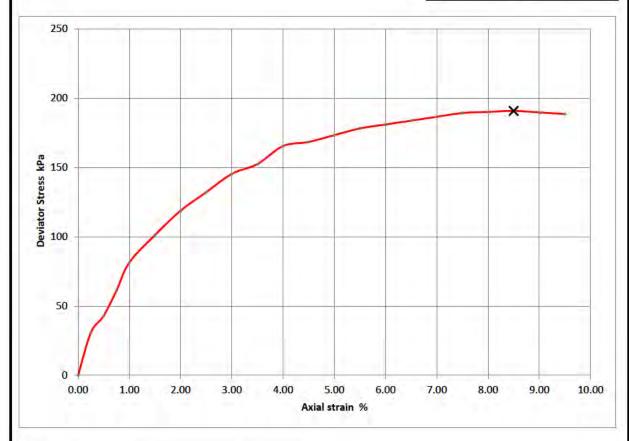


Moisture Content (%)	30
Bulk Density (Mg/m³)	2.16
Dry Density (Mg/m³)	1,67
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	189
Undrained Shear Strength (kPa)	95
Failure Strain (%)	8
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
SIL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BH2C103
Site Name	Northstowe	Sample No.	33
	Description AV	Depth Top (m)	8 00
Soil Description	Dark grey silty CLAY	Depth Base (m)	8.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan

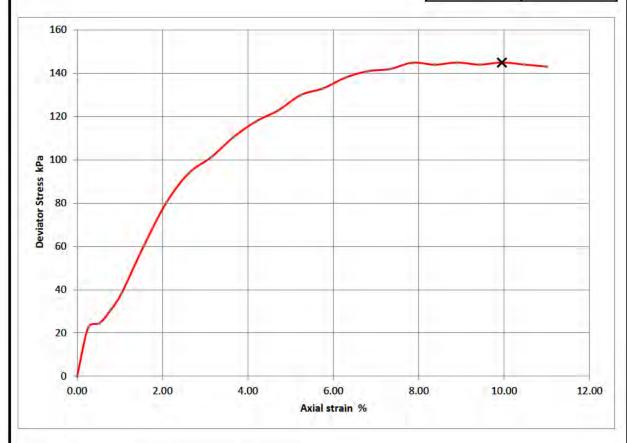


Moisture Content (%)	15
Bulk Density (Mg/m³)	2.19
Dry Density (Mg/m³)	1,91
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	191
Undrained Shear Strength (kPa)	95
Failure Strain (%)	9
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
BS 1377	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BH2C104
Site Name	Northstowe	Sample No.	20
Only Department	Soil Description Grey silty CLAY	Depth Top (m)	6 00
Soil Description		Depth Base (m)	6.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

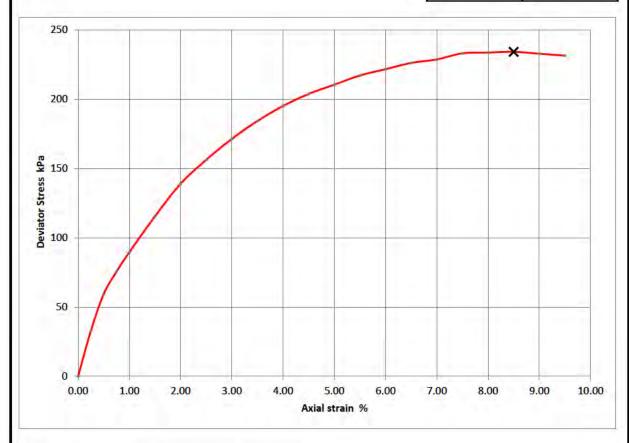


Moisture Content (%)	17
Bulk Density (Mg/m³)	2.28
Dry Density (Mg/m³)	1,95
Specimen Length (mm)	191
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	145
Undrained Shear Strength (kPa)	72
Failure Strain (%)	10
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.57

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA102	
Site Name	Northstowe	Sample No.	15
	Dord many although AV	Depth Top (m)	5 00
Soil Description	Dark grey silty CLAY	Depth Base (m)	5.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan

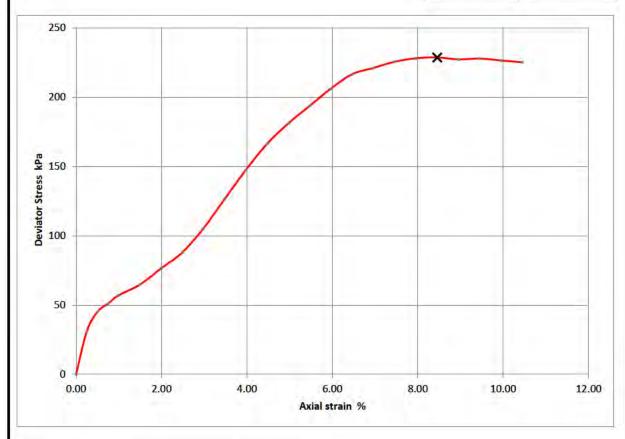


Moisture Content (%)	25
Bulk Density (Mg/m³)	2.24
Dry Density (Mg/m³)	1,80
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	234
Undrained Shear Strength (kPa)	117
Failure Strain (%)	9
Mode Of Failure	Plastic
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
BIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA102
Site Name	Northstowe	Sample No.	29
Call Desembles	200 110000000000	Depth Top (m)	9 00
Soil Description	Greyish brown silty CLAY	Depth Base (m)	9.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

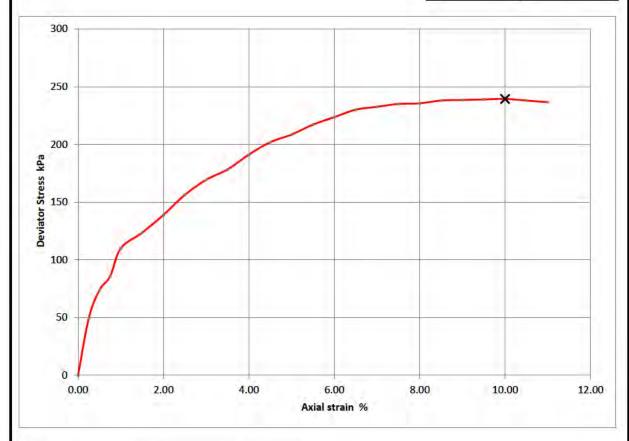


Moisture Content (%)	29
Bulk Density (Mg/m³)	2.16
Dry Density (Mg/m³)	1.67
Specimen Length (mm)	201
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	229
Undrained Shear Strength (kPa)	114
Failure Strain (%)	8
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.49

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
CIL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BHTCA103A
Site Name	Northstowe	Sample No.	14
**************************************	Dark grey silty CLAY	Depth Top (m)	7 00
Soil Description		Depth Base (m)	7.45
Date Tested	13/04/2022	Sample Type	U
		Technician	Jordan

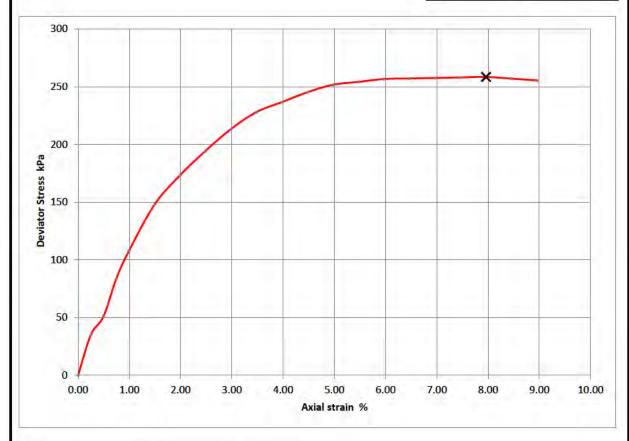


Moisture Content (%)	28
Bulk Density (Mg/m³)	2.23
Dry Density (Mg/m³)	1,74
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	239
Undrained Shear Strength (kPa)	120
Failure Strain (%)	10
Mode Of Failure	Plastic
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
SIL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BHTCA107
Site Name	Northstowe	Sample No.	17
WAR STORY	Dark grey silty CLAY	Depth Top (m)	6 00
Soil Description		Depth Base (m)	6.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

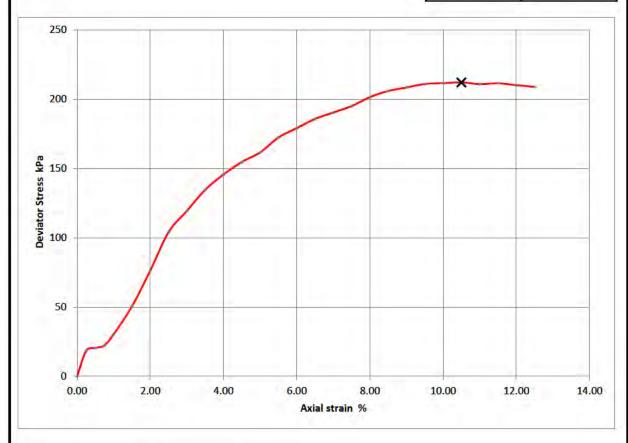


Moisture Content (%)	26
Bulk Density (Mg/m³)	2.23
Dry Density (Mg/m³)	1,77
Specimen Length (mm)	201
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	259
Undrained Shear Strength (kPa)	129
Failure Strain (%)	8
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.49

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
UDIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA107
Site Name	Northstowe	Sample No.	23
	Red constitution of AV	Depth Top (m)	8 00
Soil Description	Dark grey silty CLAY	Depth Base (m)	8.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

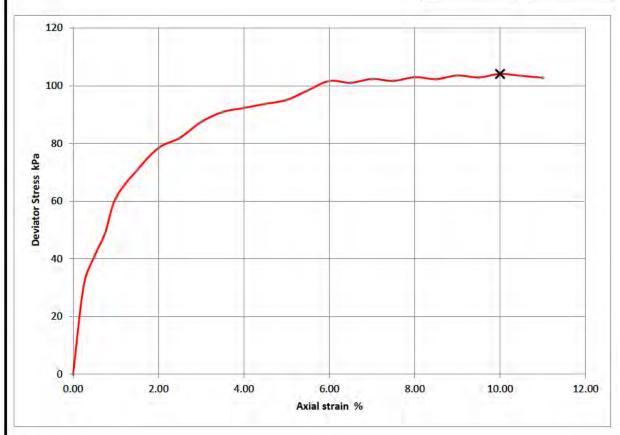


Moisture Content (%)	26
Bulk Density (Mg/m³)	2.16
Dry Density (Mg/m³)	1,72
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	212
Undrained Shear Strength (kPa)	106
Failure Strain (%)	11
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
PILO	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA108
Site Name	Northstowe	Sample No.	5
	scription Brown silty CLAY	Depth Top (m)	2 00
Soil Description		Depth Base (m)	2.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan

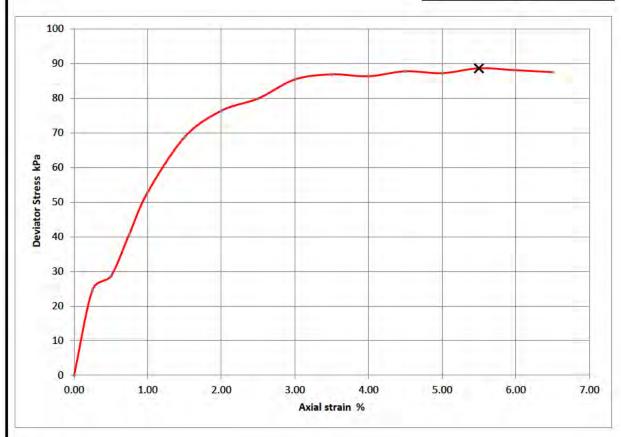


Moisture Content (%)	30
Bulk Density (Mg/m³)	2.11
Dry Density (Mg/m³)	1.62
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	104
Undrained Shear Strength (kPa)	52
Failure Strain (%)	10
Mode Of Failure	Plastic
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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



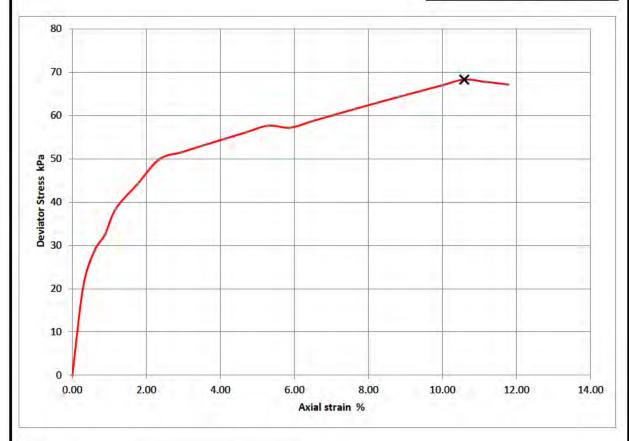
CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
DIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA108
Site Name	Northstowe	Sample No.	9
Soil Description Grey silty CLAY	0 A D D	Depth Top (m)	4 00
	Grey Silly CLAY	Depth Base (m)	4.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan



Moisture Content (%)	36
Bulk Density (Mg/m³)	2.09
Dry Density (Mg/m³)	1.54
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	89
Undrained Shear Strength (kPa)	44
Failure Strain (%)	6
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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

GSTL	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BHTCA108
Site Name	Northstowe	Sample No.	13
	il Description Light grey silty CLAY	Depth Top (m)	6 00
Soil Description		Depth Base (m)	6.45
Date Tested	18/04/2022	Sample Type	U
		Technician	Jordan

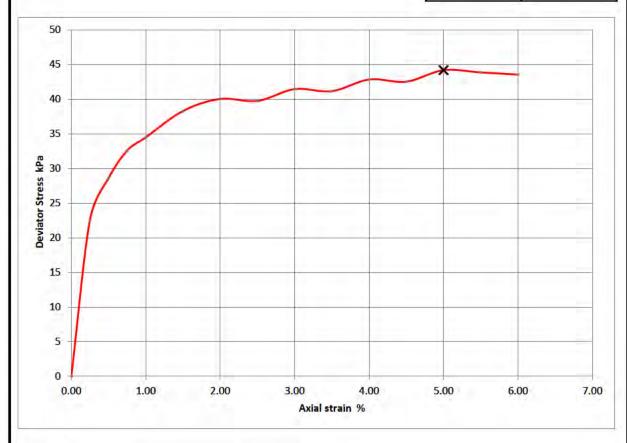


Moisture Content (%)	31
Bulk Density (Mg/m³)	2.17
Dry Density (Mg/m³)	1,65
Specimen Length (mm)	170
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	68
Undrained Shear Strength (kPa)	34
Failure Strain (%)	11
Mode Of Failure	Plastic
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.76

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



GSTL si	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA110
Site Name	Northstowe	Sample No.	10
	Description Grey silty CLAY	Depth Top (m)	4 00
Soil Description		Depth Base (m)	4.45
Date Tested	13/04/2022	Sample Type	Ü
		Technician	Jordan

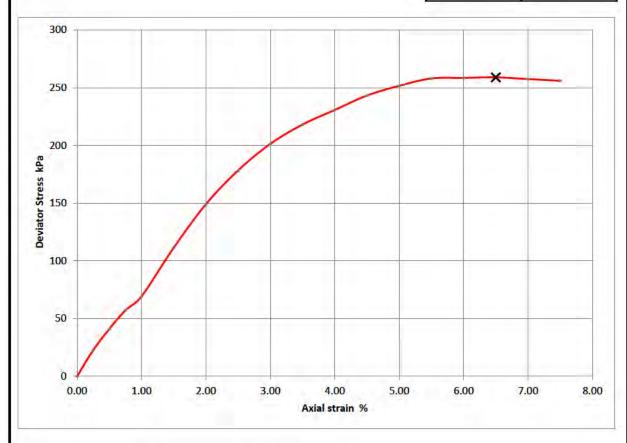


Moisture Content (%)	39
Bulk Density (Mg/m³)	2.10
Dry Density (Mg/m³)	1,51
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	44
Undrained Shear Strength (kPa)	22
Failure Strain (%)	5
Mode Of Failure	Plastic
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

Checked	25/04/2022	Reg. 13(1)	Rea	13(1)
Approved	26/04/2022	Reg. 13(1)	leg.	10(1)



CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
BIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA110
Site Name	Northstowe	Sample No.	16
Call Desembles	Person with Of AV	Depth Top (m)	7 00
Soil Description	Brown silty CLAY	Depth Base (m)	7.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan

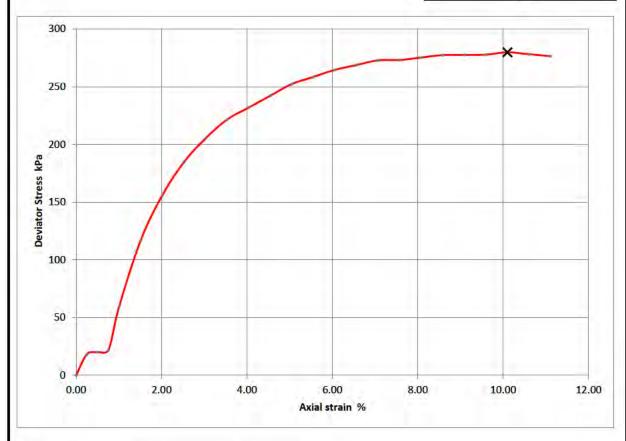


Moisture Content (%)	20
Bulk Density (Mg/m³)	2.18
Dry Density (Mg/m³)	1.81
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	259
Undrained Shear Strength (kPa)	129
Failure Strain (%)	7
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

Checked	25/04/2022	Reg. 13(1)	Reg. 13(1)
Approved	26/04/2022	Reg. 13(1)	3



CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
JUL	BS 1377: 1990 Part 7: 8	Borehole/Pit No.	BHTCA202
Site Name	Northstowe	Sample No.	20
Coll Depositely	Constraint Of AV	Depth Top (m)	6 00
Soil Description	Grey silty CLAY	Depth Base (m)	6.45
Date Tested	13/04/2022	Sample Type	Ü
		Technician	Jordan

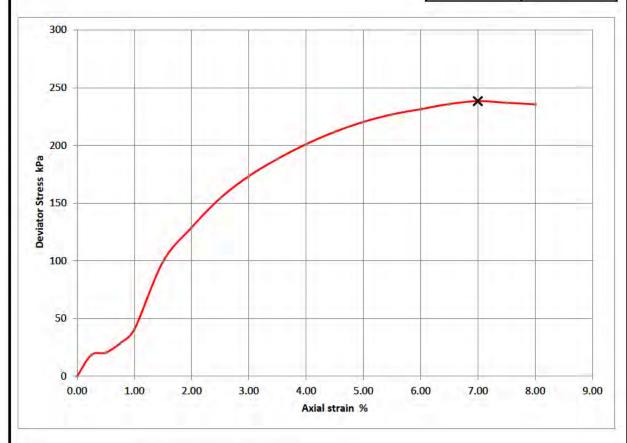


Moisture Content (%)	28
Bulk Density (Mg/m³)	2.09
Dry Density (Mg/m³)	1.63
Specimen Length (mm)	198
Specimen Diamteter (mm)	101
Cell Pressure (kPa)	250
Deviator Stress (kPa)	280
Undrained Shear Strength (kPa)	140
Failure Strain (%)	10
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.52

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



CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	58610
BIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA202
Site Name	Northstowe	Sample No.	27
Call Desembles	Consider house with OLAV	Depth Top (m)	8 00
Soil Description	Greyish brown silty CLAY	Depth Base (m)	8.45
Date Tested	18/04/2022	Sample Type	Ü
		Technician	Jordan



Moisture Content (%)	33
Bulk Density (Mg/m³)	2.19
Dry Density (Mg/m³)	1.65
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	238
Undrained Shear Strength (kPa)	119
Failure Strain (%)	7
Mode Of Failure	Brit le
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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



GSTL	SUMMARY OF SHEAR STRENGTH TESTS (TOTAL STRESS) (BS 1377 : PART 7 : 3 : 1990)	
Contract Number	58610	
Site Name	Northstowe	
Date Tested	20.04.2022	

BH/TP Number/ Window sample	Sample Number	Sample Type		epth (n	n)	Moisture Content	Location of Test Horizon	Diameter of Tube (mm)	Vane Size (mm)	Disturbed / Undisturbed	Hand Peak	d Vane Residua
TPTCA113	4	В	1.00		2.00	24	HOHZOH	(ituit)	33	Disturbed	40	17
TPTCA204	5	В	2.00	-21	3.00	22.7			33	Disturbed	138	45
TPTCA208	4	В	1.00	1191	2.00	14.8			33	Disturbed	106	58
WSTCA109	3	В	2.00	159	3.00	18			33	Disturbed	149	14
WSTCA112	1	В	0.90	(1.20)	1.30	22			33	Disturbed	152	76
WSTCA116	1	В	1.20	15.	1.50	16			33	Disturbed	68	31
Wordmin			1.20	. = 0	1.00	10			-00	Disturbed	00	
				Bat								1
				R								+
				0.20								1
			_	100							-	-
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Moisture Content	%
	0.00
Hand Vane	kPa

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

CCTI	Certificate of Chemical Analysis	Contract Number	58610
GJIL	(BRE BR 279)	Client Reference	10052307
Client	Arcadis	Date Received	
Site Name	Northstowe	Date Started	20/04/2022
		Date Completed	26/04/2022
7,4 == 44		No. of Samples	4

Hole Number	Sample Number	Sample Type	C	epth (i	n)	Acid Soluble Sulphate	Aqueous Extract Sulphate	Chloride Content	Ph Value	Total Sulphur	Magnesium	Nitrate
TPTCA208	1	D	0.50	9	1.00	0.21	0.04	8.9	8.06	0.10	<1	<10
TPTCA208	3	D	2.00		3.00	0.29	0.05	11	8.22	0.12	<1	<10
BH2C102	16	В	5.00	X	5.50	0.31	0.05	7.7	8.30	0.13	<1	<10
TPTCA119	4	В	1.20	×	3.00	0.25	0.04	9.1	8.11	0.12	<1	<10
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Key Reported As Acid Soluble Sulphate % SO₄ Aqueous Extract Sulphate g/I SO₄ Chloride Content (Semi) mg CI/I PH Value @ 25° Total Sulphur % S Magnesium g/I SO₄ Nitrate NO₃ mg/l

Remarks

NCP = No Chloride Present

Test Operator	Checked and Authorised by				
Reg. 13(1)	Date	26/04/2022			





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 8QN

Samples received: 14 April 2022

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

Approved by:

Reg. 13(1)

Reg. 13(1)

Reporting Team Lead

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	В6	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

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Lab number			108224-7	108224-8	108224-9	108224-10	108224-11	108224-12
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	В8	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)	CE049 ^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

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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	CE004 ^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/l Cl	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

							ı	
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/l 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)	CE049 ^U	mg/I NO ₃	9.3	14	16	7.3	2.4	2.6
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	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

			1	1	1			1
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	CE004 ^U	un ts	7.7	8.0	7.8	8.3	8.2	8.3
Magnesium (2:1 water soluble)	CE061	mg/l Mg	6.4	10	42	11	51	67
Chloride (2:1 water soluble)	CE049 ^U	mg/I CI	7.2	7.2	29	14	17	12
Nitrate (2:1 water soluble)	CE049 ^U	mg/I NO ₃	100	14	37	9.5	7.2	8.1
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	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

		100001.01	400004.00	100001.00	400004.04	100001.05	400004.07	
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	CE004 ^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)	CE049 ^U	mg/I CI	4.5	3.0	72	12	7.5	21
Nitrate (2:1 water soluble)	CE049 ^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

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	CE004 ^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/l Cl	11	18	32	21	11	8.6
Nitrate (2:1 water soluble)	CE049 ^U	mg/I NO ₃	1.3	5.1	3.6	3.3	2.0	<1
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO₄	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

Lab number			108224-43	108224-44				
Sample id			WSTCA117	WSTCA117				
Depth (m)	Depth (m)							
Sample Type	B2	B4						
Date sampled	-	-						
Test	Method	Units	-					
рН	CE004 ^U	un ts	8.1	7.7				
Magnesium (2:1 water soluble)	CE061	mg/l Mg	5.9	69				
Chloride (2:1 water soluble)	CE049 ^U	mg/l Cl	9.6	19				
Nitrate (2:1 water soluble)	CE049 ^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	рН	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l 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 SO₄
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)
108224-1	BHTCA101	0.50-0.70	Υ	All (NSD)
108224-2	BHTCA101	2.00-2.50	Υ	All (NSD)
108224-3	BHTCA101	5.00-5.50	Υ	All (NSD)
108224-4	BHTCA102	0.50-0.70	Υ	All (NSD)
108224-5	BH2C102	2.10- 2.50	Υ	All (NSD)
108224-6	BHTCA102	3.50-4.00	Υ	All (NSD)
108224-7	BHTCA103A	0.20-0.50	Υ	All (NSD)
108224-8	BHTCA103A	4.00-4.50	Υ	All (NSD)
108224-9	BHTCA104	0.50-0.70	Υ	All (NSD)
108224-10	BHTCA104	3.00-3.50	Υ	All (NSD)
108224-11	BHTCA104	6.50-7.00	Υ	All (NSD)
108224-12	BHTCA107	3.00-3.45	Υ	All (NSD)
108224-13	BHTCA107	5.00-5.45	Υ	All (NSD)
108224-14	BHTCA108	0.50-0.80	Υ	All (NSD)
108224-15	BHTCA108	5.00-5.45	Υ	All (NSD)
108224-16	BHTCA110	0.40-0.60	Υ	All (NSD)
108224-17	BHTCA202	0.20-0.60	Υ	All (NSD)
108224-18	BHTCA202	1.70-2.00	Υ	All (NSD)
108224-19	TPTCA102	0.50-1.00	Υ	All (NSD)
108224-20	TPTCA103	0.50-1.00	Υ	All (NSD)
108224-21	TPTCA104	0.20-0.80	Υ	All (NSD)
108224-22	TPTCA105	0.20-0.50	Υ	All (NSD)
108224-23	TPTCA113	2.00-3.00	Υ	All (NSD)
108224-24	TPTCA114	0.20-0.50	Υ	All (NSD)
108224-25	TPTCA114	0.50-1.00	Υ	All (NSD)
108224-26	TPTCA118	0.50-1.00	Υ	All (NSD)
108224-27	TPTCA204	0.20-0.50	Υ	All (NSD)
108224-28	TPTCA204	2.00-3.00	Υ	All (NSD)
108224-29	TPTCA208	1.00-2.00	Υ	All (NSD)
108224-30	WS2C101	1.20-1.65	Υ	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.

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)
108224-31	WS2C106	1.20-1.65	Υ	All (NSD)
108224-32	WS2C108	1.20-1.65	Υ	All (NSD)
108224-33	WS2C108	1.80-2.70	Υ	All (NSD)
108224-34	WS2C112	2.00-2.45	Υ	All (NSD)
108224-35	WS2C120	1.20-1.65	Υ	All (NSD)
108224-36	WS2C120	2.70-2.80	Υ	All (NSD)
108224-37	WS2C121	1.20-1.65	Υ	All (NSD)
108224-38	WS2C121	2.00-2.45	Υ	All (NSD)
108224-39	WS2C123	0.70	Υ	All (NSD)
108224-40	WS2C123	2.00-2.45	Υ	All (NSD)
108224-41	WSTCA109	2.00-3.00	Υ	All (NSD)
108224-42	WSTCA112	0.90-1.30	Υ	All (NSD)
108224-43	WSTCA117	1.50-2.00	Υ	All (NSD)
108224-44	WSTCA117	2.50-2.80	Υ	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.





Contract Number: 59102

Client Ref: Report Date: 05-05-2022

Client PO: 14059902

Client Arcadis Fortran Rd St Mellons Cardiff

CF3 0EY

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

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

Test Description	Qty
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)

Tel: 01554 784040 Fax: 01554 784041 info@gstl.co.uk gstl.co.uk

GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	59102	
Site Name	Northstowe	
Date Tested	26/04/2022	
1 1 2	DESCRIPTIONS	

Sample/Hole Sample Reference Number		Sample Type	Depth (m)			Descriptions		
BHTCA105	3	В	1.20	141	1.70	Brown gravelly silty CLAY		
BHTCA105	5	В	2.00	ra-	2.50	Brown gravelly silty CLAY		
BHTCA105	6	D	2.80	li git	3.00	Grey fine to medium gravelly silty CLAY		
BHTCA105	10	D	4.80	(191)	5.00	Grey silty CLAY		
BHTCA105	14	D	6.80	(rn)	7.00	Grey fine to medium gravelly silty CLAY		
BHTCA105	18	D	8.80	(Fac)	9.00	Grey silty CLAY		
BHTCA106	5	В	1.70		2.00	Brown gravelly silty CLAY		
BHTCA106	10	D	3.45	(Bad)	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	0.30	8.00	Grey silty CLAY		
BHTCA106	26	D	8.50	(Ser.)	9.00	Grey silty CLAY		
BHTCA106	41	D	14.00	(0)	14.50	Brownish grey fine to medium gravelly silty CLAY		
BHTCA106	49	D	17.00	3.0	17.50	Grey silty CLAY		
TP2C102	3	D	1.60	(1991)	3.00	Brown silty CLAY		
TP2C103	6	D	0.50	1 45	1.40	Brown sandy silty CLAY		
TP2C103	8	D	1.40	(rian)	3.00	Grey silty CLAY		
TP2C104	2	D	0.20	trati	0.50	Brown gravelly silty CLAY		
TP2C104	4	D	1.50	[-1]	3.00	Grey silty CLAY		
TP2C105	5	D	0.50	(Lag	1.40	Brown silty CLAY		
TP2C107	5	D	0.20	(19)	1.10	Brown silty CLAY		
TP2C107	6	D	1.10	U-Şu	3.00	Brown silty CLAY		
TP2C109	6	D	0.20	(L-n)	0.70	Brown gravelly silty CLAY		
TP2C109	7	D	0.70	(91)	1.70	Brown silty CLAY		
TP2C110	5	D	0.50	196	1.90	Brown silty CLAY		

Operators	Checked	04/05/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	04/05/2022	Reg. 13(1) (Quality/Technical Manager)

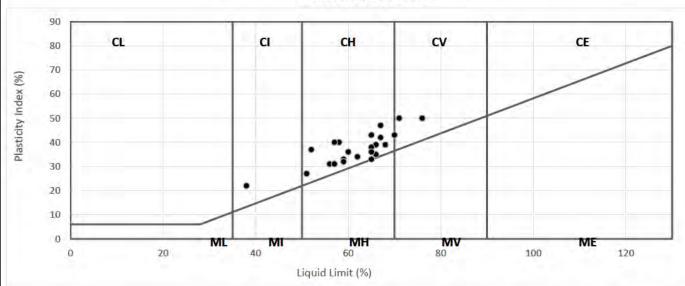


GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	59102	
Project Location	Northstowe	
Date Tested	26/04/2022	

Sample/Hole Reference	Sample Number	Sample Type	D	epth (r	n)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BHTCA105	3	В	1.20		1.70	19	38	16	22	84	CI Intermediate Plasticity
BHTCA105	5	В	2.00	13.	2.50	26	67	25	42	87	CH High Plasticity
BHTCA105	6	D	2.80	(-9)	3.00	32	68	29	39	95	CH High Plasticity
BHTCA105	10	D	4.80	(1-)	5.00	34	62	28	34	100	CH High Plasticity
BHTCA105	14	D	6.80		7.00	30	51	24	27	96	CH High Plasticity
BHTCA105	18	D	8.80	191	9.00	39	65	32	33	100	CH High Plasticity
BHTCA106	5	В	1.70		2.00	37	62	28	34	95	CH High Plasticity
BHTCA106	10	D	3.45	(Eq.(3.55	40	66	31	35	100	CH High Plasticity
BHTCA106	18	D	5.50	151	6.00	24	65	22	43	96	CH High Plasticity
BHTCA106	23	D	7.50	14	8.00	29	70	27	43	100	CH/V High/HighPlasticity
BHTCA106	26	D	8.50	ilen.	9.00	32	66	27	39	100	CH High Plasticity
BHTCA106	41	D	14.00	9	14.50	34	56	25	31	96	CH High Plasticity
BHTCA106	49	D	17.00	10	17.50	32	57	26	31	100	CH High Plasticity
TP2C102	3	D	1.60	(500)	3.00	27	67	20	47	100	CH High Plasticity
TP2C103	6	D	0.50	1-5	1.40	27	76	26	50	100	CV Very High Plasticity
TP2C103	8	D	1.40		3.00	28	65	27	38	100	CH High Plasticity
TP2C104	2	D	0.20	rati	0.50	29	59	26	33	94	CH High Plasticity
TP2C104	4	D	1.50		3.00	30	60	24	36	100	CH High Plasticity
TP2C105	5	D	0.50		1.40	33	58	18	40	100	CH High Plasticity
TP2C107	5	D	0.20	139	1.10	30	59	27	32	100	CH High Plasticity
TP2C107	6	D	1.10	U-Şai	3.00	40	65	29	36	100	CH High Plasticity
TP2C109	6	D	0.20	(Lan)	0.70	17	52	15	37	85	CH High Plasticity
TP2C109	7	D	0.70	191	1.70	18	57	17	40	100	CH High Plasticity
TP2C110	5	D	0.50	0.90	1.90	24	71	21	50	100	CV Very High Plasticity

Symbols: NP : Non Plastic #: Liquid Limit and Plastic Limit Wet Sieved

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010



Operators	Checked	04/05/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	04/05/2022	Reg. 13(1) (Quality/Technical Manager)



GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	59102	
Site Name	Northstowe	
Date Tested	26/04/2022	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	D	epth (n	2)	Descriptions
TP2C110	6	D	1.90	- J	3.00	Brown silty CLAY
TP2C113	2	D	2.50	7.3		Grey silty CLAY
TP2C115	8	D	1.30	0.90	3.00	Brown gravelly silty CLAY
TP2C116	8	D	1.40	(4)	3.00	Grey silty CLAY
TP2C118	-1-	D	1.20	$(r_{e}n)$		Brown silty CLAY
TP2C118	2	В	2.80			Brown silty CLAY
TP2C119	1	D	1.20			Brown silty CLAY
TP2C119	2	D	2.20	[13]		Brown silty CLAY
TP2C122	1	D	0.90	3		Brown gravelly silty CLAY
TP2C122	2	D	3.00	320		Brown silty CLAY
TP2C124	1	D	1.10	(len		Brown silty CLAY
TP2C124	2	D	2.60	90		Grey silty CLAY
				13 ÷		
				0.30		
				45		
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Operators	Checked	04/05/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	04/05/2022	Reg. 13(1) (Quality/Technical Manager)

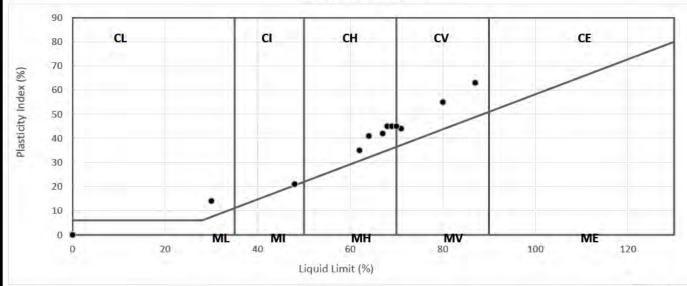


GSTL	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	59102	
Project Location	Northstowe	
Date Tested	26/04/2022	
7 7 7 7		

Sample/Hole Reference	Sample Number	Sample Type	D	epth (n	n)	Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
TP2C110	6	D	1.90	Tell	3.00	29	71	27	44	100	CV Very High Plasticity
TP2C113	2	D	2.50	(13.1)		29	68	23	45	100	CH High Plasticity
TP2C115	8	D	1.30	0.80	3.00	30	62	27	35	90	CH High Plasticity
TP2C116	8	D	1.40	(191)	3.00	26	70	25	45	100	CH/V High/HighPlasticity
TP2C118	=1=	D	1.20	$(r_{e}h)$		30	80	25	55	100	CV Very High Plasticity
TP2C118	2	В	2.80	(19.0		30	64	23	41	100	CH High Plasticity
TP2C119	1	D	1.20	(1.3)		31	48	27	21	100	CI Intermediate Plasticit
TP2C119	2	D	2.20	[13]		30	87	24	63	100	CV Very High Plasticity
TP2C122	1	D	0.90	31		17	30	16	14	91	CL Low Plasticity
TP2C122	2	D	3.00	0.340		27	67	25	42	100	CH High Plasticity
TP2C124	1	D	1.10	(10-1)		26	69	24	45	100	CH High Plasticity
TP2C124	2	D	2.60	90		32	70	25	45	100	CH/V High/HighPlasticit
				110							
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Symbols: NP : Non Plastic #: Liquid Limit and Plastic Limit Wet Sieved

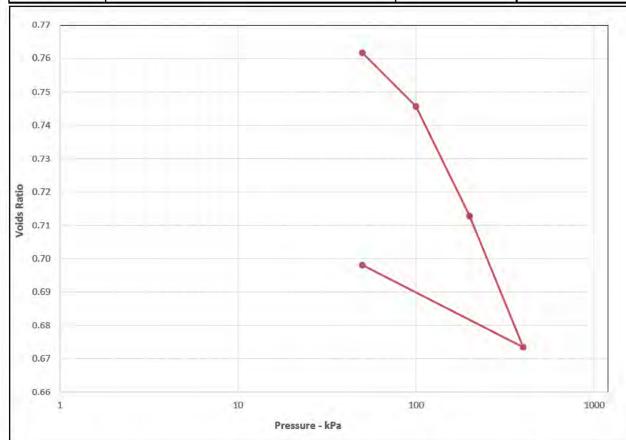
PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION BS 5930:1999+A2:2010



Operators	Checked	04/05/2022	Reg. 13(1) (Advanced Testing Manager)
Reg. 13(1)	Approved	04/05/2022	Reg. 13(1) (Quality/Technical Manager)



CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	59102
131L	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA105
Site Name	Northstowe	Sample No.	7
Soil Description	Course to M	Depth Top (m)	3.00
	Grey silty CLAY	Depth Base (m)	3.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	U
Date Tested	26/04/2022		

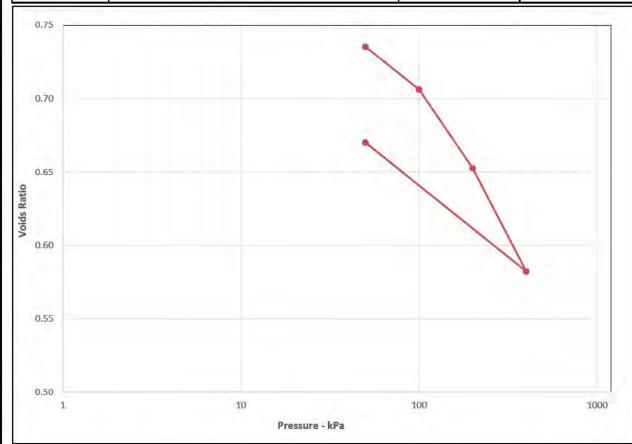


Initial Sample Condit	tions	Pres	ssure R	ange	Mv m2/MN	Cv m2/yr	Press	sure Range	Mv m2/MN	Cv m2/yr
Moisture Content (%)	31	0	3.5	50	-0.2	SWELL		3/1		
Bulk Density (Mg/m3)	1.98	50	19-7	100	0.18	62		(4)		
Dry Density (Mg/m3)	1.52	100	.61	200	0.19	3.1		8		
Voids Ratio	0.7488	200	[9]	400	0.11	0.2		· •		
Degree of saturation	108.6	400	-	50	0.042	0.98		-		
Height (mm)	18.68		MI					× 1		
Diameter (mm)	75.09		160							
Particle Density (Mg/m3)	2.65		3-1					34]		

Operators	Checked	04/05/2022	Reg. 13(1)	Reg. 13(1)
Reg. 13(1)	Approved	05/05/2022	Reg. 13(1)	5



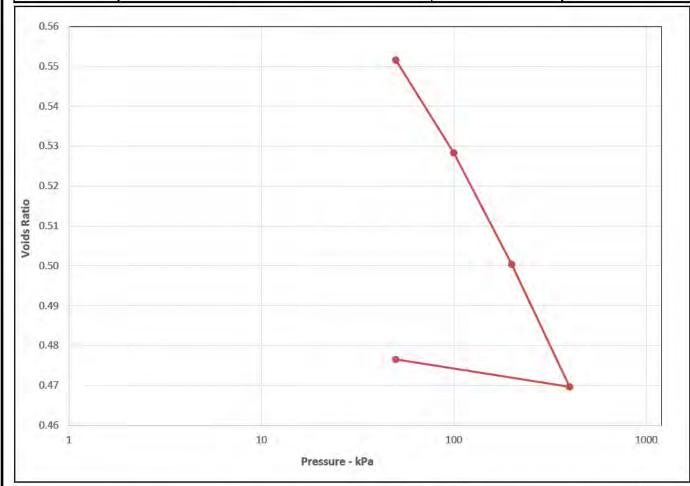
CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	59102
131L	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA105
Site Name	Northstowe	Sample No.	19
Soil Description	Comments of N	Depth Top (m)	9.00
	Grey silty CLAY	Depth Base (m)	9.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	U
Date Tested	26/04/2022		



Initial Sample Condit	tions	Pres	ssure R	ange	Mv m2/MN	Cv m2/yr	Pres	sure Range	Mv m2/MN	Cv m2/yr
Moisture Content (%)	29	0	13.5	50	-0.3	SWELL				
Bulk Density (Mg/m3)	1.99	50	797	100	0.33	10		(9)		
Dry Density (Mg/m3)	1.55	100	.61	200	0.31	99		8.		
Voids Ratio	0.7129	200	191	400	0.21	4.5				
Degree of saturation	106.2	400	-	50	0.16	1.6				
Height (mm)	19.8		161					ж		
Diameter (mm)	75.11		E					-8		
Particle Density (Mg/m3)	2.65		3-1	-				32		

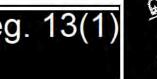
Operators	Checked	04/05/2022	Reg. 13(1)	Reg. 13(1
Reg. 13(1)	Approved	05/05/2022	Reg. 13(1)	5

CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	59102
JIICR	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.	BHTCA106
Site Name	Northstowe	Sample No.	9
Soil Description	Constaller CLAV	Depth Top (m)	3.00
	Grey silty CLAY	Depth Base (m)	3.45
Lab Temperature	20°c	Sample Location	Тор
Remarks	Cv Calculated Using T90 Particle Density Assumed Unless Stated Otherwise	Sample Type	U
Date Tested	26/04/2022		



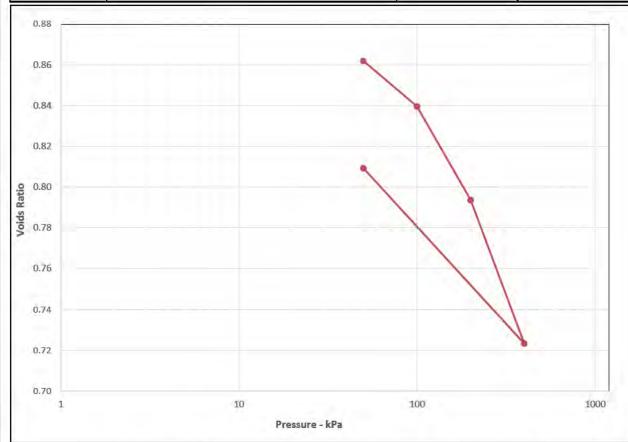
Initial Sample Condi	tions	Pres	ssure R	ange	Mv m2/MN	Cv m2/yr	Press	sure Range	Mv m2/MN	Cv m2/yr
Moisture Content (%)	24	0	+	50	0.5	1.3		3.0		
Bulk Density (Mg/m3)	2.07	50	~	100	0.3	1.8		140		
Dry Density (Mg/m3)	1.67	100	14	200	0.18	3.2		reur -		
Voids Ratio	0.5893	200	1.6	400	0.10	9.1		4		
Degree of saturation	108.2	400	12.	50	0.013	6			-	
Height (mm)	20.27		- 4					31		
Diameter (mm)	50.28		+							
Particle Density (Mg/m3)	2.65		3				-			

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





CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	59102 BHTCA106 24	
JIIL	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.		
Site Name	Northstowe	Sample No.		
Soil Description	Constant of M	Depth Top (m)	8.00	
	Grey silty CLAY	Depth Base (m)	8.45	
Lab Temperature	20°c	Sample Location	Тор	
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	U	
Date Tested	26/04/2022			

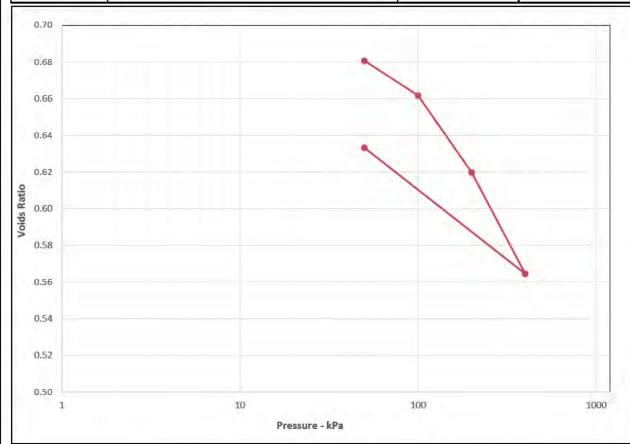


Initial Sample Conditions		Pressure Range		Mv m2/MN	Cv m2/yr	Pressure Range		Mv m2/MN	Cv m2/yr	
Moisture Content (%)	33	0	1	50	0.0	SWELL		-()		
Bulk Density (Mg/m3)	1.90	50	1527	100	0.24	19		9)		
Dry Density (Mg/m3)	1.43	100	[6]	200	0.25	12		.B.J		
Voids Ratio	0.8580	200	[9]	400	0.20	0.7		P) (
Degree of saturation	101.8	400	-	50	0.14	0.33		- 1		
Height (mm)	20.15		Ret					H I		
Diameter (mm)	50.3		143					- 1		
Particle Density (Mg/m3)	2.65		54							

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



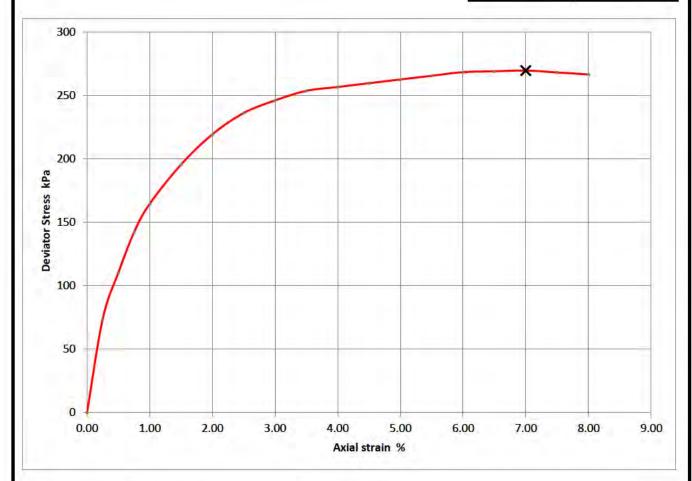
CCTI	ONE DIMENSIONAL CONSOLIDATION TEST	Contract Number	59102 BHTCA106 38	
JIIL	BS1377:Part 5:1990, clause 3	Borehole/Trialpit No.		
Site Name	Northstowe	Sample No.		
Soil Description	Comments of N	Depth Top (m)	13.00	
	Grey silty CLAY	Depth Base (m)	13.45	
Lab Temperature	20°c	Sample Location	Тор	
Remarks	Cv Calculated Using T90 Par icle Density Assumed Unless Stated Otherwise	Sample Type	U	
Date Tested	26/04/2022			



Initial Sample Conditions		Pressure Range		Mv m2/MN	Cv m2/yr	Pressure Range		My m2/MN	Cv m2/yr	
Moisture Content (%)	29	0	1	50	-0.3	SWELL				
Bulk Density (Mg/m3)	2.06	50	179-7	100	0.22	3.7		(4)		
Dry Density (Mg/m3)	1.60	100	[6]	200	0.25	35		(8)		
Voids Ratio	0.6566	200	161	400	0.17	68		10		
Degree of saturation	115.8	400	-	50	0.13	1.1				
Height (mm)	19.9		141					×		
Diameter (mm)	50.21		LE!							
Particle Density (Mg/m3)	2.65		54					331 (e		

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

CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	59102	
JUL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA105	
Site Name	Northstowe	Sample No.	15	
Soil Description	Commercial CLAV	Depth Top (m)	7.00	
	Grey silty CLAY	Depth Base (m)	7.45	
Date Tested	03/05/2022	Sample Type	U	
		Technician	Daniel B	

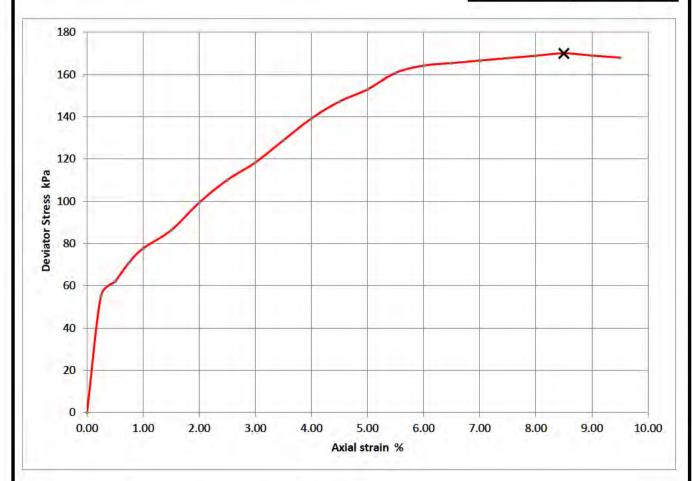


Moisture Content (%)	25
Bulk Density (Mg/m ³)	1.74
Dry Density (Mg/m³)	1.39
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	270
Undrained Shear Strength (kPa)	135
Failure Strain (%)	7
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

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



CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	59102	
SOIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA106	
Site Name	Northstowe	Sample No.	16	
Soil Description	Const. CLAV	Depth Top (m)	5.00	
	Grey CLAY	Depth Base (m)	5.45	
Date Tested	03/05/2022	Sample Type	U	
	7	Technician	Daniel B	

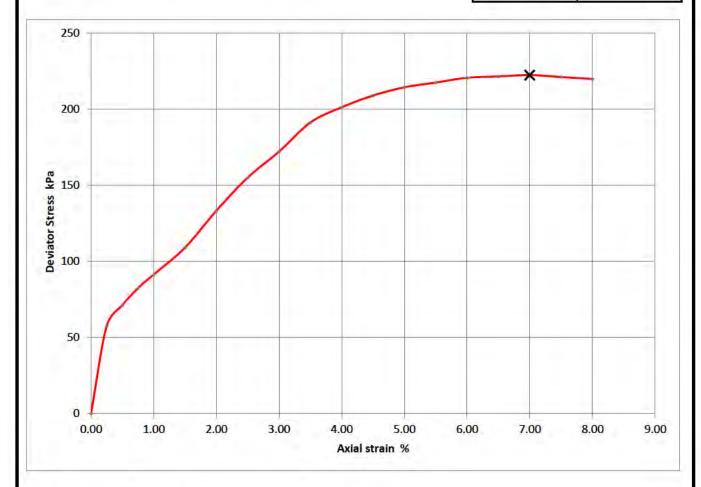


Moisture Content (%)	26
Bulk Density (Mg/m³)	2.21
Dry Density (Mg/m³)	1.76
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	170
Undrained Shear Strength (kPa)	85
Failure Strain (%)	9
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

Checked	04/05/2022	Reg. 13(1)	Reg 13(1
Approved	05/05/2022	Reg. 13(1)	1.09. 10(1



CCTI	Single Stage Unconsolidated-Undrained Triaxial Test	Contract Number	59102	
JIL	BS 1377 : 1990 Part 7 : 8	Borehole/Pit No.	BHTCA106	
Site Name	Northstowe	Sample No.	24	
Soil Description	Constraint CLAV	Depth Top (m)	8.00	
	Grey silty CLAY	Depth Base (m)	8.45	
Date Tested	03/05/2022	Sample Type	U	
		Technician	Daniel B	



Moisture Content (%)	38
Bulk Density (Mg/m³)	1.44
Dry Density (Mg/m ³)	1.05
Specimen Length (mm)	200
Specimen Diamteter (mm)	100
Cell Pressure (kPa)	250
Deviator Stress (kPa)	223
Undrained Shear Strength (kPa)	111
Failure Strain (%)	7
Mode Of Failure	Compound
Membrane Used/Thickness	Rubber/0.3mm
Rate of Strain (%/min)	1.50

Checked	04/05/2022	Reg. 13(1)	Reg. 13(1)
Approved	05/05/2022	Reg. 13(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 8QN

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:

Reg. 13(1)

Senior Reporting Administrator

SOILS

l ala accesta a			10050/ 1	10053/ 3	10053/ 3	10052/ 4	100537.5	10052/ /
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	CE004 ^U	un ts	7.8	8.4	8.1	8.6	8.3	8.5
Magnesium (2:1 water soluble)	CE061	mg/l 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)	CE049 ^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

SOILS

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/l Cl	60
Nitrate (2:1 water soluble)	CE049 ^U	mg/I NO ₃	5.9
Sulphate (2:1 water soluble)	CE061 ^U	mg/I SO ₄	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	рН	Based on BS 1377, pH Meter	As received	U	-	units
CE061	Magnesium (2:1 water soluble)	Aqueous extraction, ICP-OES	Dry		1	mg/l 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	Υ	All (NSD)
108536-2	BHTCA106	0.20-0.40	Υ	All (NSD)
108536-3	BHTCA106	1.70-2.00	Υ	All (NSD)
108536-4	BHTCA106	4.00-4.50	Υ	All (NSD)
108536-5	BHTCA106	7.00-7.50	Υ	All (NSD)
108536-6	BHTCA106	14.50-15.00	Υ	All (NSD)
108536-7	BHTCA106	16.50-17.00	Υ	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.

APPENDIX G

GEO-ENVIRONMENTAL LABORATORY TEST DATA





Reg. 13(1)

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

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e: Reg. 13(1) arcadis.com

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

t: 01923 225404 **f:** 01923 237404

e: reception@i2analytical.com

Analytical Report Number: 22-45875

Project / Site name: Northstowe Samples received on: 15/03/2022

Your job number: NSTO Samples instructed on/ 15/03/2022

Analysis started on:

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)

Reg. 13(1)

Technical Reviewer (Reporting Team)

For & on behalf of i2 Analytical Ltd.

- 4 weeks 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.

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.

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

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	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)	mg/kg	1	MCERTS	13	15	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	19	18	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	28	24
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	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





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
Tille Takell	<u> </u>	-		1437	1440	1442
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
SVOCs		•				
Aniline	mg/kg	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	< 0.03	< 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	< 03	< 0.3	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 03	< 0.3	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 03	< 0.3	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	0.03	MCERTS	< 0.03	< 0.3	< 0.3
4-Chloroaniline	mg/kg	0.3	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	< 0.1	< 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	0.03	MCERTS	< 0.22	< 0.2	< 0.03
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.2	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	< 0.25
Azobenzene	mg/kg	0.03	MCERTS	< 0.12	< 0.3	< 0.03
Bromophenyl phenyl ether	mg/kg	0.3	MCERTS	< 0.2	< 0.2	< 0.2
Hexachlorobenzene	mg/kg	0.2	MCERTS	< 0.3	< 0.3	< 0.2
Phenanthrene	mg/kg	0.05	MCERTS	2.1	0.6	0.22
Anthracene	mg/kg	0.05	MCERTS	0.44	< 0.05	< 0.05
Carbazole	mg/kg	0.03	MCERTS	< 0.3	< 0.3	< 0.03
Dibutyl phthalate	mg/kg	0.3	MCERTS	< 0.2	< 0.2	< 0.2
Anthraquinone	mg/kg	0.2	MCERTS	< 0.3	< 0.3	< 0.2
Fluoranthene	mg/kg	0.05	MCERTS	5	1.4	0.49
Pyrene		0.05	MCERTS	5.3	1.4	0.49
Butyl benzyl phthalate	mg/kg	0.05	ISO 17025	< 0.3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.6	0.67	0.2
, ,	mg/kg					0.24
Chrysene Renzo(h)fluoranthene	mg/kg	0.05	MCERTS MCERTS	2.2	0.67	
Benzo(k)fluoranthene	mg/kg	0.05		3.1	0.78	0.31
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.1	0.35	0.07
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.5	0.57	0.23





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

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





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 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

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)

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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/ 16/03/2022

Analysis started on:

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

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Technical Reviewer (Reporting Team)

For & on behalf of i2 Analytical Ltd.

- 4 weeks 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.

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.

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

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 Cannala Normban			1	2206546	2200547	2200540	2206540
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				
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		
	.,,	,	.,,				<u> </u>
General Inorganics							
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	<u>-</u>	-
Water Soluble SO4 16hr extraction (2:1 Leachate							
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	mg/kg	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	_	_
	5, 5	0.05	MCERTS		0.99		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	0.55		
Total PAH							
	"n	6.0	MCEDIC		24.6		ı
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	21.6	-	-
Harry Makela / McCollector							
Heavy Metals / Metalloids		1 .					
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	0 6	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
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	23	22	21	16
,							
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0





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	< 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	< 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





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				
SVOCs							
Aniline	mg/kg	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 4-Chloroaniline	mg/kg	0.3	MCERTS NONE	< 0.3 < 0.1	-	< 0.3 < 0.1	< 0.3 < 0.1
Hexachlorobutadiene	mg/kg 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 Phenanthrene	mg/kg	0.3	MCERTS MCERTS	< 0.3	-	< 0.3 0.47	< 0.3
Phenanthrene Anthracene	mg/kg mg/kg	0.05	MCERTS	0.6	-	< 0.05	< 0.05 < 0.05
Carbazole	mg/kg	0.03	MCERTS	< 0.25		< 0.03	< 0.03
Dibutyl phthalate	mg/kg	0.3	MCERTS	< 0.2	<u> </u>	< 0.2	< 0.2
Anthraquinone	mg/kg	0.2	MCERTS	< 0.3	<u> </u>	< 0.3	< 0.2
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
	mg/kg	0.05	MCERTS	1.3	-	0.74	< 0.05
Benzo(b)fluoranthene	ilig/kg						
Benzo(b)fluoranthene Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1	-	0.39	< 0.05





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	1	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1	-	0.45	< 0.05

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





* 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 *
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

Acronym	List of HWOL Acronyms and Operators 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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e: reception@i2analytical.com

Analytical Report Number: 22-45879

Project / Site name: Northstowe Samples received on: 15/03/2022

Your job number: NSTO Samples instructed on/ 15/03/2022

Analysis started on:

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

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Technical Reviewer (Reporting Team)

For & on behalf of i2 Analytical Ltd.

- 4 weeks 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.

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.

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

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				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
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	16	11	13
Total mass of sample received		0.001	NONE	1.5	15	1.5
Total mass of sample received	kg	0.001	INOINE	1.5	13	1.5
Anhantan in Cail	T	NI/A	ICO 1702F	Nat data at a d	Not detected	Nat datasta d
Asbestos in Soil	Туре	N/A	ISO 17025	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	PDO	PDO	PDO
General Inorganics						
pH - Automated	pH Units	N/A	MCERTS	8.2	8.1	8.2
Total Cyanide	mg/kg	1	MCERTS	< 10	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 10	< 1.0	< 1.0
water soluble SO4 160r extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.1	0.11	2
Lquivalent)	9/ ·	0.00125	HOLKIO	1.1	0.11	
Total Photosis						
Total Phenols						
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10	< 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
Total PAH Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	6.75	< 0.80	7.2
Speciated Total ETT TO THIS	9/9	0.0	HOLINIO	0.75	1 0.00	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	< 10	< 1.0	< 1.0
Zinc (agua rogia ovtractable)			MCEDIC	67	F0	

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

Zinc (aqua regia extractable)

mg/kg

MCERTS

67

58

66





* 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 sodiun hydroxide followed by distillation followed by colorimetry.		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.





Reg. 13(1)

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

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i2 Analytical Ltd.
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Herts,
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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/ 15/03/2022

Analysis started on:

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)

Reg. 13/1

Technical Reviewer (Reporting Team)

For & on behalf of i2 Analytical Ltd.

- 4 weeks 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.

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.

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

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	Type	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	< 10	-	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 10	-	< 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		1						
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 Renze(h)fluoranthone	mg/kg	0.05	MCERTS	< 0.05 < 0.05	-	< 0.05 < 0.05	0.22	0.19
Benzo(b)fluoranthene Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05		< 0.05	0.3	0.22
Benzo(a)pyrene	mg/kg	0.05 0.05	MCERTS MCERTS	< 0.05		< 0.05	0.2	0.22
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 mg/kg	0.05	MCERTS	< 0.05		< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	_	0.05	MCERTS	< 0.05	_	< 0.05	< 0.05	< 0.05
penzo(Ani)her kiene	mg/kg	0.05	MUEKIS	< 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				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					
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)	mg/kg	1	MCERTS	23	23	10	24	20
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	23	27	23	20
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	72	58	39	62	64
Petroleum Hydrocarbons								
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
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	Units	Limit of detection	Accreditation Status				-	
(Soil Analysis)	เร	etection	tation us					
SVOCs	-	-	-			-		-
Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS		< 0.05	-	-	
Nitrobenzene	mg/kg	0.3	MCERTS NONE	-	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	MCERTS	-	< 0.2 < 0.2	-	-	-
Isophorone 2-Nitrophenol	mg/kg mg/kg	0.2	MCERTS	-	< 0.2		-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3			-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS		< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3			
Naphthalene	mg/kg	0.05	MCERTS		< 0.05			_
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	_	< 0.1	_	_	_
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	i	< 0.05	1	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	23	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	0.7	-	-	-
Carbazole Dibutyl phthalate	mg/kg	0.3	MCERTS MCERTS	-	< 0.3 < 0.2	-	-	-
Dibutyl phthalate Anthraquinone	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Fluoranthene	mg/kg mg/kg	0.05	MCERTS	-	< 0.3 9 8	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	9.9	-	-	-
Butyl benzyl phthalate	mg/kg	0.05	ISO 17025	-	< 0.3	-	-	_
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	6.4	<u> </u>	-	<u>-</u>
Chrysene	mg/kg	0.05	MCERTS	-	3 8		-	
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	<u> </u>	5.1	-	<u>-</u>	_
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	3	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	5.7	_	-	_
20.120(a)py10110	9/ 129	5.05	. IOLINIO		3.7			ı .





Your Order No: 14059900

Lab Sample Number					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	-	2 8	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.62	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	2.9	-	-	-

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





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								
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	_	_	_	-	_





Your Order No: 14059900

TPH Texas (C6 - C40) EH_CU+HS_1D_TOTAL

Lab Sample Number	2206635	2206636	2206637	2206638	2206639			
Sample Reference				TPTCA113 1 0 00-0.20 11/03/2022	TPTCA114 1 0.00-0.20 11/03/2022	TPTCA114 3 0.50-1.00 11/03/2022	TPTCA118 1 0.00-0.20 10/03/2022	TPTCA118 3 0.50-1.00 10/03/2022
Sample Number								
Depth (m) Date Sampled Time Taken								
				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	< 40	< 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	< 10	< 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 (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	< 10	< 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

mg/kg

10

NONE

55

23

< 10

29

< 10





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					
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol	mg/kg	0.1	ISO 17025	< 0.1	< 0.2	< 0.2	< 0.2	< 0.2
		0.2	MCERTS	< 0.1	< 0.2	< 0.2	< 0.1	< 0.2
2-Chlorophenol Bis(2-chloroethyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.2	< 0.2	< 0.2	< 0.1
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
1,2-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.1	< 0.2	< 0.2	< 0.2	< 0.2
1,4-Dichlorobenzene	mg/kg	0.1	MCERTS	< 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	< 0.2
2-Methylphenol	mg/kg mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5
Nitrobenzene		0.03	MCERTS	< 0.03	< 0.3	< 0.3	< 0.3	< 0.3
4-Methylphenol	mg/kg mg/kg	0.3	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.3
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.2	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
, , , ,	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Bis(2-chloroethoxy)methane		0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
1,2,4-Trichlorobenzene Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.5
2,4-Dichlorophenol	mg/kg	0.03	MCERTS	< 0.03	< 0.3	< 0.3	< 0.3	< 0.3
4-Chloroaniline	mg/kg mg/kg	0.3	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	< 0.1	< 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	< 0.05	< 0.05
2.4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.03	< 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	< 0.05	< 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
	mg/kg	0.05	MCERTS	0.49	0.29	< 0.05	0.35	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	PICERTS	U.T3	0.23	< 0.05	0.55	٠ 0.05





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	0 3	< 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

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





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	7 8	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	-	-	-	-	-
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	_	_	_	_	_





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					
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	< 10	< 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
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	< 10	< 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 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					
CVOC		5						
SVOCs	<u> </u>			2.1	0.1	2.1		
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenol 2 Chlorophonol	mg/kg	0.2	ISO 17025 MCERTS	< 0.2 < 0.1	< 0.2 < 0.1	< 0.2 < 0.1	< 0.2 < 0.1	< 0.2 < 0.1
2-Chlorophenol Bis(2-chloroethyl)ether	mg/kg mg/kg	0.1	MCERTS	< 0.1	< 0.2	< 0.2	< 0.1	< 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	0.1	MCERTS	< 0.1	< 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
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dimethylphthalate 2,6-Dinitrotoluene	mg/kg	0.1	MCERTS MCERTS	< 0.1 < 0.1	< 0.1 < 0.1	< 0.1 < 0.1	< 0.1 < 0.1	< 0.1 < 0.1
Acenaphthylene	mg/kg mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.1
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.25	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.03	< 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	0 3	< 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
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	1.3	0.61	< 0.05	5.9	2
Pyrene	mg/kg	0.05	MCERTS	1.1	0.66	< 0.05	5.5	1.6
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	0.58	0.34	< 0.05	3.2	0.52
Chrysene	mg/kg	0.05	MCERTS	0.47	0.28	< 0.05	3	0.55
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.65	0.38	< 0.05	4.3	0.66
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.21	0.26	< 0.05	1.7	0.24
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.55	0.36	< 0.05	3.8	0.46





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	(, ,			0.29	< 0.05	< 0.05	2.4	0.28

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





Your Order No: 14059900

Speciated Total EPA-16 PAHs

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						
<u> </u>	mg/kg	0.05	MCERTS	-	-	
Naphthalene	mg/kg mg/kg	0.05 0.05	MCERTS MCERTS	-	-	
Speciated PAHs Naphthalene Acenaphthylene Acenaphthene						
Naphthalene Acenaphthylene Acenaphthene	mg/kg	0.05	MCERTS	-	-	
Naphthalene Acenaphthylene Acenaphthene Fluorene	mg/kg mg/kg	0.05 0.05	MCERTS MCERTS MCERTS MCERTS	-	-	
Vaphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS	- - - -	-	
Vaphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	- - - -		
Vaphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	- - - - -		
Vaphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			
Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			
Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Payrene Benzo(a)anthracene Genzo(b)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			
Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			
Naphthalene Acenaphthylene Acenaphthylene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(a)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS		- - - - - - - - - - -	
Naphthalene Acenaphthylene Acenaphthylene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			
Naphthalene Acenaphthylene Acenaphthylene Fluorene Phenanthrene Anthracene Fluoranthene Psenzo(a)anthracene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(a)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS		- - - - - - - - - - -	

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	< 40	< 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	< 10	< 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
		5			
		뢆	Accreditation Status		
Analytical Parameter	Units	of d	reditat Status		
(Soil Analysis)	द	ete	tati		
		Limit of detection	9		
SVOCs		-			
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1
Phenol	mg/kg	0.1	ISO 17025	< 0.1	< 0.1
2-Chlorophenol	_	0.2	MCERTS	< 0.1	< 0.2
Bis(2-chloroethyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1
1,3-Dichlorobenzene	mg/kg mg/kg	0.2	MCERTS	< 0.2	< 0.2
1.2-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.1	< 0.1
1,4-Dichlorobenzene		0.1	MCERTS	< 0.1	< 0.1
Bis(2-chloroisopropyl)ether	mg/kg mg/kg	0.2	MCERTS	< 0.1	< 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	0.03	MCERTS	< 0.03	< 0.3
4-Methylphenol	mg/kg	0.3	NONE	< 0 2	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2
2-Nitrophenol	mg/kg	0.2	MCERTS	< 0.3	< 0.2
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
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
2,4-Dichlorophenol	mg/kg	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	< 0.05	< 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





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

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





* 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 *
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 sodium hydroxide followed by distillation followed by colorimetry.		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	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/ 16/03/2022

Analysis started on:

Your order number: 14059900 Analysis completed by: 25/03/2022

Report Issue Number: Report issued on: 25/03/2022

Samples Analysed: 4 soil samples

Signed:

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 : - 4 weeks from reporting

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

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

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





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

				2225	222	222	
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 Time Taken	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				
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	0 3	0.4	0.4
		_					
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A			DBU	DBU
Constant of the constant							
General Inorganics	1,						
pH - Automated	pH Units	N/A	MCERTS	8 3	8.1	78	83
Total Cyanide	mg/kg	1	MCERTS	-	-	< 10 < 10	< 10 < 10
Free Cyanide Water Soluble SO4 16hr extraction (2:1 Leachate	mg/kg		MCERTS		-		
Equivalent)	g/l	0.00125	MCERTS	-	-	0.89	0 054
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0 012	0.0019	-	-
Total Phenols							
Total Phenols (monohydric)	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 MCERTS	-	-	< 0.05	< 0.05
Anthracene Fluoranthene	mg/kg mg/kg	0.05	MCERTS	-	-	< 0.05 0.52	< 0.05 < 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	-	_	0.3	< 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							
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	3.06	< 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	-	-	0 6	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	< 40	< 40	< 40	< 40
Characterist (case again autor (Chile)	mg/kg	1	MCERTS	25	24 17	20 12	20 14
Chromium (aqua regia extractable)							
Copper (aqua regia extractable)	mg/kg	1	MCERTS	23			
Copper (aqua regia extractable) Lead (aqua regia extractable)	mg/kg mg/kg	1	MCERTS	22	11	15	96
Copper (aqua regia extractable) Lead (aqua regia extractable) Mercury (aqua regia extractable)	mg/kg mg/kg mg/kg	0.3	MCERTS MCERTS	22 < 0 3	11 < 0 3	15 < 0 3	9 6 < 0 3
Copper (aqua regia extractable) Lead (aqua regia extractable)	mg/kg mg/kg	1	MCERTS	22	11	15	96





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

Lah Sample Number				2208351	2200252	2208353	2208354
Lab Sample Number				2208351 TPTCA104	2208352 TPTCA110	2208353 TPTCA119	2208354 TPTCA119
Sample Reference Sample Number	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	1P1CA110 2	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 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				
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	< 10	< 10	-	-
TPH Texas (C12 - C16) EH CU 1D TOTAL	mg/kg	4	MCERTS	< 40	< 40	-	-
TPH Texas (C16 - C21) _{EH_CU_ID_TOTAL}	mg/kg	10 10	MCERTS MCERTS	< 10	< 10	-	-
TPH Texas (C21 - C40) _{EH_CU_1D_TOTAL} TPH Texas (C6 - C40) _{EH_CU+HS_1D_TOTAL}	mg/kg mg/kg	10	NONE	13 13	< 10 < 10	-	-
TTT TEXAS (CO C TO) EN_CU+RS_ID_TOTAL	nig/kg	10	NONE	13	< 10		
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 2 Nitrophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0 3	< 0 3 < 0 3		-
2,4-Dimethylphenol Bis(2-chloroethoxy)methane	mg/kg mg/kg	0.3	MCERTS MCERTS	< 0.3	< 0.3	<u> </u>	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 03	< 03		
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	_	_
2,4-Dichlorophenol	mg/kg	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 MCERTS	< 0.05	< 0.05	-	-
2,4-Dinitrotoluene Dibenzofuran	mg/kg mg/kg	0.2	MCERTS	< 0 2 < 0 2	< 0 2 < 0 2	-	-
4-Chlorophenyl phenyl ether	mg/kg mg/kg	0.2	ISO 17025	< 0.2	< 0.2	-	-
Diethyl phthalate	mg/kg	0.3	MCERTS	< 0.2	< 0.2	<u> </u>	-
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	< 03	-	-
Dibutyl phthalate	mg/kg	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	1 3	< 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	-	-

U/S = Unsuitable Sample 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 *
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 at 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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Your order number:

i2 Analytical Ltd.
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Croxley Green
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Watford,
Herts,
WD18 8YS

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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/** 22/03/2022

Analysis started on:

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

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.





				2244706	2244727	2211700	2211722
Lab Sample Number				2211786	2211787	2211788	2211789
Sample Reference	WSTCA101	WSTCA106	WSTCA108	WSTCA117			
Sample Number	1	2	2	2			
Depth (m) Date Sampled	0.20	0.50	0.50 15/03/2022	0.50			
•	15/03/2022	15/03/2022		15/03/2022			
Time Taken	1	-		1258	1151	1038	1410
Analytical Parameter (Soil Analysis)	Units	Limit of detectior	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
	1						
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	_	_	_
Asbestos Analyst ID	N/A	N/A	N/A	MLO			
,	1					•	
General Inorganics							
pH - Automated	pH Units	N/A	MCERTS	7.8	8 0	78	7.7
Total Cyanide	mg/kg	1	MCERTS	< 1 0	-	-	-
Free Cyanide	mg/kg	1	MCERTS	< 10	_		_
water Soluble SO4 16hr extraction (2:1 Leachate	3, 3						
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 Phenois							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10	-	-	-
	-			•			•
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							
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	19	13	13
Boron (water soluble)	mg/kg	0.2	MCERTS	2 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	< 40	< 40	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	32	27	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	16	16	20
Lead (aqua regia extractable)	mg/kg	1	MCERTS	21	15	21	23
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	24	29	22	23
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	68	58	58	62





Sample Number 1 2 2 2 2 2 2 2 2 2											
Sample Number		2211788	2211787	2211786				Lab Sample Number			
Depth (m) 15/03/2022 15/0								•			
Date Sampled								-			
Petroleum Hydrocarbons											
Petroleum Hydrocarbons Petroleum Hydrocarb											
Petroleum Hydrocarbons	.038 1410	1038	1151	1258	1	-		Time Taken			
TPH Texas (C6 - C8) NS 1D TOTAL					Accreditation Status	limit of detection	Units				
TPH Texas (C10 - C10) sc u in total. TPH Texas (C10 - C10) sc u in total. TPH Texas (C10 - C10) sc u in total. TPH Texas (C110 - C10) sc u in total. TPH Texas (C10 - C21) sc u in total. TPH Texas (C16 - C21) sc u in t	=		-					Petroleum Hydrocarbons			
TPH Texas (C10 - C10) _{18-10 10 ToTAL}	< 0.1 < 0.1	< 0.1	< 0.1	-	ISO 17025	0.1	mg/kg	TPH Texas (C6 - C8) HS_1D_TOTAL			
TPH Texas (C12 - C16) et ci in trotal. TPH Texas (C16 - C21) et ci in trotal. TPH	< 0.1 < 0.1	< 0.1	< 0.1	-	MCERTS	0.1	mg/kg	TPH Texas (C8 - C10) HS_1D_TOTAL			
TPH Texas (C16 - C21) pst cu to total mg/kg 10 MCERTS - < 10 < 10 TPH TPH TPM TPM TPM TPM TPM TPM TPM TPM TPM TPM	< 10 < 10	< 10	< 10		MCERTS	1	mg/kg				
TPH Texas (C6 - C40) BLOLING LOTOKAL mg/kg 10 MCERTS - < 10 < 10	< 40 < 40	< 40	< 40	-			mg/kg	TPH Texas (C12 - C16) _{EH CU 1D TOTAL}			
SYOCS	< 10 < 10	< 10	< 10	-				TPH Texas (C16 - C21) _{EH_CU_1D_TOTAL}			
Aniline	< 10 59	< 10	< 10	-				TPH Texas (C21 - C40) _{EH_CU_ID_TOTAL}			
Aniline	< 10 59	< 10	< 10	-	NONE	10	mg/kg	TPH Texas (C6 - C40) _{EH_CU+HS_1D_TOTAL}			
Aniline											
Phenol mg/kg	0.1				NONE	0.1					
Colinophenol mg/kg				-							
Bis(2-chloreethyl)ether											
1,3-Dichlorobenzene mg/kg 0.2 MCERTS - < 0.2 < 0.2											
1,2-Dichlorobenzene											
1,4-Dichlorobenzene mg/kg 0.2 MCERTS - < 0.2 < 0.2 Bis(2-chloroisopropyl)ether mg/kg 0.1 MCERTS - < 0.1											
Microsopropy Microsopropy											
2-Methylphenol mg/kg 0.3 MCERTS - < 0.3								•			
Hexachloroethane				-	MCERTS	0.3					
Nitrobenzene mg/kg 0.3 MCERTS - < 0.3 < 0.3 4-Methylphenol mg/kg 0.2 NONE - < 0.2				-	MCERTS	0.05	mg/kg	, ·			
Sophorone	< 0.3	< 0.3	< 0.3	-	MCERTS	0.3	mg/kg	Nitrobenzene			
2-Nitrophenol mg/kg 0.3 MCERTS - <03 <03 <03	< 0 2 < 0 2	< 0 2	< 0.2	-	NONE	0.2	mg/kg	4-Methylphenol			
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 1,2,4-Trichlorobenzene mg/kg 0.3 MCERTS - < 0.3 < 0.3 Naphthalene mg/kg 0.05 MCERTS - < 0.05 < 0.05 2,4-Dichlorophenol mg/kg 0.3 MCERTS - < 0.3 < 0.3 4,2-Dichlorophenol mg/kg 0.3 MCERTS - < 0.3 < 0.3 4,2-Dichlorophenol mg/kg 0.1 NONE - < 0.1 < 0.1 4-Chloroa-3-methylphenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 4-Chloro-3-methylphenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,4,6-Trichlorophenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,4,5-Trichlorophenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,4,5-Trichlorophenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,4,5-Trichlorophenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,4,5-Trichlorophenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,4,5-Trichlorophenol mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,6-Dinitrotoluene mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,6-Dinitrotoluene mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,6-Dinitrotoluene mg/kg 0.1 MCERTS - < 0.1 < 0.1 3,6-Dinitrotoluene mg/kg 0.05 MCERTS - < 0.05 < 0.05 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.05 < 0.05 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 4,6-Dinitrotoluene	< 0 2 < 0 2	< 0.2	< 0.2	-	MCERTS	0.2	mg/kg	Isophorone			
Bis(2-chloroethoxy)methane	< 0.3	< 0.3	< 0.3	,	MCERTS	0.3	mg/kg	2-Nitrophenol			
1,2,4-Trichlorobenzene mg/kg 0.3 MCERTS - < 0.3	< 0 3	< 0.3	< 0.3	-	MCERTS	0.3	mg/kg	2,4-Dimethylphenol			
Naphthalene mg/kg 0.05 MCERTS - < 0.05 < 0.05 2,4-Dichlorophenol mg/kg 0.3 MCERTS - < 0.3	< 0 3	< 0.3	< 0 3	-	MCERTS	0.3	mg/kg	Bis(2-chloroethoxy)methane			
2,4-Dichlorophenol mg/kg 0.3 MCERTS - < 0.3 < 0.3 4-Chloroaniline mg/kg 0.1 NONE - < 0.1	< 0.3	< 0.3	< 0.3	-				1,2,4-Trichlorobenzene			
A-Chloroaniline	0.05 < 0.05	< 0.05	< 0.05	-							
Hexachlorobutadiene											
A-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 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2 < 0.2											
2,4,6-Trichlorophenol mg/kg 0.1 MCERTS - < 0.1											
2,4,5-Trichlorophenol mg/kg 0.2 MCERTS - < 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 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 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 Dibenzofuran mg/kg 0.3 ISO 17025 - < 0.3 < 0.3 Diethyl phthalate mg/kg 0.3 MCERTS - < 0.2 < 0.2 4-Nitroaniline mg/kg 0.2 MCERTS - < 0.2 < 0.2 Hurene mg/kg 0.3 MCERTS - < 0.2 < 0.2 Hurene mg/kg 0.3 MCERTS - < 0.3 < 0.3 Azobenzene mg/kg 0.3 MCERTS - < 0.3 < 0.3											
Dimethylphthalate mg/kg 0.1 MCERTS - < 0.1 < 0.1 2,6-Dinitrotoluene mg/kg 0.1 MCERTS - < 0.1											
2,6-Dinitrotoluene											
Acenaphthylene mg/kg 0.05 MCERTS - < 0.05 < 0.05 Acenaphthene mg/kg 0.05 MCERTS - < 0.05				-				7.5			
Acenaphthene mg/kg 0.05 MCERTS - < 0.05 < 0.05 2,4-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2				-				•			
2,4-Dinitrotoluene mg/kg 0.2 MCERTS - < 0.2 < 0.2 Dibenzofuran mg/kg 0.2 MCERTS - < 0.2				-	MCERTS	0.05					
4-Chlorophenyl phenyl ether mg/kg 0.3 ISO 17025 - < 0.3				-	MCERTS	0.2	mg/kg	•			
Diethyl phthalate mg/kg 0.2 MCERTS - < 0.2 < 0.2 4-Nitroaniline mg/kg 0.2 MCERTS - < 0.2	: 0 2 < 0 2	< 0.2	< 0.2	-	MCERTS	0.2	mg/kg	Dibenzofuran			
4-Nitroaniline mg/kg 0.2 MCERTS - < 0.2 < 0.2 Fluorene mg/kg 0.05 MCERTS - < 0.05	< 0 3	< 0 3	< 0.3	-	ISO 17025	0.3	mg/kg	4-Chlorophenyl phenyl ether			
Fluorene mg/kg 0.05 MCERTS - < 0.05 < 0.05 Azobenzene mg/kg 0.3 MCERTS - < 0.3	: 0 2 < 0 2	< 0 2	< 0.2	-				Diethyl phthalate			
Azobenzene mg/kg 0.3 MCERTS - < 0.3 < 0.3		< 0.2		-				4-Nitroaniline			
Promonhanul phonul other ma/kg 0.2 MCEDTS 10.2 MCEDTS											
2.5		< 0.2	< 0.2	-	MCERTS	0.2	mg/kg	Bromophenyl phenyl ether			
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 Anthraguinone mg/kg 0.3 MCERTS - < 0.3											
Fluoranthene mg/kg 0.05 MCERTS - < 0.05 0.59 Pyrene mg/kg 0.05 MCERTS - < 0.05											





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				
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0 3	< 0.3	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	0.31	0.33
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05	0.37	0.32
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	0.22	0.21
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	0.17	0.24
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	< 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
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	< 0.05

U/S = Unsuitable Sample 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 *
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)			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	ure 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 In-house method based on USEPA 8270 by extraction in dichloromethane and hexane followed by GC-MS.		L064-PL	D	MCERTS
Total cyanide in soil	nide in soil Determination of total cyanide by distillation followed by In-house method based on Examination of V 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	Is/GC-MS & C10-C40 by In-house method		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 number	Wet / Dry Analysis	Accreditation Status
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List of HWOL	Acronyms	and O	perators

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/ 22/03/2022

Analysis started on:

Your order number: 14059900 Analysis completed by: 31/03/2022

Report Issue Number: Report issued on: 31/03/2022

Samples Analysed: 6 soil samples



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 : - 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.





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	1 2	1 2	1 2	1 2	1 2
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								
pH - Automated	pH Units	N/A	MCERTS	7.9	7.7	8 2	83	8 6
Total Cyanide	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10	< 10
Complex Cyanide	mg/kg	1	MCERTS	-	< 10	< 10	-	-
Free Cyanide	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10	< 10
Total Sulphate as SO4	mg/kg	50	MCERTS	-	17000	2200	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	1.7	-	-	0.09	0 098
Sulphide	mg/kg	1	MCERTS		13	< 10	_	
Elemental Sulphur	mg/kg	5	MCERTS		< 5 0	< 5 0	-	-
Total Phenols Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10	< 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								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	< 0.80	< 0.80	< 0.80	< 0.80





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	9 6	13			
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3			
Nickel (agua regia extractable)	mg/kg	1	MCERTS	25	-	-	25	24			
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 10	< 10	< 10	< 10			
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	47	-	-	36	44			
Monoaromatics & Oxygenates Benzene	μg/kg	1	MCERTS	-	< 10	< 10	-	-			
Toluene	μg/kg	1	MCERTS	-	< 10	< 10	-	-			
Ethylbenzene	μg/kg	1	MCERTS	-	< 10	< 10	-	-			
p & m-xylene	μg/kg	1	MCERTS	-	< 10	< 10	-	-			
o-xylene	μg/kg	1	MCERTS	-	< 10	< 10	-	-			
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	I .	< 0 001	< 0 001	I .				
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL}	mg/kg	0.001	MCERTS		< 0 001	< 0 001		-			
TPH-CWG - Aliphatic >EC6 - EC6 HS 1D AL 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	< 10		_			
TPH-CWG - Aliphatic >EC12 - EC16 EH CU 1D AL	mg/kg	2	MCERTS	_	< 20	< 20	_	_			
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg	8	MCERTS	_	< 8.0	< 80	_	-			
TPH-CWG - Aliphatic >EC21 - EC35 _{EH_CU_1D_AL}	mg/kg	8	MCERTS	_	< 8.0	< 80	_	_			
TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU_HS_1D_AL}	mg/kg	10	MCERTS	_	< 10	< 10	_	_			
en_comb_ID_AL				1	\ 10	V 10	1				
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	-	< 10	< 10	-	-			
TPH-CWG - Aromatic >EC12 - EC16 EH_CU_1D_AR	mg/kg	2	MCERTS	-	< 20	< 20	-	-			
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_ID_AR}	mg/kg	10	MCERTS	_	< 10	< 10	_	_			

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





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

Asbestos in Soil	Type	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 Phenois

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.68
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

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	5.32
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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	< 40
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	< 10
Zinc (agua 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	-

U/S = Unsuitable Sample 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 *
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		Sample Deviation	Test Name	Toct Dof	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





Reg. 13(1)

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

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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/ 23/03/2022

Analysis started on:

Your order number: 14059900 Analysis completed by: 31/03/2022

Report Issue Number: 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

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.





				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
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	11	11	11	18
Total mass of sample received	kg	0.001	NONE	1 0	1.0	1.0	1.0	1.0
			-	-	-	-		-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	NTK	NTK		NTK	NTK
General Inorganics			Lucroro					
pH - Automated	pH Units	N/A	MCERTS	7 3	7.5	-	7.2	7.8
Total Cyanide	mg/kg	1	MCERTS	< 1 0	< 10	-	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1 0	< 10	-	< 1.0	< 1.0
Equivalent)	g/l	0.00125	MCERTS	0.67	0.032	-	0 38	1.6
Total Phenols (monohydric)	g/l mg/kg	0.00125	MCERTS MCERTS	< 10	< 1 0	-	0 38 < 1.0	< 1.0
Equivalent) Total Phenols Total Phenols (monohydric)								
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs		0.05	MCERTS MCERTS					
Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene	mg/kg mg/kg mg/kg	0.05 0.05	MCERTS MCERTS MCERTS	< 10	< 10	-	< 1.0	< 1.0
Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene	mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05	-	< 1.0 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05
Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene	mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS	< 1.0 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05	-	< 1.0 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	- - -	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 0.42
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	-	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 1.1
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 1.1 0.98
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.042 < 0.05 1.1 0.98 0.56
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 1.1 0.98
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 0.42 < 0.05 1.1 0.98 0.56 0.56 0.54
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 0.42 < 0.05 1.1 0.98 0.56 0.56 0.54 0.29
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Piuoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 0.42 < 0.05 1.1 0.98 0.56 0.56 0.54 0.29 0.48
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthylene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Benzo(b)fluoranthene Benzo(a)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 0.42 < 0.05 1.1 0.98 0.56 0.56 0.54 0.29 0.48 0.24
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthylene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 0.42 < 0.05 1.1 0.98 0.56 0.56 0.54 0.29 0.48
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 0.42 < 0.05 1.1 0.98 0.56 0.56 0.54 0.29 0.48 0.24
Equivalent) Total Phenols Total Phenols (monohydric) Speciated PAHs Naphthalene Acenaphthylene Acenaphthene Fluorene Phenanthrene Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(b)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1 0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05		< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 1.0 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 1.1 0.98 0.56 0.56 0.54 0.29 0.48 0.24 < 0.05





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
		Ε.		0303	0012	1550	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	< 10	< 10	-	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	72	57	-	68	61
Benzene Toluene Ethylbenzene	μg/kg μg/kg μg/kg	1	MCERTS MCERTS	< 1 0 < 1 0 < 1 0	< 1 0 < 1 0 < 1 0	< 1.0 < 1.0 < 1.0	< 1.0 < 1.0 < 1.0	< 1.0 < 1.0 < 1.0
p & m-xylene	µg/kg	1	MCERTS	< 10	< 10	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 10	< 10	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	μg/kg	1	MCERTS	< 10	< 10	< 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 MCERTS	< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 _{HS 1D AL}	mg/kg			< 0 001	< 0 001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg mg/kg	2	MCERTS MCERTS	1 0	< 1 0	2.9	1.1	3.3
TPH-CWG - Aliphatic >EC12 - EC16 _{EH_CU_1D_AL}	5. 5			5 3	< 2.0	8.4	4.3	7.9
TPH-CWG - Aliphatic >EC16 - EC21 _{EH CU 1D AL}	mg/kg mg/kg	8	MCERTS MCERTS	< 8 0	< 8.0	14	< 8.0	14
TPH-CWG - Aliphatic >EC21 - EC35 _{EH CU 1D AL} TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU+HS_1D_AL}	mg/kg	10	MCERTS	< 8 0	< 8.0	39	20	45
TFTT-CWG - Allipitatic (LCS - LCSS) EH_CU+HS_1D_AL	mg/kg	10	FICERTS	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 >EC3 - EC7 HS 1D AR 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 >EC7 - EC6 HS_1D_AR 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	< 10	< 10	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC10 - EC12 EH CU 1D AR TPH-CWG - Aromatic >EC12 - EC16 EH CU 1D AR	mg/kg	2	MCERTS	< 2.0	< 20	< 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
TPH-CWG - Aromatic (EC5 - EC35) EH_CU_ID_AR	mg/kg	10	MCERTS	< 10	< 10	< 10	< 10	12
	5. 5		L	` 10	` 10	` 10	` 10	14

U/S = Unsuitable Sample 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 *
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)

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

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

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

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



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		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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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/ 25/03/2022

Analysis started on:

Your order number: 14059900 Analysis completed by: 01/04/2022

Report Issue Number: Report issued on: 04/04/2022

Samples Analysed: 19 soil samples

Signed:

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: - 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			T	1636	1103	1634	1634	1118
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	18	13	13	11	20
Total mass of sample received	kg	0.001	NONE	1.2	1	1.4	1.4	0 8
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	GFI	GFI	GFI	GFI	GFI
General Inorganics								
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
water Soluble SO4 Tonr extraction (2:1 Leachate								
Equivalent)	g/l	0.00125	MCERTS	0.12	0.41	0.2	0.54	1 2
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	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	1.7	0.79	0.9
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.6	0.68	0.9
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.89	0.41	0.57
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.9	0.39	0.55
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	1.1	0.34	0.51
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.49	0.29	0.32
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.99	0.4	0 5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 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 (aqua regia extractable)	mg/kg	1	MCERTS	7.2	14	16	20	14
Boron (water soluble)	mg/kg	0.2	MCERTS	1.1	0.7	1	0.7	1 5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	1.1	< 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	21	24	27	28	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	6	8.6	16	6	8.9
Lead (aqua regia extractable)	mg/kg	1	MCERTS	9.2	13	24	13	12
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	18	21	22	27	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	37	44	71	51	53





Lab Sample Number	Sample Number						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	mg/kg	0.001	MCERTS	. 0.001	. 0 001	. 0.001	. 0 001	. 0 001			
TPH-CWG - Aliphatic >EC5 - EC6 _{HS_1D_AL} 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	< 0 001 < 0 001	< 0.001 < 0.001			
TPH-CWG - Aliphatic >EC6 - EC8 _{HS 1D AL} 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 >EC8 - EC10 _{HS_1D_AL} 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			
(LII_COTRS_ID_AL	3. 3	· · · · · ·		\ 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			

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





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			
Tance		_		1151	1131	1132	1110	1131			
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			
10tal mass or sample received											
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	GFI	GFI	GFI	GFI	GFI			
,,,,	<u> </u>										
General Inorganics											
pH - Automated	pH Units	N/A	MCERTS	8.1	7.8	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	< 10	< 1.0	< 1.0	< 1.0	< 1.0			
water Soluble 504 16Hr extraction (2:1 Leachate											
Equivalent)	g/l	0.00125	MCERTS	0.34	1.7	0.86	0.22	0.33			
Total Phenois											
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10	< 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			
	5. 5		1	, ,	33	3,5	30	10			





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	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	μg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	μg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	μg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	μg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	μg/kg	1	MCERTS	< 10	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons TPH-CWG - Aliphatic >EC5 - EC6 HS_ID_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_ID_AL	mg/kg	1	MCERTS	< 10	< 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	< 10	13	< 10
TPH-CWG - Aromatic (EC5 - EC35) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	< 10	< 10	13	16	< 10

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





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	kg	0.001	NONE	0.8	1.4	1.4	0.8	0 8	0.8
Asbestos in Soil	Type	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				T			ī	ī	
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	< 10
Free Cyanide water Soluble SO4 160r extraction (2:1 Leachate	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
Equivalent)	g/l	0.00125	MCERTS	0.2	0.062	0 049	0.13	0.088	0.043
<u> </u>					<u>I</u>	<u>I</u>			<u>I</u>
Total Phenols									
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10
, , ,									
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	n= n	0.0	MCEDIC			I			
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	me #		MCERTS	45	10	4.0	4.0	10	47
Arsenic (aqua regia extractable)	mg/kg	0.2	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 mg/kg	4	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0 31	< 4.0	< 4 0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	31	27	22		26	31
Copper (aqua regia extractable)		1	MCERTS	13	8.1	7.2	9.4	68	8.6
Lead (aqua regia extractable)	mg/kg	0.3	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 mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10
Zinc (aqua regia extractable)	mg/kg	1	PICERTS	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	< 10
Toluene	μg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10
Ethylbenzene	μg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10
p & m-xylene	μg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10
o-xylene	μg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10
MTBE (Methyl Tertiary Butyl Ether)	μg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 10
Petroleum Hydrocarbons	mg/kg	0.001	MCERTS	0.001	0.001	0.001	. 0.004	. 0.001	0.001
TPH-CWG - Aliphatic >EC5 - EC6 HS_1D_AL		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	< 0.001	< 0.001	< 0 001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 _{EH_CU_1D_AL}	mg/kg	2	MCERTS MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1 0
TPH-CWG - Aliphatic > EC12 - EC16 _{EH CU 1D AL}	mg/kg	8	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} TPH-CWG - Aliphatic (EC5 - EC35) _{EH_CU_HS_1D_AL}	mg/kg mg/kg	10	MCERTS	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Allphatic (ECS - ECSS) EH_CU+HS_1D_AL	IIIg/kg	10	MCLKIS	< 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	< 10
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

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





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
				1232	1110	1117
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
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 Equivalent)	g/l	0.00125	MCERTS	0 21	0.1	0.14
Equivalency	9/1	0.00123	MCERTS	021	0.1	0.11
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	0.5	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 MCERTS	1.1	0.38	< 0.05
Benzo(a)anthracene	mg/kg	0.05		0 64	< 0.05	< 0.05
Chrysene	mg/kg mg/kg	0.05	MCERTS MCERTS	0 56	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0 63	< 0 05 < 0 05	< 0.05 < 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0 36		
Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0 58 0.3	< 0 05 < 0 05	< 0.05 < 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	0.03	< 0.05	< 0.05
(3/)/				001	1000	1 0100
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	6 21	1.14	< 0.80
Heavy Metals / Metalloids						
Arsenic (agua 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)	mg/kg	1	MCERTS	68	48	52





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			
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





* 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 sodium hydroxide followed by distillation followed by colorimetry.		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.





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 Descrip	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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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 : 22-47721 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
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/ 30/03/2022

Analysis started on:

Your order number: 14059900 Analysis completed by: 07/04/2022

Report Issue Number: Report issued on: 07/04/2022

Samples Analysed: 4 soil samples



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 : - 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.





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				
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	Type	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							
pH - Automated	pH Units	N/A	MCERTS	8 2	8.1	8.1	8.2
Total Cyanide	mg/kg	1	MCERTS	< 10	< 1.0	< 10	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 10	< 1.0	< 10	< 1.0
water Soluble SO4 16Hr extraction (2:1 Leachate							
Equivalent)	g/l	0.00125	MCERTS	0 054	0.085	18	0.072
Total Phenois							
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 10	< 1.0	< 10	< 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	0.28	< 0.05	0.91	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	16	< 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		0.54	< 0.05
benzo(gni)peryiene	9/9			0.40	< 0 05	0.54	< 0.03
Total DAU							
Total PAH	ma/ka	0.8	MCERTS	0		0	
Speciated Total EPA-16 PAHs	mg/kg	0.0	PICERIO	8.55	< 0 80	9.89	< 0 80
Heavy Metals / Metalloids							
Arsenic (agua 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
,	mg/kg	0.2	MCERTS		< 0.2	< 0.9	
Cadmium (aqua regia extractable)		4	NONE	< 0.2			< 0.2
Chromium (hexavalent)	mg/kg	1		< 40	< 4.0	< 4 0	< 4.0
Chromium (aqua regia extractable)	mg/kg		MCERTS	23	21	25	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	15	7.7	12	11
Lead (aqua regia extractable)	mg/kg	1	MCERTS	20	11	18	17
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	19	16	22	25
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 10	< 1.0	< 10	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	58	41	57	51





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	< 10	-	< 10	-
Toluene	μg/kg	1	MCERTS	< 10	-	< 10	-
Ethylbenzene	μg/kg	1	MCERTS	< 10	-	< 10	-
p & m-xylene	μg/kg	1	MCERTS	< 10	-	< 10	-
o-xylene	μg/kg	1	MCERTS	< 10	-	< 10	-
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	-	< 10	-
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_ID_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	< 10	-	< 10	-
TPH-CWG - Aromatic >EC12 - EC16 _{EH CU 1D AR}	mg/kg	2	MCERTS	< 20	-	< 20	-
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) EH_CU+HS_1D_AR	mg/kg	10	MCERTS	13	_	11	_

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





* 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	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
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

Acron	m 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	
Tota	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 : 22-48661 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		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/ 30/03/2022

Analysis started on:

Your order number: 14059900 Analysis completed by: 08/04/2022

Report Issue Number: Report issued on: 08/04/2022

Samples Analysed: 4 soil samples

> Reg. 13(1 Signed:

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.

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

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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	8 8
Total mass of sample received	kg	0.001	NONE	15	1 5	15	15
Asbestos in Soil	Type	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	< 10	< 10	< 10
Free Cyanide	mg/kg	1	MCERTS	-	-	< 10	< 10
water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	0.37	0.13
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	0 6	_	_
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
	mg/kg mg/kg	0.05	MCERTS	-	-	0.7 0.28	< 0.05 < 0.05
Phenanthrene Anthracene Fluoranthene	0.0	0.05 0.05	MCERTS MCERTS				
Anthracene	mg/kg	0.05 0.05 0.05	MCERTS	÷	-	0.28	< 0.05
Anthracene Fluoranthene Pyrene	mg/kg mg/kg	0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS	-	-	0.28 1 3	< 0.05 < 0.05
Anthracene Fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS	- - -	- - -	0.28 1 3 0.74	< 0.05 < 0.05 < 0.05
Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	- - -	- - -	0.28 1 3 0.74 0.29 0.26 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS		- - - -	0.28 1 3 0.74 0.29 0.26 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS		- - - - -	0.28 1 3 0.74 0.29 0.26 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS	- - - - -		0.28 1 3 0.74 0.29 0.26 < 0.05 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			0.28 1 3 0.74 0.29 0.26 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			0.28 1 3 0.74 0.29 0.26 < 0.05 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05
Anthracene Fluoranthene Pyrene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene	mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg mg/kg	0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05	MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS MCERTS			0.28 1 3 0.74 0.29 0.26 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05	< 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05 < 0.05





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				
Tille Takell	1		1	1004	1133	1130	1431				
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status								
Heavy Metals / Metalloids											
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 10	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	2 8	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	< 40				
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	< 10	< 10	< 10	< 10				
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	< 10	< 10	-	-				
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	< 10	-	-				
TPH6 - Aromatic (C12 - C16) _{EH_CU_1D_AR}	mg/kg	2	MCERTS	< 20	< 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	-	-				

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





* 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	etals in soil by ICP-OES Determination of metals in soil by aqua-regia digestion followed by ICP-OES.		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	
ee 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 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

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

t: 01923 225404

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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/ 11/04/2022 Analysis started on:

Your order number: 14059900 Analysis completed by: 20/04/2022

Report Issue Number: Report issued on: 21/04/2022

Samples Analysed: 16 water samples

Signed:

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 :

- 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										
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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
		Ξ						
		Limit of detection	Accreditation Status					
Analytical Parameter	Units	of d	creditat Status					
(Water Analysis)	ß	ete	tati					
		₩.	9					
		_ =						
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.8	7	7	7 6	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	< 10 458	338	817	509	< 10 524
Alkalinity as CaCO3	mg/l	3	ISO 17025	220	540	420	210	380
Alkalility as Cacos	9/	J	100 17 025	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
*** * *	µg/l	0.5	NONE					
Ethylphenol & Dimethylphenol	μg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Cresols Naphthols	μg/l	0.5	NONE	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5
•	µg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Isopropylphenol 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
типешургеног	1.5			< 0.5	\ 03	\ 03	\ 03	\ 03
Total Phenols								
Total Phenois (HPLC)	μg/l	3.5	NONE	< 35	< 35	< 3.5	< 3.5	< 35
Total Friends (Til EC)	1.5			(33	(33	(33	(33	(33
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	μq/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
(3. n/pci /iciic				~ U.UI	· 0.01	· 0.01	· 0.01	~ U.UI
Total PAH								
Total EPA-16 PAHs	μg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
1000 2171 20 17110		<u> </u>	1	V 0.10	V 0.10	V 0.10	V 0.10	V 0.10





Your Order No: 140599	nn

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					
		9						
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
		0.15	100 1700-			1	T _	
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	6 8	9 5	4.1	4
Lead (dissolved)	μg/l	0.2	ISO 17025	< 0.2	03	0 6	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	7 3	13
Selenium (dissolved)	μg/l	0.6	ISO 17025	2 3	1.4	1 8	1 6	3 3
Zinc (dissolved)	μg/l	0.5	ISO 17025	6 6	72	5 5	8 8	18
Monoaromatics & Oxygenates Benzene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
Toluene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
Ethylbenzene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
p & m-xylene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
o-xylene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
MTBE (Methyl Tertiary Butyl Ether)	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
Petroleum Hydrocarbons	U.							
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	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8 HS_1D_AL	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
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
TOU OU			100 17025	- 10	1.0			- 10
TPH-CWG - Aromatic >C5 - C7 _{HS 1D AR}	μg/l	1	ISO 17025 ISO 17025	< 10	< 1.0	< 10	< 10	< 10
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	μg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic > C10 - C12 _{EH_1D_AR_#1_#2_MS}	μg/l 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} TPH-CWG - Aromatic >C21 - C35 _{EH_1D_AR_#1_#2_MS}	µg/l	10	NONE	< 10 < 10	< 10 < 10	< 10 < 10	< 10 < 10	< 10 < 10
TPH-CWG - Aromatic > C21 - C35 _{EH_1D_AR_#1_#2_MS} TPH-CWG - Aromatic (C5 - C35) _{HS+EH_1D_AR_#1_#2_MS}	µg/l	10	NONE					
TITL CVVG - ATOMICUE (CJ - CJS) HS+EH_1D_AR_#1_#2_MS	μg/ i	10	HONE	< 10	< 10	< 10	< 10	< 10

 $\label{eq:US} \mbox{U/S} = \mbox{Unsuitable Sample} \hspace{0.5cm} \mbox{I/S} = \mbox{Insufficient Sample}$





Your Order No: 140599	nn

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			
		Lir									
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	72			
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 Phenois											
Total Phenols (HPLC)	μg/l	3.5	NONE	< 35	< 35	< 35	< 35	< 35			
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: 140599	nn

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			
1											
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	0 3	< 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			
Selenium (dissolved)	μg/l	0.6	ISO 17025	1.9	9.7	15	2.1	3 2			
Zinc (dissolved)	μg/l	0.5	ISO 17025	110	14	29	9 6	8.4			
Monoaromatics & Oxygenates Benzene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
Toluene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
Ethylbenzene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
p & m-xylene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
o-xylene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
MTBE (Methyl Tertiary Butyl Ether)	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 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			
			T ****	ı	1						
TPH-CWG - Aliphatic >C5 - C6 HS_1D_AL	μg/l	1	ISO 17025	< 10	< 10	< 1 0	< 10	< 1 0			
TPH-CWG - Aliphatic >C6 - C8 _{HS_1D_AL}	μg/l	1	ISO 17025	< 10	< 1 0	< 10	< 10	< 10			
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 μg/l	10 10	NONE NONE	< 10	< 10	< 10	< 10	< 10			
TPH-CWG - Aliphatic (C5 - C35) HS+EH_1D_AL_#1_#2_MS	μ9/1	10	NONE	< 10	< 10	< 10	< 10	< 10			
TPH-CWG - Aromatic >C5 - C7 _{HS 1D AR}	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	µg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10			
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 >C10 - C21 EH 1D AR #1 #2 MS 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			
5 / 11 5 / 11 6 15 6 5 5 7 HS+EH_1D_AR_#1_#2_MS	F51 .			< 10	< 10	< 10	< 10	< 10			

 $\label{eq:US} \mbox{U/S} = \mbox{Unsuitable Sample} \hspace{0.5cm} \mbox{I/S} = \hspace{0.5cm} \mbox{Insufficient Sample}$





Your Order No: 140599	nn

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			
		₽									
		Limit of detection	Accreditation Status								
Analytical Parameter	Units	of d	redi								
(Water Analysis)	ផ	etec	us us								
		i ii	9								
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		0.5	110115								
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 0.5	NONE 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 μg/l	0.5	NONE	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5			
Phenol Trimethylphenol	μg/l	0.5	NONE	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5	< 0.5 < 0.5			
типецириены	1.37			< 0.5	\ 03	< 0.5	(03	< 0.3			
Total Phenols											
Total Phenols (HPLC)	μg/l	3.5	NONE	< 35	< 35	< 35	< 35	< 35			
			· B·								
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			
T-t-1 DAII											
Total PAH	μg/l	0.16	ISO 17025	.046	.0.45	.046	.0.46	.046			
Total EPA-16 PAHs	µ9/1	0.10	150 1/025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16			





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 07/04/2022	None Supplied 07/04/2022	None Supplied 07/04/2022	None Supplied 07/04/2022	None Supplied 07/04/2022
Date Sampled								
Time Taken			1	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
		Limit of detection	ě					
Analytical Parameter	_	t of	Accreditation Status					
(Water Analysis)	Units	det	creditat Status					
	•	8	s tio					
		ion	-					
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	0 3
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	9.7	11	28	12	11
Monoaromatics & Oxygenates Benzene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
Toluene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
Ethylbenzene	μg/l	1	ISO 17025	< 1 0	< 10	< 10	< 1 0	< 10
p & m-xylene	μg/l	1	ISO 17025	< 10	< 10	< 10	< 1 0	< 10
o-xylene	μg/l	1	ISO 17025	< 1 0	< 10	< 10	< 1 0	< 10
MTBE (Methyl Tertiary Butyl Ether)	μg/l	1	ISO 17025	< 1 0	< 1 0	< 10	< 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	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C6 - C8 _{HS_1D_AL}	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C8 - C10 _{HS 1D AL}	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
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	< 10
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C8 - C10 _{HS_1D_AR}	μg/l	1	ISO 17025	< 10	< 10	< 10	< 10	< 10
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 FH 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

10ul Oluei No. 14055500				
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

pH	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

Phenois 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 Phenois

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

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





Your Order No: 14059900

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
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	< 10
TPH-CWG - Aliphatic >C8 - C10 HS 1D AL	μg/l	1	ISO 17025	< 10
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	< 10

TPH-CWG - Aromatic >C5 - C7 HS 1D AR	μ9/1	1	130 17023	< 10
TPH-CWG - Aromatic >C7 - C8 _{HS 1D AR}	μg/l	1	ISO 17025	< 10
TPH-CWG - Aromatic >C8 - C10 HS_1D_AR	μg/l	1	ISO 17025	< 10
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

 $\label{eq:US} \mbox{U/S} = \mbox{Unsuitable Sample} \hspace{0.5cm} \mbox{I/S} = \hspace{0.5cm} \mbox{Insufficient Sample}$





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, Al=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	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

Sample Deviation Report



Analytical Report Number : 22-51163 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		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