INTERPRETATIVE REPORT ON GROUND INVESTIGATION

AT

SOMERSET FARM, MURROW

FOR

BIOCOW ENVIRONMENTAL SERVICES LTD

Giving our all

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APPROVAL & DISTRIBUTION SHEET

PROJECT DETAILS	
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FOREWORD

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1. INTRODUCTION

This report has been prepared upon the written instruction of Mr Chris Waters on behalf of BioCow Environmental Services Ltd, email dated 1st March 2019.

The subject site was located on the premises of Somerset Farm, Murrow and consisted of a proposed gas pipeline running in a general north west direction from the south western boundary of the farm. A ground investigation was requested by the client to ascertain the ground conditions underlying the site to assist with the preliminary engineering design.

The fieldwork comprised ten trial pits and the taking of geological and environmental samples. This report is based upon the above fieldwork and subsequent geotechnical and environmental laboratory testing programme.

Attention is drawn to the fact that whilst every effort has been made to ensure the accuracy of the data supplied and any analysis derived from it, there is a potential for variations in ground and groundwater conditions between and beyond the specific locations investigated. No liability can be accepted for any such variations. Furthermore, any recommendations are specific to the client's requirements as detailed herein and no liability will be accepted should these be used by third parties without prior consultation with CET Structures Ltd.

A Desk Study as outlined in BS5930 "Code of practice for site investigations" was not requested and therefore has not been carried out.

2. SITE SETTINGS

The subject site is located at Somerset Farm, Cants Drove, Murrow, Wisbech, Cambridgeshire, PE13 4HN and at the time of the investigation comprised arable farm land centred at approximate National Grid Reference TF373049 as shown on Figure 1.

Based on the Ordnance Survey 1:25000 map of the area, the route of the gas main will cross low fen land which lies just above sea level and is drained by man-made drainage ditches. The significant number of watercourses, ponds and lakes mapped in the proximity of the proposed main suggest the possibility of the water table being present at relatively shallow depths.

The area being investigated covers the route of a proposed gas pipeline which is to run in a north west direction across the western extent of the property. The investigation area is situated on arable farm land which has been segregated in readiness for the pipeline installation. The proposed pipeline route crosses a road which runs in an east west direction across the site. This road has several mature trees along its length.

Reference to the British Geological Survey 1:50,000 scale maps of the area indicate that the solid geology of the site is the Corallian Group overlain by the superficial geology of the Barroway Drove Beds and undifferentiated silt filled creeks.

The Corallian Group typically comprise medium to dark grey mudstone and silty mudstone, and pale grey, calcareous mudstone; cementstone nodules may be found in some horizons. The Barroway Drove Beds are typically soft grey clays and silty clays cut by the tidal creeks which form the undifferentiated silt filled creeks. This superficial geology is mapped as being several meters in depth. On the British Geological Map viewer, the Barroway Drove Beds are referred to as Tidal Flat Deposits.

The ground investigation has confirmed that the site is underlain by the anticipated geology of the Barroway Drove Beds/Tidal Flats Deposits and undifferentiated silt filled creeks.

3. GROUND INVESTIGATION

The fieldwork comprised ten trial pits excavated to depths of 2m below ground level, with the exception of TP08 which was excavated to 3m below ground level. This work was carried out on 18th March 2019 at the approximate locations shown on Figure 2.

Reference should be made to the engineer's logs included in Appendix A for detailed descriptions of the strata penetrated and the results of any in situ tests carried out. A summary only of the ground conditions encountered in the exploratory holes is presented below.

In all the trial pits a layer of possible Topsoil was observed as soft, dark brown, silty CLAY. This stratum was proved to a maximum depth of 0.6m below ground level in TP01.

Beneath the possible Topsoil in all the trial pits except TP06, a soft and firm, light brown with orange partings, slightly fine sandy clayey SILT was observed. This stratum has been described as Tidal Flat Deposits and was proved to the base of all the trial pits except TP06 and to a maximum depth of 2.2m below ground level in TP08.

Below the Tidal Flat Deposits in TP08 a grey mottled brown, slightly fine sandy clayey silt was observed which was proved to the base of this pit at 3m below ground level. This stratum has also been described as Tidal Flat Deposits.

Beneath 0.3m of possible Topsoil TP06 encountered a firm and stiff, brown mottled orange, silty CLAY that gave way to soft to stiff, brown grey mottled orange, silty CLAY to its base at 2.0m below ground level. These strata have been described as Tidal Flat Deposits.

Water seepages were observed in TP06, TP07, TP08 and TP09 at depth of between 1.9m and 2m below ground level. However, the water level in the trial pits may not have attained equilibrium with the ground water table due to the relatively short time that the trial pits were open, and the low permeability of the soils penetrated. Furthermore, the groundwater levels may vary both seasonally and in the long term and possibly in association with river level management by the Environment Agency. Further evidence for this altering water level is shown in the Environment Agency's 'Flood map for planning' as the area is classified as a Flood Zone 3 indicating a high risk of flooding.

Roots/rootlets were observed to the base of all the trial pits.

All trial pits except TP08 remained stable whilst they were open. In TP08 slumping of material occurred from the sides of the pit when the excavation was extended below 2m.

4. LABORATORY TESTING

A geotechnical laboratory testing programme was carried out to provide further information on the engineering properties of the subsoil. Unless stated otherwise, these tests were carried out in accordance with BS 1377 "Methods of Test for Soils for Civil Engineering Purposes." CET Structures Limited has been accredited for specific tests as indicated below, by the United Kingdom Accreditation Service (U.K.A.S.). Individual full format reports for tests are available, if required. Other tests have been carried out by UKAS accredited suppliers to CET Structures Limited. The following tests were carried out and the results are presented in Appendix B:

No.	Test	UKAS Accreditation
5	Moisture Content	CET
1	Atterberg Limits	CET
4	PSD Wet Sieving	CET
4	PSD Hydrometer	CET
1	CET Suite 3 Waste Classification – with WAC	CET Supplier
10	CET Suite 4 Waste Classification – without WAC	CET Supplier
3	Full Single Stage WAC Testing (Eluate)	CET Supplier
5	Water Soluble Sulphate and pH	CET Supplier

5. DISCUSSION

General

A ground investigation was requested by BioCow Environmental Services Limited to identify the ground conditions underlying the site to provide parameters for the design of a proposed new gas pipeline which it is understood will be constructed at a depth of about 1.2m to 1.5m below ground level.

The fieldwork comprised ten trial pits excavated on the 18th March 2019. The investigation ascertained that the site is underlain by Topsoil to depths of up to 0.6m below ground level overlying Tidal Flat Deposits proved to a maximum depth of 3m below ground level. The Tidal Flat Deposits typically comprised, soft and firm, light brown with orange partings, slightly fine sandy, clayey SILT. TP06 differed from the other trial pits as the material observed in this trial pit was a firm and stiff, brown mottled orange, silty CLAY.

Roots and rootlets were observed to the base of each trial pit however it should be noted that the depth of observed root penetration was limited by the depth of the excavation.

Groundwater was encountered during the investigation in TP06, TP07, TP08 and TP09 from a depth of 1.9m below ground level. However, the possibility of groundwater being present at shallow depths cannot be ruled out as discussed in Section 3.

During the course of the investigation all the trial pits, except TP08 remained stable whilst open, although the pits did not extend significantly below the water table and they were only open for a short period of time. Slumping of the sides of the pit occurred in TP08 where the pit extended below the water table. In the event that the proposed trench excavation extends below the water table, should the water table be higher at the time the works are undertaken significant instability would be expected.

Atterberg limits testing carried out on samples recovered from TP06 indicate that this silty clay material is of very high (CV) plasticity as defined by BS5930 “Code of practice for site investigation”.

Excavations

The requirement for excavation support and dewatering will be dictated by the depth of the excavation and the ground water level at the time that the works are undertaken. All of the trial pits except TP08 remained stable during the short period of time that they were open. Providing that the excavations remain above the water table they are likely to only require nominal support unless personnel are required to enter the trench in which case the support will need to be assessed to ensure that it provides a safe working environment and to maintain the stability of the excavation.

If excavations are to extend below the water table, they will require both continuous support and dewatering. Silty and fine sandy soils such as those that typically formed the Tidal Flats Deposits are prone to both "running sand" condition and "boiling" of the base of the excavation. Dewatering of silty and fine sandy soils is difficult and advice should be sought from a specialist dewatering contractor if excavations are required to extend below the water table. Continuous interlocking sheet piling, with the piles driven to sufficient depth to increase the length of the flow path to reduce the uplift pressure and prevent boiling of the base of the excavation, in conjunction with pumping from filtered sumps within the excavation could be considered. Alternatively, consideration could be given to well pointing, used in conjunction with continuous excavation support, but the soils might de too fine for this to be effective.

Concrete Below Ground

Chemical testing was carried out on a series of soil samples recovered from the strata encountered in the exploratory holes. The ground investigation established that the underlying groundwater condition is likely to be classified as 'static' however with the comments regarding water and its varying level, a 'worst case' scenario has been utilised, hence the classification for the material is based on the underlying groundwater condition as being 'mobile'. In accordance with BRE Special Digest 1:2005 Third Edition "Concrete in Aggressive Ground", Table C1 for natural ground locations, the Design Sulphate Class and ACEC Class have been established based upon the available laboratory results.

The mean of the highest 20% of the sulphate analysis indicate a water soluble sulphate of 862mg/l with corresponding pH value of >5.5 consistent with a Design Sulphate Class of DS-2 and ACEC Class of AC-2.

Material re-use (Specification for Highway Works)

Reference to Series 600 of the "Specification for Highway Works" and the laboratory testing carried out on the materials recovered from the trial pits indicate that for general earthworks the excavated material will comply with Class 2A, Wet Cohesive Material or Class 2 B Dry Cohesive Material, depending on the moisture content

at the time of placement. Class 2A/2B materials also meet the requirements for Class 8 “Lower trench fill” providing that they do not include “stones or lumps of clay retained on the 40mm test sieve”.

Class 2A/2B material is not considered suitable as backfill beneath roads and hardstanding because it is unlikely compacted adequately in trenches to ensure that there is no future settlement.

The silty and fine sandy soils of the Tidal Flats Deposits are likely to be moisture susceptible and if inundated with water would be expected to exhibit a significant loss of strength. If the excavated material is to be reused to backfill excavations then it should be protected from inundation by water and will not be suitable for placement below water.

Waste Classification and Waste Acceptance Criteria (WAC)

Eleven samples were recovered and analysed for waste classification and waste acceptance criteria (WAC). The HazWaste online model was used to undertake a Hazard Assessment, the purpose of which is to establish whether the tested samples should be considered hazardous 17 05 03* or non-hazardous 17 05 04 waste. The waste hazard assessment results can be viewed in Appendix B Laboratory Results. All samples were determined to be non-hazardous.

Composite samples which represent depths of 0.3m - 0.5m below ground level fail the inert WAC test for Fluoride at 13mg/kg with composite samples representing depths of 2.0m below ground level, failing the inert WAC test for sulphates at 2480mg/kg and so can be classed as non-hazardous waste and can be considered for a non-hazardous landfill site. Composite samples representing depths of 1.5m below ground level pass the inert WAC test and so can be classed as inert waste and can be considered for an inert landfill site. No asbestos was detected in any of the samples.

It is understood that a section of asphalt road may need to be excavated and is outside the scope of this report however, asphalt can contain coal tar and so can be hazardous. If this material is to be disposed of, then a further hazard assessment in line with current best practice and guidance should be carried out.

None of the analytical results show any elevations of contaminants that could present a significant risk to key receptors such as construction workers. Good site practice should still be adopted despite the absence of contamination.

FIGURES

INFRASTRUCTURE
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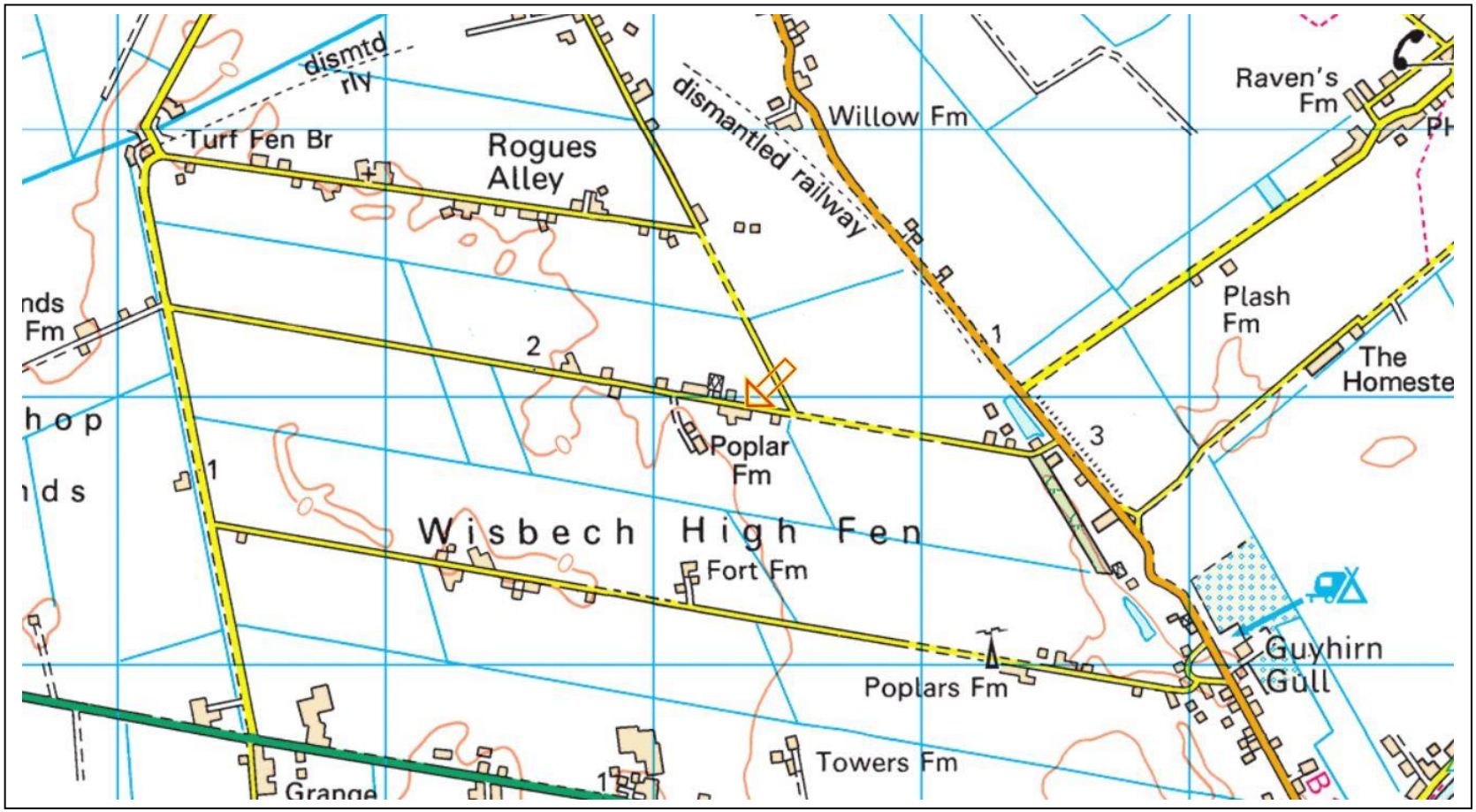
Northdown House, Ashford Road, Harrietsham, Maidstone
Kent, ME17 1QW
Telephone: 01622 858545 Facsimile: 01622 858544

Client:			Lead No:
BioCow Environmental Services Ltd			**491893**
Created By: **SPD**	Checked:	Approved:	Date: **18/03/2019**



N

Location: Somerset Farm, Morrow

Scale: Not to Scale (Taken from 1:50000 scale map)

FIGURE 1

CET INFRASTRUCTURE
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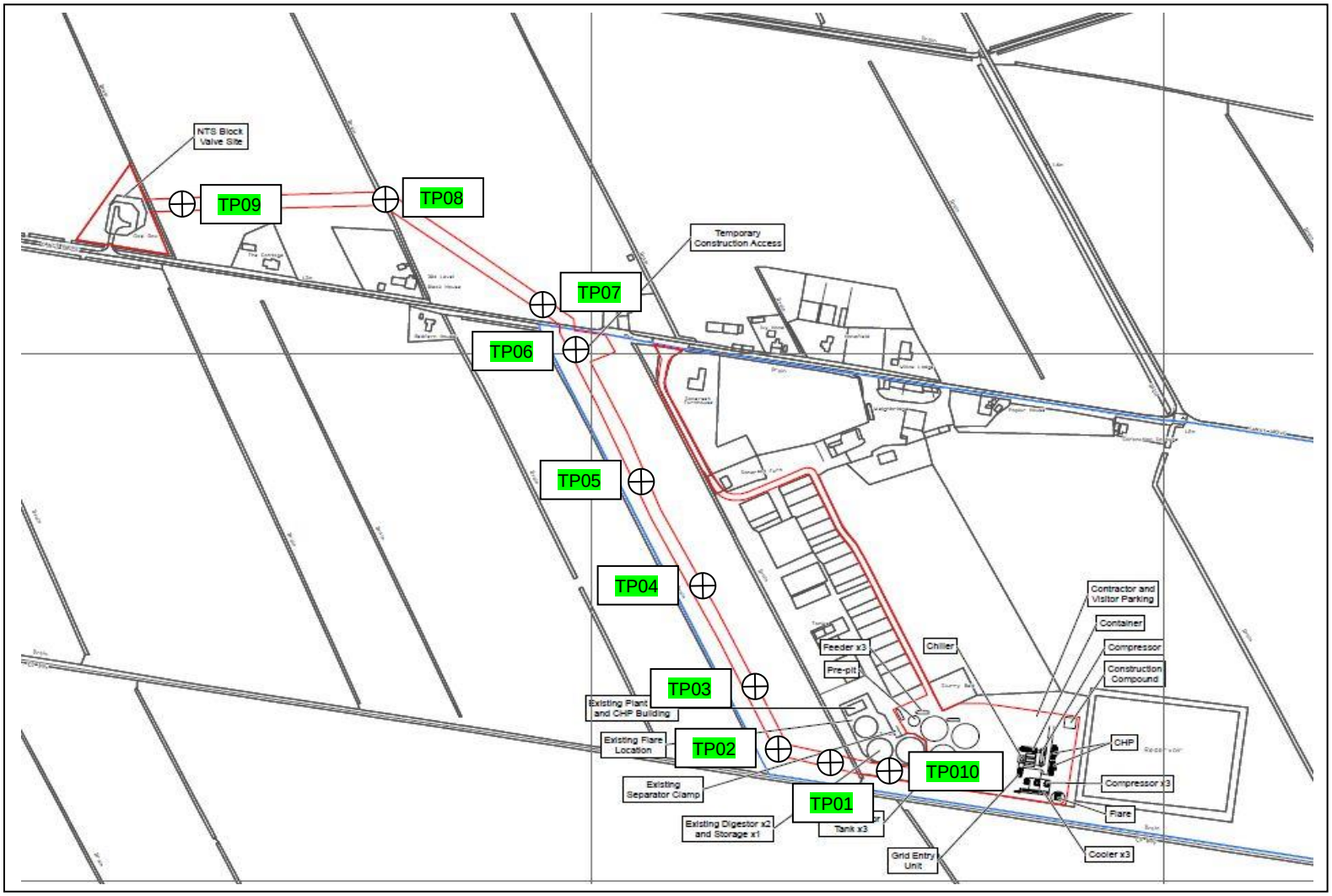
Northdown House, Ashford Road, Harrietsham, Maidstone
Kent, ME17 1QW
Telephone: 01622 858545 Facsimile: 01622 858544

Client:			Lead No:
BioCow Environmental Services Limited			**491893**
Created By: **SPD**	Checked:	Approved:	Date: **18/03/2019**



Trial Pit Locations: ⊕

Scale: Not to Scale

FIGURE 2

APPENDIX A

Fieldwork

INFRASTRUCTURE
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KEY TO BOREHOLE AND TRIAL PIT LOGS

Samples

D	Small disturbed sample
U	Undisturbed sample, 100mm nominal diameter
UT	Undisturbed thin walled sample, 100mm nominal diameter
B	Bulk disturbed samples (bar indicates sample range)
U38	Hand driven 'undisturbed' sample, 38mm nominal diameter
P	Undisturbed piston sample (bar indicates sample range)
W	Water sample
ICBR	In-situ California Bearing Ratio sample
*	No recovery sample
T	Tub sample
V	Vial sample
J	Jar sample

Tests

S	Standard penetration test
C	Cone penetration tests
N =	SPT/CPT 'N' Value (number of blows for 300mm full penetration)
80/150	Number of blows/total penetration(mm) for SPT/CPT test
25/25SP	As above for seating drive only
*	N value obtained over 450mm penetration
U =	Blows to achieve 450mm penetration for a U sample
V_h =	In-situ hand vane test in kN/m^2
m	In-situ CBR test by Mexe probe
V =	In-situ field vane test in kN/m^2
ppm =	Parts per million of flammable gas as methane equivalents
pp =	Pocket Penetrometer in kg/cm^2

Observations, Backfill and Installations

▼	Water strike – depth shown in metres below ground level.		
	Gravel backfill		Bentonite backfill
	Arisings backfill		Concrete
	Plain Pipe		Slotted Pipe

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP01** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.50	ES B D				Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 1.1 Vh = 78		*(0.60)*		
0.50		pp = 1.6 Vh = 78		0.60		
0.75		pp = 0.9			Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
1.00	ES B D	pp = 0.8 Vh = 32				
				(1.40)		
1.50	ES D	pp = 0.7 Vh = 15				
2.00	D ES			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained dry and stable throughout excavation.
2. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A1**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP02** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.40	ES D			*(0.40)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 2.0 Vh = 40				
				0.40		
0.50		pp = 2.3 Vh = 85			Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
1.00	ES D	pp = 2.4 Vh = 48		*(1.60)*		
1.50	ES D	pp = 1.5 Vh = 50				
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained dry and stable throughout excavation.
2. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A2**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP03** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.30	ES D			*(0.30)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 1.7 Vh = 35		0.30	Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
0.50		pp = 3.6 Vh = 115				
1.00	ES D	pp = 1.5 Vh = 50		*(1.70)*		
1.25		pp = 2.1 Vh = 45				
1.50	ES D	pp = 1.7 Vh = 40				
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained dry and stable throughout excavation.
2. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A3**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP04** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.40	ES D			*(0.40)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 0.8 Vh = 20				
				0.40		
0.50		pp = 0.6 Vh = 25			Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
0.75		pp = 2.1 Vh = 48				
1.00	ES D	pp = 1.6 Vh = 50		*(1.60)*		
1.25		pp = 1.6 Vh = 58				
1.50	ES D	pp = 2.0 Vh = 45				
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained dry and stable throughout excavation.
2. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A4**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP05** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.30	ES D			*(0.30)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 1.0 Vh = 32		0.30	Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
0.50		pp = 1.7 Vh = 30				
0.75		pp = 2.2 Vh = 50				
1.00	ES D	pp = 1.2 Vh = 55		*(1.70)*		
1.25		pp = 1.4 Vh = 50				
1.50	ES D	pp = 1.2 Vh = 40				
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained dry and stable throughout excavation.
2. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A5**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP06** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.30	ES D			*(0.30)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 3.3 Vh = 50		0.30	Firm and stiff, brown mottled orange, silty CLAY. (Tidal Flat Deposits)	
0.50		pp = 4.2 Vh = 85		*(0.50)*		
0.75		pp = 2.5 Vh = 50		0.80	Firm and stiff, brown and grey mottled orange, silty CLAY. (Tidal Flat Deposits)	
1.00	ES D	pp = 1.7 Vh = 90				
1.25		pp = 2.0 Vh = 78		*(1.00)*		
1.50	ES B D	pp = 1.5 Vh = 82				
1.75		pp = 1.0 Vh = 18		1.80		
				(0.20)	Soft, brown, silty CLAY. (Tidal Flat Deposits)	
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained stable throughout excavation.
2. Water seepage at the base of the trial pit.
3. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A6**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP07** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.30	ES D			*(0.30)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 2.3 Vh = 58		0.30	Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
0.50		pp = 2.2 Vh = 42				
0.75		pp = 1.8 Vh = 48				
1.00	ES D	pp = 1.4 Vh = 48		*(1.30)*		
1.25		pp = 0.8 Vh = 50				
1.50	ES D	pp = 0.7 Vh = 56		1.60	Soft, brown mottled orange, slightly fine sandy clayey SILT. Occasional medium gravel size, sub-angular ironstone concretions. (Tidal Flat Deposits)	
				(0.40)		
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained stable throughout excavation.
2. Water seepage at the base of the trial pit.
3. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A7**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 3.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP08** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.50	ES D				Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 2.1 Vh = 22		*(0.50)*		
0.50		pp = 4.0 Vh = 100		0.50	Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
0.75		pp = 2.4 Vh = 60				
1.00	ES D	pp = 1.8 Vh = 75				
1.25		pp = 1.4 Vh = 68		*(1.70)*		
1.50	ES D	pp = 1.1 Vh = 28				
2.00	ES D					
				2.20	Soft, grey mottled brown, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
2.50 - 3.00	D			*(0.80)*		
				3.00	*End of Trial Pit at 3.00 m*	

General Remarks:
1. Trial Pit remained stable to 2m below ground level then some slumping occurred once the pit had been excavated to 3m below ground level.
2. Water seepage from 2.0m below ground level.
3. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A8**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP09** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.30	ES D			*(0.30)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 2.8 Vh = 87		0.30	Stiff, light brown mottled orange, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
0.50		pp = 3.0 Vh = 90				
0.75		pp = 1.4 Vh = 72		*(1.10)*		
1.00	ES D	pp = 1.2 Vh = 60				
1.25		pp = 1.0 Vh = 40		1.40		
1.50	ES D	pp = 0.8 Vh = 32		*(0.60)*	Stiff, bluish light grey, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained stable throughout excavation.
2. Water seepage at 1.9m below ground level.
3. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A9**
Appr'd:			

Client: **BioCow Ltd**		Depth (m) 2.00	Plant used:Kubota 2t	TRIAL PIT NUMBER **TP10** Sheet 1 of 1
Width (m) 0.60	Length (m) 2.00	Method of Excavation : Mechanical Excavator	Shoring: N/A	
Co-ordinates E N	Ground Level (mAOD)		Date Started :18/03/2019	

Samples/In Situ Tests			Change of Strata		Description of Strata	Legend
Depth (m)	Type	Test/Field Records	Reduced Level (mAOD)	Depth & *(Thickness)* (m)		
0.00 - 0.40	ES D			*(0.40)*	Soft and firm, dark brown, silty CLAY. (Possible Topsoil)	
0.25		pp = 1.2 Vh = 56				
				0.40		
0.50		pp = 1.4 Vh = 68			Soft and firm, light brown with orange partings, slightly fine sandy clayey SILT. (Tidal Flat Deposits)	
0.75		pp = 1.0 Vh = 38				
1.00	ES D	pp = 0.7 Vh = 32		*(1.60)*		
1.25		pp = 0.9 Vh = 34				
1.50	ES D	pp = 1.1				
2.00	ES D			2.00	*End of Trial Pit at 2.00 m*	

General Remarks:
1. Trial Pit remained dry and stable throughout excavation.
2. Roots noted to base of trial pit.

Ref:	491893	TRIAL PIT RECORD Scale 1:25 Symbols and abbreviations in accoradance with AGS	CET INFRASTRUCTURE Giving our all
Logged:	SPD		
Check'd:		**Somerset Farm, Murrow**	**FIG A10**
Appr'd:			

APPENDIX B

Laboratory Testing

Moisture Content and Plasticity Index								
BH. No.	Depth (m bgl)	Moisture Content (%)	Liquid Limit (%)	Plastic Limit (%)	Plasticity Index (%)	Percentage Passing the 425µm Test Sieve	Volume change potential (N.H.B.C)	Plasticity chart classification (BS 5930:2015)
TP01	1.0	21						
TP05	1.0	14						
TP06	1.0	38	82	27	55	100	High	CV
TP08	1.0	22						
TP10	1.0	26						

Water Soluble Sulphate and pH					
BH	**Depth (m bgl)**	**Water Soluble Sulphate (mg/l)**	**pH**	**Design Sulphate Class (BRE Special Digest 1:2005)**	**ACEC Class**
TP01	0 - 0.5	24	7.4	DS-1	AC-1[d]
TP01	1.5	17	7.8	DS-1	AC-1[d]
TP02	1.5	30	7.8	DS-1	AC-1[d]
TP03	0 – 0.3	22	7.4	DS-1	AC-1[d]
TP03	1.5	22	7.8	DS-1	AC-1[d]
TP04	1.5	19	8.0	DS-1	AC-1[d]
TP05	2.0	1500	8.0	DS-2	AC-2
TP06	1.5	718	7.6	DS-2	AC-2
TP07	0 – 0.3	23	7.5	DS-1	AC-1[d]
TP08	1.5	<10	8.1	DS-1	AC-1[d]
TP08	2.0	15	8.0	DS-1	AC-1[d]
TP09	1.5	26	7.8	DS-1	AC-1[d]
TP09	2.0	49	7.8	DS-1	AC-1[d]
TP10	0 – 0.4	47	7.7	DS-1	AC-1[d]
TP10	1.5	261	7.7	DS-1	AC-1[d]
TP10	2.0	368	7.6	DS-1	AC-1[d]

NOTES
[d] For flowing water that is potentially aggressive to concrete owing to high purity or an aggressive carbon dioxide level greater than 15 mg/l, increase the ACEC class to AC-2z.

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TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
BS 1377 : Part 2 : 1990 : clause 9.2 : Wet Sieving Method
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method

REPORT NUMBER:	491893 / 67020.3.1.1	CLIENT:	Murrow AD Plant Ltd
SAMPLE NUMBER:	109532	ADDRESS:	Somerset Farm
CLIENT REFERENCE:	TP01 1.00	SITE:	Murrow
DATE RECEIVED:	22/03/2019	SUPPLIER:	Details Not Supplied
DATE SAMPLED	Unknown	MATERIAL :	Brown Silty Sandy Clay
SAMPLED BY:	Client	CLASSIFICATION:	BLANK SPEC
DATE TEST COMPLETED:	29/03/2019	LOCATION:	Stockpile
TESTED BY:	BM	PREPARATION METHOD:	BS 1377:Part 1:1990 clause 7.3 & 7.4.5
ORIENTATION OF TEST SPECIMEN		VARIATIONS:	No variations
WITHIN ORIGINAL SPECIMEN:	N/A	TYPE OF SAMPLE:	Disturbed

RESULT:

BS TEST SIEVE	PERCENTAGE PASSING	CONTRACT SPECIFICATION GRADING LIMITS
mm	%	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5.0	100	
3.35	100	
2.00	100	
1.18	100	
0.600	100	
0.425	99	
0.300	99	
0.212	99	
0.150	99	
0.063	74	
0.020	56	
0.006	38	
0.002	30	

Remarks: The material tested complies with the grading specification requirements stated above .

A particle density of (assumed) 2.65 Mg/m³ has been used in the hydrometer calculation

For and on behalf of CET

Chris Davidson - Laboratory Manager
Matt Oliver- Site Manager
Dan Gay- Laboratory Supervisor
Phil Mayhew - Operations Manager
Matt Butt- Operations Supervisor

UKAS TESTING
0927

Remaining sample will be retained for a minimum of 28 days from date of report.

Approved Signatory
03-Apr-19

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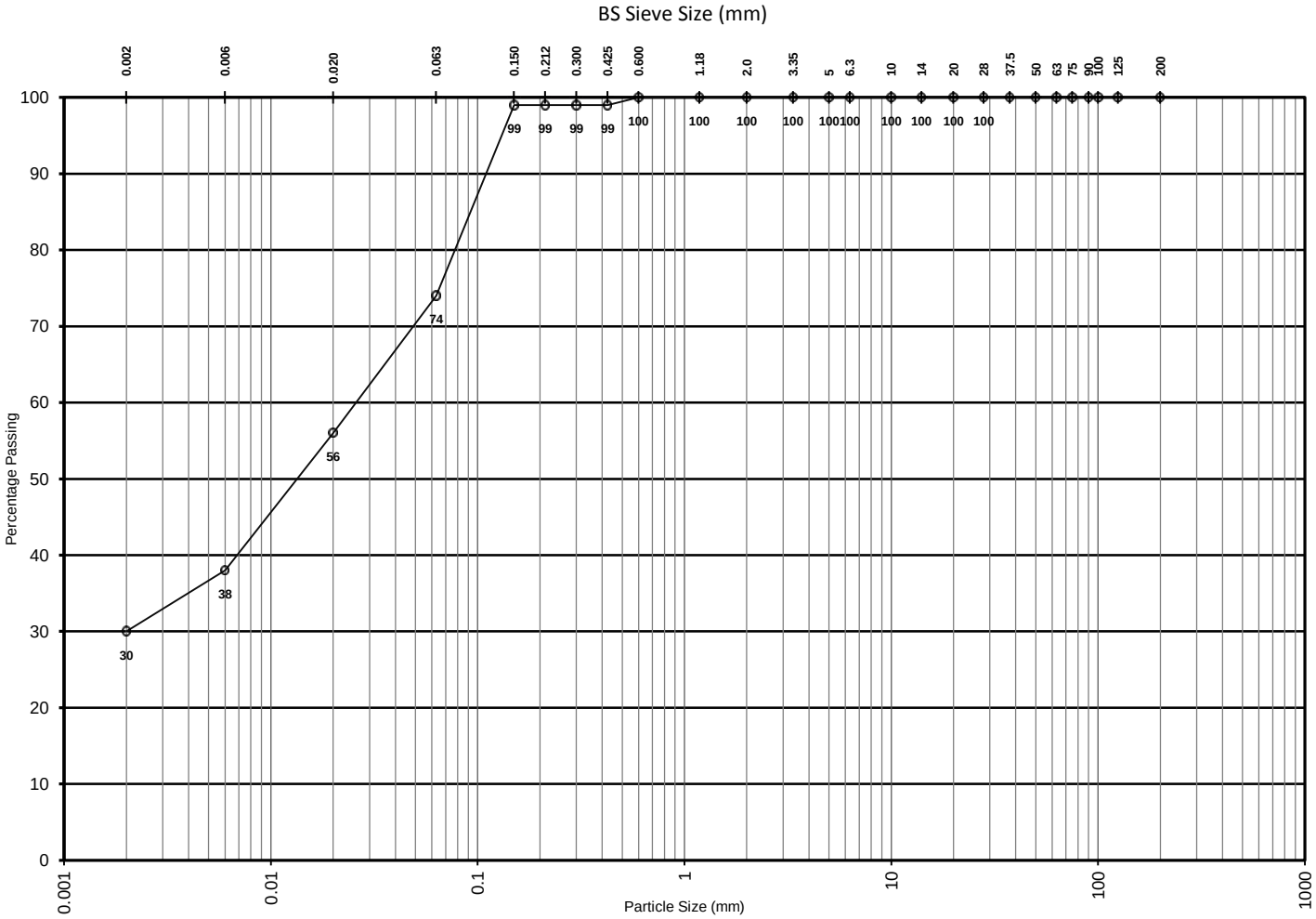
TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
SEDIMENTATION BY THE HYDROMETER METHOD:
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method
BS 1377 : Part 2 : 1990 : clause 9.2 - Wet Sieving Method

REPORT NUMBER: 491893 / 67020.3.1.1

ORGANIC MATTER CONTENT: Less than 0.5%

PRETREATMENT FOR ORGANIC MATTER: N/A



CLAY	SILT			SAND			GRAVEL			COBBLE	BOULDERS
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
	0.002	0.006	0.020	0.063	0.20	0.63	2.0	6.3	20	63	200

Percentage BOULDERS: 0%

Percentage COBBLES: 0%

Percentage GRAVEL: 0%

Percentage SAND: 26%

Percentage SILT: 44%

Percentage CLAY: 30%

Report Format: L/Rep Hydro rev.2

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TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
BS 1377 : Part 2 : 1990 : clause 9.2 : Wet Sieving Method
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method

REPORT NUMBER:	491893 / 67020.5.1.1	CLIENT:	Murrow AD Plant Ltd
SAMPLE NUMBER:	109534	ADDRESS:	Somerset Farm
CLIENT REFERENCE:	TP05 1.00	SITE:	Murrow
DATE RECEIVED:	22/03/2019	SUPPLIER:	Details Not Provided
DATE SAMPLED	Unknown	MATERIAL :	Brown Silty Sandy Clay
SAMPLED BY:	Client	CLASSIFICATION:	BLANK SPEC
DATE TEST COMPLETED:	29/03/2019	LOCATION:	Stockpile
TESTED BY:	BM	PREPARATION METHOD:	BS 1377:Part 1:1990 clause 7.3 & 7.4.5
ORIENTATION OF TEST SPECIMEN		VARIATIONS:	No variations
WITHIN ORIGINAL SPECIMEN:	N/A	TYPE OF SAMPLE:	Disturbed

RESULT:

BS TEST SIEVE	PERCENTAGE PASSING	CONTRACT SPECIFICATION GRADING LIMITS
mm	%	
125	100	
100	100	
90	100	
75	100	
63	100	
50	100	
37.5	100	
28	100	
20	100	
14	100	
10	100	
6.3	100	
5.0	100	
3.35	100	
2.00	100	
1.18	100	
0.600	100	
0.425	100	
0.300	100	
0.212	99	
0.150	93	
0.063	29	
0.020	18	
0.006	12	
0.002	10	

Remarks: The material tested complies with the grading specification requirements stated above .

A particle density of (assumed) 2.65 Mg/m³ has been used in the hydrometer calculation

For and on behalf of CET

Chris Davidson - Laboratory Manager
Matt Oliver- Site Manager
Dan Gay- Laboratory Supervisor
Phil Mayhew - Operations Manager
Matt Butt- Operations Supervisor

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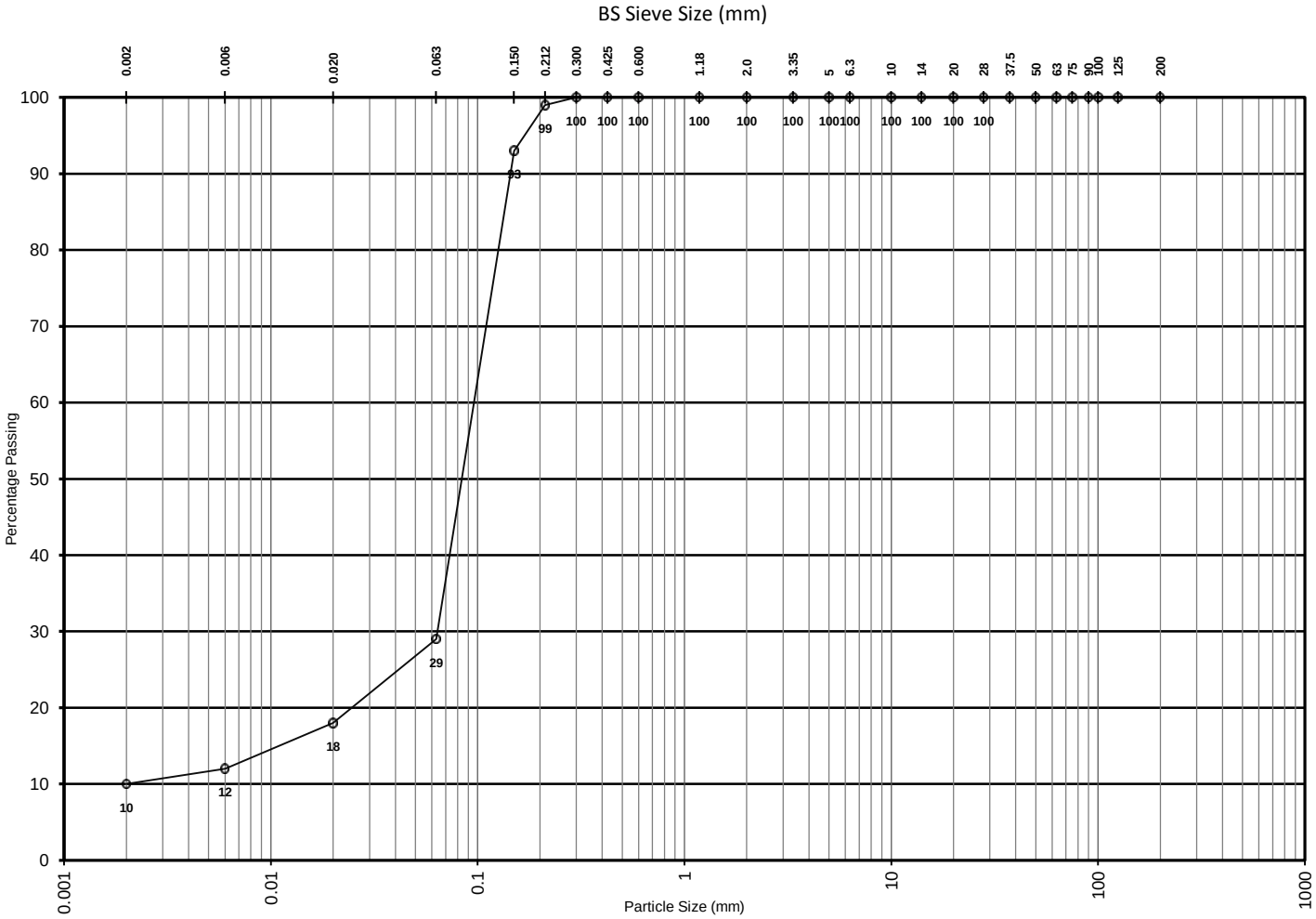
TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
SEDIMENTATION BY THE HYDROMETER METHOD:
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method
BS 1377 : Part 2 : 1990 : clause 9.2 - Wet Sieving Method

REPORT NUMBER: 491893 / 67020.5.1.1

ORGANIC MATTER CONTENT: Less than 0.5%

PRETREATMENT FOR ORGANIC MATTER: N/A



CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
	0.002	0.006	0.020	0.063	0.20	0.63	2.0	6.3	20	63	200
	SILT			SAND			GRAVEL			COBBLE	BOULDERS

Percentage BOULDERS: 0%

Percentage COBBLES: 0%

Percentage GRAVEL: 0%

Percentage SAND: 71%

Percentage SILT: 19%

Percentage CLAY: 10%

Report Format: L/Rep Hydro rev.2

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TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
BS 1377 : Part 2 : 1990 : clause 9.2 : Wet Sieving Method
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method

REPORT NUMBER:	491893 / 67020.11.1.1	CLIENT:	Murrow AD Plant Ltd
SAMPLE NUMBER:	109539	ADDRESS:	Somerset Farm
CLIENT REFERENCE:	TP10 1.00	SITE:	Murrow
DATE RECEIVED:	22/03/2019	SUPPLIER:	Details Not Provided
DATE SAMPLED	Unknown	MATERIAL :	Brown Silty Sandy Clay
SAMPLED BY:	Client	CLASSIFICATION:	Class 2A wet cohesive material
DATE TEST COMPLETED:	29/03/2019	LOCATION:	Stockpile
TESTED BY:	BM	PREPARATION METHOD:	BS 1377:Part 1:1990 clause 7.3 & 7.4.5
ORIENTATION OF TEST SPECIMEN		VARIATIONS:	No variations
WITHIN ORIGINAL SPECIMEN:	N/A	TYPE OF SAMPLE:	Disturbed

RESULT:

BS TEST SIEVE	PERCENTAGE PASSING	SPECIFICATION FOR HIGHWAY WORKS GRADING SPECIFICATION LIMITS		
mm	%			
125	100	100	-	100
100	100			
90	100			
75	100			
63	100			
50	100			
37.5	100			
28	100			
20	100			
14	100			
10	100			
6.3	100			
5.0	100			
3.35	100			
2.00	100	80	-	100
1.18	100			
0.600	100			
0.425	100			
0.300	100			
0.212	99			
0.150	99			
0.063	68	15	-	100
0.020	48			
0.006	32			
0.002	22			

Remarks: The material tested complies with the grading specification requirements stated above .

A particle density of (assumed) 2.65 Mg/m³ has been used in the hydrometer calculation

For and on behalf of CET

Chris Davidson - Laboratory Manager
Matt Oliver- Site Manager
Dan Gay- Laboratory Supervisor
Phil Mayhew - Operations Manager
Matt Butt- Operations Supervisor

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Remaining sample will be retained for a minimum of 28 days from date of report.

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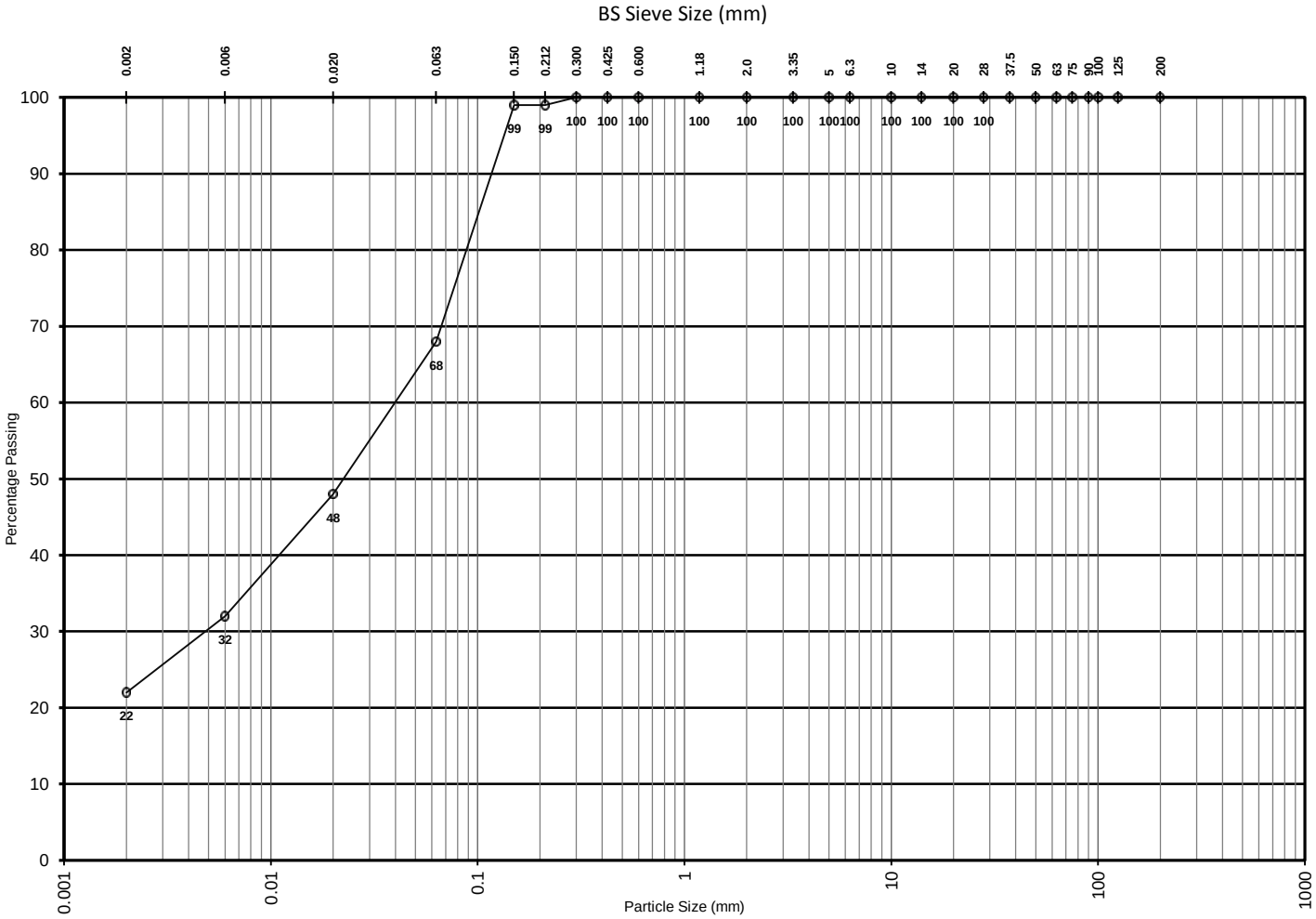
TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
SEDIMENTATION BY THE HYDROMETER METHOD:
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method
BS 1377 : Part 2 : 1990 : clause 9.2 - Wet Sieving Method

REPORT NUMBER: 491893 / 67020.11.1.1

ORGANIC MATTER CONTENT: Less than 0.5%

PRETREATMENT FOR ORGANIC MATTER: N/A



CLAY	SILT			SAND			GRAVEL			COBBLE	BOULDERS
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
	0.002	0.006	0.020	0.063	0.20	0.63	2.0	6.3	20	63	200

Percentage BOULDERS: 0%

Percentage COBBLES: 0%

Percentage GRAVEL: 0%

Percentage SAND: 32%

Percentage SILT: 46%

Percentage CLAY: 22%

Report Format: L/Rep Hydro rev.2

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TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
BS 1377 : Part 2 : 1990 : clause 9.2 : Wet Sieving Method
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method

REPORT NUMBER:	491893 / 67020.13.1.1	CLIENT:	Murrow AD Plant Ltd
SAMPLE NUMBER:	109541	ADDRESS:	Somerset Farm
CLIENT REFERENCE:	TP08 1.00	SITE:	Murrow
DATE RECEIVED:	22/03/2019	SUPPLIER:	Details Not Supplied
DATE SAMPLED	Unknown	MATERIAL :	Brown Silty Sandy Clay
SAMPLED BY:	Client	CLASSIFICATION:	Class 2A wet cohesive material
DATE TEST COMPLETED:	29/03/2019	LOCATION:	Stockpile
TESTED BY:	BM	PREPARATION METHOD:	BS 1377:Part 1:1990 clause 7.3 & 7.4.5
ORIENTATION OF TEST SPECIMEN		VARIATIONS:	No variations
WITHIN ORIGINAL SPECIMEN:	N/A	TYPE OF SAMPLE:	Disturbed

RESULT:

BS TEST SIEVE	PERCENTAGE PASSING	SPECIFICATION FOR HIGHWAY WORKS GRADING SPECIFICATION LIMITS		
mm	%			
125	100	100	-	100
100	100			
90	100			
75	100			
63	100			
50	100			
37.5	100			
28	100			
20	100			
14	100			
10	100			
6.3	100			
5.0	100			
3.35	100			
2.00	100	80	-	100
1.18	100			
0.600	100			
0.425	100			
0.300	100			
0.212	100			
0.150	99			
0.063	44	15	-	100
0.020	28			
0.006	19			
0.002	15			

Remarks: The material tested complies with the grading specification requirements stated above .

A particle density of (assumed) 2.65 Mg/m³ has been used in the hydrometer calculation

For and on behalf of CET

Chris Davidson - Laboratory Manager
Matt Oliver- Site Manager
Dan Gay- Laboratory Supervisor
Phil Mayhew - Operations Manager
Matt Butt- Operations Supervisor

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Remaining sample will be retained for a minimum of 28 days from date of report.

Report Format: L/Rep S8a/2

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INFRASTRUCTURE
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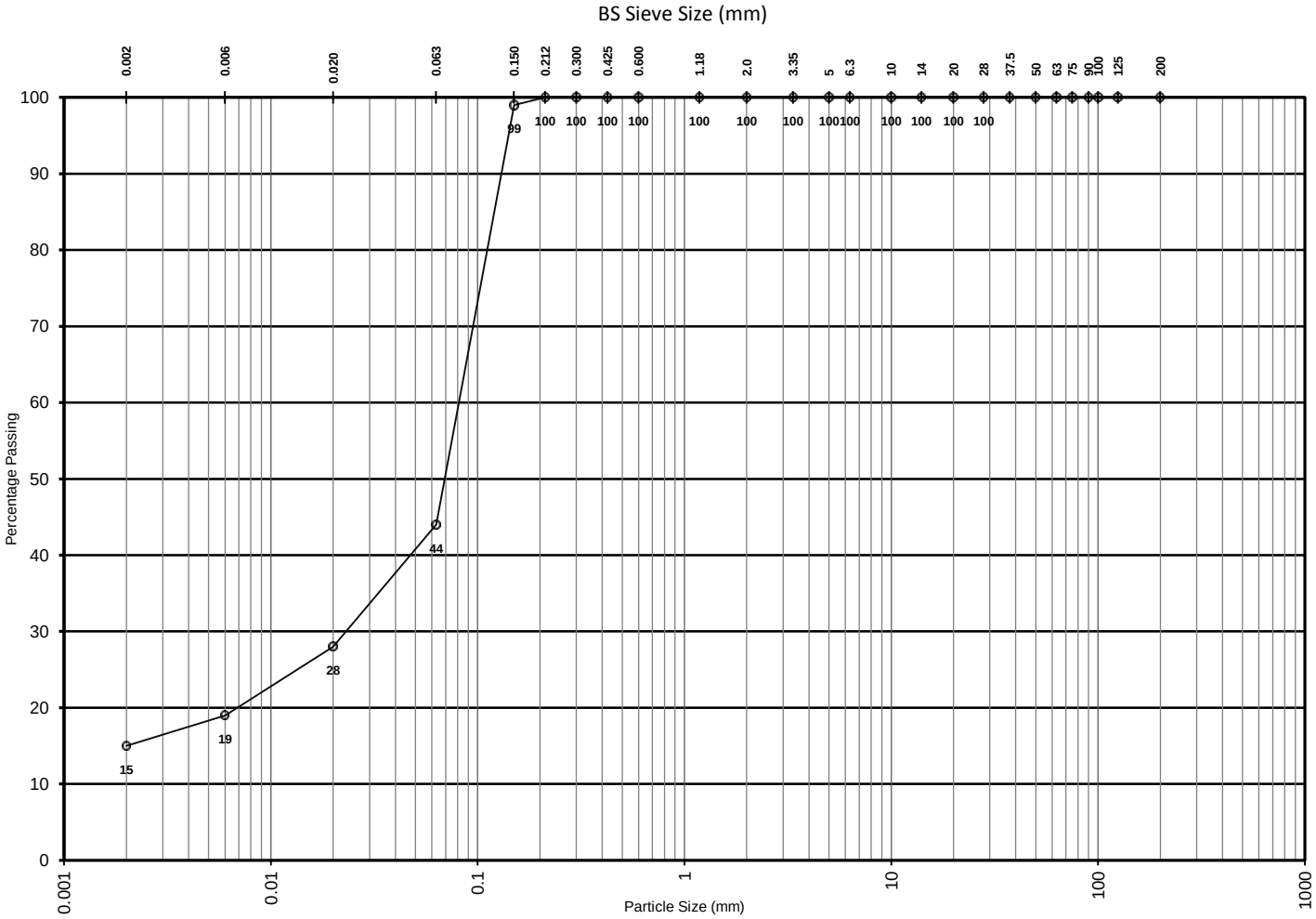
TEST REPORT: **DETERMINATION OF THE PARTICLE SIZE DISTRIBUTION OF SOIL MATERIALS**
SEDIMENTATION BY THE HYDROMETER METHOD:
BS 1377 : Part 2 : 1990 : clause 9.5 - Fine Grading by Hydrometer Method
BS 1377 : Part 2 : 1990 : clause 9.2 - Wet Sieving Method

REPORT NUMBER: 491893 / 67020.13.1.1

ORGANIC MATTER CONTENT: Less than 0.5%

PRETREATMENT FOR ORGANIC MATTER: N/A



CLAY	SILT			SAND			GRAVEL			COBBLE	BOULDERS
	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse		
	0.002	0.006	0.020	0.063	0.20	0.63	2.0	6.3	20	63	200

Percentage BOULDERS: 0%

Percentage COBBLES: 0%

Percentage GRAVEL: 0%

Percentage SAND: 56%

Percentage SILT: 29%

Percentage CLAY: 15%

Report Format: L/Rep Hydro rev.2

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Waste Hazard Assessment Report. DETS Report Number: 19-04025.					
Sample Ref:	European Waste Catalogue (EWC) Code	Compliant with inert WAC?	Waste Acceptance	Asbestos Present?	Comments
TP01 0.5m	17 05 04 Non-hazardous	No	Non-hazardous	Not Detected	Inert WAC threshold exceeded: Fluoride: 13mg/kg
TP03 0.3m	17 05 04 Non-hazardous			Not Detected	
TP07 0.3m	17 05 04 Non-hazardous			Not Detected	
TP10 0.4m	17 05 04 Non-hazardous			Not Detected	
TP02 1.5m	17 05 04 Non-hazardous	Yes	Inert	Not Detected	-
TP04 1.5m	17 05 04 Non-hazardous			Not Detected	
TP08 1.5m	17 05 04 Non-hazardous			Not Detected	
TP06 1.5m	17 05 04 Non-hazardous	Yes	Inert	Not Detected	-
TP05 2.0m	17 05 04 Non-hazardous	No	Non-hazardous	Not Detected	Inert WAC threshold exceeded: Sulphate: 2840mg/kg
TP09 2.0m	17 05 04 Non-hazardous			Not Detected	
TP10 2.0m	17 05 04 Non-hazardous			Not Detected	

Simon Donne
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DETS Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 19-04025

Site Reference:	Somerset Farm
Project / Job Ref:	491893
Order No:	None Supplied
Sample Receipt Date:	20/03/2019
Sample Scheduled Date:	22/03/2019
Report Issue Number:	1
Reporting Date:	28/03/2019

Authorised by:

Russell Jarvis
Associate Director of Client Services

DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410

4480

Soil Analysis Certificate						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP01	TP03	TP07	TP10	TP02
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	50.00	0.30	0.30	0.40	1.50
Reporting Date: 28/03/2019	**DETS Sample No**	397256	397257	397258	397259	397260

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.4	7.4	7.5	7.7	7.8
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	24	22	23	47	30
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.02	0.02	0.02	0.05	0.03
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.6	3	3.6	2.8	0.5
Arsenic (As)	mg/kg	< 2	MCERTS	11	14	11	11	9
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	0.3	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	15	22	16	17	9
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	8	12	10	14	4
Lead (Pb)	mg/kg	< 3	MCERTS	10	14	13	19	5
Mercury (Hg)	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	13	20	16	14	9
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	36	53	47	57	25
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
TPH - Aliphatic >C35 - C40	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >C35 - C40	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic / Aromatic (C6 - C40) - Total	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42
Tentative Petroleum Type	N/a	N/a	NONE	N/a	N/a	Typical of PAH range organics	N/a	N/a

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C
Subcontracted analysis (S)

DETS Ltd
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Soil Analysis Certificate						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP04	TP08	TP06	TP05	TP09
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	1.50	1.50	1.50	2.00	2.00
Reporting Date: 28/03/2019	**DETS Sample No**	397261	397262	397263	397264	397265

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	8.0	8.1	7.6	8.0	7.8
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	19	< 10	718	1500	49
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.02	< 0.01	0.72	1.50	0.05
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.3	0.2	1.1	0.4	0.5
Arsenic (As)	mg/kg	< 2	MCERTS	6	6	18	9	5
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	3.4	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	6	6	32	7	11
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Copper (Cu)	mg/kg	< 4	MCERTS	< 4	< 4	15	< 4	6
Lead (Pb)	mg/kg	< 3	MCERTS	< 3	< 3	15	4	5
Mercury (Hg)	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	6	6	33	7	11
Selenium (Se)	mg/kg	< 3	NONE	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	18	17	78	20	30
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
TPH - Aliphatic >C35 - C40	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH - Aromatic >C35 - C40	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
TPH - Aliphatic / Aromatic (C6 - C40) - Total	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42
Tentative Petroleum Type	N/a	N/a	NONE	N/a	N/a	N/a	N/a	N/a

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C
Subcontracted analysis (S)

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Soil Analysis Certificate						
DETS Report No: 19-04025	**Date Sampled**	18/03/19				
CET UK Ltd	**Time Sampled**	None Supplied				
Site Reference: Somerset Farm	**TP / BH No**	TP10				
Project / Job Ref: 491893	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	2.00				
Reporting Date: 28/03/2019	**DETS Sample No**	397266				

Determinand	Unit	RL	Accreditation					
Asbestos Screen (S)	N/a	N/a	ISO17025	Not Detected				
pH	pH Units	N/a	MCERTS	7.6				
Free Cyanide	mg/kg	< 2	NONE	< 2				
W/S Sulphate as SO_4 (2:1)	mg/l	< 10	MCERTS	368				
W/S Sulphate as SO_4 (2:1)	g/l	< 0.01	MCERTS	0.37				
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.3				
Arsenic (As)	mg/kg	< 2	MCERTS	3				
W/S Boron	mg/kg	< 1	NONE	< 1				
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2				
Chromium (Cr)	mg/kg	< 2	MCERTS	9				
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2				
Copper (Cu)	mg/kg	< 4	MCERTS	< 4				
Lead (Pb)	mg/kg	< 3	MCERTS	4				
Mercury (Hg)	mg/kg	< 1	NONE	< 1				
Nickel (Ni)	mg/kg	< 3	MCERTS	8				
Selenium (Se)	mg/kg	< 3	NONE	< 3				
Zinc (Zn)	mg/kg	< 3	MCERTS	24				
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2				
TPH - Aliphatic >C35 - C40	mg/kg	< 10	MCERTS	< 10				
TPH - Aromatic >C35 - C40	mg/kg	< 10	MCERTS	< 10				
TPH - Aliphatic / Aromatic (C6 - C40) - Total	mg/kg	< 42	NONE	< 42				
Tentative Petroleum Type	N/a	N/a	NONE	N/a				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C
Subcontracted analysis (S)

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP01	TP03	TP07	TP10	TP02
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	50.00	0.30	0.30	0.40	1.50
Reporting Date: 28/03/2019	**DETS Sample No**	397256	397257	397258	397259	397260

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.18	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.16	0.17	0.75	0.18	0.13
Pyrene	mg/kg	< 0.1	MCERTS	0.15	0.15	0.65	0.15	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.43	0.42	0.70	0.42	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.20	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.35	0.35	0.63	0.36	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.16	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.16	0.16	0.37	0.17	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.40	0.39	0.49	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.21	0.21	0.30	0.20	< 0.1
Coronene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	1.3	1.3	2.6	< 1	< 1
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	1.4	1.4	3.2	< 1	< 1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	1.8	1.8	4.4	< 1.6	< 1.6
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	1.8	1.8	4.4	< 1.7	< 1.7

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP04	TP08	TP06	TP05	TP09
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	1.50	1.50	1.50	2.00	2.00
Reporting Date: 28/03/2019	**DETS Sample No**	397261	397262	397263	397264	397265

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.13	< 0.1	0.15	0.16	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.14	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Coronene	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	< 1.7	< 1.7	< 1.7	< 1.7	< 1.7

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 19-04025	**Date Sampled**	18/03/19				
CET UK Ltd	**Time Sampled**	None Supplied				
Site Reference: Somerset Farm	**TP / BH No**	TP10				
Project / Job Ref: 491893	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	2.00				
Reporting Date: 28/03/2019	**DETS Sample No**	397266				

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1				
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1				
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1				
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1				
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1				
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1				
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1				
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1				
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1				
Coronene	mg/kg	< 0.1	NONE	< 0.1				
Total Oily Waste PAHs	mg/kg	< 1	MCERTS	< 1				
Total Dutch 10 PAHs	mg/kg	< 1	MCERTS	< 1				
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6				
Total WAC-17 PAHs	mg/kg	< 1.7	NONE	< 1.7				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP01	TP03	TP07	TP10	TP02
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	50.00	0.30	0.30	0.40	1.50
Reporting Date: 28/03/2019	**DETS Sample No**	397256	397257	397258	397259	397260

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

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Soil Analysis Certificate - TPH CWG Banded							
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP04	TP08	TP06	TP05	TP09
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	1.50	1.50	1.50	2.00	2.00
Reporting Date: 28/03/2019	**DETS Sample No**	397261	397262	397263	397264	397265

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

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Soil Analysis Certificate - TPH CWG Banded						
DETS Report No: 19-04025	**Date Sampled**	18/03/19				
CET UK Ltd	**Time Sampled**	None Supplied				
Site Reference: Somerset Farm	**TP / BH No**	TP10				
Project / Job Ref: 491893	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	2.00				
Reporting Date: 28/03/2019	**DETS Sample No**	397266				

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01				
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2				
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2				
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3				
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3				
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10				
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21				
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01				
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05				
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2				
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2				
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2				
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	5				
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10				
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21				
Total >C5 - C35	mg/kg	< 42	NONE	< 42				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP01	TP03	TP07	TP10	TP02
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	50.00	0.30	0.30	0.40	1.50
Reporting Date: 28/03/2019	**DETS Sample No**	397256	397257	397258	397259	397260

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP04	TP08	TP06	TP05	TP09
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	1.50	1.50	1.50	2.00	2.00
Reporting Date: 28/03/2019	**DETS Sample No**	397261	397262	397263	397264	397265

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 19-04025	**Date Sampled**	18/03/19				
CET UK Ltd	**Time Sampled**	None Supplied				
Site Reference: Somerset Farm	**TP / BH No**	TP10				
Project / Job Ref: 491893	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	2.00				
Reporting Date: 28/03/2019	**DETS Sample No**	397266				

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2				
Toluene	ug/kg	< 5	MCERTS	< 5				
Ethylbenzene	ug/kg	< 2	MCERTS	< 2				
p & m-xylene	ug/kg	< 2	MCERTS	< 2				
o-xylene	ug/kg	< 2	MCERTS	< 2				
MTBE	ug/kg	< 5	MCERTS	< 5				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{O}C

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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP01	TP03	TP07	TP10	TP02
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	50.00	0.30	0.30	0.40	1.50
Reporting Date: 28/03/2019	**DETS Sample No**	397256	397257	397258	397259	397260

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 19-04025	**Date Sampled**	18/03/19	18/03/19	18/03/19	18/03/19	18/03/19
CET UK Ltd	**Time Sampled**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Somerset Farm	**TP / BH No**	TP04	TP08	TP06	TP05	TP09
Project / Job Ref: 491893	**Additional Refs**	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	**Depth (m)**	1.50	1.50	1.50	2.00	2.00
Reporting Date: 28/03/2019	**DETS Sample No**	397261	397262	397263	397264	397265

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 52	mg/kg	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 101	mg/kg	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 138	mg/kg	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 153	mg/kg	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 180	mg/kg	< 0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 19-04025	**Date Sampled**	18/03/19				
CET UK Ltd	**Time Sampled**	None Supplied				
Site Reference: Somerset Farm	**TP / BH No**	TP10				
Project / Job Ref: 491893	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	2.00				
Reporting Date: 28/03/2019	**DETS Sample No**	397266				

Determinand	**Unit**	**RL**	**Accreditation**					
PCB Congener 28	mg/kg	0.008	NONE	< 0.008				
PCB Congener 52	mg/kg	0.008	NONE	< 0.008				
PCB Congener 101	mg/kg	0.008	NONE	< 0.008				
PCB Congener 118	mg/kg	0.008	NONE	< 0.008				
PCB Congener 138	mg/kg	0.008	NONE	< 0.008				
PCB Congener 153	mg/kg	0.008	NONE	< 0.008				
PCB Congener 180	mg/kg	0.008	NONE	< 0.008				
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30^{o}C

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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2

DETS Report No: 19-04025		**Date Sampled**	18/03/19	**Landfill Waste Acceptance Criteria Limits**		
CET UK Ltd		**Time Sampled**	None Supplied	**Inert Waste Landfill**	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Site Reference: Somerset Farm		**TP / BH No**	TP06			
Project / Job Ref: 491893		**Additional Refs**	None Supplied			
Order No: None Supplied		**Depth (m)**	1.50			
Reporting Date: 28/03/2019		**DETS Sample No**	397263			
Determinand	**Unit**	**MDL**				
TOC[MU]	%	< 0.1	1.1	3%	5%	6%
Loss on Ignition	%	< 0.01	4.30	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	< 1.7	100	--	--
pH[MU]	pH Units	N/a	7.6	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1	--	To be evaluated	To be evaluated

Eluate Analysis	**10:1 mg/l**			**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01			< 0.1	0.5	2	25
Barium[U]	< 0.02			< 0.2	20	100	300
Cadmium[U]	< 0.0005			< 0.005	0.04	1	5
Chromium[U]	< 0.005			< 0.05	0.5	10	70
Copper[U]	< 0.01			< 0.1	2	50	100
Mercury[U]	< 0.0005			< 0.01	0.01	0.2	2
Molybdenum[U]	0.005			0.05	0.5	10	30
Nickel[U]	< 0.007			< 0.07	0.4	10	40
Lead[U]	< 0.005			< 0.05	0.5	10	50
Antimony[U]	< 0.0060			< 0.06	0.06	0.7	5
Selenium[U]	< 0.005			< 0.05	0.1	0.5	7
Zinc[U]	< 0.005			< 0.05	4	50	200
Chloride[U]	11			107	800	15000	25000
Fluoride[U]	0.8			8	10	150	500
Sulphate[U]	94			938	1000	20000	50000
TDS	189			1891	4000	60000	100000
Phenol Index	< 0.01			< 0.1	1	-	-
DOC	15.6			156	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.12						
Dry Matter (%)	72.9						
Moisture (%)	37.2						
Stage 1							
Volume Eluate L10 (litres)	0.87						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepencies with current legislation
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2

DETS Report No: 19-04025		**Date Sampled**	18/03/19	**Landfill Waste Acceptance Criteria Limits**		
CET UK Ltd		**Time Sampled**	None Supplied	**Inert Waste Landfill**	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Site Reference: Somerset Farm		**TP / BH No**	Comp TP01, 03, 07, 10			
Project / Job Ref: 491893		**Additional Refs**	None Supplied			
Order No: None Supplied		**Depth (m)**	None Supplied			
Reporting Date: 28/03/2019		**DETS Sample No**	397267			
Determinand	**Unit**	**MDL**				
TOC[MU]	%	< 0.1	2.1	3%	5%	6%
Loss on Ignition	%	< 0.01	5.20	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	< 1.7	100	--	--
pH[MU]	pH Units	N/a	7.6	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1	--	To be evaluated	To be evaluated

Eluate Analysis	**10:1 mg/l**	**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01	< 0.1	0.5	2	25
Barium[U]	< 0.02	< 0.2	20	100	300
Cadmium[U]	< 0.0005	< 0.005	0.04	1	5
Chromium[U]	< 0.005	< 0.05	0.5	10	70
Copper[U]	< 0.01	< 0.1	2	50	100
Mercury[U]	< 0.0005	< 0.01	0.01	0.2	2
Molybdenum[U]	0.003	0.03	0.5	10	30
Nickel[U]	< 0.007	< 0.07	0.4	10	40
Lead[U]	< 0.005	< 0.05	0.5	10	50
Antimony[U]	< 0.0060	< 0.06	0.06	0.7	5
Selenium[U]	< 0.005	< 0.05	0.1	0.5	7
Zinc[U]	0.010	0.10	4	50	200
Chloride[U]	< 1	< 10	800	15000	25000
Fluoride[U]	1.3	13	**10**	150	500
Sulphate[U]	4	37	1000	20000	50000
TDS	83	830	4000	60000	100000
Phenol Index	< 0.01	< 0.1	1	-	-
DOC	19.7	197	500	800	1000
Leach Test Information					
Sample Mass (kg)	0.11				
Dry Matter (%)	84				
Moisture (%)	19.2				
Stage 1					
Volume Eluate L10 (litres)	0.88				

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepencies with current legislation
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2

DETS Report No: 19-04025	**Date Sampled**	18/03/19		**Landfill Waste Acceptance Criteria Limits**		
CET UK Ltd	**Time Sampled**	None Supplied		**Inert Waste Landfill**	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
Site Reference: Somerset Farm	**TP / BH No**	Comp TP02, 04, 08				
Project / Job Ref: 491893	**Additional Refs**	None Supplied				
Order No: None Supplied	**Depth (m)**	None Supplied				
Reporting Date: 28/03/2019	**DETS Sample No**	397268				

Determinand	**Unit**	**MDL**						
TOC[MU]	%	< 0.1	0.3				3%	5%	6%
Loss on Ignition	%	< 0.01	0.90				--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05				6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1				1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10				500	--	--
Total PAH[MU]	mg/kg	< 1.7	< 1.7				100	--	--
pH[MU]	pH Units	N/a	7.9				--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1				--	To be evaluated	To be evaluated

Eluate Analysis	**10:1 mg/l**			**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01			< 0.1	0.5	2	25
Barium[U]	< 0.02			< 0.2	20	100	300
Cadmium[U]	< 0.0005			< 0.005	0.04	1	5
Chromium[U]	< 0.005			< 0.05	0.5	10	70
Copper[U]	< 0.01			< 0.1	2	50	100
Mercury[U]	< 0.0005			< 0.01	0.01	0.2	2
Molybdenum[U]	0.002			0.02	0.5	10	30
Nickel[U]	< 0.007			< 0.07	0.4	10	40
Lead[U]	< 0.005			< 0.05	0.5	10	50
Antimony[U]	< 0.0060			< 0.06	0.06	0.7	5
Selenium[U]	< 0.005			< 0.05	0.1	0.5	7
Zinc[U]	< 0.005			< 0.05	4	50	200
Chloride[U]	1			10	800	15000	25000
Fluoride[U]	0.6			6	10	150	500
Sulphate[U]	3			29	1000	20000	50000
TDS	62			620	4000	60000	100000
Phenol Index	< 0.01			< 0.1	1	-	-
DOC	9.6			96.3	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.11						
Dry Matter (%)	83.8						
Moisture (%)	19.4						
Stage 1							
Volume Eluate L10 (litres)	0.88						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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Waste Acceptance Criteria Analytical Certificate - BS EN 12457/2

DETS Report No: 19-04025	**Date Sampled**	18/03/19	
CET UK Ltd	**Time Sampled**	None Supplied	
Site Reference: Somerset Farm	**TP / BH No**	Comp TP05, 09,10	
Project / Job Ref: 491893	**Additional Refs**	None Supplied	
Order No: None Supplied	**Depth (m)**	None Supplied	
Reporting Date: 28/03/2019	**DETS Sample No**	397269	

Determinand	**Unit**	**MDL**		**Landfill Waste Acceptance Criteria Limits**		
				Inert Waste Landfill	**Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill**	**Hazardous Waste Landfill**
TOC[MU]	%	< 0.1	0.5	3%	5%	6%
Loss on Ignition	%	< 0.01	1.70	--	--	10%
BTEX[MU]	mg/kg	< 0.05	< 0.05	6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1	1	--	--
Mineral Oil[MU]	mg/kg	< 10	< 10	500	--	--
Total PAH[MU]	mg/kg	< 1.7	< 1.7	100	--	--
pH[MU]	pH Units	N/a	7.5	--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	1	--	To be evaluated	To be evaluated

Eluate Analysis	**10:1 mg/l**			**Cumulative 10:1 mg/kg**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic[U]	< 0.01			< 0.1	0.5	2	25
Barium[U]	0.03			0.3	20	100	300
Cadmium[U]	< 0.0005			< 0.005	0.04	1	5
Chromium[U]	< 0.005			< 0.05	0.5	10	70
Copper[U]	< 0.01			< 0.1	2	50	100
Mercury[U]	< 0.0005			< 0.01	0.01	0.2	2
Molybdenum[U]	< 0.001			< 0.01	0.5	10	30
Nickel[U]	< 0.007			< 0.07	0.4	10	40
Lead[U]	< 0.005			< 0.05	0.5	10	50
Antimony[U]	< 0.0060			< 0.06	0.06	0.7	5
Selenium[U]	< 0.005			< 0.05	0.1	0.5	7
Zinc[U]	< 0.005			< 0.05	4	50	200
Chloride[U]	4			39	800	15000	25000
Fluoride[U]	< 0.5			< 5	10	150	500
Sulphate[U]	284			2840	**1000**	20000	50000
TDS	339			3390	4000	60000	100000
Phenol Index	< 0.01			< 0.1	1	-	-
DOC	4.2			41.6	500	800	1000
Leach Test Information							
Sample Mass (kg)	0.12						
Dry Matter (%)	78.2						
Moisture (%)	28						
Stage 1							
Volume Eluate L10 (litres)	0.88						

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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Soil Analysis Certificate - Sample Descriptions
DETS Report No: 19-04025
CET UK Ltd
Site Reference: Somerset Farm
Project / Job Ref: 491893
Order No: None Supplied
Reporting Date: 28/03/2019

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
397256	TP01	None Supplied	50.00	17.8	Brown loamy sand
397257	TP03	None Supplied	0.30	18.9	Brown loamy clay
397258	TP07	None Supplied	0.30	21.2	Brown loamy sand
397259	TP10	None Supplied	0.40	15.8	Brown loamy sand
397260	TP02	None Supplied	1.50	15.2	Brown sandy clay
397261	TP04	None Supplied	1.50	16.5	Light brown loamy sand
397262	TP08	None Supplied	1.50	18.4	Brown sand
397263	TP06	None Supplied	1.50	27	Brown loamy clay
397264	TP05	None Supplied	2.00	22.8	Brown sandy clay
397265	TP09	None Supplied	2.00	24.5	Brown sandy clay
397266	TP10	None Supplied	2.00	18.2	Brown sandy clay
397267	Comp TP01, 03, 07, 10	None Supplied	None Supplied	16	Brown loamy sand with vegetation
397268	Comp TP02, 04, 08	None Supplied	None Supplied	16.2	Light brown sandy clay
397269	Comp TP05, 09,10	None Supplied	None Supplied	21.8	Brown sandy clay

Moisture content is part of procedure E003 & is not an accredited test
Insufficient Sample I/S
Unsuitable Sample U/S

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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 19-04025

CET UK Ltd

Site Reference: Somerset Farm

Project / Job Ref: 491893

Order No: None Supplied

Reporting Date: 28/03/2019

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content; determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received