



2183

Final Report

Report No.:	21-25941-1		
Initial Date of Issue:	03-Aug-2021		
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	james@terrafirmawales.co.uk		
Project	Baglan Way		
Quotation No.:		Date Received:	28-Jul-2021
Order No.:	16750/JRW	Date Instructed:	28-Jul-2021
No. of Samples:	2		
Turnaround (Wkdays):	5	Results Due:	03-Aug-2021
Date Approved:	03-Aug-2021		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Water

Project: Baglan Way

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				21-25941	21-25941
Quotation No.:	Chemtest Sample ID.:				1249297	1249298
	Client Sample ID.:				1	2
	Sample Location:				BH01	BH02
	Sample Type:				WATER	WATER
	Date Sampled:				26-Jul-2021	26-Jul-2021
	Time Sampled:				12:00	12:00
Determinand	Accred.	SOP	Units	LOD		
pH	U	1010		N/A	7.2	7.1
Electrical Conductivity	U	1020	µS/cm	1.0	17000	20000
Biochemical Oxygen Demand	N	1090	mg O2/l	4.0	< 4.0	< 4.0
Chemical Oxygen Demand	U	1100	mg O2/l	10	120	130
Sulphate	U	1220	mg/l	1.0	21	12
Cyanide (Total) Low-Level	N	1300	mg/l	0.0050	< 0.0050	< 0.0050
Sulphide	U	1325	mg/l	0.050	< 0.050	< 0.050
Hardness	N	1415	mg/l	1.0	2500	3000
Arsenic (Dissolved)	U	1455	µg/l	0.20	3.7	3.3
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	1.4	1.7
Copper (Dissolved)	U	1455	µg/l	0.50	1.1	0.84
Nickel (Dissolved)	U	1455	µg/l	0.50	1.8	1.9
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50	4.6
Selenium (Dissolved)	U	1455	µg/l	0.50	1.7	1.7
Zinc (Dissolved)	U	1455	µg/l	2.5	17	55
Mercury Low Level	U	1460	µg/l	0.010	< 0.010	< 0.010
Chromium (Trivalent)	N	1490	µg/l	20	< 20	< 20
Chromium (Hexavalent)	U	1490	µg/l	20	< 20	< 20
Total TPH >C6-C40	U	1670	µg/l	10	< 10	< 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Chloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Vinyl Chloride	N	1760	µg/l	1.0	< 1.0	< 1.0
Bromomethane	U	1760	µg/l	5	< 5	< 5
Chloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
Bromochloromethane	U	1760	µg/l	5	< 5	< 5
Trichloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Tetrachloromethane	U	1760	µg/l	1.0	< 1.0	< 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	< 1.0	< 1.0
Benzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Trichloroethene	N	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	< 1.0	< 1.0

Results - Water

Project: Baglan Way

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				21-25941	21-25941
Quotation No.:	Chemtest Sample ID.:				1249297	1249298
	Client Sample ID.:				1	2
	Sample Location:				BH01	BH02
	Sample Type:				WATER	WATER
	Date Sampled:				26-Jul-2021	26-Jul-2021
	Time Sampled:				12:00	12:00
Determinand	Accred.	SOP	Units	LOD		
Dibromomethane	U	1760	µg/l	10	< 10	< 10
Bromodichloromethane	U	1760	µg/l	5	< 5	< 5
cis-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10
Toluene	U	1760	µg/l	1.0	< 1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	< 10	< 10
1,1,2-Trichloroethane	U	1760	µg/l	10	< 10	< 10
Tetrachloroethene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	< 2.0	< 2.0
Dibromochloromethane	U	1760	µg/l	10	< 10	< 10
1,2-Dibromoethane	U	1760	µg/l	5	< 5	< 5
Chlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	< 2.0	< 2.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0	< 1.0
Styrene	U	1760	µg/l	1.0	< 1.0	< 1.0
Tribromomethane	U	1760	µg/l	1.0	< 1.0	< 1.0
Isopropylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Bromobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0	< 1.0
Naphthalene	N	1800	µg/l	0.010	< 0.010	0.18
Acenaphthylene	N	1800	µg/l	0.010	< 0.010	< 0.010

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Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				21-25941	21-25941
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	Client Sample ID.:				1	2
	Sample Location:				BH01	BH02
	Sample Type:				WATER	WATER
	Date Sampled:				26-Jul-2021	26-Jul-2021
	Time Sampled:				12:00	12:00
Determinand	Accred.	SOP	Units	LOD		
Acenaphthene	N	1800	µg/l	0.010	< 0.010	< 0.010
Fluorene	N	1800	µg/l	0.010	< 0.010	< 0.010
Phenanthrene	N	1800	µg/l	0.010	< 0.010	< 0.010
Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010
Fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010
Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010
Benzo[a]anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010
Chrysene	N	1800	µg/l	0.010	< 0.010	< 0.010
Benzo[b]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010
Benzo[k]fluoranthene	N	1800	µg/l	0.010	< 0.010	< 0.010
Benzo[a]pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	µg/l	0.010	< 0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	µg/l	0.010	< 0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	µg/l	0.010	< 0.010	< 0.010
Total Of 16 PAH's	N	1800	µg/l	0.20	< 0.20	< 0.20
Resorcinol	U	1920	mg/l	0.0050	< 0.0050	< 0.0050
Phenol	U	1920	mg/l	0.0050	< 0.0050	< 0.0050
Cresols	U	1920	mg/l	0.0050	< 0.0050	< 0.0050
Xylenols	U	1920	mg/l	0.0050	< 0.0050	< 0.0050
1-Naphthol	N	1920	mg/l	0.0050	< 0.0050	< 0.0050
Trimethylphenols	U	1920	mg/l	0.0050	< 0.0050	< 0.0050
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-p-phenylenediamine.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[a,h]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com



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Final Report

Report No.:	21-26369-1		
Initial Date of Issue:	06-Aug-2021		
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	james@terrafirmawales.co.uk		
Project	Baglan Way		
Quotation No.:		Date Received:	
Order No.:	16750/JRW	Date Instructed:	02-Aug-2021
No. of Samples:	1		
Turnaround (Wkdays):	5	Results Due:	06-Aug-2021
Date Approved:	06-Aug-2021		
Approved By:			
Details:	Glynn Harvey, Technical Manager		

Results - Water

Project: Baglan Way

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:		21-26369		
Quotation No.:	Chemtest Sample ID.:		1251365		
	Client Sample ID.:		3		
	Sample Location:		BH03		
	Sample Type:		WATER		
	Date Sampled:		29-Jul-2021		
	Time Sampled:		15:00		
Determinand	Accred.	SOP	Units	LOD	
pH	U	1010		N/A	7.1
Electrical Conductivity	U	1020	µS/cm	1.0	5300
Biochemical Oxygen Demand	N	1090	mg O2/l	4.0	[B] < 4.0
Chemical Oxygen Demand	U	1100	mg O2/l	10	[B] 33
Sulphate	U	1220	mg/l	1.0	3.0
Cyanide (Total) Low-Level	N	1300	mg/l	0.0050	< 0.0050
Sulphide	U	1325	mg/l	0.050	[B] < 0.050
Hardness	N	1415	mg/l	1.0	430
Arsenic (Dissolved)	U	1455	µg/l	0.20	5.0
Cadmium (Dissolved)	U	1455	µg/l	0.11	< 0.11
Chromium (Dissolved)	U	1455	µg/l	0.50	2.0
Copper (Dissolved)	U	1455	µg/l	0.50	< 0.50
Nickel (Dissolved)	U	1455	µg/l	0.50	2.2
Lead (Dissolved)	U	1455	µg/l	0.50	< 0.50
Selenium (Dissolved)	U	1455	µg/l	0.50	2.2
Zinc (Dissolved)	U	1455	µg/l	2.5	49
Mercury Low Level	U	1460	µg/l	0.010	0.035
Chromium (Trivalent)	N	1490	µg/l	20	[B] < 20
Chromium (Hexavalent)	U	1490	µg/l	20	[B] < 20
Total TPH >C6-C40	U	1670	µg/l	10	< 10
Dichlorodifluoromethane	U	1760	µg/l	1.0	< 1.0
Chloromethane	U	1760	µg/l	1.0	< 1.0
Vinyl Chloride	N	1760	µg/l	1.0	< 1.0
Bromomethane	U	1760	µg/l	5	< 5
Chloroethane	U	1760	µg/l	2.0	< 2.0
Trichlorofluoromethane	U	1760	µg/l	1.0	< 1.0
1,1-Dichloroethene	U	1760	µg/l	1.0	< 1.0
Trans 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0
1,1-Dichloroethane	U	1760	µg/l	1.0	< 1.0
cis 1,2-Dichloroethene	U	1760	µg/l	1.0	< 1.0
Bromochloromethane	U	1760	µg/l	5	< 5
Trichloromethane	U	1760	µg/l	1.0	< 1.0
1,1,1-Trichloroethane	U	1760	µg/l	1.0	< 1.0
Tetrachloromethane	U	1760	µg/l	1.0	< 1.0
1,1-Dichloropropene	U	1760	µg/l	1.0	< 1.0
Benzene	U	1760	µg/l	1.0	< 1.0
1,2-Dichloroethane	U	1760	µg/l	2.0	< 2.0
Trichloroethene	N	1760	µg/l	1.0	< 1.0
1,2-Dichloropropane	U	1760	µg/l	1.0	< 1.0

Results - Water

Project: Baglan Way

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:		21-26369		
Quotation No.:	Chemtest Sample ID.:		1251365		
	Client Sample ID.:		3		
	Sample Location:		BH03		
	Sample Type:		WATER		
	Date Sampled:		29-Jul-2021		
	Time Sampled:		15:00		
Determinand	Accred.	SOP	Units	LOD	
Dibromomethane	U	1760	µg/l	10	< 10
Bromodichloromethane	U	1760	µg/l	5	< 5
cis-1,3-Dichloropropene	N	1760	µg/l	10	< 10
Toluene	U	1760	µg/l	1.0	< 1.0
Trans-1,3-Dichloropropene	N	1760	µg/l	10	< 10
1,1,2-Trichloroethane	U	1760	µg/l	10	< 10
Tetrachloroethene	U	1760	µg/l	1.0	< 1.0
1,3-Dichloropropane	U	1760	µg/l	2.0	< 2.0
Dibromochloromethane	U	1760	µg/l	10	< 10
1,2-Dibromoethane	U	1760	µg/l	5	< 5
Chlorobenzene	N	1760	µg/l	1.0	< 1.0
1,1,1,2-Tetrachloroethane	U	1760	µg/l	2.0	< 2.0
Ethylbenzene	U	1760	µg/l	1.0	< 1.0
m & p-Xylene	U	1760	µg/l	1.0	< 1.0
o-Xylene	U	1760	µg/l	1.0	< 1.0
Styrene	U	1760	µg/l	1.0	< 1.0
Tribromomethane	U	1760	µg/l	1.0	< 1.0
Isopropylbenzene	U	1760	µg/l	1.0	< 1.0
Bromobenzene	U	1760	µg/l	1.0	< 1.0
1,2,3-Trichloropropane	N	1760	µg/l	50	< 50
N-Propylbenzene	U	1760	µg/l	1.0	< 1.0
2-Chlorotoluene	U	1760	µg/l	1.0	< 1.0
1,3,5-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0
4-Chlorotoluene	U	1760	µg/l	1.0	< 1.0
Tert-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,2,4-Trimethylbenzene	U	1760	µg/l	1.0	< 1.0
Sec-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,3-Dichlorobenzene	N	1760	µg/l	1.0	< 1.0
4-Isopropyltoluene	U	1760	µg/l	1.0	< 1.0
1,4-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0
N-Butylbenzene	U	1760	µg/l	1.0	< 1.0
1,2-Dichlorobenzene	U	1760	µg/l	1.0	< 1.0
1,2-Dibromo-3-Chloropropane	U	1760	µg/l	50	< 50
1,2,4-Trichlorobenzene	U	1760	µg/l	1.0	< 1.0
Hexachlorobutadiene	U	1760	µg/l	1.0	< 1.0
1,2,3-Trichlorobenzene	U	1760	µg/l	2.0	< 2.0
Methyl Tert-Butyl Ether	N	1760	µg/l	1.0	< 1.0
Naphthalene	N	1800	µg/l	0.010	0.15
Acenaphthylene	N	1800	µg/l	0.010	0.23

Results - Water

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	Sample Location:		BH03		
	Sample Type:		WATER		
	Date Sampled:		29-Jul-2021		
	Time Sampled:		15:00		
Determinand	Accred.	SOP	Units	LOD	
Acenaphthene	N	1800	µg/l	0.010	0.31
Fluorene	N	1800	µg/l	0.010	0.87
Phenanthrene	N	1800	µg/l	0.010	< 0.010
Anthracene	N	1800	µg/l	0.010	< 0.010
Fluoranthene	N	1800	µg/l	0.010	< 0.010
Pyrene	N	1800	µg/l	0.010	< 0.010
Benzo[a]anthracene	N	1800	µg/l	0.010	< 0.010
Chrysene	N	1800	µg/l	0.010	< 0.010
Benzo[b]fluoranthene	N	1800	µg/l	0.010	< 0.010
Benzo[k]fluoranthene	N	1800	µg/l	0.010	< 0.010
Benzo[a]pyrene	N	1800	µg/l	0.010	< 0.010
Indeno(1,2,3-c,d)Pyrene	N	1800	µg/l	0.010	< 0.010
Dibenz(a,h)Anthracene	N	1800	µg/l	0.010	< 0.010
Benzo[g,h,i]perylene	N	1800	µg/l	0.010	< 0.010
Total Of 16 PAH's	N	1800	µg/l	0.20	1.6
Resorcinol	U	1920	mg/l	0.0050	< 0.0050
Phenol	U	1920	mg/l	0.0050	< 0.0050
Cresols	U	1920	mg/l	0.0050	< 0.0050
Xylenols	U	1920	mg/l	0.0050	< 0.0050
1-Naphthol	N	1920	mg/l	0.0050	< 0.0050
Trimethylphenols	U	1920	mg/l	0.0050	< 0.0050
Total Phenols	U	1920	mg/l	0.030	< 0.030

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request. The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1251365		3	BH03	29-Jul-2021	B	Coloured Winchester 1000ml
1251365		3	BH03	29-Jul-2021	B	EPA Vial 40ml
1251365		3	BH03	29-Jul-2021	B	Plastic Bottle 1000ml

Test Methods

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1020	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Electrical Conductivity and Total Dissolved Solids (TDS) in Waters	Conductivity Meter
1090	Biochemical Oxygen Demand	Biochemical Oxygen demand (BOD)	Colorimetric determination of dissolved oxygen in seeded sample after 5 days incubation at 20°C.
1100	Chemical Oxygen Demand	Chemical Oxygen demand (COD)	Dichromate oxidation of organic matter in sample followed by colorimetric determination of residual Cr[VI].
1220	Anions, Alkalinity & Ammonium in Waters	Fluoride; Chloride; Nitrite; Nitrate; Total; Oxidisable Nitrogen (TON); Sulfate; Phosphate; Alkalinity; Ammonium	Automated colorimetric analysis using 'Aquakem 600' Discrete Analyser.
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
1325	Sulphide in Waters	Sulphides	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using N,N-dimethyl-p-phenylenediamine.
1415	Cations in Waters by ICP-MS	Sodium; Potassium; Calcium; Magnesium	Direct determination by inductively coupled plasma - mass spectrometry (ICP-MS).
1450	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1455	Metals in Waters by ICP-MS	Metals, including: Antimony; Arsenic; Barium; Beryllium; Boron; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Tin; Vanadium; Zinc	Filtration of samples followed by direct determination by inductively coupled plasma mass spectrometry (ICP-MS).
1460	Mercury low-level in Waters by AFS	Mercury	Atomic Fluorescence Spectrometry, with collimated UV source, wavelength 253.7 nm.
1490	Hexavalent Chromium in Waters	Chromium [VI]	Automated colorimetric analysis by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazine.
1670	Total Petroleum Hydrocarbons (TPH) in Waters by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO	Pentane extraction / GC FID detection
1760	Volatile Organic Compounds (VOCs) in Waters by Headspace GC-MS	Volatile organic compounds, including BTEX and halogenated Aliphatic/Aromatics. (cf. USEPA Method 8260)	Automated headspace gas chromatographic (GC) analysis of water samples with mass spectrometric (MS) detection of volatile organic compounds.
1800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-MS	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[a,h]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Pentane extraction / GCMS detection
1920	Phenols in Waters by HPLC	Phenolic compounds including: Phenol, Cresols, Xylenols, Trimethylphenols Note: Chlorophenols are excluded.	Determination by High Performance Liquid Chromatography (HPLC) using electrochemical detection.
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Alkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation

The results relate only to the items tested

Uncertainty of measurement for the determinands tested are available upon request

None of the results in this report have been recovery corrected

All results are expressed on a dry weight basis

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

For all other tests the samples were dried at < 37°C prior to analysis

All Asbestos testing is performed at the indicated laboratory

Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

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

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt

All water samples will be retained for 14 days from the date of receipt

Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:

customerservices@chemtest.com

Final Report

Report No.:	22-08547-1		
Initial Date of Issue:	09-Mar-2022		
Client	Terra Firma (Wales) Ltd		
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA		
Contact(s):	james@terrafirmawales.co.uk		
Project	Baglan Way		
Quotation No.:		Date Received:	08-Mar-2022
Order No.:	16750/JRW	Date Instructed:	08-Mar-2022
No. of Samples:	3		
Turnaround (Wkdays):	5	Results Due:	14-Mar-2022
Date Approved:	09-Mar-2022		
Approved By:			
Details:	Stuart Henderson, Technical Manager		

Results - Water

Project: Baglan Way

Client: Terra Firma (Wales) Ltd	Chemtest Job No.:				22-08547	22-08547	22-08547
Quotation No.:	Chemtest Sample ID.:				1386345	1386346	1386347
	Client Sample ID.:				1	2	3
	Sample Location:				BH01	BH02	BH03
	Sample Type:				WATER	WATER	WATER
	Date Sampled:				07-Mar-2022	07-Mar-2022	07-Mar-2022
	Time Sampled:				9:00	9:00	9:00
Determinand	Accred.	SOP	Units	LOD			
Methanol	N	1765	mg/l	10	< 10	< 10	< 10
Ethanol	N	1765	mg/l	10	< 10	< 10	< 10
Ethyl Ethanoate	N	1765	mg/l	10	< 10	< 10	< 10
Pentanol	N	1765	mg/l	10	< 10	< 10	< 10
Hexanol	N	1765	mg/l	10	< 10	< 10	< 10
Heptanol	N	1765	mg/l	10	< 10	< 10	< 10
Methyl Ethanoate	N	1765	mg/l	10	< 10	< 10	< 10
Propyl Ethanoate	N	1765	mg/l	10	< 10	< 10	< 10
Butyl Ethanoate	N	1765	mg/l	10	< 10	< 10	< 10
1-Methylethyl Ethanoate	N	1765	mg/l	10	< 10	< 10	< 10
Propan-1-ol	N	1780	mg/l	10	< 10	< 10	< 10
Propan-2-ol	N	1780	mg/l	10	< 10	< 10	< 10

Test Methods

SOP	Title	Parameters included	Method summary
1780	Alcohols	Alcohols	GCMS detection

Report Information

Key

U	UKAS accredited
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customerservices@chemtest.com

ANNEX J
Geotechnical Test Results

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

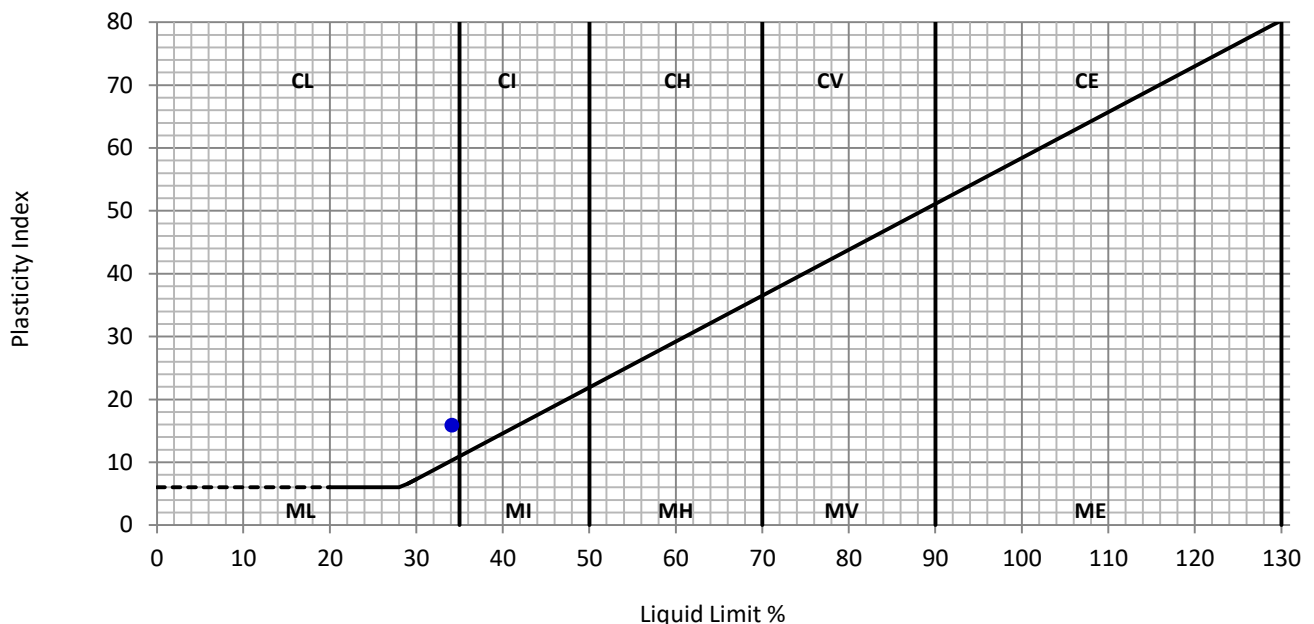
Project No:	D21425	Client:	Terra Firma
Project Name:	Baglan Lane	Address:	Deryn Court 5 Wharfdale Road Cardiff CF23 7HA
ATS Sample No:	25209		

Site Ref / Hole ID:	BH01	Depth (m):	16.10 - 16.55
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Grey CLAY
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:	Unknown	Material Supplier:	Unknown
Sampled By:	Client	Specification:	BS1377
Date Received:	29 July 2021	Date Tested:	02 August 2021

Test Results

Liquid Limit	34	%
Plastic Limit	18	%
Plasticity Index	16	%

Preparation:	4.2.3 Natural Specimen
Proportion retained on 425µm sieve:	0 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 2.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



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Approver

L Davis

L Davis, Quality Manager

Date

04/08/2021

Fig.

ATT

TEST REPORT
LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX
BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

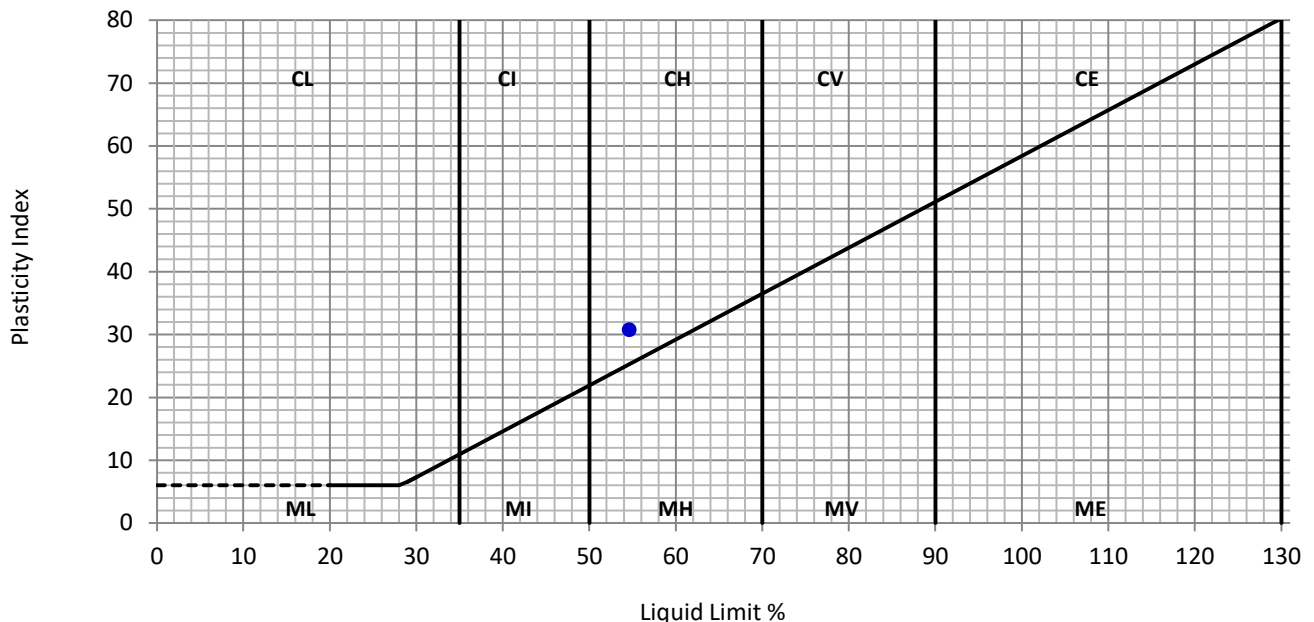
Project No:	D21425	Client:	Terra Firma
Project Name:	Baglan Lane	Address:	Deryn Court 5 Wharfdale Road Cardiff CF23 7HA
ATS Sample No:	25210		

Site Ref / Hole ID:	BH02	Depth (m):	3.60 - 4.05
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Brown CLAY
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:	Unknown	Material Supplier:	Unknown
Sampled By:	Client	Specification:	BS1377
Date Received:	29 July 2021	Date Tested:	02 August 2021

Test Results

Liquid Limit	55	%
Plastic Limit	24	%
Plasticity Index	31	%

Preparation:	4.2.3 Natural Specimen
Proportion retained on 425µm sieve:	0 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 2.0



Apex Testing Solutions

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Approver

L Davis

L Davis, Quality Manager

Date

04/08/2021

Fig.

ATT

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

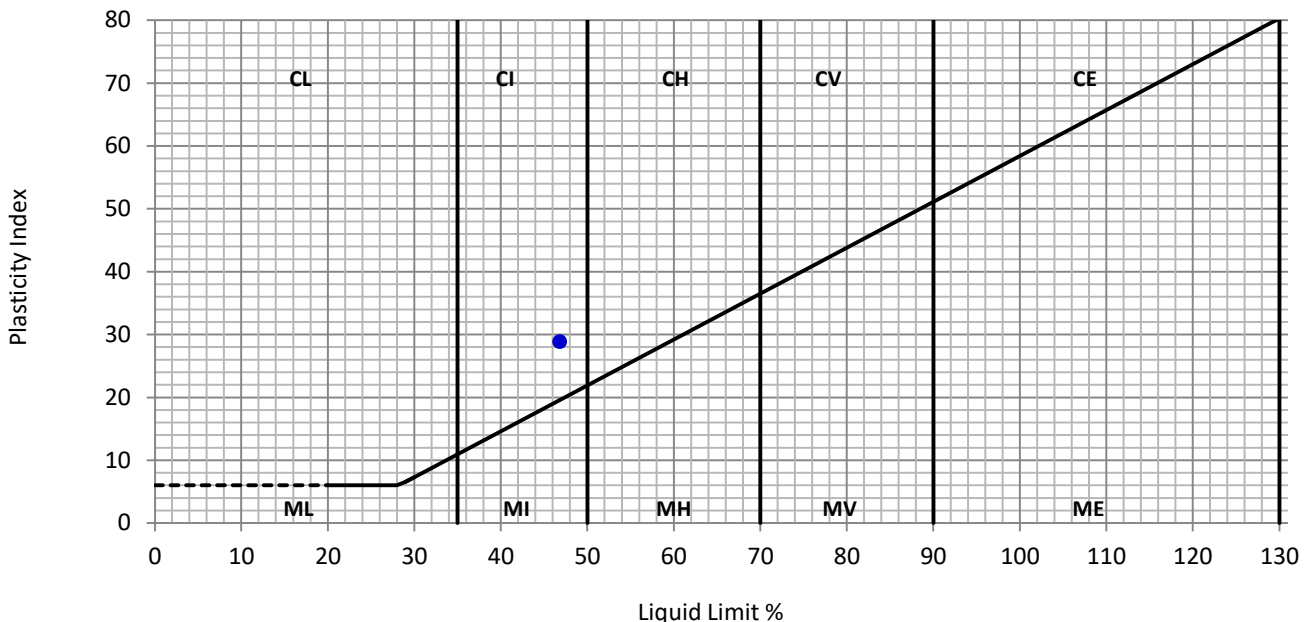
Project No:	D21425	Client:	Terra Firma
Project Name:	Baglan Lane	Address:	Deryn Court 5 Wharfdale Road Cardiff CF23 7HA
ATS Sample No:	25211		

Site Ref / Hole ID:	BH03	Depth (m):	6.90 - 7.35
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Grey CLAY
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:	Unknown	Material Supplier:	Unknown
Sampled By:	Client	Specification:	BS1377
Date Received:	29 July 2021	Date Tested:	02 August 2021

Test Results

Liquid Limit	47	%
Plastic Limit	18	%
Plasticity Index	29	%

Preparation:	4.2.3 Natural Specimen
Proportion retained on 425µm sieve:	0 %



Remarks:

QA Ref.

BS1377 - 2
Rev. 2.0



Apex Testing Solutions

Sturmi Way, Village Farm Industrial Est, Pyle,
Bridgend, CF33 6BZ
Tel: 01656 746762 Fax: 01656 749096



7771

Approver

L Davis

L Davis, Quality Manager

Date

04/08/2021

Fig.

ATT

TEST REPORT

LIQUID LIMIT, PLASTIC LIMIT & PLASTICITY INDEX

BS 1377:Part 2:1990. Clause 4.3/5.3/5.4

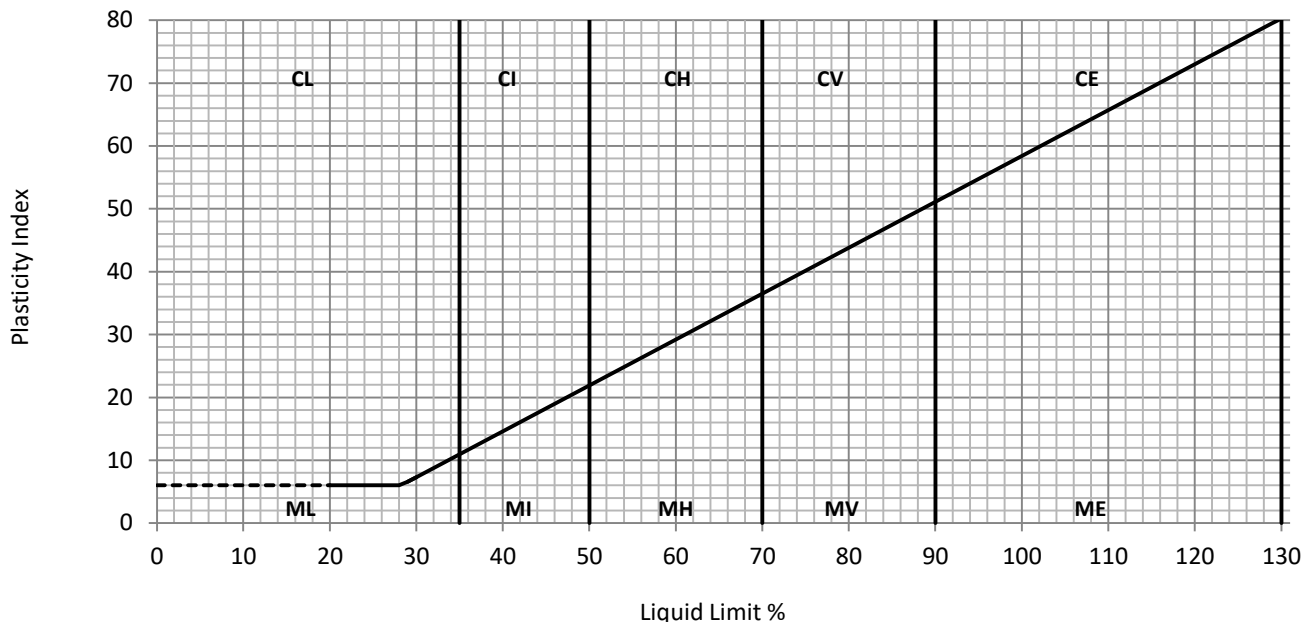
Project No:	D21425	Client:	Terra Firma
Project Name:	Baglan Lane	Address:	Deryn Court 5 Wharfdale Road Cardiff CF23 7HA
ATS Sample No:	25212		

Site Ref / Hole ID:	BH04	Depth (m):	14.90 - 15.35
Sample No:		Sample Type:	Disturbed
Sampling Certificate Received:	No	Material Description:	Grey SAND
Location in Works:	N/A	Material Source:	Unknown
Date Sampled:	Unknown	Material Supplier:	Unknown
Sampled By:	Client	Specification:	BS1377
Date Received:	29 July 2021	Date Tested:	02 August 2021

Test Results

Liquid Limit	%
Plastic Limit	%
Plasticity Index	%

Preparation:	4.2.3 Natural Specimen
Proportion retained on 425µm sieve:	%



Remarks: Sample is NON-Plastic

QA Ref.

BS1377 - 2
Rev. 2.0



Apex Testing Solutions

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Approver

L Davis

L Davis, Quality Manager

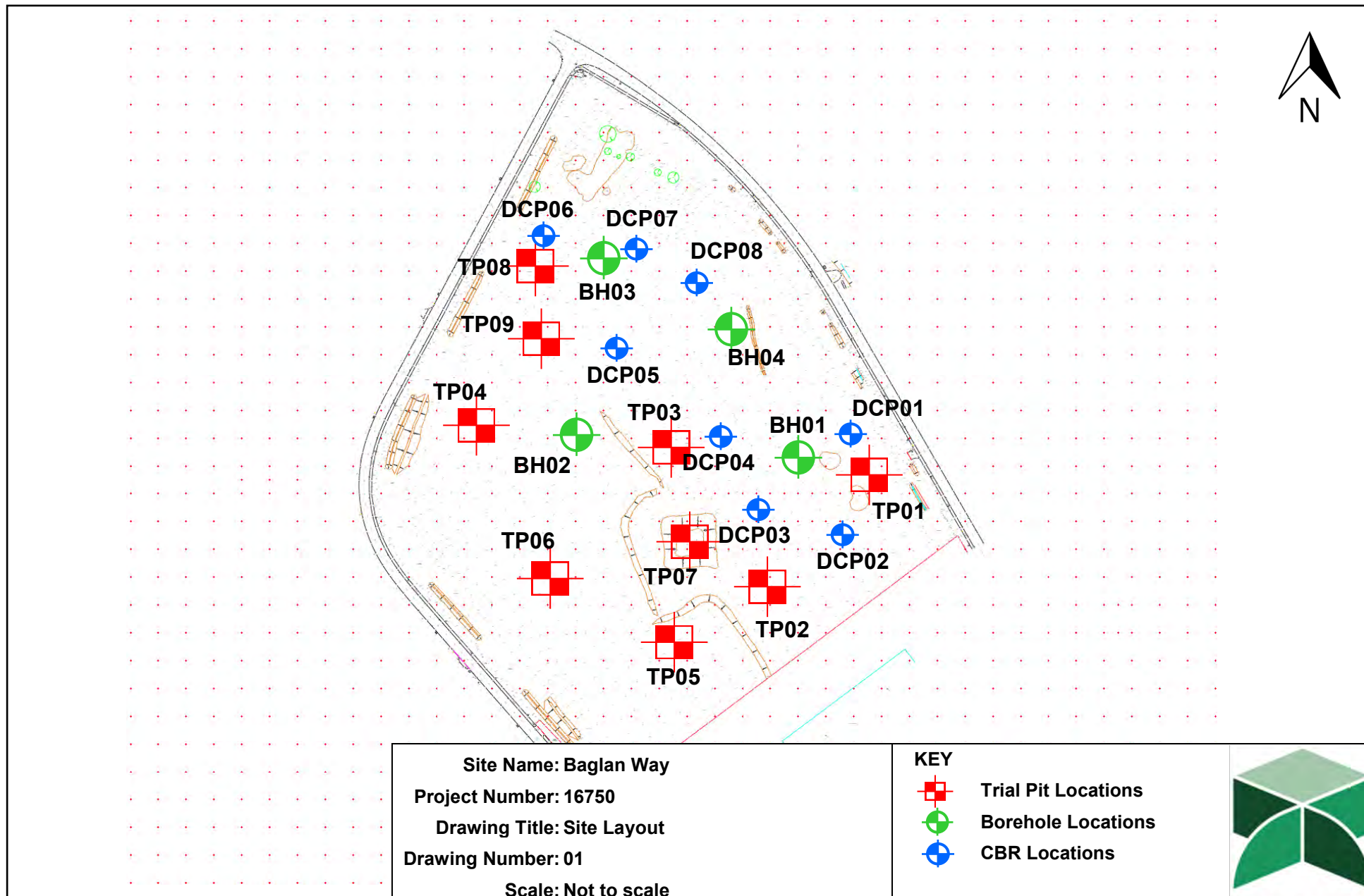
Date

04/08/2021

Fig.

ATT

DRAWINGS





Terra Firma (Wales) Ltd. 5 Deryn Court, Wharfedale Road, Pentwyn, Cardiff CF23 7HA
Tel: 029 2073 5354 **Fax:** 029 2073 5433 **Email:** info@terrafirmawales.co.uk www.terrafirmawales.co.uk