



2183



Final Report

Report No.:	19-08822-1		
Initial Date of Issue:	19-Mar-2019		
Client	Earth Science Partnership		
Client Address:	33 Cardiff Road Taffs Well Cardiff CF15 7RB		
Contact(s):	Mat Elcock		
Project	7061b Cosmeston Farm		
Quotation No.:		Date Received:	08-Mar-2019
Order No.:	7829	Date Instructed:	08-Mar-2019
No. of Samples:	9		
Turnaround (Wkdays):	7	Results Due:	18-Mar-2019
Date Approved:	19-Mar-2019		
Approved By:			



Robert Monk, Technical Manager

Results - Soil

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:				19-08822	19-08822	19-08822	19-08822	19-08822	19-08822	19-08822	19-08822	19-08822
Quotation No.:	Chemtest Sample ID.:				791533	791534	791535	791536	791537	791538	791539	791540	791542
	Client Sample ID.:				ETP20	ETP23	ETP25	ETP26	ETP3	ETP20	ETP26	ETP25	EBH1
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.10	0.10	0.20	0.90	0.50	0.55	0.30	1.50
	Date Sampled:				04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM					
Determinand	Accred.	SOP	Units	LOD									
ACM Type	U	2192		N/A	-	-	-	-					
Asbestos Identification	U	2192	%	0.001	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected					
ACM Detection Stage	U	2192		N/A	-	-	-	-					
Moisture	N	2030	%	0.020	25	19	22	18	14	19	13	19	19
Soil Colour	N	2040		N/A	Brown,	Brown,	Brown,	Brown,					
Other Material	N	2040		N/A	Stones, Roots,	Stones, Roots,	Stones, Roots,	Stones,					
Soil Texture	N	2040		N/A	Clay,	Clay,	Clay,	Clay,					
pH	M	2010		N/A	7.4	7.3	8.1	7.9	8.4	8.3	8.3	8.3	8.3
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.80	1.6	1.5	1.4					
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010					< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Total Sulphur	M	2175	%	0.010					0.023	0.031	0.052	0.015	0.085
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50					
Sulphate (Acid Soluble)	M	2430	%	0.010					0.069	0.041	0.069	0.046	0.026
Arsenic	M	2450	mg/kg	1.0	15	13	18	16					
Barium	M	2450	mg/kg	10	130	130	120	110					
Beryllium	U	2450	mg/kg	1.0	1.0	1.2	1.1	1.2					
Cadmium	M	2450	mg/kg	0.10	0.91	0.87	0.74	0.70					
Chromium	M	2450	mg/kg	1.0	28	33	33	32					
Copper	M	2450	mg/kg	0.50	36	49	39	46					
Mercury	M	2450	mg/kg	0.10	0.11	0.12	0.10	< 0.10					
Nickel	M	2450	mg/kg	0.50	32	40	36	38					
Lead	M	2450	mg/kg	0.50	50	40	44	37					
Selenium	M	2450	mg/kg	0.20	0.72	0.80	0.68	0.66					
Vanadium	U	2450	mg/kg	5.0	34	39	41	40					
Zinc	M	2450	mg/kg	0.50	110	110	97	110					
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50					
Organic Matter	M	2625	%	0.40	7.2	9.1	8.8	9.1					
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0						
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0						

Results - Soil

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:		19-08822	19-08822	19-08822	19-08822	19-08822	19-08822	19-08822	19-08822	19-08822
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	Client Sample ID.:		ETP20	ETP23	ETP25	ETP26	ETP3	ETP20	ETP26	ETP25	EBH1
	Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):		0.10	0.10	0.10	0.20	0.90	0.50	0.55	0.30	1.50
	Date Sampled:		04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019	04-Mar-2019
	Asbestos Lab:		DURHAM	DURHAM	DURHAM	DURHAM					
Determinand	Accred.	SOP	Units	LOD							
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0				
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0				
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0				
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0				
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0				
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0				
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	< 1.0	< 1.0	< 1.0				
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	< 5.0	< 5.0	< 5.0				
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	< 10	< 10	< 10				
Naphthalene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.26	< 0.10			
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.18	< 0.10			
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10			
Fluorene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10			
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	0.45	0.17			
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10			
Fluoranthene	M	2700	mg/kg	0.10	0.34	0.26	0.41	0.25			
Pyrene	M	2700	mg/kg	0.10	0.47	0.40	0.52	0.38			
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	0.41	0.30	0.11			
Chrysene	M	2700	mg/kg	0.10	< 0.10	0.39	0.41	0.15			
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	0.21	< 0.10	< 0.10			
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10			
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	0.20	< 0.10	< 0.10			
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	0.17	< 0.10	< 0.10			
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	0.16	< 0.10	< 0.10			
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	0.33	< 0.10	< 0.10			
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	2.5	2.5	< 2.0			
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30			

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
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.
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.
2450	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2680	TPH A/A Split	Aliphatics: >C5–C6, >C6–C8,>C8–C10, >C10–C12, >C12–C16, >C16–C21, >C21–C35, >C35– C44Aromatics: >C5–C7, >C7–C8, >C8– C10, >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C44	Dichloromethane extraction / GCxGC FID detection
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenzo[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination 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"

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 45 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