



Amended Report

Report No.:	19-05113-2		
Initial Date of Issue:	27-Feb-2019	Date of Re-Issue:	15-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:	12-Feb-2019
Order No.:		Date Instructed:	15-Feb-2019
No. of Samples:	19		
Turnaround (Wkdays):	21	Results Due:	15-Mar-2019
Date Approved:	15-Mar-2019		
Approved By:			



Details: Robert Monk, Technical Manager

Results - Leachate

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:					19-05113	19-05113	19-05113	19-05113	19-05113	19-05113
Quotation No.:	Chemtest Sample ID.:					772717	772720	772728	772730	772736	772739
	Sample Location:					ETP4	ETP5	ETP9	ETP17	ETP18	ETP19
	Sample Type:					SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):					0.70	0.40	0.30	0.50	0.80	0.50
	Date Sampled:					31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019
Determinand	Accred.	SOP	Units	LOD							
pH	U	1010		N/A	9.1	8.9	8.6	7.9	7.9	8.0	
Cyanide (Total)	U	1300	mg/l	0.050	0.070	< 0.050	0.050	< 0.050	< 0.050	< 0.050	
Arsenic (Dissolved)	U	1450	µg/l	1.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	1.4	
Boron (Dissolved)	U	1450	µg/l	20	< 20	< 20	< 20	< 20	69	31	
Barium (Dissolved)	U	1450	µg/l	5.0	5.8	< 5.0	< 5.0	30	16	46	
Beryllium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Cadmium (Dissolved)	U	1450	µg/l	0.080	< 0.080	< 0.080	< 0.080	< 0.080	< 0.080	< 0.080	
Chromium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Copper (Dissolved)	U	1450	µg/l	1.0	4.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Mercury (Dissolved)	U	1450	µg/l	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	
Nickel (Dissolved)	U	1450	µg/l	1.0	4.6	< 1.0	< 1.0	< 1.0	< 1.0	2.1	
Lead (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Selenium (Dissolved)	U	1450	µg/l	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Vanadium (Dissolved)	U	1450	µg/l	1.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Zinc (Dissolved)	U	1450	µg/l	1.0	3.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	
Iron (Dissolved)	N	1450	µg/l	20	380	620	380	53	72	39	
Naphthalene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthylene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Acenaphthene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluorene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Phenanthrene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Anthracene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Fluoranthene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Pyrene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]anthracene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Chrysene	N	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[b]fluoranthene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[k]fluoranthene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[a]pyrene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Indeno(1,2,3-c,d)Pyrene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Dibenz(a,h)Anthracene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Benzo[g,h,i]perylene	U	1700	µg/l	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	
Total Of 16 PAH's	N	1700	µg/l	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	
Total Phenols	U	1920	mg/l	0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	< 0.030	

Results - Soil

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:				19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113
Quotation No.:	Chemtest Sample ID.:				772715	772717	772718	772719	772720	772721	772723	772726
	Sample Location:				ETP4	ETP4	ETP5	ETP5	ETP5	ETP6	ETP7	ETP8
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.70	0.20	0.30	0.40	0.20	0.10	0.40
	Date Sampled:				31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	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	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	-	-	-	-	-
Moisture	N	2030	%	0.020	23	17	24	14	22	23	22	20
Soil Colour	N	2040		N/A	Black	Grey, Beige	Brown	Black, White	Brown	Grey	Black	Brown
Other Material	N	2040		N/A	Stones, Roots 30%	Stones	Stones	Stones	Stones	Stones, Roots 10%	Stones, Roots 20%	Stones
Soil Texture	N	2040		N/A	Sand	Clay	Clay	Sand	Clay	Clay	Sand	Clay
pH	M	2010		N/A	8.4	9.0	8.3	8.2	8.4	8.3	8.2	8.5
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	1.3	0.64	1.7	0.60	0.66	1.1	1.1	0.48
Cyanide (Total)	M	2300	mg/kg	0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50
Arsenic	M	2450	mg/kg	1.0	15	14	47	6.7	16	30	33	13
Barium	M	2450	mg/kg	10	190	74	210	130	120	120	120	50
Beryllium	U	2450	mg/kg	1.0	< 1.0	< 1.0	1.7	< 1.0	1.1	1.2	1.1	< 1.0
Cadmium	M	2450	mg/kg	0.10	0.36	0.18	1.2	0.11	1.2	0.65	0.74	0.29
Chromium	M	2450	mg/kg	1.0	30	17	34	9.0	26	24	29	19
Copper	M	2450	mg/kg	0.50	80	25	52	18	56	38	38	26
Mercury	M	2450	mg/kg	0.10	0.18	< 0.10	0.14	< 0.10	0.10	0.11	0.15	< 0.10
Nickel	M	2450	mg/kg	0.50	34	28	54	16	66	42	40	29
Lead	M	2450	mg/kg	0.50	290	62	65	20	28	40	49	18
Selenium	M	2450	mg/kg	0.20	0.77	0.33	1.2	0.27	0.82	0.99	1.3	0.69
Vanadium	U	2450	mg/kg	5.0	20	14	30	14	27	21	22	15
Zinc	M	2450	mg/kg	0.50	140	46	140	42	190	110	98	49
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	10	3.8	14	10	3.5	7.8	16	3.8
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	[B] 8.3	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	[B] 12	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	[B] 46	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	[B] 67	[B] < 5.0			[B] < 5.0	[B] < 5.0		
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		

Results - Soil

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:				19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113
Quotation No.:	Chemtest Sample ID.:				772715	772717	772718	772719	772720	772721	772723	772726
	Sample Location:				ETP4	ETP4	ETP5	ETP5	ETP5	ETP6	ETP7	ETP8
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.70	0.20	0.30	0.40	0.20	0.10	0.40
	Date Sampled:				31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	[B] < 1.0	[B] 13			[B] < 1.0	[B] < 1.0		
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	[B] 76	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0			[B] < 1.0	[B] < 1.0		
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	[B] 76	[B] 13			[B] < 5.0	[B] < 5.0		
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	[B] 140	[B] 13			[B] < 10	[B] < 10		
Naphthalene	M	2700	mg/kg	0.10	7.0	1.2	0.60	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	1.4	0.97	0.12	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	7.5	0.76	0.15	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	5.9	0.71	0.17	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	34	4.8	3.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	7.8	1.5	0.81	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	27	5.6	6.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Pyrene	M	2700	mg/kg	0.10	29	5.7	5.6	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.10	9.8	2.7	2.9	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Chrysene	M	2700	mg/kg	0.10	10	2.6	2.7	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	12	2.9	3.5	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	3.9	0.94	1.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	9.6	2.3	2.1	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	6.2	1.9	1.2	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	1.0	0.40	0.23	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	5.7	1.8	1.4	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's	M	2700	mg/kg	2.0	180	37	32	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30

Results - Soil

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:				19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113
Quotation No.:	Chemtest Sample ID.:				772727	772728	772729	772730	772731	772734	772735	772736
	Sample Location:				ETP9	ETP9	ETP17	ETP17	ETP17	ETP18	ETP18	ETP18
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.20	0.30	0.20	0.50	0.35	0.10	0.30	0.80
	Date Sampled:				31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	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	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
ACM Detection Stage	U	2192		N/A	-	-	-	-	-	-	-	-
Moisture	N	2030	%	0.020	22	18	22	19	16	18	16	30
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Grey	Brown	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones, Roots 20%	Stones	Stones	Stones	Stones	Stones, Roots 20%	Stones	Stones
Soil Texture	N	2040		N/A	Clay	Clay	Sand	Clay	Clay	Sand	Clay	Clay
pH	M	2010		N/A	8.3	8.5	7.7	8.1	8.4	8.2	8.4	8.2
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	1.1	0.44	0.51	1.0	0.48	< 0.40	0.51	1.8
Cyanide (Total)	M	2300	mg/kg	0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50	[B] < 0.50
Arsenic	M	2450	mg/kg	1.0	47	14	16	17	18	13	16	33
Barium	M	2450	mg/kg	10	110	55	150	60	93	94	51	240
Beryllium	U	2450	mg/kg	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cadmium	M	2450	mg/kg	0.10	0.67	0.30	0.31	0.28	0.29	0.22	0.15	0.61
Chromium	M	2450	mg/kg	1.0	22	16	20	14	16	21	11	31
Copper	M	2450	mg/kg	0.50	86	25	27	16	38	13	15	240
Mercury	M	2450	mg/kg	0.10	0.10	< 0.10	0.13	< 0.10	0.13	< 0.10	< 0.10	0.42
Nickel	M	2450	mg/kg	0.50	41	27	30	21	59	22	19	35
Lead	M	2450	mg/kg	0.50	140	14	40	27	44	23	19	100
Selenium	M	2450	mg/kg	0.20	1.3	0.43	1.0	0.26	0.56	1.0	0.36	0.98
Vanadium	U	2450	mg/kg	5.0	18	23	28	21	23	26	18	34
Zinc	M	2450	mg/kg	0.50	86	40	79	59	270	61	24	210
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	14	2.1	8.1	2.2	5.0	6.9	2.2	7.8
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] < 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] < 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] 7.2
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] 21
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0	[B] 3.5	[B] < 1.0		[B] 2.0				[B] 67
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0	[B] 10	[B] 3.7		[B] 10				[B] 96
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0	[B] 27	[B] 12		[B] 34				[B] 250
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] 41
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0	[B] 41	[B] 15		[B] 46				[B] 490
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] < 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] < 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] < 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] 13

Results - Soil

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:				19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113	19-05113
Quotation No.:	Chemtest Sample ID.:				772727	772728	772729	772730	772731	772734	772735	772736
	Sample Location:				ETP9	ETP9	ETP17	ETP17	ETP17	ETP18	ETP18	ETP18
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.20	0.30	0.20	0.50	0.35	0.10	0.30	0.80
	Date Sampled:				31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019	31-Jan-2019
	Asbestos Lab:				DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM	DURHAM
Determinand	Accred.	SOP	Units	LOD								
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] 240
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] 4.7				[B] 590
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0	[B] 70	[B] 34		[B] 450				[B] 1600
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0	[B] < 1.0	[B] < 1.0		[B] < 1.0				[B] 130
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0	[B] 70	[B] 34		[B] 450				[B] 2600
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0	[B] 110	[B] 50		[B] 500				[B] 3100
Naphthalene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.16	< 0.10	0.51	< 0.10	1.8
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.14	< 0.10	0.31	< 0.10	1.0
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.11	< 0.10	< 0.10	< 0.10	2.6
Fluorene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.14	< 0.10	< 0.10	< 0.10	2.9
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.40	0.31	0.65	< 0.10	11
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.49	< 0.10	2.7
Fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.39	0.22	2.4	< 0.10	12
Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	0.42	0.16	2.2	< 0.10	10
Benzo[a]anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.3	< 0.10	4.7
Chrysene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	4.1	< 0.10	6.4
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.1	< 0.10	6.5
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.0	< 0.10	2.8
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.3	< 0.10	3.2
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.80	< 0.10	2.6
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.57	< 0.10	0.98
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.1	< 0.10	2.3
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	22	< 2.0	74
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:				19-05113	19-05113	19-05113
Quotation No.:	Chemtest Sample ID.:				772737	772738	772739
	Sample Location:				ETP19	ETP19	ETP19
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.40	0.50
	Date Sampled:				31-Jan-2019	31-Jan-2019	31-Jan-2019
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY
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
ACM Detection Stage	U	2192		N/A	-	-	-
Moisture	N	2030	%	0.020	24	15	21
Soil Colour	N	2040		N/A	Brown	Brown	Brown
Other Material	N	2040		N/A	Stones. Roots 20%	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Clay	Clay
pH	M	2010		N/A	7.1	8.5	8.2
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	0.66	< 0.40	0.79
Cyanide (Total)	M	2300	mg/kg	0.50	[B] < 0.50	[B] 3.7	[B] < 0.50
Arsenic	M	2450	mg/kg	1.0	19	20	22
Barium	M	2450	mg/kg	10	170	120	130
Beryllium	U	2450	mg/kg	1.0	< 1.0	< 1.0	< 1.0
Cadmium	M	2450	mg/kg	0.10	0.36	0.21	0.35
Chromium	M	2450	mg/kg	1.0	23	26	26
Copper	M	2450	mg/kg	0.50	25	19	28
Mercury	M	2450	mg/kg	0.10	0.14	0.12	0.15
Nickel	M	2450	mg/kg	0.50	22	29	30
Lead	M	2450	mg/kg	0.50	53	52	94
Selenium	M	2450	mg/kg	0.20	1.4	0.54	0.34
Vanadium	U	2450	mg/kg	5.0	31	29	28
Zinc	M	2450	mg/kg	0.50	93	140	120
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	4.8	3.6	2.9
Aliphatic TPH >C5-C6	N	2680	mg/kg	1.0			[B] < 1.0
Aliphatic TPH >C6-C8	N	2680	mg/kg	1.0			[B] < 1.0
Aliphatic TPH >C8-C10	M	2680	mg/kg	1.0			[B] < 1.0
Aliphatic TPH >C10-C12	M	2680	mg/kg	1.0			[B] < 1.0
Aliphatic TPH >C12-C16	M	2680	mg/kg	1.0			[B] 21
Aliphatic TPH >C16-C21	M	2680	mg/kg	1.0			[B] 42
Aliphatic TPH >C21-C35	M	2680	mg/kg	1.0			[B] 82
Aliphatic TPH >C35-C44	N	2680	mg/kg	1.0			[B] < 1.0
Total Aliphatic Hydrocarbons	N	2680	mg/kg	5.0			[B] 150
Aromatic TPH >C5-C7	N	2680	mg/kg	1.0			[B] < 1.0
Aromatic TPH >C7-C8	N	2680	mg/kg	1.0			[B] < 1.0
Aromatic TPH >C8-C10	M	2680	mg/kg	1.0			[B] < 1.0
Aromatic TPH >C10-C12	M	2680	mg/kg	1.0			[B] < 1.0

Project: 7061b Cosmeston Farm

Client: Earth Science Partnership	Chemtest Job No.:				19-05113	19-05113	19-05113
Quotation No.:	Chemtest Sample ID.:				772737	772738	772739
	Sample Location:				ETP19	ETP19	ETP19
	Sample Type:				SOIL	SOIL	SOIL
	Top Depth (m):				0.10	0.40	0.50
	Date Sampled:				31-Jan-2019	31-Jan-2019	31-Jan-2019
	Asbestos Lab:				COVENTRY	COVENTRY	COVENTRY
Determinand	Accred.	SOP	Units	LOD			
Aromatic TPH >C12-C16	M	2680	mg/kg	1.0			[B] 9.6
Aromatic TPH >C16-C21	U	2680	mg/kg	1.0			[B] 30
Aromatic TPH >C21-C35	M	2680	mg/kg	1.0			[B] 180
Aromatic TPH >C35-C44	N	2680	mg/kg	1.0			[B] < 1.0
Total Aromatic Hydrocarbons	N	2680	mg/kg	5.0			[B] 220
Total Petroleum Hydrocarbons	N	2680	mg/kg	10.0			[B] 360
Naphthalene	M	2700	mg/kg	0.10	0.61	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	1.5	< 0.10	< 0.10
Acenaphthene	M	2700	mg/kg	0.10	2.3	< 0.10	< 0.10
Fluorene	M	2700	mg/kg	0.10	4.1	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	25	< 0.10	1.4
Anthracene	M	2700	mg/kg	0.10	6.8	< 0.10	0.41
Fluoranthene	M	2700	mg/kg	0.10	24	0.41	2.1
Pyrene	M	2700	mg/kg	0.10	19	0.40	1.7
Benzo[a]anthracene	M	2700	mg/kg	0.10	8.8	< 0.10	0.91
Chrysene	M	2700	mg/kg	0.10	9.9	< 0.10	1.8
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	9.2	< 0.10	0.85
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	3.8	< 0.10	0.55
Benzo[a]pyrene	M	2700	mg/kg	0.10	5.6	< 0.10	0.52
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	3.6	< 0.10	0.26
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	1.3	< 0.10	0.18
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	3.6	< 0.10	0.45
Total Of 16 PAH's	M	2700	mg/kg	2.0	130	< 2.0	11
Total Phenols	M	2920	mg/kg	0.30	< 0.30	< 0.30	< 0.30

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:
772715			ETP4	31-Jan-2019	B	Amber Glass 250ml
772715			ETP4	31-Jan-2019	B	Plastic Tub 500g
772717			ETP4	31-Jan-2019	B	Amber Glass 250ml
772717			ETP4	31-Jan-2019	B	Plastic Tub 500g
772718			ETP5	31-Jan-2019	B	Amber Glass 250ml
772718			ETP5	31-Jan-2019	B	Plastic Tub 500g
772719			ETP5	31-Jan-2019	B	Amber Glass 250ml
772719			ETP5	31-Jan-2019	B	Plastic Tub 500g
772720			ETP5	31-Jan-2019	B	Amber Glass 250ml
772720			ETP5	31-Jan-2019	B	Plastic Tub 500g
772721			ETP6	31-Jan-2019	B	Amber Glass 250ml
772721			ETP6	31-Jan-2019	B	Plastic Tub 500g
772723			ETP7	31-Jan-2019	B	Amber Glass 250ml
772723			ETP7	31-Jan-2019	B	Plastic Tub 500g
772726			ETP8	31-Jan-2019	B	Amber Glass 250ml
772726			ETP8	31-Jan-2019	B	Plastic Tub 500g
772727			ETP9	31-Jan-2019	B	Amber Glass 250ml
772727			ETP9	31-Jan-2019	B	Plastic Tub 500g
772728			ETP9	31-Jan-2019	B	Amber Glass 250ml
772728			ETP9	31-Jan-2019	B	Plastic Tub 500g
772729			ETP17	31-Jan-2019	B	Amber Glass 250ml
772729			ETP17	31-Jan-2019	B	Plastic Tub 500g

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:
772730			ETP17	31-Jan-2019	B	Amber Glass 250ml
772730			ETP17	31-Jan-2019	B	Plastic Tub 500g
772731			ETP17	31-Jan-2019	B	Amber Glass 250ml
772731			ETP17	31-Jan-2019	B	Plastic Tub 500g
772734			ETP18	31-Jan-2019	B	Amber Glass 250ml
772734			ETP18	31-Jan-2019	B	Plastic Tub 500g
772735			ETP18	31-Jan-2019	B	Amber Glass 250ml
772735			ETP18	31-Jan-2019	B	Plastic Tub 500g
772736			ETP18	31-Jan-2019	B	Amber Glass 250ml
772736			ETP18	31-Jan-2019	B	Plastic Tub 500g
772737			ETP19	31-Jan-2019	B	Amber Glass 250ml
772737			ETP19	31-Jan-2019	B	Plastic Tub 500g
772738			ETP19	31-Jan-2019	B	Amber Glass 250ml
772738			ETP19	31-Jan-2019	B	Plastic Tub 500g
772739			ETP19	31-Jan-2019	B	Amber Glass 250ml
772739			ETP19	31-Jan-2019	B	Plastic Tub 500g

SOP	Title	Parameters included	Method summary
1010	pH Value of Waters	pH	pH Meter
1300	Cyanides & Thiocyanate in Waters	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Continuous Flow Analysis.
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).
1700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Waters by GC-FID	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	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)
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.
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
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.
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-diphenylcarbazine.
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[a,h]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.

SOP	Title	Parameters included	Method summary
640	Characterisation of Waste (Leaching)	Waste material including soil, sludges and granular waste	Compliance Test for Leaching of Granular Waste Material and Sludge

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