



Final Report

Report No.: 21-23527-1
Initial Date of Issue: 15-Jul-2021
Client Ground Engineering Limited
Client Address: Newark Road
Peterborough
Cambridgeshire
PE1 5UA
Contact(s): Simon Weatherley
Project SW/C15417 Land rear of 192-200,
High Road, Weston

Quotation No.:		Date Received:	09-Jul-2021
Order No.:	SW/C15417	Date Instructed:	09-Jul-2021
No. of Samples:	6		
Turnaround (Wkdays):	5	Results Due:	15-Jul-2021
Date Approved:	15-Jul-2021		

Approved By:

Details: Glynn Harvey, Technical Manager

Results - Soil

Project: SW/C15417 Land rear of 192-200, High Road, Weston

Client: Ground Engineering Limited	Chemtest Job No.:				21-23527	21-23527	21-23527	21-23527	21-23527	21-23527
Quotation No.:	Chemtest Sample ID.:				1237095	1237096	1237097	1237098	1237099	1237100
Order No.: SW/C15417	Client Sample Ref.:				D1, ES1	D1, ES1	D1, ES1	D1, ES1	D1, ES1	D2, ES2
	Sample Location:				HA1	HA2	HA3	HA4	HA5	HA6A
	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.15	0.15	0.15	0.15	0.10	0.35
	Date Sampled:				06-Jul-2021	06-Jul-2021	06-Jul-2021	06-Jul-2021	06-Jul-2021	06-Jul-2021
Determinand	Accred.	SOP	Units	LOD						
pH	M	2010		4.0	8.5	8.4	8.0	8.4	10.6	9.0
Moisture	N	2030	%	0.020	19	22	21	20	8.8	19
Stones and Removed Materials	N	2030	%	0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Boron (Hot Water Soluble)	M	2120	mg/kg	0.40	< 0.40	0.46	< 0.40	< 0.40	< 0.40	< 0.40
Sulphate (2:1 Water Soluble) as SO4	M	2120	g/l	0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.039	< 0.010
Cyanide (Free)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cyanide (Total)	M	2300	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Sulphide (Easily Liberatable)	N	2325	mg/kg	0.50	0.85	0.82	0.55	0.65	1.0	0.75
Arsenic	M	2450	mg/kg	1.0	11	13	7.8	21	18	11
Cadmium	M	2450	mg/kg	0.10	0.22	1.1	0.15	0.37	0.12	0.14
Chromium	M	2450	mg/kg	1.0	12	14	9.3	15	21	11
Copper	M	2450	mg/kg	0.50	29	49	11	38	28	31
Mercury	M	2450	mg/kg	0.10	< 0.10	0.11	< 0.10	0.18	< 0.10	< 0.10
Nickel	M	2450	mg/kg	0.50	12	13	8.3	17	13	10
Lead	M	2450	mg/kg	0.50	35	62	20	440	18	24
Selenium	M	2450	mg/kg	0.20	0.20	0.29	< 0.20	0.34	< 0.20	< 0.20
Zinc	M	2450	mg/kg	0.50	130	200	53	310	37	57
Chromium (Hexavalent)	N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Organic Matter	M	2625	%	0.40	2.9	6.0	2.8	4.0	1.5	1.5
Acenaphthene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.40	< 0.10
Benzo[a]anthracene	M	2700	mg/kg	0.10	0.50	1.2	1.0	0.81	1.8	< 0.10
Benzo[a]pyrene	M	2700	mg/kg	0.10	< 0.10	1.3	1.0	0.83	2.0	< 0.10
Benzo[b]fluoranthene	M	2700	mg/kg	0.10	< 0.10	1.9	1.5	1.4	2.9	< 0.10
Benzo[g,h,i]perylene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	3.5	< 0.10
Benzo[k]fluoranthene	M	2700	mg/kg	0.10	< 0.10	0.82	0.51	0.51	0.98	< 0.10
Chrysene	M	2700	mg/kg	0.10	0.30	1.3	0.99	1.1	2.2	< 0.10
Dibenz(a,h)Anthracene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.46	< 0.10
Fluoranthene	M	2700	mg/kg	0.10	0.35	1.9	1.6	1.5	3.5	0.32
Fluorene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	2.4	< 0.10
Naphthalene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene	M	2700	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	1.3	0.16
Pyrene	M	2700	mg/kg	0.10	0.27	1.9	1.3	1.4	3.4	0.18
Total Of 16 PAH's	M	2700	mg/kg	2.0	< 2.0	10	7.9	7.6	25	< 2.0
Total Phenols	M	2920	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Soil Colour	N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown

Results - Soil

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	Sample Type:				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
	Top Depth (m):				0.15	0.15	0.15	0.15	0.10	0.35
	Date Sampled:				06-Jul-2021	06-Jul-2021	06-Jul-2021	06-Jul-2021	06-Jul-2021	06-Jul-2021
Determinand	Accred.	SOP	Units	LOD						
Other Material	N	2040		N/A	Stones	Roots and Stones	Stones, Roots and plant	Stones and Roots	Stones	Stones
Soil Texture	N	2040		N/A	Sand	Sand	Sand	Sand	Sand	Clay
Total TPH >C6-C40	M	2670	mg/kg	10	< 10	< 10	< 10	< 10	< 10	< 10

Test Methods

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
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.
2325	Sulphide in Soils	Sulphide	Steam distillation with sulphuric acid / analysis by 'Aquakem 600' Discrete Analyser, using N,N-dimethyl-p-phenylenediamine.
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.
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID
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"
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