

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane, Havant (Pfizer)
Contact: Paul O'Connor
EMT Job No: 22/2779

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3										Please see attached notes for all abbreviations and acronyms		
Sample ID	OR K6 TANK4												
Depth	2.00												
COC No / misc													
Containers	V J T												
Sample Date	17/02/2022												
Sample Type	Clay												
Batch Number	1												
Date of Receipt	19/02/2022												
Arsenic ^{#M}	6.0										<0.5	mg/kg	TM30/PM15
Cadmium ^{#M}	0.2										<0.1	mg/kg	TM30/PM15
Chromium ^{#M}	50.7										<0.5	mg/kg	TM30/PM15
Copper ^{#M}	9										<1	mg/kg	TM30/PM15
Lead ^{#M}	15										<5	mg/kg	TM30/PM15
Mercury ^{#M}	<0.1										<0.1	mg/kg	TM30/PM15
Nickel ^{#M}	11.1										<0.7	mg/kg	TM30/PM15
Selenium ^{#M}	<1										<1	mg/kg	TM30/PM15
Total Sulphate as SO ₄ ^{#M}	675										<50	mg/kg	TM50/PM29
Zinc ^{#M}	43										<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene ^{#M}	<0.04										<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03										<0.03	mg/kg	TM4/PM8
Acenaphthene ^{#M}	<0.05										<0.05	mg/kg	TM4/PM8
Fluorene ^{#M}	<0.04										<0.04	mg/kg	TM4/PM8
Phenanthrene ^{#M}	0.05										<0.03	mg/kg	TM4/PM8
Anthracene [#]	<0.04										<0.04	mg/kg	TM4/PM8
Fluoranthene ^{#M}	0.15										<0.03	mg/kg	TM4/PM8
Pyrene [#]	0.27										<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene [#]	0.15										<0.06	mg/kg	TM4/PM8
Chrysene ^{#M}	0.18										<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene ^{#M}	0.29										<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene [#]	0.15										<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene ^{#M}	0.11										<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene [#]	<0.04										<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene [#]	0.11										<0.04	mg/kg	TM4/PM8
PAH 16 Total	1.5										<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.21										<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.08										<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	90										<0	%	TM4/PM8
Methyl Tertiary Butyl Ether ^{#M}	<6										<6	ug/kg	TM15/PM10
Benzene ^{#M}	<5										<5	ug/kg	TM15/PM10
Toluene ^{#M}	<3										<3	ug/kg	TM15/PM10
Ethylbenzene ^{#M}	<3										<3	ug/kg	TM15/PM10
m/p-Xylene ^{#M}	<4										<4	ug/kg	TM15/PM10
o-Xylene ^{#M}	<4										<4	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	105										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	96										<0	%	TM15/PM10

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COC No / misc													
Containers	V J T												
Sample Date	17/02/2022												
Sample Type	Clay												
Batch Number	1												
Date of Receipt	19/02/2022												
Please see attached notes for all abbreviations and acronyms											LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) ^{#M}	<0.1										<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) ^{#M}	<0.1										<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1										<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) ^{#M}	<0.2										<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) ^{#M}	<4										<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) ^{#M}	<7										<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) ^{#M}	<7										<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19										<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) [#]	<0.1										<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) [#]	<0.1										<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) ^{#M}	<0.1										<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) [#]	<0.2										<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) [#]	<4										<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) [#]	<7										<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) [#]	<7										<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) [#]	<19										<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-35) (EH+HS_CU_1D_Total)	<38										<38	mg/kg	TMS/PM8/PM16/PM12/PM10
Total Phenols HPLC													
	<0.15										<0.15	mg/kg	TM26/PM21B
Ammoniacal Nitrogen as N													
	<0.6										<0.6	mg/kg	TM38/PM20
Hexavalent Chromium [#]													
	<0.3										<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) ^{#M}													
	0.1352										<0.0015	g/l	TM38/PM20
Chromium III													
	50.7										<0.5	mg/kg	NONE/NONE
Total Cyanide ^{#M}													
	<0.5										<0.5	mg/kg	TM89/PM45
Organic Matter													
	0.4										<0.2	%	TM21/PM24
pH ^{#M}													
	10.84										<0.01	pH units	TM73/PM11
Sample Type													
	Clay											None	PM13/PM0
Sample Colour													
	Medium Brown											None	PM13/PM0
Other Items													
	stones											None	PM13/PM0

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SVOC Report : Solid

EMT Sample No.	1-3										Please see attached notes for all abbreviations and acronyms		
Sample ID	OR K6 TANK4												
Depth	2.00												
COC No / misc													
Containers	V J T												
Sample Date	17/02/2022												
Sample Type	Clay												
Batch Number	1												
Date of Receipt	19/02/2022										LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol ^{#M}	<10										<10	ug/kg	TM16/PM8
2-Methylphenol	<10										<10	ug/kg	TM16/PM8
2-Nitrophenol	<10										<10	ug/kg	TM16/PM8
2,4-Dichlorophenol ^{#M}	<10										<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10										<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10										<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10										<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10										<10	ug/kg	TM16/PM8
4-Methylphenol	<10										<10	ug/kg	TM16/PM8
4-Nitrophenol	<10										<10	ug/kg	TM16/PM8
Pentachlorophenol	<10										<10	ug/kg	TM16/PM8
Phenol ^{#M}	<10										<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene ^{#M}	<10										<10	ug/kg	TM16/PM8
2-Methylnaphthalene ^{#M}	<10										<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	<100										<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100										<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100										<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100										<100	ug/kg	TM16/PM8
Diethyl phthalate	<100										<100	ug/kg	TM16/PM8
Dimethyl phthalate ^{#M}	<100										<100	ug/kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene ^{#M}	<10										<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10										<10	ug/kg	TM16/PM8
2-Nitroaniline	<10										<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10										<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10										<10	ug/kg	TM16/PM8
3-Nitroaniline	<10										<10	ug/kg	TM16/PM8
4-Bromophenylphenylether ^{#M}	<10										<10	ug/kg	TM16/PM8
4-Chloroaniline	<10										<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10										<10	ug/kg	TM16/PM8
4-Nitroaniline	<10										<10	ug/kg	TM16/PM8
Azobenzene	<10										<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10										<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10										<10	ug/kg	TM16/PM8
Carbazole	14										<10	ug/kg	TM16/PM8
Dibenzofuran ^{#M}	<10										<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10										<10	ug/kg	TM16/PM8
Hexachlorobutadiene ^{#M}	<10										<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10										<10	ug/kg	TM16/PM8
Hexachloroethane	<10										<10	ug/kg	TM16/PM8
Isophorone ^{#M}	<10										<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine ^{#M}	<10										<10	ug/kg	TM16/PM8
Nitrobenzene ^{#M}	<10										<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	140										<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	151										<0	%	TM16/PM8

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Depth	2.00												
COC No / misc													
Containers	V J T												
Sample Date	17/02/2022												
Sample Type	Clay												
Batch Number	1												
Date of Receipt	19/02/2022												
VOC MS											LOD/LOR	Units	Method No.
Dichlorodifluoromethane	<2										<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether ^{#M}	<6										<6	ug/kg	TM15/PM10
Chloromethane [#]	<3										<3	ug/kg	TM15/PM10
Vinyl Chloride	<2										<2	ug/kg	TM15_A/PM10
Bromomethane	<1										<1	ug/kg	TM15/PM10
Chloroethane ^{#M}	<6										<6	ug/kg	TM15/PM10
Trichlorofluoromethane ^{#M}	<3										<3	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) ^{#M}	<6										<6	ug/kg	TM15/PM10
Dichloromethane (DCM) [#]	<7										<7	ug/kg	TM15/PM10
trans-1,2-Dichloroethene [#]	<3										<3	ug/kg	TM15/PM10
1,1-Dichloroethane ^{#M}	<6										<6	ug/kg	TM15/PM10
cis-1,2-Dichloroethene ^{#M}	<7										<7	ug/kg	TM15/PM10
2,2-Dichloropropane	<4										<4	ug/kg	TM15/PM10
Bromochloromethane ^{#M}	<4										<4	ug/kg	TM15/PM10
Chloroform ^{#M}	<5										<5	ug/kg	TM15/PM10
1,1,1-Trichloroethane ^{#M}	<5										<5	ug/kg	TM15/PM10
1,1-Dichloropropene [#]	<3										<3	ug/kg	TM15/PM10
Carbon tetrachloride ^{#M}	<4										<4	ug/kg	TM15/PM10
1,2-Dichloroethane ^{#M}	<5										<5	ug/kg	TM15/PM10
Benzene ^{#M}	<5										<5	ug/kg	TM15/PM10
Trichloroethene (TCE) ^{#M}	<5										<5	ug/kg	TM15/PM10
1,2-Dichloropropane ^{#M}	<4										<4	ug/kg	TM15/PM10
Dibromomethane ^{#M}	<4										<4	ug/kg	TM15/PM10
Bromodichloromethane ^{#M}	<4										<4	ug/kg	TM15/PM10
cis-1,3-Dichloropropene	<4										<4	ug/kg	TM15/PM10
Toluene ^{#M}	<3										<3	ug/kg	TM15/PM10
trans-1,3-Dichloropropene	<3										<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane ^{#M}	<4										<4	ug/kg	TM15/PM10
Tetrachloroethene (PCE) [#]	<3										<3	ug/kg	TM15/PM10
1,3-Dichloropropane ^{#M}	<4										<4	ug/kg	TM15/PM10
Dibromochloromethane ^{#M}	<5										<5	ug/kg	TM15/PM10
1,2-Dibromoethane [#]	<3										<3	ug/kg	TM15/PM10
Chlorobenzene ^{#M}	<4										<4	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane ^{#M}	<5										<5	ug/kg	TM15/PM10
Ethylbenzene ^{#M}	<3										<3	ug/kg	TM15/PM10
m/p-Xylene ^{#M}	<4										<4	ug/kg	TM15/PM10
o-Xylene ^{#M}	<4										<4	ug/kg	TM15/PM10
Styrene	6										<3	ug/kg	TM15_A/PM10
Bromoform	<4										<4	ug/kg	TM15/PM10
Isopropylbenzene [#]	<3										<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane ^{#M}	<3										<3	ug/kg	TM15/PM10
Bromobenzene	3										<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane ^{#M}	<4										<4	ug/kg	TM15/PM10
Propylbenzene [#]	<4										<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3										<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene [#]	<3										<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3										<3	ug/kg	TM15/PM10
tert-Butylbenzene [#]	<5										<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene [#]	<6										<6	ug/kg	TM15/PM10
sec-Butylbenzene [#]	<4										<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4										<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene ^{#M}	<4										<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene [#]	5										<4	ug/kg	TM15/PM10
n-Butylbenzene	<4										<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene ^{#M}	<4										<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4										<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7										<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4										<4	ug/kg	TM15/PM10
Naphthalene	<27										<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7										<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	105										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	96										<0	%	TM15/PM10

Please see attached notes for all abbreviations and acronyms

Matrix : Solid

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Note:

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

[illegible]

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[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/2779

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 22/2779

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes	Yes	AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EMT Job No: 22/2779

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM15	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds (VOCs) by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes	Yes	AR	Yes
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.			AD	Yes
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma –Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes	Yes	AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC-FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC-FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC-FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes

EMT Job No: 22/2779

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) –Al anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes	Yes	AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) –Al anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.			AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) –Al anions comparable to BS ISO 15923-1: 2013I	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes	Yes	AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes	Yes	AR	No
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes	Yes	AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes
TM15_A	Modified USEPA 8260B v2:1996. Quantitative Determination of Volatile Organic Compounds, Vinyl Chloride & Styrene by Headspace GC-MS.	PM10	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes

EPS Ltd
7B Caxton House
Broad Street
Cambourne
Cambridgeshire
CB23 6JN



Attention : Michael Judson
Date : 10th March, 2022
Your reference : UK21.5634
Our reference : Test Report 22/3255 Batch 1
Location :
Date samples received : 25th February, 2022
Status : Final Report
Issue : 1

Seven samples were received for analysis on 25th February, 2022 of which seven were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location:
Contact: Michael Judson
EMT Job No: 22/3255

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21				Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 E4 19	SP03 E5 20	DT E2 01	DT G2 01	DT H3 01	DT H5 01	OR H6 01						
Depth			0.50	0.50	0.00-0.10	0.00-0.10	0.50-1.00						
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022						
Sample Type	Clay	Clay	Clayey Sand	Clay	Clay	Clay	Clay						
Batch Number	1	1	1	1	1	1	1				LOD/LOR	Units	Method No.
Date of Receipt	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022						
Arsenic ^{#M}	9.7	6.0	3.4	10.7	8.5	10.9	7.3				<0.5	mg/kg	TM30/PM15
Cadmium ^{#M}	<0.1	0.1	0.2	0.6	0.4	0.5	0.4				<0.1	mg/kg	TM30/PM15
Chromium ^{#M}	140.2	58.7	168.6	70.9	54.8	48.8	113.8				<0.5	mg/kg	TM30/PM15
Copper ^{#M}	23	9	7	17	16	16	12				<1	mg/kg	TM30/PM15
Lead ^{#M}	6	15	13	17	25	19	22				<5	mg/kg	TM30/PM15
Mercury ^{#M}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM30/PM15
Nickel ^{#M}	11.5	8.4	7.5	27.7	19.2	23.5	16.7				<0.7	mg/kg	TM30/PM15
Selenium ^{#M}	<1	<1	<1	1	<1	<1	<1				<1	mg/kg	TM30/PM15
Total Sulphate as SO4 ^{#M}	7603	13020 ^{AA}	363	232	864	550	1422				<50	mg/kg	TM50/PM29
Zinc ^{#M}	71	210	23	65	63	64	64				<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene ^{#M}	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Acenaphthene ^{#M}	<0.05	0.09	<0.05	<0.05	<0.05	<0.05	0.12				<0.05	mg/kg	TM4/PM8
Fluorene ^{#M}	<0.04	0.10	<0.04	<0.04	<0.04	<0.04	0.10				<0.04	mg/kg	TM4/PM8
Phenanthrene ^{#M}	<0.03	0.64	<0.03	<0.03	0.14	<0.03	1.08				<0.03	mg/kg	TM4/PM8
Anthracene [#]	<0.04	0.25	<0.04	<0.04	<0.04	<0.04	0.30				<0.04	mg/kg	TM4/PM8
Fluoranthene ^{#M}	<0.03	1.10	<0.03	<0.03	0.22	0.05	1.48				<0.03	mg/kg	TM4/PM8
Pyrene [#]	<0.03	0.83	<0.03	<0.03	0.20	0.03	1.05				<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene [#]	<0.06	0.51	<0.06	<0.06	0.14	<0.06	0.63				<0.06	mg/kg	TM4/PM8
Chrysene ^{#M}	<0.02	0.49	<0.02	<0.02	0.14	0.03	0.65				<0.02	mg/kg	TM4/PM8
Benzo(b)fluoranthene ^{#M}	<0.07	0.87	<0.07	<0.07	0.21	<0.07	0.98				<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene [#]	<0.04	0.44	<0.04	<0.04	0.12	<0.04	0.48				<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene ^{#M}	<0.04	0.41	<0.04	<0.04	0.09	<0.04	0.44				<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene [#]	<0.04	0.09	<0.04	<0.04	<0.04	<0.04	0.09				<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene [#]	<0.04	0.33	<0.04	<0.04	0.09	<0.04	0.34				<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	6.2	<0.6	<0.6	1.4	<0.6	7.7				<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	0.63	<0.05	<0.05	0.15	<0.05	0.71				<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	0.24	<0.02	<0.02	0.06	<0.02	0.27				<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	96	100	100	93	104	94	104				<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) ^{#M}	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) ^{#M}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) ^{#M}	<0.2	<0.2	1.0	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) ^{#M}	<4	<4	74	<4	<4	<4	<4				<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) ^{#M}	<7	17	212	<7	<7	<7	<7				<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) ^{#M}	<7	208	92	<7	17	<7	<7				<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	225	379	<19	<19	<19	<19				<19	mg/kg	TM5/PM8/PM16/PM12/PM15

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location:
Contact: Michael Judson
EMT Job No: 22/3255

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-3	4-6	7-9	10-12	13-15	16-18	19-21				Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 E4 19	SP03 E5 20	DT E2 01	DT G2 01	DT H3 01	DT H5 01	OR H6 01						
Depth			0.50	0.50	0.00-0.10	0.00-0.10	0.50-1.00						
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	V J T						
Sample Date	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022	23/02/2022						
Sample Type	Clay	Clay	Clayey Sand	Clay	Clay	Clay	Clay						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022	25/02/2022				LOD/LOR	Units	Method No.
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) *	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) *	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) ^{#M}	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4	<4	<4	<4				<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	10	29	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	139	<7	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) *	<19	149	29	<19	<19	<19	<19				<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	<38	374	408	<38	<38	<38	<38				<38	mg/kg	TMS/PM8/PM16/PM12/PM10
MTBE #	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
m/p-Xylene #	6	6	<5	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM36/PM12
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15				<0.15	mg/kg	TM26/PM21B
Hexavalent Chromium [#]	0.4	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) ^{#M}	0.0108	1.1714	0.0535	0.0615	0.1884	0.1111	0.2854				<0.0015	g/l	TM38/PM20
Chromium III	139.8	58.7	168.6	70.9	54.8	48.8	113.8				<0.5	mg/kg	NONE/NONE
Total Cyanide ^{#M}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	mg/kg	TM89/PM45
Organic Matter	0.5	0.6	0.2	0.5	0.6	0.4	0.5				<0.2	%	TM21/PM24
pH ^{#M}	12.43	11.88	9.61	8.57	9.83	9.07	10.32				<0.01	pH units	TM73/PM11
Sample Type	Clay	Clay	Clayey Sand	Clay	Clay	Clay	Clay				None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown				None		PM13/PM0
Other Items	stones, concrete	stones	stones	stones	stones	stones, chalk	stones				None		PM13/PM0

Matrix : Solid

Contact: Michael Judson

4 of 13

Client Name: EPS Ltd
Reference: UK21.5634
Location:
Contact: Michael Judson

Note:

Asbestos Screen analysis is carried out in accordance with our documented in-house methods PM042 and TM065 and HSG 248 by Stereo and Polarised Light Microscopy using Dispersion Staining Techniques and is covered by our UKAS accreditation. Detailed Gravimetric Quantification and PCOM Fibre Analysis is carried out in accordance with our documented in-house methods PM042 and TM131 and HSG 248 using Stereo and Polarised Light Microscopy and Phase Contrast Optical Microscopy (PCOM). Asbestos sub-samples are retained for not less than 6 months from the date of analysis unless specifically requested.

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/3255	1	SP03 E4 19		3	Kevin Hughes	09/03/2022	General Description (Bulk Analysis)	soil
					Kevin Hughes	09/03/2022	Asbestos Fibres	NAD
					Kevin Hughes	09/03/2022	Asbestos ACM	NAD
					Kevin Hughes	09/03/2022	Asbestos Type	NAD
22/3255	1	SP03 E5 20		6	Kevin Hughes	09/03/2022	General Description (Bulk Analysis)	soil
					Kevin Hughes	09/03/2022	Asbestos Fibres	NAD
					Kevin Hughes	09/03/2022	Asbestos ACM	NAD
					Kevin Hughes	09/03/2022	Asbestos Type	NAD
22/3255	1	DT E2 01	0.50	9	Simon Postlewhite	10/03/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	10/03/2022	Asbestos Fibres	NAD
					Simon Postlewhite	10/03/2022	Asbestos ACM	NAD
					Simon Postlewhite	10/03/2022	Asbestos Type	NAD
22/3255	1	DT G2 01	0.50	12	Simon Postlewhite	10/03/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	10/03/2022	Asbestos Fibres	NAD
					Simon Postlewhite	10/03/2022	Asbestos ACM	NAD
					Simon Postlewhite	10/03/2022	Asbestos Type	NAD
22/3255	1	DT H3 01	0.00-0.10	15	Catherine Coles	09/03/2022	General Description (Bulk Analysis)	soil
					Catherine Coles	09/03/2022	Asbestos Fibres	NAD
					Catherine Coles	09/03/2022	Asbestos ACM	NAD
					Catherine Coles	09/03/2022	Asbestos Type	NAD
22/3255	1	DT H5 01	0.00-0.10	18	Catherine Coles	09/03/2022	General Description (Bulk Analysis)	soil
					Catherine Coles	09/03/2022	Asbestos Fibres	NAD
					Catherine Coles	09/03/2022	Asbestos ACM	NAD
					Catherine Coles	09/03/2022	Asbestos Type	NAD
22/3255	1	OR H6 01	0.50-1.00	21	Catherine Coles	09/03/2022	General Description (Bulk Analysis)	soil
					Catherine Coles	09/03/2022	Asbestos Fibres	NAD
					Catherine Coles	09/03/2022	Asbestos ACM	NAD
					Catherine Coles	09/03/2022	Asbestos Type	NAD

Client Name: EPS Ltd
Reference: UK21.5634
Location:
Contact: Michael Judson

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/3255

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x5 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 22/3255

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes	Yes	AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO2 generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.			AD	Yes

EMT Job No: 22/3255

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma –Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes	Yes	AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) –Al anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes	Yes	AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) –Al anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes	Yes	AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes	Yes	AR	No

EMT Job No: 22/3255

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes	Yes	AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes

EPS Ltd
7B Caxton House
Broad Street
Cambourne
Cambridgeshire
CB23 6JN



Attention : Paul O'Connor
Date : 16th March, 2022
Your reference : UK21.5634
Our reference : Test Report 22/3683 Batch 1
Location : 32 New Lane, Havant (Pfizer), PO9 2NG
Date samples received : 5th March, 2022
Status : Final Report
Issue : 1

Three samples were received for analysis on 5th March, 2022 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/3683

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6								Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 F3 21	SP03 F4 22	DTC 2 01										
Depth	0.00	0.00	0.00										
COC No / misc													
Containers	V J	V J	V J										
Sample Date	01/03/2022	01/03/2022	01/03/2022										
Sample Type	Sand	Clay	Clay										
Batch Number	1	1	1										
Date of Receipt	05/03/2022	05/03/2022	05/03/2022										
Arsenic ^{#M}	5.6	6.7	8.4								<0.5	mg/kg	TM30/PM15
Cadmium ^{#M}	0.4	0.3	<0.1								<0.1	mg/kg	TM30/PM15
Chromium ^{#M}	42.8	44.0	63.8								<0.5	mg/kg	TM30/PM15
Copper ^{#M}	8	10	11								<1	mg/kg	TM30/PM15
Lead ^{#M}	22	23	13								<5	mg/kg	TM30/PM15
Mercury ^{#M}	<0.1	<0.1	<0.1								<0.1	mg/kg	TM30/PM15
Nickel ^{#M}	7.7	9.1	17.0								<0.7	mg/kg	TM30/PM15
Selenium ^{#M}	<1	<1	<1								<1	mg/kg	TM30/PM15
Total Sulphate as SO4 ^{#M}	1509	2996	142								<50	mg/kg	TM50/PM29
Zinc ^{#M}	67	75	33								<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene ^{#M}	0.24	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.27	<0.03	<0.03								<0.03	mg/kg	TM4/PM8
Acenaphthene ^{#M}	6.44	<0.05	<0.05								<0.05	mg/kg	TM4/PM8
Fluorene ^{#M}	3.24	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Phenanthrene ^{#M}	5.74	0.12	<0.03								<0.03	mg/kg	TM4/PM8
Anthracene [#]	0.81	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Fluoranthene ^{#M}	1.82	0.27	<0.03								<0.03	mg/kg	TM4/PM8
Pyrene [#]	1.10	0.26	<0.03								<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene [#]	0.33	0.20	<0.06								<0.06	mg/kg	TM4/PM8
Chrysene ^{#M}	0.33	0.21	<0.02								<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene ^{#M}	0.24	0.31	<0.07								<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene [#]	0.09	0.14	<0.04								<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene ^{#M}	0.07	0.13	<0.04								<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene [#]	<0.04	<0.04	<0.04								<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene [#]	0.08	0.15	<0.04								<0.04	mg/kg	TM4/PM8
PAH 16 Total	20.8	1.8	<0.6								<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.17	0.22	<0.05								<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.07	0.09	<0.02								<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	78	78	84								<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) ^{#M}	<0.1 ^{SV}	0.2	<0.1								<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) ^{#M}	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) ^{#M}	<0.2	<0.2	<0.2								<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) ^{#M}	4	7	<4								<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) ^{#M}	13	20	<7								<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) ^{#M}	173	224	<7								<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	190	251	<19								<19	mg/kg	TM5/PM8/PM16/PM12/PM15

Element Materials Technology

Client Name: EPS Ltd
 Reference: UK21.5634
 Location: 32 New Lane, Havant (Pfizer), PO9 2NG
 Contact: Paul O'Connor
 EMT Job No: 22/3683

Report : Solid

Solids: V=60g VOC jar, J=250g glass jar, T=plastic tub

EMT Sample No.	1-2	3-4	5-6								Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 F3 21	SP03 F4 22	DTC 2 01										
Depth	0.00	0.00	0.00										
COC No / misc													
Containers	V J	V J	V J										
Sample Date	01/03/2022	01/03/2022	01/03/2022										
Sample Type	Sand	Clay	Clay										
Batch Number	1	1	1										
Date of Receipt	05/03/2022	05/03/2022	05/03/2022								LOD/LOR	Units	Method No.
TPH CWG													
Aromatics													
>C5-EC7 (HS_1D_AR) [#]	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) [#]	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) ^{#M}	<0.1 ^{SV}	<0.1	<0.1								<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) [#]	<0.2	<0.2	<0.2								<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) [#]	46	<4	<4								<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) [#]	65	<7	<7								<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) [#]	484	214	<7								<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) [#]	595	214	<19								<19	mg/kg	TM5/TM36/PM8/PM12/PM10
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	785	465	<38								<38	mg/kg	TM5/TM36/PM8/PM12/PM10
MTBE [#]	<5 ^{SV}	<5	<5								<5	ug/kg	TM36/PM12
Benzene [#]	<5 ^{SV}	<5	<5								<5	ug/kg	TM36/PM12
Toluene [#]	<5 ^{SV}	<5	<5								<5	ug/kg	TM36/PM12
Ethylbenzene [#]	<5 ^{SV}	<5	<5								<5	ug/kg	TM36/PM12
m/p-Xylene [#]	<5 ^{SV}	<5	<5								<5	ug/kg	TM36/PM12
o-Xylene [#]	<5 ^{SV}	<5	<5								<5	ug/kg	TM36/PM12
Total Phenols HPLC	<0.15	<0.15	<0.15								<0.15	mg/kg	TM26/PM21B
Hexavalent Chromium [#]	<0.3	<0.3	<0.3								<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) ^{#M}	0.0403	0.0957	0.0321								<0.0015	g/l	TM38/PM20
Chromium III	42.8	44.0	63.8								<0.5	mg/kg	NONE/NONE
Total Cyanide ^{#M}	<0.5	<0.5	<0.5								<0.5	mg/kg	TM89/PM45
Organic Matter	1.7	1.6	0.2								<0.2	%	TM21/PM24
pH ^{#M}	11.69	11.82	9.25								<0.01	pH units	TM73/PM11
Sample Type	Sand	Clay	Clay									None	PM13/PM0
Sample Colour	Light Brown	Light Brown	Light Brown									None	PM13/PM0
Other Items	stones	stones and sand	stones and sand									None	PM13/PM0

Please see attached notes for all abbreviations and acronyms

Matrix : Solid

4 of 13

Note:

The LOQ of the Asbestos Quantification is 0.001% dry fibre of dry mass of sample.

Where the sample is not taken by a Element Materials Technology consultant, Element Materials Technology cannot be responsible for inaccurate or unrepresentative sampling.

[illegible]

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor

Reference: UK21.5634
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor

Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor

Contact: Paul O'Connor

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/3683

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

Please include all sections of this report if it is reproduced

All solid results are expressed on a dry weight basis unless stated otherwise.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.

Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above calibration range, the result should be considered the minimum value. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 22/3683

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.			AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes		AR	Yes
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM8	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required.	Yes	Yes	AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.			AR	
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes		AR	Yes
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM8/PM16	End over end extraction of solid samples for organic analysis. The solvent mix varies depending on analysis required/Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE.	Yes	Yes	AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details			AR	Yes
TM5/TM36	please refer to TM5 and TM36 for method details	PM8/PM12/PM16	please refer to PM8/PM16 and PM12 for method details	Yes		AR	Yes
PM13	A visual examination of the solid sample is carried out to ascertain sample make up, colour and any other inclusions. This is not a geotechnical description.	PM0	No preparation is required.			AR	No
TM21	Modified BS 7755-3:1995, ISO10694:1995 Determination of Total Organic Carbon or Total Carbon by combustion in an Eltra TOC furnace/analyser in the presence of oxygen. The CO ₂ generated is quantified using infra-red detection. Organic Matter (SOM) calculated as per EA MCERTS Chemical Testing of Soil, March 2012 v4.	PM24	Dried and ground solid samples are washed with hydrochloric acid, then rinsed with deionised water to remove the mineral carbon before TOC analysis.			AD	Yes

EMT Job No: 22/3683

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM21B	As Received samples are extracted in Methanol: Water (60:40) by reciprocal shaker.			AR	Yes
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma –Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM15	Acid digestion of dried and ground solid samples using Aqua Regia refluxed at 112.5 °C. Samples containing asbestos are not dried and ground.	Yes	Yes	AD	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.			AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes		AR	Yes
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes	Yes	AR	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) –Al anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes	Yes	AD	Yes
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) –Al anions comparable to BS ISO 15923-1: 2013	PM20	Extraction of dried and ground or as received samples with deionised water in a 2:1 water to solid ratio using a reciprocal shaker for all analytes except hexavalent chromium. Extraction of as received sample using 10:1 ratio of 0.2M sodium hydroxide to soil for hexavalent chromium using a reciprocal shaker.	Yes		AR	Yes
TM50	Acid soluble sulphate (Total Sulphate) analysed by ICP-OES	PM29	A hot hydrochloric acid digest is performed on a dried and ground sample, and the resulting liquor is analysed.	Yes	Yes	AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 Second edition (2021)	PM42	Modified SCA Blue Book V.12 draft 2017 and WM3 1st Edition v1.1:2018. Solid samples undergo a thorough visual inspection for asbestos fibres prior to asbestos identification using TM065.	Yes		AR	
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM11	Extraction of as received solid samples using one part solid to 2.5 parts deionised water.	Yes	Yes	AR	No

EMT Job No: 22/3683

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM45	As received solid samples are extracted with 1M NaOH by orbital shaker for Cyanide, Sulphide and Thiocyanate analysis.	Yes	Yes	AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes



APPENDIX G

Environmental Laboratory Report –Water (EPS)

EPS Ltd
7B Caxton House
Broad Street
Cambourne
Cambridgeshire
CB23 6JN



Attention : Paul O'Connor
Date : 21st January, 2022
Your reference : UK21.5634
Our reference : Test Report 22/138 Batch 1
Location : 32, New Lane, Havant (Pfizer), PO9 2NG
Date samples received : 10th January, 2022
Status : Final Report
Issue : 1

Six samples were received for analysis on 10th January, 2022 of which six were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.

All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Hayley Prowse

Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32, New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/138

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
 H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HNO₃

EMT Sample No.	1-6	7-12	13-18	19-24	25-30	31-36					Please see attached notes for all abbreviations and acronyms		
Sample ID	BH01	BH03	BH07	BH12	BH17	BHGA 07A							
Depth													
COC No / misc													
Containers	VHNP G	VHNP G	VHNP G	VHNP G	VHNP G	VHNP G							
Sample Date	05/01/2022 15:10	05/01/2022 11:50	05/01/2022 12:40	05/01/2022 16:00	05/01/2022 14:20	05/01/2022 14:20							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022					LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C6-C8 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C8-C10 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>C10-C12 [#]	<5	<5	<5	<5	<5	<5					<5	ug/l	TM5/PM16/PM30
>C12-C16 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM16/PM30
>C16-C21 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM16/PM30
>C21-C35 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM 16/PM 12/PM 16/PM 30
Aromatics													
>C5-EC7 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC7-EC8 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC8-EC10 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM36/PM12
>EC10-EC12 [#]	<5	<5	<5	<5	<5	<5					<5	ug/l	TM5/PM16/PM30
>EC12-EC16 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM16/PM30
>EC16-EC21 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM16/PM30
>EC21-EC35 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM 16/PM 12/PM 16/PM 30
Total aliphatics and aromatics(C5-35) [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM 16/PM 12/PM 16/PM 30
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	<0.15					<0.15	mg/l	TM26/PM0
Sulphate as SO ₄ [#]	33.1	272.4	96.5	36.7	328.9	49.3					<0.5	mg/l	TM38/PM0
Total Cyanide [#]	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01					<0.01	mg/l	TM89/PM0
Ammoniacal Nitrogen as N [#]	<0.03	<0.03	0.05	<0.03	0.03	<0.03					<0.03	mg/l	TM38/PM0
Hexavalent Chromium	<6	<6	<6	<6	<6	<6					<6	ug/l	TM38/PM0
Total Dissolved Chromium III	<6	<6	<6	<6	<6	<6					<6	ug/l	TM0/PM0
pH [#]	7.81	7.85	7.99	7.72	7.48	7.74					<0.01	pH units	TM73/PM0
Total Organic Carbon [#]	<2	<2	<2	<2	<2	<2					<2	mg/l	TM60/PM0

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32, New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/138

VOC Report : Liquid

EMT Sample No.	1-6	7-12	13-18	19-24	25-30	31-36					Please see attached notes for all abbreviations and acronyms		
Sample ID	BH01	BH03	BH07	BH12	BH17	BHGA 07A							
Depth													
COC No / misc													
Containers	VHNP G	VHNP G	VHNP G	VHNP G	VHNP G	VHNP G							
Sample Date	05/01/2022 15:10	05/01/2022 11:50	05/01/2022 12:40	05/01/2022 16:00	05/01/2022 14:20	05/01/2022 14:20							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water							
Batch Number	1	1	1	1	1	1							
Date of Receipt	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022					LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1					<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
trans-1,2-Dichloroethene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
cis-1,2-Dichloroethene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Benzene #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3 ⁺	<3 ⁺	<3 ⁺	<3	<3	<3					<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
cis-1,3-Dichloropropene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Toluene #	<5	<5	<5	<5	<5	<5					<5	ug/l	TM15/PM10
trans-1,3-Dichloropropene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1	<1	<1	<1					<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4	<4					<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2	<2	<2	<2					<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3	<3					<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	105	106	105	107	96	100					<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	110	107	105	109	95	97					<0	%	TM15/PM10

Matrix : Liquid

[illegible]

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32, New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor

[illegible]

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating. Only analyses which are accredited are recorded as deviating if set criteria are not met.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 22/138

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a UKAS requirement for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.

Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.