

EPS Ltd
10-12 East Parade
Leeds
LS1 2BH



Attention : Paul O'Connor
Date : 18th January, 2022
Your reference : UK.21.5634
Our reference : Test Report 22/274 Batch 1
Location : 32 New Lane Havant (Pfizer) PO9 2NG
Date samples received : 12th January, 2022
Status : Final Report
Issue : 1

Eight samples were received for analysis on 12th January, 2022 of which eight 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:



Bruce Leslie
Project Manager

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Element Materials Technology

Client Name: EPS Ltd
Reference: UK.21.5634
Location: 32 New Lane Havant (Pfizer) PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/274

Report : Solid

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

EMT Sample No.	1-4	5-8	9-11	12-14	15-17	18-20	21-23	24-26			Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 D5 03	SP03 C6 04	OR G10	OR H12	OR K13	DT F6 01	DT B13 01	DT G13 01					
Depth	0.00	0.00	1.00	0.50	1.00	0.00	0.00	0.00					
COC No / misc													
Containers	V J T B	V J T B	V J T	V J T	V J T	V J T	V J T	V J T					
Sample Date	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022					
Sample Type	Clayey Sand	Clayey Sand	Clay	Clay	Clay	Clay	Clay	Clay					
Batch Number	1	1	1	1	1	1	1	1			LOD/LOR	Units	Method No.
Date of Receipt	12/01/2022	12/01/2022	12/01/2022	12/01/2022	12/01/2022	12/01/2022	12/01/2022	12/01/2022					
Arsenic #	8.3	6.6	8.8	7.4	9.7	5.8	14.3	7.9			<0.5	mg/kg	TM30/PM15
Cadmium #	0.1	0.2	0.5	0.5	0.2	0.5	0.3	0.4			<0.1	mg/kg	TM30/PM15
Chromium #	56.6	58.2	41.9	51.1	64.5	53.5	53.3	44.6			<0.5	mg/kg	TM30/PM15
Copper #	12	8	11	9	15	9	11	17			<1	mg/kg	TM30/PM15
Lead #	12	12	108	38	20	18	24	22			<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			<0.1	mg/kg	TM30/PM15
Nickel #	10.3	8.4	10.9	8.8	25.6	12.9	22.3	15.5			<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1	<1	<1	1	<1			<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	4425	8954	1535	850	694	372	886	1756			<50	mg/kg	TM50/PM29
Zinc #	87	45	119	86	61	43	58	59			<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Acenaphthylene	0.05	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03			<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05			<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Phenanthrene #	0.08	<0.03	<0.03	<0.03	0.07	0.05	<0.03	0.05			<0.03	mg/kg	TM4/PM8
Anthracene #	0.05	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Fluoranthene #	0.15	<0.03	0.07	0.04	0.16	0.14	<0.03	0.10			<0.03	mg/kg	TM4/PM8
Pyrene #	0.14	<0.03	0.07	0.04	0.13	0.15	<0.03	0.10			<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	0.15	<0.06	0.08	<0.06	0.12	0.13	<0.06	0.09			<0.06	mg/kg	TM4/PM8
Chrysene #	0.11	0.04	0.06	0.02	0.08	0.09	<0.02	0.06			<0.02	mg/kg	TM4/PM8
Benzo(b)fluoranthene #	0.28	<0.07	0.09	<0.07	0.16	0.17	<0.07	0.10			<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	0.21	<0.04	0.05	<0.04	0.10	0.10	<0.04	0.06			<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	0.22	<0.04	<0.04	<0.04	0.07	0.09	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	0.21	<0.04	<0.04	<0.04	0.06	0.08	<0.04	<0.04			<0.04	mg/kg	TM4/PM8
PAH 16 Total	1.7	<0.6	<0.6	<0.6	1.0	1.0	<0.6	<0.6			<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	0.20	<0.05	0.06	<0.05	0.12	0.12	<0.05	0.07			<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	0.08	<0.02	0.03	<0.02	0.04	0.05	<0.02	0.03			<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	103	100	103	84	90	103	96	96			<0	%	TM4/PM8
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	0.5	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	1.4			<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<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	0.9			<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2			<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4	11			<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7	30			<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	145	<7	<7	<7	<7	<7	<7	20			<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	146	<19	<19	<19	<19	<19	<19	63			<19	mg/kg	TMS/PM8/PM16/PM12/PM15

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

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Matrix : Solid

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Client Name: EPS Ltd
Reference: UK.21.5634
Location: 32 New Lane Havant (Pfizer) PO9 2NG
Contact: Paul O'Connor

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.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation. Asbestos quantification to 0.001% dry fibre of dry mass of sample is accredited to ISO17025.

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.	Date Of Analysis	Analysis	Result
22/274	1	SP03 D5 03	0.00	3	12/01/2022	General Description (Bulk Analysis)	soil
					12/01/2022	Asbestos Fibres	NAD
					12/01/2022	Asbestos ACM	NAD
					12/01/2022	Asbestos Type	NAD
					12/01/2022	Asbestos Level Screen	NAD
22/274	1	SP03 C6 04	0.00	7	12/01/2022	General Description (Bulk Analysis)	soil
					12/01/2022	Asbestos Fibres	NAD
					12/01/2022	Asbestos ACM	NAD
					12/01/2022	Asbestos Type	NAD
					12/01/2022	Asbestos Level Screen	NAD
22/274	1	OR G10	1.00	11	13/01/2022	General Description (Bulk Analysis)	soil
					13/01/2022	Asbestos Fibres	NAD
					13/01/2022	Asbestos ACM	NAD
					13/01/2022	Asbestos Type	NAD
					13/01/2022	Asbestos Level Screen	NAD
22/274	1	OR H12	0.50	14	12/01/2022	General Description (Bulk Analysis)	soil
					12/01/2022	Asbestos Fibres	NAD
					12/01/2022	Asbestos ACM	NAD
					12/01/2022	Asbestos Type	NAD
					12/01/2022	Asbestos Level Screen	NAD
22/274	1	OR K13	1.00	17	13/01/2022	General Description (Bulk Analysis)	soil/stone/mortar
					13/01/2022	Asbestos Fibres	Free Fibres
					13/01/2022	Asbestos ACM	NAD
					13/01/2022	Asbestos Type	Chrysotile
					13/01/2022	Asbestos Level Screen	less than 0.1%
					13/01/2022	Total ACM Gravimetric Quantification (% Asb)	<0.001 (mass %)
					13/01/2022	Total Detailed Gravimetric Quantification (% Asb)	<0.001 (mass %)
					13/01/2022	Total Gravimetric Quantification (ACM + Detailed) (% Asb)	<0.001 (mass %)
					14/01/2022	Asbestos PCOM Quantification (Fibres)	<0.001 (mass %)
					14/01/2022	Asbestos Gravimetric & PCOM Total	<0.001 (mass %)
22/274	1	DT F6 01	0.00	20	13/01/2022	General Description (Bulk Analysis)	soil/stone
					13/01/2022	Asbestos Fibres	NAD
					13/01/2022	Asbestos ACM	NAD
					13/01/2022	Asbestos Type	NAD

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Date Of Analysis	Analysis	Result
22/274	1	DT F6 01	0.00	20	13/01/2022	Asbestos Level Screen	NAD
22/274	1	DT B13 01	0.00	23	12/01/2022	General Description (Bulk Analysis)	Soil
					12/01/2022	Asbestos Fibres	NAD
					12/01/2022	Asbestos ACM	NAD
					12/01/2022	Asbestos Type	NAD
					12/01/2022	Asbestos Level Screen	NAD
22/274	1	DT G13 01	0.00	26	12/01/2022	General Description (Bulk Analysis)	Soil
					12/01/2022	Asbestos Fibres	NAD
					12/01/2022	Asbestos ACM	NAD
					12/01/2022	Asbestos Type	NAD
					12/01/2022	Asbestos Level Screen	NAD

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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.: 22/274

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.

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.

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: 22/274

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/274

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
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		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
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		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		AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 First edition (2006)	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		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		AR	Yes
TM131	Quantification of Asbestos Fibres and ACM based on HSG248 First edition:2006, HSG 264 Second edition:2012, HSE Contract Research Report No.83/1996, MDHS 87:1998, WM3 1st Edition v1.1:2018	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	Yes

EMT Job No: 22/274

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
NONE	No Method Code	NONE	No Method Code			AD	Yes

EPS Ltd
10-12 East Parade
Leeds
LS1 2BH



Attention :	Paul O'Connor
Date :	20th January, 2022
Your reference :	UK21.56334
Our reference :	Test Report 22/464 Batch 1
Location :	32 New Lane, Havant (Pfizer), PO9 2NG
Date samples received :	15th January, 2022
Status :	Final Report
Issue :	1

Eight samples were received for analysis on 15th January, 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:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.56334
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/464

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	OR H7 0.5	DT E11 01	DT E13 01	SP03 D6 05	SP03 C6 06	SP03 C5 07	SP03 D5 08						
Depth	0.50	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE						
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	11/01/2022	13/01/2022	13/01/2022	13/01/2022	13/01/2022	13/01/2022	13/01/2022						
Sample Type	Clayey Sand	Clay	Clay	Clayey Silt	Clayey Sand	Clayey Silt	Clayey Sand						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	15/01/2022	15/01/2022	15/01/2022	15/01/2022	15/01/2022	15/01/2022	15/01/2022				LOD/LOR	Units	Method No.
Arsenic #	3.7	6.7	5.2	5.7	4.6	6.2	7.6				<0.5	mg/kg	TM30/PM15
Cadmium #	0.6	0.3	0.3	0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM30/PM15
Chromium #	7.3	41.7	50.2	72.8	65.7	81.2	117.6				<0.5	mg/kg	TM30/PM15
Copper #	5	11	9	8	8	7	6				<1	mg/kg	TM30/PM15
Lead #	26	17	20	12	9	11	6				<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1				<0.1	mg/kg	TM30/PM15
Nickel #	3.9	15.1	10.5	7.7	6.4	7.9	8.3				<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1	<1	<1	<1				<1	mg/kg	TM30/PM15
Sulphur as S	0.02	-	-	-	-	-	-				<0.01	%	TM30/PM15
Total Sulphate as SO4 #	463	2073	1745	5036	6027	3513	3122				<50	mg/kg	TM50/PM29
Zinc #	55	39	42	32	26	23	8				<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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 #	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05				<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.04	<0.03	<0.03	0.10	<0.03	<0.03				<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04	0.06	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.08	<0.03	<0.03	0.16	0.06	<0.03				<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.07	<0.03	<0.03	0.14	0.06	<0.03				<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	0.08	<0.06	<0.06	0.17	0.06	<0.06				<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.05	<0.02	<0.02	0.14	0.04	<0.02				<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	<0.07	<0.07	<0.07	0.27	0.07	<0.07				<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04	0.11	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04	0.12	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04	0.09	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04	0.12	<0.04	<0.04				<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	<0.6	<0.6	1.5	<0.6	<0.6				<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05	0.19	0.05	<0.05				<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02	0.08	<0.02	<0.02				<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	92	79	98	87	83	96	87				<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	-	-	<2	<2	<2	<2				<2	ug/kg	TM15/PM10
Benzene #	-	-	-	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Toluene #	-	-	-	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	-	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	-	<5	<5	<5	<5				<5	ug/kg	TM15/PM10
o-Xylene #	-	-	-	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	-	100	103	94	99				<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	-	97	102	99	101				<0	%	TM15/PM10

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.56334
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/464

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	OR H7 0.5	DT E11 01	DT E13 01	SP03 D6 05	SP03 C6 06	SP03 C5 07	SP03 D5 08						
Depth	0.50	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE	SURFACE						
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	11/01/2022	13/01/2022	13/01/2022	13/01/2022	13/01/2022	13/01/2022	13/01/2022						
Sample Type	Clayey Sand	Clay	Clay	Clayey Silt	Clayey Sand	Clayey Silt	Clayey Sand						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	15/01/2022	15/01/2022	15/01/2022	15/01/2022	15/01/2022	15/01/2022	15/01/2022				LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	0.4	<0.1	<0.1	0.1	2.8	<0.1				<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<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) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4				<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	30	<7	<7	<7	19	<7				<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	30	<19	<19	<19	22	<19				<19	mg/kg	TMS/PM8/PM16/PM12/PM10
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) #	<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	<7	<7	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	29	20	19	31	<7	<7				<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	<19	29	20	19	31	<19	<19				<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-35) (EH+HS_CU_1D_Total)	<38	59	<38	<38	<38	<38	<38				<38	mg/kg	TMS/PM8/PM16/PM12/PM10
MTBE #	<5	<5	<5	-	-	-	-				<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5	-	-	-	-				<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5	-	-	-	-				<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5	-	-	-	-				<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5	-	-	-	-				<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5	-	-	-	-				<5	ug/kg	TM36/PM12
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15	0.17	<0.15				<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	5.3	17.1	17.1	6.6	11.4	7.0	7.3				<0.1	%	PM4/PM0
Ammoniacal Nitrogen as N	-	-	-	<0.6	<0.6	<0.6	<0.6				<0.6	mg/kg	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0584	0.3806	0.3534	0.0238	0.3925	0.0127	0.0099				<0.0015	g/l	TM38/PM20
Chromium III	7.3	41.7	50.2	72.8	65.7	81.2	117.6				<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	mg/kg	TM89/PM45
Organic Matter	<0.2	0.3	<0.2	0.4	0.2	<0.2	<0.2				<0.2	%	TM21/PM24
pH #	10.76	10.57	10.39	11.74	12.08	12.34	12.31				<0.01	pH units	TM73/PM11
Sample Type	Clayey Sand	Clay	Clay	Clayey Silt	Clayey Sand	Clayey Silt	Clayey Sand				None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown				None		PM13/PM0

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.56334
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/464

Report : Solid

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

[illegible]

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.56334
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/464

VOC Report : Solid

EMT Sample No.	10-12	13-15	16-18	19-21							Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 D6 05	SP03 C6 06	SP03 C5 07	SP03 D5 08									
Depth	SURFACE	SURFACE	SURFACE	SURFACE									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	13/01/2022	13/01/2022	13/01/2022	13/01/2022									
Sample Type	Clayey Silt	Clayey Sand	Clayey Silt	Clayey Sand									
Batch Number	1	1	1	1							LOD/LOR	Units	Method No.
Date of Receipt	15/01/2022	15/01/2022	15/01/2022	15/01/2022									
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2							<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1							<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	3	8	14	<2							<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
trans-1,2-Dichloroethene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
cis-1,2-Dichloroethene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
cis-1,3-Dichloropropene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Toluene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
trans-1,3-Dichloropropene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3							<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27	<27							<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	100	103	94	99							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	97	102	99	101							<0	%	TM15/PM10

Matrix : Solid

7 of 17

Client Name: EPS Ltd
Reference: UK21.56334
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor

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.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation. Asbestos quantification to 0.001% dry fibre of dry mass of sample is accredited to ISO17025.

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.	Date Of Analysis	Analysis	Result
22/464	1	OR H7 0.5	0.50	3	18/01/2022	General Description (Bulk Analysis)	soil
					18/01/2022	Asbestos Fibres	NAD
					18/01/2022	Asbestos ACM	NAD
					18/01/2022	Asbestos Type	NAD
					18/01/2022	Asbestos Level Screen	NAD
22/464	1	DT E11 01	SURFACE	6	18/01/2022	General Description (Bulk Analysis)	soil
					18/01/2022	Asbestos Fibres	NAD
					18/01/2022	Asbestos ACM	NAD
					18/01/2022	Asbestos Type	NAD
					18/01/2022	Asbestos Level Screen	NAD
22/464	1	DT E13 01	SURFACE	9	18/01/2022	General Description (Bulk Analysis)	soil
					18/01/2022	Asbestos Fibres	NAD
					18/01/2022	Asbestos ACM	NAD
					18/01/2022	Asbestos Type	NAD
					18/01/2022	Asbestos Level Screen	NAD
22/464	1	SP03 D6 05	SURFACE	12	18/01/2022	General Description (Bulk Analysis)	soil/stones
					18/01/2022	Asbestos Fibres	NAD
					18/01/2022	Asbestos ACM	NAD
					18/01/2022	Asbestos Type	NAD
					18/01/2022	Asbestos Level Screen	NAD
22/464	1	SP03 C6 06	SURFACE	15	18/01/2022	General Description (Bulk Analysis)	soil/stones
					18/01/2022	Asbestos Fibres	NAD
					18/01/2022	Asbestos ACM	NAD
					18/01/2022	Asbestos Type	NAD
					18/01/2022	Asbestos Level Screen	NAD
22/464	1	SP03 C5 07	SURFACE	18	18/01/2022	General Description (Bulk Analysis)	soil/stones
					18/01/2022	Asbestos Fibres	NAD
					18/01/2022	Asbestos ACM	NAD
					18/01/2022	Asbestos Type	NAD
					18/01/2022	Asbestos Level Screen	NAD
22/464	1	SP03 D5 08	SURFACE	21	18/01/2022	General Description (Bulk Analysis)	stones
					18/01/2022	Asbestos Fibres	NAD
					18/01/2022	Asbestos ACM	NAD

Client Name: EPS Ltd
Reference: UK21.56334
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor

[illegible]

Client Name: EPS Ltd
Reference: UK21.56334
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.: 22/464

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.

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.

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: 22/464

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/464

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
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		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 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
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.			AD	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		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
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), NH ₄ ⁺ 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		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), NH ₄ ⁺ 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.			AR	Yes

EMT Job No: 22/464

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
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		AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 First edition (2006)	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		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		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
10-12 East Parade
Leeds
LS1 2BH



Attention :	Paul O'Connor
Date :	21st January, 2022
Your reference :	UK21.5634
Our reference :	Test Report 22/642 Batch 1
Location :	32 New Lane Havant (pfizer) PO9 2NG
Date samples received :	19th January, 2022
Status :	Final Report
Issue :	1

Seven samples were received for analysis on 19th January, 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: 32 New Lane Havant (pfizer) PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/642

VOC Report : Solid

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	SP02 J3 04 P	SP02 J3 05 P	SP02 J3 06 P	SP03 C5 09 P	SP03 C5 10 P	SP03 C5 11 P	OR H11						
Depth	2.00	1.00	1.50	1.00	2.00	1.00	1.50						
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	17/01/2022	17/01/2022	17/01/2022	17/01/2022	17/01/2022	17/01/2022	17/01/2022						
Sample Type	Clayey Sand	Clayey Sand	Clayey Sand	Silt	Silt	Silt	Clay						
Batch Number	1	1	1	1	1	1	1				LOD/LOR	Units	Method No.
Date of Receipt	19/01/2022	19/01/2022	19/01/2022	19/01/2022	19/01/2022	19/01/2022	19/01/2022						
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2	<2				<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2	<2	<2	<2				<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2	<2	<2	<2				<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1	<1	<1	<1				<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2	<2	<2	<2				<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	51	79	113	3	4	<2	<2				<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6	<6	<6	<6				<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7	<7	<7	<7	<7	<7				<7	ug/kg	TM15/PM10
trans-1,2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
cis-1,2-Dichloroethene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6	<6	<6	<6				<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
cis-1,3-Dichloropropene	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
Toluene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
trans-1,3-Dichloropropene	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2	<2	<2	<2				<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3	<3	<3	<3				<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5	<5	<5	<5				<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	<6	<6	<6	<6				<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7	<7	<7	<7	<7				<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4	<4	<4	<4				<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27	<27	<27	<27	<27				<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7	<7	<7	<7	<7				<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	99	96	98	102	101	102	101				<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	97	95	95	99	99	100	100				<0	%	TM15/PM10

Matrix : Solid

6 of 16

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

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.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation. Asbestos quantification to 0.001% dry fibre of dry mass of sample is accredited to ISO17025.

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.	Date Of Analysis	Analysis	Result
22/642	1	SP02 J3 04 P	2.00	3	19/01/2022	General Description (Bulk Analysis)	soil
					19/01/2022	Asbestos Fibres	NAD
					19/01/2022	Asbestos ACM	NAD
					19/01/2022	Asbestos Type	NAD
					19/01/2022	Asbestos Level Screen	NAD
22/642	1	SP02 J3 05 P	1.00	6	19/01/2022	General Description (Bulk Analysis)	soil
					19/01/2022	Asbestos Fibres	NAD
					19/01/2022	Asbestos ACM	NAD
					19/01/2022	Asbestos Type	NAD
					19/01/2022	Asbestos Level Screen	NAD
22/642	1	SP02 J3 06 P	1.50	9	19/01/2022	General Description (Bulk Analysis)	Soil/Stones
					19/01/2022	Asbestos Fibres	NAD
					19/01/2022	Asbestos ACM	NAD
					19/01/2022	Asbestos Type	NAD
					19/01/2022	Asbestos Level Screen	NAD
22/642	1	SP03 C5 09 P	1.00	12	19/01/2022	General Description (Bulk Analysis)	Soil/Stones
					19/01/2022	Asbestos Fibres	NAD
					19/01/2022	Asbestos ACM	NAD
					19/01/2022	Asbestos Type	NAD
					19/01/2022	Asbestos Level Screen	NAD
22/642	1	SP03 C5 10 P	2.00	15	19/01/2022	General Description (Bulk Analysis)	soil
					19/01/2022	Asbestos Fibres	NAD
					19/01/2022	Asbestos ACM	NAD
					19/01/2022	Asbestos Type	NAD
					19/01/2022	Asbestos Level Screen	NAD
22/642	1	SP03 C5 11 P	1.00	18	19/01/2022	General Description (Bulk Analysis)	soil/stones
					19/01/2022	Asbestos Fibres	NAD
					19/01/2022	Asbestos ACM	NAD
					19/01/2022	Asbestos Type	NAD
					19/01/2022	Asbestos Level Screen	NAD
22/642	1	OR H11	1.50	21	19/01/2022	General Description (Bulk Analysis)	Soil/Stone
					19/01/2022	Asbestos Fibres	NAD
					19/01/2022	Asbestos ACM	NAD

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

[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.: 22/642

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.

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.

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: 22/642

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/642

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
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		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 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
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		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
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), NH ₄ + 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		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), NH ₄ + 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.			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), NH ₄ + 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

EMT Job No: 22/642

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
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		AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 First edition (2006)	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		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		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
10-12 East Parade
Leeds
LS1 2BH



Attention : Paul O'Connor
Date : 28th January, 2022
Your reference : UK21.5634
Our reference : Test Report 22/914 Batch 1
Location : 32 New Lane, Havant (Pfizer), PO9 2NG
Date samples received : 22nd January, 2022
Status : Final Report
Issue : 1

Seven samples were received for analysis on 22nd January, 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:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

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

Please see attached notes for all abbreviations and acronyms

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: 22/914

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	OR G10	OR F3	OR G4	OR J11	DT J13 01	SP03 C5 12	SP04 H4 01						
Depth	1.6	1.5	Surface	Surface	Surface	Surface	Surface						
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	19/01/2022	21/01/2022	21/01/2022	21/01/2022	21/01/2022	21/01/2022	21/01/2022						
Sample Type	Clayey Sand	Clay	Clay	Clay	Clay	Silt	Sand						
Batch Number	1	1	1	1	1	1	1						
Date of Receipt	22/01/2022	22/01/2022	22/01/2022	22/01/2022	22/01/2022	22/01/2022	22/01/2022				LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<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) #	<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) #	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2				<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4	<4	<4	<4				<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	55	<7	<7	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	55	<19	<19	<19	<19	<19	<19				<19	mg/kg	TMS/PM8/PM16/PM12/PM10
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) #	<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	<7	<7	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7	<7	<7	<7				<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	<19	<19	<19	<19	<19	<19	<19				<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-35) (EH+HS_CU_1D_Total)	55	<38	<38	<38	<38	<38	<38				<38	mg/kg	TMS/PM8/PM16/PM12/PM10
MTBE #	-	<5	<5	-	<5	-	-				<5	ug/kg	TM36/PM12
Benzene #	-	<5	<5	-	<5	-	-				<5	ug/kg	TM36/PM12
Toluene #	-	<5	<5	-	<5	-	-				<5	ug/kg	TM36/PM12
Ethylbenzene #	-	<5	<5	-	<5	-	-				<5	ug/kg	TM36/PM12
m/p-Xylene #	-	<5	<5	-	<5	-	-				<5	ug/kg	TM36/PM12
o-Xylene #	-	<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
Natural Moisture Content	9.6	14.5	11.1	17.7	13.1	3.3	3.8				<0.1	%	PM4/PM0
Ammoniacal Nitrogen as N	<0.6	-	-	<0.6	-	<0.6	<0.6				<0.6	mg/kg	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3				<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.2153	0.0778	0.1052	0.1444	0.1909	0.0024	0.0023				<0.0015	g/l	TM38/PM20
Chromium III	167.9	49.9	55.0	94.1	56.5	112.1	175.7				<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5				<0.5	mg/kg	TM89/PM45
Organic Matter	<0.2	0.2	0.8	0.5	0.4	0.2	0.2				<0.2	%	TM21/PM24
pH #	9.63	8.48	9.26	8.82	8.86	11.60	12.16				<0.01	pH units	TM73/PM11
Sample Type	Clayey Sand	Clay	Clay	Clay	Clay	Silt	Sand				None		PM13/PM0
Sample Colour	Light Brown	Light Brown	Light Brown	Light Brown	Medium Brown	Light Brown	Light Brown				None		PM13/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: 22/914

Report : Solid

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

[illegible]

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/914

VOC Report : Solid

EMT Sample No.	1-3	10-12	16-18	19-21							Please see attached notes for all abbreviations and acronyms		
Sample ID	OR G10	OR J11	SP03 C5 12	SP04 H4 01									
Depth	1.6	Surface	Surface	Surface									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	19/01/2022	21/01/2022	21/01/2022	21/01/2022									
Sample Type	Clayey Sand	Clay	Silt	Sand									
Batch Number	1	1	1	1							LOD/LOR	Units	Method No.
Date of Receipt	22/01/2022	22/01/2022	22/01/2022	22/01/2022									
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2							<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1							<1	ug/kg	TM15/PM10
Chloroethane #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Trichlorofluoromethane #	7	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
trans-1,2-Dichloroethene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
cis-1,2-Dichloroethene #	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Bromochloromethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Chloroform #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
Benzene #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2-Dichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Dibromomethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Bromodichloromethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
cis-1,3-Dichloropropene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Toluene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
trans-1,3-Dichloropropene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Dibromochloromethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Chlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
m/p-Xylene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
o-Xylene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3							<3	ug/kg	TM15_A/PM10
Bromoform	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27	<27							<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	98	98	101	100							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	99	97	98	98							<0	%	TM15/PM10

Matrix : Solid

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

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.

Opinions, including ACM type and Asbestos level less than 0.1%, lie outside the scope of our UKAS accreditation. Asbestos quantification to 0.001% dry fibre of dry mass of sample is accredited to ISO17025.

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.	Date Of Analysis	Analysis	Result
22/914	1	OR G10	1.6	3	26/01/2022	General Description (Bulk Analysis)	soil/stones
					26/01/2022	Asbestos Fibres	NAD
					26/01/2022	Asbestos ACM	NAD
					26/01/2022	Asbestos Type	NAD
					26/01/2022	Asbestos Level Screen	NAD
22/914	1	OR F3	1.5	6	26/01/2022	General Description (Bulk Analysis)	soil/stones
					26/01/2022	Asbestos Fibres	NAD
					26/01/2022	Asbestos ACM	NAD
					26/01/2022	Asbestos Type	NAD
					26/01/2022	Asbestos Level Screen	NAD
22/914	1	OR G4	Surface	9	26/01/2022	General Description (Bulk Analysis)	Soil/Stone
					26/01/2022	Asbestos Fibres	NAD
					26/01/2022	Asbestos ACM	NAD
					26/01/2022	Asbestos Type	NAD
					26/01/2022	Asbestos Level Screen	NAD
22/914	1	OR J11	Surface	12	26/01/2022	General Description (Bulk Analysis)	Soil/Stones
					26/01/2022	Asbestos Fibres	NAD
					26/01/2022	Asbestos ACM	NAD
					26/01/2022	Asbestos Type	NAD
					26/01/2022	Asbestos Level Screen	NAD
22/914	1	DT J13 01	Surface	15	26/01/2022	General Description (Bulk Analysis)	Soil/Stone
					26/01/2022	Asbestos Fibres	NAD
					26/01/2022	Asbestos ACM	NAD
					26/01/2022	Asbestos Type	NAD
					26/01/2022	Asbestos Level Screen	NAD
22/914	1	SP03 C5 12	Surface	18	26/01/2022	General Description (Bulk Analysis)	soil/stones
					26/01/2022	Asbestos Fibres	NAD
					26/01/2022	Asbestos ACM	NAD
					26/01/2022	Asbestos Type	NAD
					26/01/2022	Asbestos Level Screen	NAD
22/914	1	SP04 H4 01	Surface	21	26/01/2022	General Description (Bulk Analysis)	Stone
					26/01/2022	Asbestos Fibres	NAD
					26/01/2022	Asbestos ACM	NAD

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

[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.: 22/914

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.

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.

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: 22/914

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/914

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
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		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		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
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		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

EMT Job No: 22/914

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
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		AD	Yes
TM65	Asbestos Bulk Identification method based on HSG 248 First edition (2006)	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		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		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
10-12 East Parade
Leeds
LS1 2BH



Attention : Paul O'Connor
Date : 15th February, 2022
Your reference : UK21.5634
Our reference : Test Report 22/1812 Batch 1
Location : 32, New Lane, Havant (Pfizer), PO9 2NG
Date samples received : 5th February, 2022
Status : Final Report
Issue : 1

Twelve samples were received for analysis on 5th February, 2022 of which twelve 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:



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: 22/1812

Report : Solid

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

EMT Sample No.	1	2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26	Please see attached notes for all abbreviations and acronyms		
Sample ID	SP MAC WEST	SP MAC EAST	SP03 D5 13	SP03 E5 14	SP04 J5 02	DT G11 01	OR H10	OR J10	DT J11 01	OR H8			
Depth							1.50	2.00		1.00			
COC No / misc													
Containers	T	T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	31/01/2022	31/01/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	03/02/2022			
Sample Type	Soil	Soil	Sand	Sand	Silt	Clay	Clay	Clay	Clay	Clay			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022			
Arsenic #	-	-	7.3	7.7	7.3	7.4	4.1	6.3	10.6	4.8	<0.5	mg/kg	TM30/PM15
Cadmium #	-	-	0.1	0.1	<0.1	0.5	0.3	0.5	0.4	0.4	<0.1	mg/kg	TM30/PM15
Chromium #	-	-	58.3	66.1	65.4	54.6	94.6	66.7	56.4	110.9	<0.5	mg/kg	TM30/PM15
Copper #	-	-	15	7	6	9	7	10	13	7	<1	mg/kg	TM30/PM15
Lead #	-	-	9	11	7	21	6	12	21	6	<5	mg/kg	TM30/PM15
Mercury #	-	-	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	mg/kg	TM30/PM15
Nickel #	-	-	10.0	9.8	7.9	13.2	12.9	12.6	28.5	14.9	<0.7	mg/kg	TM30/PM15
Selenium #	-	-	<1	<1	<1	<1	<1	<1	<1	<1	<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	-	-	2838	4369	4004	815	225	611	578	734	<50	mg/kg	TM50/PM29
Zinc #	-	-	40	35	39	71	23	44	67	21	<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	-	-	0.46	0.11	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Acenaphthylene	-	-	0.31	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	TM4/PM8
Acenaphthene #	-	-	5.20	0.17	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	TM4/PM8
Fluorene #	-	-	5.83	0.17	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Phenanthrene #	-	-	>>35.76	1.23	<0.03	0.09	0.33	0.06	0.12	<0.03	<0.03	mg/kg	TM4/PM8
Anthracene #	-	-	12.42	0.48	<0.04	0.09	0.10	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Fluoranthene #	-	-	>>51.44	2.34	0.08	0.19	0.43	0.15	0.22	<0.03	<0.03	mg/kg	TM4/PM8
Pyrene #	-	-	>>36.77	1.78	0.07	0.15	0.35	0.17	0.19	<0.03	<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	-	-	20.12	1.27	0.07	0.13	0.23	0.13	0.16	<0.06	<0.06	mg/kg	TM4/PM8
Chrysene #	-	-	20.47	1.27	0.05	0.11	0.22	0.12	0.13	<0.02	<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	-	-	>>34.14	2.29	0.10	0.18	0.31	0.23	0.26	<0.07	<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	-	-	19.00	1.23	0.06	0.11	0.19	0.13	0.13	<0.04	<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	-	-	15.33	1.09	0.06	0.09	0.15	0.12	0.13	0.04	<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	-	-	2.47	0.19	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	-	-	12.73	0.89	0.05	0.08	0.11	0.09	0.11	<0.04	<0.04	mg/kg	TM4/PM8
PAH 16 Total	-	-	272.5	14.5	<0.6	1.2	2.4	1.2	1.5	<0.6	<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	-	-	24.58	1.65	0.07	0.13	0.22	0.17	0.19	<0.05	<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	-	-	9.56	0.64	0.03	0.05	0.09	0.06	0.07	<0.02	<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	-	-	99	92	96	91	89	83	85	87	<0	%	TM4/PM8
Naphthalene	<0.04	<0.04	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM6
Acenaphthylene	0.19	0.19	-	-	-	-	-	-	-	-	<0.03	mg/kg	TM4/PM6
Acenaphthene	<0.05	<0.05	-	-	-	-	-	-	-	-	<0.05	mg/kg	TM4/PM6
Fluorene	<0.04	<0.04	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM6
Phenanthrene	<0.03	0.16	-	-	-	-	-	-	-	-	<0.03	mg/kg	TM4/PM6
Anthracene	<0.04	<0.04	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM6
Fluoranthene	0.05	<0.03	-	-	-	-	-	-	-	-	<0.03	mg/kg	TM4/PM6
Pyrene	0.06	<0.03	-	-	-	-	-	-	-	-	<0.03	mg/kg	TM4/PM6
Benzo(a)anthracene	0.25	0.33	-	-	-	-	-	-	-	-	<0.06	mg/kg	TM4/PM6
Chrysene	0.11	0.27	-	-	-	-	-	-	-	-	<0.02	mg/kg	TM4/PM6
Benzo(bk)fluoranthene	<0.07	0.18	-	-	-	-	-	-	-	-	<0.07	mg/kg	TM4/PM6
Benzo(a)pyrene	<0.04	0.12	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM6

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: 22/1812

Report : Solid

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

EMT Sample No.	1	2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26	Please see attached notes for all abbreviations and acronyms		
Sample ID	SP MAC WEST	SP MAC EAST	SP03 D5 13	SP03 E5 14	SP04 J5 02	DT G11 01	OR H10	OR J10	DT J11 01	OR H8			
Depth							1.50	2.00		1.00			
COC No / misc													
Containers	T	T	V J T	V J T	V J T	V J T	V J T	V J T	V J T	V J T			
Sample Date	31/01/2022	31/01/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	03/02/2022			
Sample Type	Soil	Soil	Sand	Sand	Silt	Clay	Clay	Clay	Clay	Clay			
Batch Number	1	1	1	1	1	1	1	1	1	1	LOD/LOR	Units	Method No.
Date of Receipt	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022			
PAH MS Continued													
Indeno(123cd)pyrene	<0.04	<0.04	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM6
Dibenzo(ah)anthracene	<0.04	<0.04	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM6
Benzo(ghi)perylene	0.10	0.19	-	-	-	-	-	-	-	-	<0.04	mg/kg	TM4/PM6
PAH 16 Total	0.8	1.4	-	-	-	-	-	-	-	-	<0.6	mg/kg	TM4/PM6
Benzo(b)fluoranthene	<0.05	0.13	-	-	-	-	-	-	-	-	<0.05	mg/kg	TM4/PM6
Benzo(k)fluoranthene	<0.02	0.05	-	-	-	-	-	-	-	-	<0.02	mg/kg	TM4/PM6
Methyl Tertiary Butyl Ether #	-	-	<2	<2	<2	<2	-	<2	<2	-	<2	ug/kg	TM15/PM10
Benzene #	-	-	<3	<3	<3	<3	-	<3	<3	-	<3	ug/kg	TM15/PM10
Toluene #	-	-	<3	<3	<3	<3	-	<3	<3	-	<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	<3	<3	<3	<3	-	<3	<3	-	<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	<5	<5	<5	<5	-	<5	<5	-	<5	ug/kg	TM15/PM10
o-Xylene #	-	-	<3	<3	<3	<3	-	<3	<3	-	<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	84	93	88	100	-	93	99	-	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	91	95	88	98	-	90	96	-	<0	%	TM15/PM10
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	-	-	0.1	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) #	-	-	<0.1	<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	<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	-	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	-	-	<4	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	-	-	12	12	<7	<7	<7	10	<7	<7	<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	-	-	29	44	<7	<7	<7	16	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	-	-	41	56	<19	<19	<19	26	<19	<19	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) #	-	-	<0.1	<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	<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	-	-	<0.1	<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	<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	-	-	10	<4	<4	<4	<4	<4	<4	<4	<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	-	-	73	41	<7	<7	<7	13	<7	<7	<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	-	-	175	156	<7	<7	<7	68	<7	<7	<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	-	-	258	197	<19	<19	<19	81	<19	<19	<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics C5-35 (EH+HS_CU_1D_Total)	-	-	299	253	<38	<38	<38	107	<38	<38	<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE #	-	-	-	-	-	-	<5	-	-	<5	<5	ug/kg	TM36/PM12
Benzene #	-	-	-	-	-	-	<5	-	-	<5	<5	ug/kg	TM36/PM12
Toluene #	-	-	-	-	-	-	<5	-	-	<5	<5	ug/kg	TM36/PM12
Ethylbenzene #	-	-	-	-	-	-	<5	-	-	<5	<5	ug/kg	TM36/PM12
m/p-Xylene #	-	-	-	-	-	-	<5	-	-	<5	<5	ug/kg	TM36/PM12
o-Xylene #	-	-	-	-	-	-	<5	-	-	<5	<5	ug/kg	TM36/PM12

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: 22/1812

Report : Solid

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

EMT Sample No.	27-29	30-32									Please see attached notes for all abbreviations and acronyms		
Sample ID	OR H8	OR K8											
Depth	4.50	1.80											
COC No / misc													
Containers	V J T	V J T											
Sample Date	03/02/2022	03/02/2022											
Sample Type	Clay	Clay											
Batch Number	1	1											
Date of Receipt	05/02/2022	05/02/2022											
Arsenic #	6.1	6.6									<0.5	mg/kg	TM30/PM15
Cadmium #	0.4	0.5									<0.1	mg/kg	TM30/PM15
Chromium #	101.6	54.0									<0.5	mg/kg	TM30/PM15
Copper #	5	28									<1	mg/kg	TM30/PM15
Lead #	7	83									<5	mg/kg	TM30/PM15
Mercury #	<0.1	<0.1									<0.1	mg/kg	TM30/PM15
Nickel #	13.7	15.2									<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1									<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	<50	1284									<50	mg/kg	TM50/PM29
Zinc #	18	143									<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Acenaphthylene	<0.03	<0.03									<0.03	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05									<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	0.09									<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	0.23									<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	0.22									<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	0.16									<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	0.15									<0.02	mg/kg	TM4/PM8
Benzo(bk)fluoranthene #	<0.07	0.29									<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	0.17									<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	0.14									<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04									<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	0.11									<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	1.6									<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	0.21									<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	0.08									<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	87	95									<0	%	TM4/PM8
Naphthalene	-	-									<0.04	mg/kg	TM4/PM6
Acenaphthylene	-	-									<0.03	mg/kg	TM4/PM6
Acenaphthene	-	-									<0.05	mg/kg	TM4/PM6
Fluorene	-	-									<0.04	mg/kg	TM4/PM6
Phenanthrene	-	-									<0.03	mg/kg	TM4/PM6
Anthracene	-	-									<0.04	mg/kg	TM4/PM6
Fluoranthene	-	-									<0.03	mg/kg	TM4/PM6
Pyrene	-	-									<0.03	mg/kg	TM4/PM6
Benzo(a)anthracene	-	-									<0.06	mg/kg	TM4/PM6
Chrysene	-	-									<0.02	mg/kg	TM4/PM6
Benzo(bk)fluoranthene	-	-									<0.07	mg/kg	TM4/PM6
Benzo(a)pyrene	-	-									<0.04	mg/kg	TM4/PM6

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: 22/1812

Report : Solid

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

EMT Sample No.	27-29	30-32									Please see attached notes for all abbreviations and acronyms		
Sample ID	OR H8	OR K8											
Depth	4.50	1.80											
COC No / misc													
Containers	V J T	V J T											
Sample Date	03/02/2022	03/02/2022											
Sample Type	Clay	Clay											
Batch Number	1	1											
Date of Receipt	05/02/2022	05/02/2022											
PAH MS Continued													
Indeno(123cd)pyrene	-	-									<0.04	mg/kg	TM4/PM6
Dibenzo(ah)anthracene	-	-									<0.04	mg/kg	TM4/PM6
Benzo(ghi)perylene	-	-									<0.04	mg/kg	TM4/PM6
PAH 16 Total	-	-									<0.6	mg/kg	TM4/PM6
Benzo(b)fluoranthene	-	-									<0.05	mg/kg	TM4/PM6
Benzo(k)fluoranthene	-	-									<0.02	mg/kg	TM4/PM6
Methyl Tertiary Butyl Ether [#]	-	-									<2	ug/kg	TM15/PM10
Benzene [#]	-	-									<3	ug/kg	TM15/PM10
Toluene [#]	-	-									<3	ug/kg	TM15/PM10
Ethylbenzene [#]	-	-									<3	ug/kg	TM15/PM10
m/p-Xylene [#]	-	-									<5	ug/kg	TM15/PM10
o-Xylene [#]	-	-									<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-									<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-									<0	%	TM15/PM10
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) [#]	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) [#]	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) [#]	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) [#]	<4	<4									<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) [#]	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) [#]	<7	13									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	<19									<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) [#]	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) [#]	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) [#]	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) [#]	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) [#]	<4	<4									<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) [#]	<7	29									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) [#]	<7	95									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) [#]	<19	124									<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-35) (EH+HS_CU_1D_Total)	<38	124									<38	mg/kg	TM5/PM8/PM16/PM12/PM10
MTBE [#]	<5	<5									<5	ug/kg	TM36/PM12
Benzene [#]	<5	<5									<5	ug/kg	TM36/PM12
Toluene [#]	<5	<5									<5	ug/kg	TM36/PM12
Ethylbenzene [#]	<5	<5									<5	ug/kg	TM36/PM12
m/p-Xylene [#]	<5	<5									<5	ug/kg	TM36/PM12
o-Xylene [#]	<5	<5									<5	ug/kg	TM36/PM12

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: 22/1812

Report : Solid

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

EMT Sample No.	27-29	30-32											
Sample ID	OR H8	OR K8											
Depth	4.50	1.80											
COC No / misc													
Containers	V J T	V J T											
Sample Date	03/02/2022	03/02/2022											
Sample Type	Clay	Clay											
Batch Number	1	1											
Date of Receipt	05/02/2022	05/02/2022											
Please see attached notes for all abbreviations and acronyms											LOD/LOR	Units	Method No.
Total Phenols HPLC	<0.15	<0.15									<0.15	mg/kg	TM26/PM21B
SEM #	-	-									<110	mg/kg	TM7/PM6
Saturates (Aliphatics)	-	-									<0.01	%	TM13/PM6
Aromatics	-	-									<0.01	%	TM13/PM6
Resins (Heterocyclics)	-	-									<0.01	%	TM13/PM6
Asphaltenes	-	-									<0.01	%	TM13/PM6
Natural Moisture Content	7.2	14.6									<0.1	%	PM4/PM0
Triterpanes 191m/z	-	-										None	TM16/PM6
Triaromatic Steranes 231m/z	-	-										None	TM16/PM6
Coal Tar	-	-									<0.1	%	TM16/PM6
Ammoniacal Nitrogen as N	-	-									<0.6	mg/kg	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3									<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0058	0.1699									<0.0015	g/l	TM38/PM20
Chromium III	101.6	54.0									<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5									<0.5	mg/kg	TM89/PM45
Organic Matter	<0.2	0.6									<0.2	%	TM21/PM24
pH #	8.08	10.14									<0.01	pH units	TM73/PM11
Sample Type	Clay	Clay										None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown										None	PM13/PM0
Other Items	wet, stones	stones										None	PM13/PM0

EMT Sample No.	3-5	6-8	9-11	12-14	18-20	21-23					Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 D5 13	SP03 E5 14	SP04 J5 02	DT G11 01	OR J10	DT J11 01							
Depth					2.00								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022							
Sample Type	Sand	Sand	Silt	Clay	Clay	Clay							
Batch Number	1	1	1	1	1	1							
Date of Receipt	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022					LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2-Methylphenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2-Nitrophenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2,4-Dichlorophenol #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2,4-Dimethylphenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2,4,5-Trichlorophenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2,4,6-Trichlorophenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
4-Chloro-3-methylphenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
4-Methylphenol	42	64	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
4-Nitrophenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Pentachlorophenol	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Phenol #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
PAHs													
2-Chloronaphthalene #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	40	46	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Phthalates													
Bis(2-ethylhexyl) phthalate	118	232	<100	<100	<100	<100					<100	ug/kg	TM16/PM8
Butylbenzyl phthalate	<100	<100	<100	<100	<100	<100					<100	ug/kg	TM16/PM8
Di-n-butyl phthalate	<100	<100	<100	<100	<100	<100					<100	ug/kg	TM16/PM8
Di-n-Octyl phthalate	<100	<100	<100	<100	<100	<100					<100	ug/kg	TM16/PM8
Diethyl phthalate	<100	<100	<100	<100	<100	<100					<100	ug/kg	TM16/PM8
Dimethyl phthalate #	<100	<100	<100	<100	<100	<100					<100	ug/kg	TM16/PM8
Other SVOCs													
1,2-Dichlorobenzene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
1,3-Dichlorobenzene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
1,4-Dichlorobenzene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2-Nitroaniline	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2,4-Dinitrotoluene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
2,6-Dinitrotoluene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
3-Nitroaniline	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
4-Bromophenylphenylether #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
4-Chloroaniline	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
4-Chlorophenylphenylether	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
4-Nitroaniline	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Azobenzene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Bis(2-chloroethoxy)methane	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Bis(2-chloroethyl)ether	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Carbazole	252	223	<10	133	<10	17					<10	ug/kg	TM16/PM8
Dibenzofuran #	287	170	<10	35	<10	<10					<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Hexachloroethane	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Isophorone #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Nitrobenzene #	<10	<10	<10	<10	<10	<10					<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	105	101	102	102	101	106					<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	108	105	97	102	96	100					<0	%	TM16/PM8
				</									

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: 22/1812

VOC Report : Solid

EMT Sample No.	3-5	6-8	9-11	12-14	18-20	21-23					Please see attached notes for all abbreviations and acronyms		
Sample ID	SP03 D5 13	SP03 E5 14	SP04 J5 02	DT G11 01	OR J10	DT J11 01							
Depth					2.00								
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T							
Sample Date	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022							
Sample Type	Sand	Sand	Silt	Clay	Clay	Clay							
Batch Number	1	1	1	1	1	1					LOD/LOR	Units	Method No.
Date of Receipt	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022							
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2	<2	<2					<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2	<2	<2					<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2	<2	<2					<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1	<1	<1					<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2	<2	<2					<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	22	28	7	<2	2	4					<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6	<6	<6					<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7	<7	<7	<7	<7					<7	ug/kg	TM15/PM10
trans-1,2-Dichloroethene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
cis-1,2-Dichloroethene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6	<6	<6					<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
cis-1,3-Dichloropropene	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
Toluene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
trans-1,3-Dichloropropene	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
m/p-Xylene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Styrene	<3	3	<3	<3	<3	<3					<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2	<2	<2					<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	6	5	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3	<3	<3					<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5	<5	<5					<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	25	15	<6	<6	<6	<6					<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7	<7	<7	<7					<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4	<4	<4					<4	ug/kg	TM15/PM10
Naphthalene	79	<27	<27	<27	<27	<27					<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7	<7	<7	<7					<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	84	93	88	100	93	99					<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	91	95	88	98	90	96					<0	%	TM15/PM10

Matrix : Solid

10 of 21

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

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
22/1812	1	SP03 D5 13		5	Simon Postlewhite	15/02/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	15/02/2022	Asbestos Fibres	NAD
					Simon Postlewhite	15/02/2022	Asbestos ACM	NAD
					Simon Postlewhite	15/02/2022	Asbestos Type	NAD
					Simon Postlewhite	15/02/2022	Asbestos Level Screen	NAD
22/1812	1	SP03 E5 14		8	Simon Postlewhite	15/02/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	15/02/2022	Asbestos Fibres	NAD
					Simon Postlewhite	15/02/2022	Asbestos ACM	NAD
					Simon Postlewhite	15/02/2022	Asbestos Type	NAD
					Simon Postlewhite	15/02/2022	Asbestos Level Screen	NAD
22/1812	1	SP04 J5 02		11	Andrew Alker	14/02/2022	General Description (Bulk Analysis)	soil
					Andrew Alker	14/02/2022	Asbestos Fibres	NAD
					Andrew Alker	14/02/2022	Asbestos ACM	NAD
					Andrew Alker	14/02/2022	Asbestos Type	NAD
					Andrew Alker	14/02/2022	Asbestos Level Screen	NAD
22/1812	1	DT G11 01		14	Charlotte Taylor	15/02/2022	General Description (Bulk Analysis)	soil/stones
					Charlotte Taylor	15/02/2022	Asbestos Fibres	NAD
					Charlotte Taylor	15/02/2022	Asbestos ACM	NAD
					Charlotte Taylor	15/02/2022	Asbestos Type	NAD
					Charlotte Taylor	15/02/2022	Asbestos Level Screen	NAD
22/1812	1	OR H10	1.50	17	Charlotte Taylor	15/02/2022	General Description (Bulk Analysis)	soil/stones
					Charlotte Taylor	15/02/2022	Asbestos Fibres	NAD
					Charlotte Taylor	15/02/2022	Asbestos ACM	NAD
					Charlotte Taylor	15/02/2022	Asbestos Type	NAD
					Charlotte Taylor	15/02/2022	Asbestos Level Screen	NAD
22/1812	1	OR J10	2.00	20	Charlotte Taylor	15/02/2022	General Description (Bulk Analysis)	soil/stones
					Charlotte Taylor	15/02/2022	Asbestos Fibres	NAD
					Charlotte Taylor	15/02/2022	Asbestos ACM	NAD
					Charlotte Taylor	15/02/2022	Asbestos Type	NAD
					Charlotte Taylor	15/02/2022	Asbestos Level Screen	NAD
22/1812	1	DT J11 01		23	Kevin Hughes	15/02/2022	General Description (Bulk Analysis)	soil
					Kevin Hughes	15/02/2022	Asbestos Fibres	NAD
					Kevin Hughes	15/02/2022	Asbestos ACM	NAD

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

[illegible]

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32, New Lane, Havant (Pfizer), PO9 2NG
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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.: 22/1812

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: 22/1812

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM6	Samples are extracted using Soxtec apparatus and solvent.			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.			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
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/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
TM7	Modified USEPA 3540C:1996 and 9071B:1998 for oily wastes. In house method for the gravimetric determination of a sample following solvent extraction.	PM6	Samples are extracted using Soxtec apparatus and solvent.	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

EMT Job No: 22/1812

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
TM13	Determination of Saturates, Aromatics, Resins and Asphaltenes by Thin Layer Chromatography with Flame Ionisation Detection.	PM6	Samples are extracted using Soxtec apparatus and solvent.			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.			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		AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM6	Samples are extracted using Soxtec apparatus and solvent.			AR	Yes
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM6	Samples are extracted using Soxtec apparatus and solvent.			AR	
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		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 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
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 USEPA 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		AD	Yes

EMT Job No: 22/1812

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
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 GCFID 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 GCFID 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
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		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.			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		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		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		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		AR	Yes
NONE	No Method Code	NONE	No Method Code			AD	Yes

EMT Job No: 22/1812

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_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
10-12 East Parade
Leeds
LS1 2BH

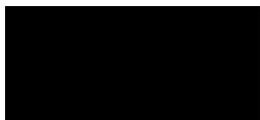


Attention :	Paul O'Connor
Date :	16th February, 2022
Your reference :	UK21.5634
Our reference :	Test Report 22/1897 Batch 1
Location :	32 New Lane, Havant (Pfizer), PO9 2NG
Date samples received :	8th February, 2022
Status :	Final Report
Issue :	1

Four samples were received for analysis on 8th February, 2022 of which four 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:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

QF-PM 3.1.2 v11

Please include all sections of this report if it is reproduced

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

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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: 22/1897

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							Please see attached notes for all abbreviations and acronyms		
Sample ID	OR G5 DRAIN	OR G4 INT1	OR G4 INT2	OR G4 INT3									
Depth	1.30	3.00	1.50	3.50-4.00									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	04/02/2022	05/02/2022	05/02/2022	05/02/2022									
Sample Type	Clayey Sand	Clay	Clay	Clay									
Batch Number	1	1	1	1									
Date of Receipt	08/02/2022	08/02/2022	08/02/2022	08/02/2022							LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1	<0.1							<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<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	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2							<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4							<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	8	<7	<7	<7							<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	13	<7	20							<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	<19	<19	20							<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) #	<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	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<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	mg/kg	TM5/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	<4	<4	<4	<4							<4	mg/kg	TM5/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	10							<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	10	47	<7	46							<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	<19	47	<19	56							<19	mg/kg	TM5/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-35) (EH+HS_CU_1D_Total)	<38	47	<38	76							<38	mg/kg	TM5/PM8/PM16/PM12/PM10
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15							<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	5.7	14.0	16.7	26.7							<0.1	%	PM4/PM0
Ammoniacal Nitrogen as N	<0.6	<0.6	<0.6	<0.6							<0.6	mg/kg	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3							<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0370	0.1850	0.0248	0.1163							<0.0015	g/l	TM38/PM20
Chromium III	31.2	62.8	57.7	67.4							<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	<0.5	<0.5							<0.5	mg/kg	TM89/PM45
Organic Matter	<0.2	0.6	0.5	0.6							<0.2	%	TM21/PM24
pH #	9.40	9.80	8.97	11.20							<0.01	pH units	TM73/PM11
Sample Type	Clayey Sand	Clay	Clay	Clay								None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown								None	PM13/PM0
Other Items	stones, chalk	stones, sand	stones, chalk	stones, water, sand								None	PM13/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: 22/1897

VOC Report : Solid

EMT Sample No.	1-3	4-6	7-9	10-12							Please see attached notes for all abbreviations and acronyms		
Sample ID	OR G5 DRAIN	OR G4 INT1	OR G4 INT2	OR G4 INT3									
Depth	1.30	3.00	1.50	3.50-4.00									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	04/02/2022	05/02/2022	05/02/2022	05/02/2022									
Sample Type	Clayey Sand	Clay	Clay	Clay									
Batch Number	1	1	1	1							LOD/LOR	Units	Method No.
Date of Receipt	08/02/2022	08/02/2022	08/02/2022	08/02/2022									
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2							<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1							<1	ug/kg	TM15/PM10
Chloroethane #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
trans-1,2-Dichloroethene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
cis-1,2-Dichloroethene #	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Bromochloromethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Chloroform #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
Benzene #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2-Dichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Dibromomethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Bromodichloromethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
cis-1,3-Dichloropropene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Toluene #	7	<3	18	20							<3	ug/kg	TM15/PM10
trans-1,3-Dichloropropene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Dibromochloromethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Chlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	5							<3	ug/kg	TM15/PM10
m/p-Xylene #	<4	<4	<4	16							<4	ug/kg	TM15/PM10
o-Xylene #	<4	<4	<4	5							<4	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3							<3	ug/kg	TM15_A/PM10
Bromoform	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27	<27							<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	114	99	110	97							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	112	93	106	93							<0	%	TM15/PM10

Matrix : Solid

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

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
22/1897	1	OR G5 DRAIN	1.30	3	Simon Postlewhite	16/02/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	16/02/2022	Asbestos Fibres	NAD
					Simon Postlewhite	16/02/2022	Asbestos ACM	NAD
					Simon Postlewhite	16/02/2022	Asbestos Type	NAD
					Simon Postlewhite	16/02/2022	Asbestos Level Screen	NAD
22/1897	1	OR G4 INT1	3.00	6	Simon Postlewhite	16/02/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	16/02/2022	Asbestos Fibres	NAD
					Simon Postlewhite	16/02/2022	Asbestos ACM	NAD
					Simon Postlewhite	16/02/2022	Asbestos Type	NAD
					Simon Postlewhite	16/02/2022	Asbestos Level Screen	NAD
22/1897	1	OR G4 INT2	1.50	9	Simon Postlewhite	16/02/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	16/02/2022	Asbestos Fibres	NAD
					Simon Postlewhite	16/02/2022	Asbestos ACM	NAD
					Simon Postlewhite	16/02/2022	Asbestos Type	NAD
					Simon Postlewhite	16/02/2022	Asbestos Level Screen	NAD
22/1897	1	OR G4 INT3	3.50-4.00	12	Simon Postlewhite	16/02/2022	General Description (Bulk Analysis)	Soil/Stones
					Simon Postlewhite	16/02/2022	Asbestos Fibres	NAD
					Simon Postlewhite	16/02/2022	Asbestos ACM	NAD
					Simon Postlewhite	16/02/2022	Asbestos Type	NAD
					Simon Postlewhite	16/02/2022	Asbestos Level Screen	NAD

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.: 22/1897

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: 22/1897

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/1897

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
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		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 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
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		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
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), NH ₄ + 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		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), NH ₄ + 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.			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), NH ₄ + 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

EMT Job No: 22/1897

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
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		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.			AR	
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		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		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
10-12 East Parade
Leeds
LS1 2BH



Attention : Paul O'Connor
Date : 21st February, 2022
Your reference : UK21.5634
Our reference : Test Report 22/2086 Batch 1
Location : 32 New Lane, Havant (Pfizer), PO9 2NG
Date samples received : 10th February, 2022
Status : Final Report
Issue : 1

Six samples were received for analysis on 10th February, 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

EMT Sample No.	1-3	4-6	7-9	10-12							Please see attached notes for all abbreviations and acronyms			
Sample ID	TP111	TP111	TP112	TP112										
Depth	0.50	1.50	0.50	1.50										
COC No / misc Containers	V J T	V J T	V J T	V J T										
Sample Date	08/02/2022	08/02/2022	08/02/2022	08/02/2022										
Sample Type	Clayey Sand	Clay	Clayey Sand	Clay										
Batch Number	1	1	1	1										LOD/LOR
Date of Receipt	10/02/2022	10/02/2022	10/02/2022	10/02/2022										
SVOC MS														
Phenols														
2-Chlorophenol #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2-Methylphenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2-Nitrophenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2,4-Dichlorophenol #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2,4-Dimethylphenol	27	<10	<10	<10							<10	ug/kg	TM16/PM8	
2,4,5-Trichlorophenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2,4,6-Trichlorophenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
4-Chloro-3-methylphenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
4-Methylphenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
4-Nitrophenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Pentachlorophenol	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Phenol #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
PAHs														
2-Chloronaphthalene #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2-Methylnaphthalene #	123	<10	32	<10							<10	ug/kg	TM16/PM8	
Phthalates														
Bis(2-ethylhexyl) phthalate	<100	<100	<100	<100							<100	ug/kg	TM16/PM8	
Butylbenzyl phthalate	<100	<100	<100	<100							<100	ug/kg	TM16/PM8	
Di-n-butyl phthalate	<100	<100	<100	<100							<100	ug/kg	TM16/PM8	
Di-n-Octyl phthalate	<100	<100	<100	<100							<100	ug/kg	TM16/PM8	
Diethyl phthalate	<100	<100	<100	<100							<100	ug/kg	TM16/PM8	
Dimethyl phthalate #	<100	<100	<100	<100							<100	ug/kg	TM16/PM8	
Other SVOCs														
1,2-Dichlorobenzene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
1,2,4-Trichlorobenzene #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
1,3-Dichlorobenzene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
1,4-Dichlorobenzene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2-Nitroaniline	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2,4-Dinitrotoluene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
2,6-Dinitrotoluene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
3-Nitroaniline	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
4-Bromophenylphenylether #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
4-Chloroaniline	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
4-Chlorophenylphenylether	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
4-Nitroaniline	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Azobenzene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Bis(2-chloroethoxy)methane	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Bis(2-chloroethyl)ether	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Carbazole	147	<10	61	<10							<10	ug/kg	TM16/PM8	
Dibenzofuran #	72	<10	24	<10							<10	ug/kg	TM16/PM8	
Hexachlorobenzene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Hexachlorobutadiene #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Hexachlorocyclopentadiene	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Hexachloroethane	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Isophorone #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
N-nitrosodi-n-propylamine #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Nitrobenzene #	<10	<10	<10	<10							<10	ug/kg	TM16/PM8	
Surrogate Recovery 2-Fluorobiphenyl	105	105	107	104							<0	%	TM16/PM8	
Surrogate Recovery p-Terphenyl-d14	113	98	108	100							<0	%	TM16/PM8	

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane, Havant (Pfiz)er, PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/2086

VOC Report : Solid

EMT Sample No.	1-3	4-6	7-9	10-12							Please see attached notes for all abbreviations and acronyms		
Sample ID	TP111	TP111	TP112	TP112									
Depth	0.50	1.50	0.50	1.50									
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	08/02/2022	08/02/2022	08/02/2022	08/02/2022									
Sample Type	Clayey Sand	Clay	Clayey Sand	Clay									
Batch Number	1	1	1	1							LOD/LOR	Units	Method No.
Date of Receipt	10/02/2022	10/02/2022	10/02/2022	10/02/2022									
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Methyl Tertiary Butyl Ether #	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Chloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Vinyl Chloride	<2	<2	<2	<2							<2	ug/kg	TM15_A/PM10
Bromomethane	<1	<1	<1	<1							<1	ug/kg	TM15/PM10
Chloroethane #	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
Trichlorofluoromethane #	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Dichloromethane (DCM) #	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
trans-1,2-Dichloroethene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
cis-1,2-Dichloroethene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
2,2-Dichloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Bromochloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Chloroform #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,1-Trichloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Carbon tetrachloride #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichloroethane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Benzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,2-Dichloropropane #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
Dibromomethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromodichloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
cis-1,3-Dichloropropene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Toluene #	5	<3	<3	<3							<3	ug/kg	TM15/PM10
trans-1,3-Dichloropropene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2-Trichloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3-Dichloropropane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Dibromochloromethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,2-Dibromoethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Chlorobenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,1,2-Tetrachloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Ethylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
m/p-Xylene #	7	<5	<5	<5							<5	ug/kg	TM15/PM10
o-Xylene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Styrene	<3	<3	<3	<3							<3	ug/kg	TM15_A/PM10
Bromoform	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,1,2,2-Tetrachloroethane #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
Bromobenzene	<2	<2	<2	<2							<2	ug/kg	TM15/PM10
1,2,3-Trichloropropane #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Propylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
2-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
4-Chlorotoluene	<3	<3	<3	<3							<3	ug/kg	TM15/PM10
tert-Butylbenzene #	<5	<5	<5	<5							<5	ug/kg	TM15/PM10
1,2,4-Trimethylbenzene #	<6	<6	<6	<6							<6	ug/kg	TM15/PM10
sec-Butylbenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
4-Isopropyltoluene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,3-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,4-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
n-Butylbenzene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dichlorobenzene #	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2-Dibromo-3-chloropropane	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
1,2,4-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Hexachlorobutadiene	<4	<4	<4	<4							<4	ug/kg	TM15/PM10
Naphthalene	<27	<27	<27	<27							<27	ug/kg	TM15/PM10
1,2,3-Trichlorobenzene	<7	<7	<7	<7							<7	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	68	102	75	97							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	57	100	60	98							<0	%	TM15/PM10

Matrix : Solid

6 of 15

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

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
22/2086	1	TP111	0.50	3	Kevin Hughes	18/02/2022	General Description (Bulk Analysis)	soil
					Kevin Hughes	18/02/2022	Asbestos Fibres	NAD
					Kevin Hughes	18/02/2022	Asbestos ACM	NAD
					Kevin Hughes	18/02/2022	Asbestos Type	NAD
22/2086	1	TP111	1.50	6	Matthew Turner	18/02/2022	General Description (Bulk Analysis)	Soil/Stone
					Matthew Turner	18/02/2022	Asbestos Fibres	NAD
					Matthew Turner	18/02/2022	Asbestos ACM	NAD
					Matthew Turner	18/02/2022	Asbestos Type	NAD
22/2086	1	TP112	0.50	9	Kevin Hughes	18/02/2022	General Description (Bulk Analysis)	soil
					Kevin Hughes	18/02/2022	Asbestos Fibres	NAD
					Kevin Hughes	18/02/2022	Asbestos ACM	NAD
					Kevin Hughes	18/02/2022	Asbestos Type	NAD
22/2086	1	TP112	1.50	12	Matthew Turner	18/02/2022	General Description (Bulk Analysis)	Soil/Stone
					Matthew Turner	18/02/2022	Asbestos Fibres	NAD
					Matthew Turner	18/02/2022	Asbestos ACM	NAD
					Matthew Turner	18/02/2022	Asbestos Type	NAD
22/2086	1	SP03 E5 15		15	Kevin Hughes	19/02/2022	General Description (Bulk Analysis)	soil
					Kevin Hughes	19/02/2022	Asbestos Fibres	NAD
					Kevin Hughes	19/02/2022	Asbestos ACM	NAD
					Kevin Hughes	19/02/2022	Asbestos Type	NAD
22/2086	1	SP03 C5 16		18	Kevin Hughes	18/02/2022	General Description (Bulk Analysis)	soil
					Kevin Hughes	18/02/2022	Asbestos Fibres	NAD
					Kevin Hughes	18/02/2022	Asbestos ACM	NAD
					Kevin Hughes	18/02/2022	Asbestos Type	NAD

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.: 22/2086

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: 22/2086

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/2086

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
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		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 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
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		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
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), NH ₄ + 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		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), NH ₄ + 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.			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), NH ₄ + 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

EMT Job No: 22/2086

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
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		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		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		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
10-12 East Parade
Leeds
LS1 2BH



Attention :	Paul O'Connor
Date :	17th February, 2022
Your reference :	UK21.5634
Our reference :	Test Report 22/2267 Batch 1
Location :	32 New Lane, Havant (Pfizer), PO9 2NG
Date samples received :	12th February, 2022
Status :	Final Report
Issue :	1

Four samples were received for analysis on 12th February, 2022 of which four 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:



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: 22/2267

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							Please see attached notes for all abbreviations and acronyms		
Sample ID	OR F3 DRAIN	DT F3 01	DT G4 01	T2 BASE									
Depth	2.50	Surface	Surface										
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	09/02/2022	10/02/2022	10/02/2022	11/02/2022									
Sample Type	Clay	Clay	Clay	Clay									
Batch Number	1	1	1	1							LOD/LOR	Units	Method No.
Date of Receipt	12/02/2022	12/02/2022	12/02/2022	12/02/2022									
Arsenic #	4.1	7.5	9.1	6.3							<0.5	mg/kg	TM30/PM15
Cadmium #	0.4	0.7	0.2	0.4							<0.1	mg/kg	TM30/PM15
Chromium #	125.8	59.2	51.2	55.7							<0.5	mg/kg	TM30/PM15
Copper #	12	15	15	8							<1	mg/kg	TM30/PM15
Lead #	7	22	41	17							<5	mg/kg	TM30/PM15
Mercury #	<0.1	0.1	0.1	<0.1							<0.1	mg/kg	TM30/PM15
Nickel #	17.4	24.3	23.3	10.7							<0.7	mg/kg	TM30/PM15
Selenium #	<1	<1	<1	<1							<1	mg/kg	TM30/PM15
Total Sulphate as SO4 #	81	428	768	1841							<50	mg/kg	TM50/PM29
Zinc #	30	62	69	44							<5	mg/kg	TM30/PM15
PAH MS													
Naphthalene #	<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	mg/kg	TM4/PM8
Acenaphthene #	<0.05	<0.05	<0.05	<0.05							<0.05	mg/kg	TM4/PM8
Fluorene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Phenanthrene #	<0.03	<0.03	<0.03	<0.03							<0.03	mg/kg	TM4/PM8
Anthracene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Fluoranthene #	<0.03	<0.03	<0.03	0.06							<0.03	mg/kg	TM4/PM8
Pyrene #	<0.03	<0.03	<0.03	0.08							<0.03	mg/kg	TM4/PM8
Benzo(a)anthracene #	<0.06	<0.06	<0.06	0.08							<0.06	mg/kg	TM4/PM8
Chrysene #	<0.02	<0.02	<0.02	0.03							<0.02	mg/kg	TM4/PM8
Benzo(b)fluoranthene #	<0.07	<0.07	<0.07	<0.07							<0.07	mg/kg	TM4/PM8
Benzo(a)pyrene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Indeno(123cd)pyrene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Dibenzo(ah)anthracene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
Benzo(ghi)perylene #	<0.04	<0.04	<0.04	<0.04							<0.04	mg/kg	TM4/PM8
PAH 16 Total	<0.6	<0.6	<0.6	<0.6							<0.6	mg/kg	TM4/PM8
Benzo(b)fluoranthene	<0.05	<0.05	<0.05	<0.05							<0.05	mg/kg	TM4/PM8
Benzo(k)fluoranthene	<0.02	<0.02	<0.02	<0.02							<0.02	mg/kg	TM4/PM8
PAH Surrogate % Recovery	94	91	89	90							<0	%	TM4/PM8
Methyl Tertiary Butyl Ether #	-	-	-	<2							<2	ug/kg	TM15/PM10
Benzene #	-	-	-	<3							<3	ug/kg	TM15/PM10
Toluene #	-	-	-	<3							<3	ug/kg	TM15/PM10
Ethylbenzene #	-	-	-	<3							<3	ug/kg	TM15/PM10
m/p-Xylene #	-	-	-	<5							<5	ug/kg	TM15/PM10
o-Xylene #	-	-	-	<3							<3	ug/kg	TM15/PM10
Surrogate Recovery Toluene D8	-	-	-	97							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	-	-	-	99							<0	%	TM15/PM10

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: 22/2267

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							Please see attached notes for all abbreviations and acronyms		
Sample ID	OR F3 DRAIN	DT F3 01	DT G4 01	T2 BASE									
Depth	2.50	Surface	Surface										
COC No / misc													
Containers	V J T	V J T	V J T	V J T									
Sample Date	09/02/2022	10/02/2022	10/02/2022	11/02/2022									
Sample Type	Clay	Clay	Clay	Clay									
Batch Number	1	1	1	1									
Date of Receipt	12/02/2022	12/02/2022	12/02/2022	12/02/2022							LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<0.1 ^{SV}	<0.1							<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #	<0.1	<0.1	<0.1 ^{SV}	<0.1							<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	<0.1	<0.1	<0.1 ^{SV}	<0.1							<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2							<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	<4	<4	<4	<4							<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	<7	<7	<7	<7							<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	<7	<7	<7	<7							<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	<19	<19	<19	<19							<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<0.1 ^{SV}	<0.1							<0.1	mg/kg	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<0.1	<0.1	<0.1 ^{SV}	<0.1							<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<0.1 ^{SV}	<0.1							<0.1	mg/kg	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<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	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	<7	<7	<7	<7							<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	<7	<7	<7	<7							<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	<19	<19	<19	<19							<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-35) (EH+HS_CU_1D_Total)	<38	<38	<38	<38							<38	mg/kg	TMS/PM8/PM16/PM12/PM10
MTBE #	<5	<5	<5 ^{SV}	-							<5	ug/kg	TM36/PM12
Benzene #	<5	<5	<5 ^{SV}	-							<5	ug/kg	TM36/PM12
Toluene #	<5	<5	<5 ^{SV}	-							<5	ug/kg	TM36/PM12
Ethylbenzene #	<5	<5	<5 ^{SV}	-							<5	ug/kg	TM36/PM12
m/p-Xylene #	<5	<5	<5 ^{SV}	-							<5	ug/kg	TM36/PM12
o-Xylene #	<5	<5	<5 ^{SV}	-							<5	ug/kg	TM36/PM12
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15							<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	13.9	16.9	17.5	10.3							<0.1	%	PM4/PM0
Ammoniacal Nitrogen as N	-	-	-	<0.6							<0.6	mg/kg	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3							<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.0180	0.0723	0.1750	0.0935							<0.0015	g/l	TM38/PM20
Chromium III	125.8	59.2	51.2	55.7							<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	<0.5	<0.5							<0.5	mg/kg	TM89/PM45
Organic Matter	<0.2	0.6	0.4	0.5							<0.2	%	TM21/PM24
pH #	8.30	8.59	9.39	11.58							<0.01	pH units	TM73/PM11
Sample Type	Clay	Clay	Clay	Clay							None		PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown							None		PM13/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: 22/2267

Report : Solid

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

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

[illegible]

EMT Sample No.	10-12									Please see attached notes for all abbreviations and acronyms		
Sample ID	T2 BASE											
Depth												
COC No / misc												
Containers	V J T											
Sample Date	11/02/2022											
Sample Type	Clay											
Batch Number	1											
Date of Receipt	12/02/2022									LOD/LOR	Units	Method No.
SVOC MS												
Phenols												
2-Chlorophenol #	<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 #	<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 #	<10									<10	ug/kg	TM16/PM8
PAHs												
2-Chloronaphthalene #	<10									<10	ug/kg	TM16/PM8
2-Methylnaphthalene #	<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 #	2149									<100	ug/kg	TM16/PM8
Other SVOCs												
1,2-Dichlorobenzene	<10									<10	ug/kg	TM16/PM8
1,2,4-Trichlorobenzene #	<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 #	<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	<10									<10	ug/kg	TM16/PM8
Dibenzofuran #	<10									<10	ug/kg	TM16/PM8
Hexachlorobenzene	<10									<10	ug/kg	TM16/PM8
Hexachlorobutadiene #	<10									<10	ug/kg	TM16/PM8
Hexachlorocyclopentadiene	<10									<10	ug/kg	TM16/PM8
Hexachloroethane	<10									<10	ug/kg	TM16/PM8
Isophorone #	<10									<10	ug/kg	TM16/PM8
N-nitrosodi-n-propylamine #	<10									<10	ug/kg	TM16/PM8
Nitrobenzene #	<10									<10	ug/kg	TM16/PM8
Surrogate Recovery 2-Fluorobiphenyl	104									<0	%	TM16/PM8
Surrogate Recovery p-Terphenyl-d14	105									<0	%	TM16/PM8

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/2267

Please see attached notes for all abbreviations and acronyms

QF-PM 3.1.4 v11 Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise. 6 of 16

Matrix : Solid

7 of 16

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.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/2267	1	OR F3 DRAIN	2.50	3	Andrew Alker	17/02/2022	General Description (Bulk Analysis)	soil
					Andrew Alker	17/02/2022	Asbestos Fibres	NAD
					Andrew Alker	17/02/2022	Asbestos ACM	NAD
					Andrew Alker	17/02/2022	Asbestos Type	NAD
22/2267	1	DT F3 01	Surface	6	Andrew Alker	17/02/2022	General Description (Bulk Analysis)	soil
					Andrew Alker	17/02/2022	Asbestos Fibres	NAD
					Andrew Alker	17/02/2022	Asbestos ACM	NAD
					Andrew Alker	17/02/2022	Asbestos Type	NAD
22/2267	1	DT G4 01	Surface	9	Andrew Alker	17/02/2022	General Description (Bulk Analysis)	soil
					Andrew Alker	17/02/2022	Asbestos Fibres	NAD
					Andrew Alker	17/02/2022	Asbestos ACM	NAD
					Andrew Alker	17/02/2022	Asbestos Type	NAD
22/2267	1	T2 BASE		12	Andrew Alker	17/02/2022	General Description (Bulk Analysis)	soil
					Andrew Alker	17/02/2022	Asbestos Fibres	NAD
					Andrew Alker	17/02/2022	Asbestos ACM	NAD
					Andrew Alker	17/02/2022	Asbestos Type	NAD

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.: 22/2267

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: 22/2267

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/2267

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
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		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 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
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		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
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), NH ₄ + 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		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), NH ₄ + 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.			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), NH ₄ + 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

EMT Job No: 22/2267

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
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		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		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		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
10-12 East Parade
Leeds
LS1 2BH



Attention :	Paul O'Connor
Date :	1st March, 2022
Your reference :	UK21.5634
Our reference :	Test Report 22/2673 Batch 1
Location :	32 New Lane Havant (pfizer) PO9 2NG
Date samples received :	18th February, 2022
Status :	Final Report
Issue :	1

Nine samples were received for analysis on 18th February, 2022 of which nine 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:



Bruce Leslie
Project Manager

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OF-PM 3.1.2 v11

Please include all sections of this report if it is reproduced

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

2 of 17

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: 22/2673

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	19-20,27	21-23	24-26		Please see attached notes for all abbreviations and acronyms		
Sample ID	K7 TANK 3 BASE	OR F5 01	DT J9 01	DT H8 01	SP03 F4 17	SP03 E5 18	OR K6 01	DT K3 01	DT H2 01				
Depth	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
COC No / misc													
Containers	V J T	V J T	V J T	V J T	V J T	V J T	J T V	V J T	V J T				
Sample Date	15/02/2022	16/02/2022	16/02/2022	16/02/2022	16/02/2022	16/02/2022	16/02/2022	17/02/2022	17/02/2022				
Sample Type	Clayey Sand	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay				
Batch Number	1	1	1	1	1	1	1	1	1		LOD/LOR	Units	Method No.
Date of Receipt	18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022	18/02/2022				
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<0.1	<0.1	<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) #	<0.1	<0.1	<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	<0.1		<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<0.2	<0.2	<0.2	<0.2	3.5	<0.2	<0.2	<0.2	<0.2		<0.2	mg/kg	TMS/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #	7	<4	<4	<4	12	<4	<4	<4	7		<4	mg/kg	TMS/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #	23	<7	<7	<7	14	<7	<7	<7	26		<7	mg/kg	TMS/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #	107	<7	<7	40	<7	<7	<7	48	66		<7	mg/kg	TMS/PM8/PM16
Total aliphatics C5-35 (EH+HS_CU_1D_AL)	137	<19	<19	40	30	<19	<19	48	99		<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Aromatics													
>C5-EC7 (HS_1D_AR) #	<0.1	<0.1	<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	<0.1		<0.1	mg/kg	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<0.1	<0.1	<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	<0.2		<0.2	mg/kg	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) #	10	<4	<4	<4	<4	<4	<4	<4	<4		<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) #	91	<7	<7	<7	<7	<7	<7	<7	36		<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	384	<7	<7	<7	<7	<7	<7	125	49		<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) #	485	<19	<19	<19	<19	<19	<19	125	85		<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Total aliphatics and aromatics (C5-35) (EH+HS_CU_1D_Total)	622	<38	<38	40	<38	<38	<38	173	184		<38	mg/kg	TMS/PM8/PM16/PM12/PM10
MTBE #	-	<5	<5	<5	<5	<5	<5	<5	<5		<5	ug/kg	TM36/PM12
Benzene #	-	<5	<5	<5	<5	<5	<5	<5	<5		<5	ug/kg	TM36/PM12
Toluene #	-	<5	<5	<5	<5	<5	<5	<5	<5		<5	ug/kg	TM36/PM12
Ethylbenzene #	-	<5	<5	<5	<5	<5	<5	<5	<5		<5	ug/kg	TM36/PM12
m/p-Xylene #	-	<5	<5	<5	12	<5	<5	<5	<5		<5	ug/kg	TM36/PM12
o-Xylene #	-	<5	<5	<5	10	<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	<0.15		<0.15	mg/kg	TM26/PM21B
Natural Moisture Content	13.9	16.5	21.5	14.6	4.9	2.1	11.0	2.9	8.7		<0.1	%	PM4/PM0
Ammoniacal Nitrogen as N	<0.6	-	-	-	-	-	-	-	-		<0.6	mg/kg	TM38/PM20
Hexavalent Chromium #	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3		<0.3	mg/kg	TM38/PM20
Sulphate as SO4 (2:1 Ext) #	0.3388	0.0465	0.0756	0.1111	0.0052	0.0046	0.2619	0.0390	0.1846		<0.0015	g/l	TM38/PM20
Chromium III	51.7	59.8	68.5	40.4	128.2	127.1	59.2	18.8	95.4		<0.5	mg/kg	NONE/NONE
Total Cyanide #	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5		<0.5	mg/kg	TM89/PM45
Organic Matter	1.2	0.4	0.2	0.3	<0.2	0.2	0.3	0.8	0.2		<0.2	%	TM21/PM24
pH #	11.25	8.61	9.29	9.55	12.48	12.34	10.40	9.62	11.69		<0.01	pH units	TM73/PM11
Sample Type	Clayey Sand	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay			None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown	Medium Brown			None	PM13/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: 22/2673

Report : Solid

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

[illegible]

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane Havant (pfizer) PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/2673

Please see attached notes for all abbreviations and acronyms

QF-PM 3.1.4 v11 Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise. 6 of 17

Matrix : Solid

7 of 17

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

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
22/2673	1	K7 TANK 3 BASE	3.00	3	Charlotte Taylor	01/03/2022	General Description (Bulk Analysis)	soil/stones
					Charlotte Taylor	01/03/2022	Asbestos Fibres	NAD
					Charlotte Taylor	01/03/2022	Asbestos ACM	NAD
					Charlotte Taylor	01/03/2022	Asbestos Type	NAD
22/2673	1	OR F5 01	0.00	6	Charlotte Taylor	01/03/2022	General Description (Bulk Analysis)	soil/stones
					Charlotte Taylor	01/03/2022	Asbestos Fibres	NAD
					Charlotte Taylor	01/03/2022	Asbestos ACM	NAD
					Charlotte Taylor	01/03/2022	Asbestos Type	NAD
22/2673	1	DT J9 01	0.00	9	Charlotte Taylor	01/03/2022	General Description (Bulk Analysis)	soil/stones
					Charlotte Taylor	01/03/2022	Asbestos Fibres	NAD
					Charlotte Taylor	01/03/2022	Asbestos ACM	NAD
					Charlotte Taylor	01/03/2022	Asbestos Type	NAD
22/2673	1	DT H8 01	0.00	12	Matthew Turner	01/03/2022	General Description (Bulk Analysis)	Soil/Stone
					Matthew Turner	01/03/2022	Asbestos Fibres	NAD
					Matthew Turner	01/03/2022	Asbestos ACM	NAD
					Matthew Turner	01/03/2022	Asbestos Type	NAD
22/2673	1	SP03 F4 17	0.00	15	Matthew Turner	01/03/2022	General Description (Bulk Analysis)	Soil/Stone/Concrete
					Matthew Turner	01/03/2022	Asbestos Fibres	NAD
					Matthew Turner	01/03/2022	Asbestos ACM	NAD
					Matthew Turner	01/03/2022	Asbestos Type	NAD
22/2673	1	SP03 E5 18	0.00	18	Andrew Alker	01/03/2022	General Description (Bulk Analysis)	n
					Andrew Alker	01/03/2022	Asbestos Fibres	NAD
					Andrew Alker	01/03/2022	Asbestos ACM	NAD
					Andrew Alker	01/03/2022	Asbestos Type	NAD
22/2673	1	OR K6 01	0.00	20	Catherine Coles	01/03/2022	General Description (Bulk Analysis)	soil
					Catherine Coles	01/03/2022	Asbestos Fibres	NAD
					Catherine Coles	01/03/2022	Asbestos ACM	NAD
					Catherine Coles	01/03/2022	Asbestos Type	NAD
22/2673	1	DT K3 01	0.00	23	Catherine Coles	01/03/2022	General Description (Bulk Analysis)	soil
					Catherine Coles	01/03/2022	Asbestos Fibres	NAD
					Catherine Coles	01/03/2022	Asbestos ACM	NAD
					Catherine Coles	01/03/2022	Asbestos Type	NAD

Client Name: EPS Ltd
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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.: 22/2673

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: 22/2673

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
PM4	Gravimetric measurement of Natural Moisture Content and % Moisture Content at either 35°C or 105°C. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			AR	
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
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/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
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

EMT Job No: 22/2673

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
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		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 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
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		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
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), NH ₄ + 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		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), NH ₄ + 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), NH ₄ + 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

EMT Job No: 22/2673

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
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		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		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		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

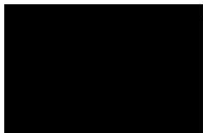
EPS Ltd
7B Caxton House
Broad Street
Cambourne
Cambridgeshire
CB23 6JN



Attention : Paul O'Connor
Date : 2nd March, 2022
Your reference : UK21.5634
Our reference : Test Report 22/2779 Batch 1
Location : 32 New Lane, Havant (Pfizer)
Date samples received : 19th February, 2022
Status : Final Report
Issue : 1

One sample was received for analysis on 19th February, 2022 and was 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:



Bruce Leslie
Project Manager

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

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

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

VOC Report : Solid

EMT Sample No.	1-3												
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												
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

6 of 15

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.

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analyst Name	Date Of Analysis	Analysis	Result
22/2779	1	OR K6 TANK4	2.00	3	Andrew Alker	02/03/2022	General Description (Bulk Analysis)	soil
					Andrew Alker	02/03/2022	Asbestos Fibres	NAD
					Andrew Alker	02/03/2022	Asbestos ACM	NAD
					Andrew Alker	02/03/2022	Asbestos Type	NAD

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane, Havant (Pfizer)
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.: 22/2779

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/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: 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.			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		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						
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.
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/PM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	<38	374	408	<38	<38	<38	<38				<38	mg/kg	TMS/PM36/PM8/PM12/PM16
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

QF-PM 3.1.8 v10

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									
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.
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(b)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

Please see attached notes for all abbreviations and acronyms

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									
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.
Please see attached notes for all abbreviations and acronyms												
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	TMS/PM8/PM16
>EC12-EC16 (EH_CU_1D_AR) [#]	46	<4	<4							<4	mg/kg	TMS/PM8/PM16
>EC16-EC21 (EH_CU_1D_AR) [#]	65	<7	<7							<7	mg/kg	TMS/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) [#]	484	214	<7							<7	mg/kg	TMS/PM8/PM16
Total aromatics C5-35 (EH+HS_CU_1D_AR) [#]	595	214	<19							<19	mg/kg	TMS/PM8/PM16/PM12/PM10
Total aliphatics and aromatics(C5-35) (EH+HS_CU_1D_Total)	785	465	<38							<38	mg/kg	TMS/PM8/PM16/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

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.

QF-PM 3.1.15 v10 Please include all sections of this report if it is reproduced 5 of 13

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
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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.

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: 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.	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

Please see attached notes for all abbreviations and acronyms

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.

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.

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: 22/138

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
TM0	Not available	PM0	No preparation is required.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	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.				
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			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			

EMT Job No: 22/138

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.	PM0	No preparation is required.				
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	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	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 GCFID 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			
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	PM0	No preparation is required.				
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	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
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.	PM0	No preparation is required.	Yes			
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.	PM0	No preparation is required.	Yes			

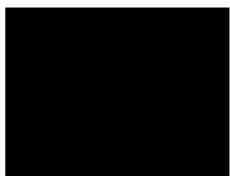
EPS Ltd
10-12 East Parade
Leeds
LS1 2BH



Attention : Paul O'Connor
Date : 21st February, 2022
Your reference : UK21.5634
Our reference : Test Report 22/1809 Batch 1
Location : 32, New Lane, Havant (Pfizer), PO9 2NG
Date samples received : 5th February, 2022
Status : Final Report
Issue : 1

Six samples were received for analysis on 5th February, 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.



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: 32, New Lane, Havant (Pfizer), PO9 2NG
Contact: Paul O'Connor
EMT Job No: 22/1809

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	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022							
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	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022					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/PM16/PM30
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/PM16/PM30
Total aliphatics and aromatics(C5-35) [#]	<10	<10	<10	<10	<10	<10					<10	ug/l	TM5/PM16/PM30
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 [#]	20.4	186.8	99.9	43.5	197.7	80.4					<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	0.03	<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 [#]	7.80	7.80	7.95	7.82	7.41	7.76					<0.01	pH units	TM73/PM0
Total Organic Carbon [#]	2	<2	<2	2	3	<2					<2	mg/l	TM60/PM0

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	V H N P G	V H N P G	V H N P G	V H N P G	V H N P G	V H N P G							
Sample Date	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022							
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	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022					LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Methylphenol [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
4-Methylphenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Nitrophenol	<10	<10	<10	<10	<10	<10					<10	ug/l	TM16/PM30
Pentachlorophenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Phenol	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
PAHs													
2-Chloronaphthalene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Methylnaphthalene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Phthalates													
Bis(2-ethylhexyl) phthalate	<5	<5	<5	<5	<5	<5					<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Di-n-butyl phthalate [#]	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5					<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Diethyl phthalate [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Dimethyl phthalate	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Other SVOCs													
1,2-Dichlorobenzene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,3-Dichlorobenzene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
1,4-Dichlorobenzene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2-Nitroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
2,4-Dinitrotoluene [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
3-Nitroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Bromophenylphenylether [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chloroaniline	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Chlorophenylphenylether [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Azobenzene [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Carbazole [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Dibenzofuran [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Hexachlorobenzene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachlorobutadiene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Hexachloroethane [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Isophorone [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine [#]	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5					<0.5	ug/l	TM16/PM30
Nitrobenzene [#]	<1	<1	<1	<1	<1	<1					<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	67 ^{SV}	85	98	94	84	51 ^{SV}					<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	65 ^{SV}	85	100	95	85	50 ^{SV}					<0	%	TM16/PM30

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: 22/1809

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	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022	02/02/2022							
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water					LOD/LOR	Units	Method No.
Batch Number	1	1	1	1	1	1							
Date of Receipt	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022	05/02/2022							
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 #	3	<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	12	<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	101	104	105	105	103	100					<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	99	98	97	96	97	93					<0	%	TM15/PM10

Matrix : Liquid

6 of 13

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.: 22/1809

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: 22/1809

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
TM0	Not available	PM0	No preparation is required.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	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.				
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			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			

EMT Job No: 22/1809

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.	PM0	No preparation is required.				
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	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	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 GCFID 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			
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	PM0	No preparation is required.				
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	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
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.	PM0	No preparation is required.	Yes			
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.	PM0	No preparation is required.	Yes			

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



Attention :	Marcus Bell
Date :	13th December, 2021
Your reference :	UK21.5634
Our reference :	Test Report 21/19084 Batch 1
Location :	32 New Lane Havant (Pfizer)
Date samples received :	2nd December, 2021
Status :	Final Report
Issue :	1

Five samples were received for analysis on 2nd December, 2021 of which five 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.



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: 32 New Lane Havant (Pfizer)
Contact: Marcus Bell
EMT Job No: 21/19084

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						Please see attached notes for all abbreviations and acronyms		
Sample ID	BH01	BH03	BH07	BH12	BHGA 07A								
Depth													
COC No / misc													
Containers	V H N P G	V H N P G	V H N P G	V H N P G	V H N P G								
Sample Date	29/11/2021 14:40	29/11/2021 13:00	29/11/2021 13:55	29/11/2021 15:40	29/11/2021 09:40								
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water								
Batch Number	1	1	1	1	1								
Date of Receipt	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021						LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>C6-C8 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>C8-C10 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>C10-C12 #	<5	<5	<5	<5	<5						<5	ug/l	TM5/PM16/PM30
>C12-C16 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>C16-C21 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>C21-C35 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
Aromatics													
>C5-EC7 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>EC7-EC8 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>EC8-EC10 #	<10	<10	<10	<10	<10						<10	ug/l	TM36/PM12
>EC10-EC12 #	<5	<5	<5	<5	<5						<5	ug/l	TM5/PM16/PM30
>EC12-EC16 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>EC16-EC21 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
>EC21-EC35 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
Total aliphatics and aromatics(C5-35) #	<10	<10	<10	<10	<10						<10	ug/l	TM5/PM16/PM30
Total Phenols HPLC	<0.15	<0.15	<0.15	<0.15	<0.15						<0.15	mg/l	TM26/PM0
Sulphate as SO4 #	24.9	112.4	60.5	44.9	44.1						<0.5	mg/l	TM38/PM0
Total Cyanide #	<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	mg/l	TM38/PM0
Hexavalent Chromium	<6	<6	<6	<6	<6						<6	ug/l	TM38/PM0
Total Dissolved Chromium III	<6	<6	<6	<6	<6						<6	ug/l	TM0/PM0
pH #	7.66	7.93	7.98	7.85	7.83						<0.01	pH units	TM73/PM0
Total Organic Carbon #	<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)
Contact: Marcus Bell
EMT Job No: 21/19084

SVOC Report : Liquid

EMT Sample No.	1-6	7-12	13-18	19-24	25-30						Please see attached notes for all abbreviations and acronyms		
Sample ID	BH01	BH03	BH07	BH12	BHGA 07A								
Depth													
COC No / misc													
Containers	V H N P G	V H N P G	V H N P G	V H N P G	V H N P G								
Sample Date	29/11/2021 14:40	29/11/2021 13:00	29/11/2021 13:55	29/11/2021 15:40	29/11/2021 09:40								
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water								
Batch Number	1	1	1	1	1								
Date of Receipt	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021						LOD/LOR	Units	Method No.
SVOC MS													
Phenols													
2-Chlorophenol #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
2-Methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
2-Nitrophenol	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
2,4-Dichlorophenol #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
2,4-Dimethylphenol	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
2,4,5-Trichlorophenol #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
2,4,6-Trichlorophenol	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
4-Chloro-3-methylphenol #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
4-Methylphenol	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
4-Nitrophenol	<10	<10	<10	<10	<10						<10	ug/l	TM16/PM30
Pentachlorophenol	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Phenol	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
PAHs													
2-Chloronaphthalene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
2-Methylnaphthalene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Phthalates													
Bis(2-ethylhexyl) phthalate	<5	<5	<5	<5	<5						<5	ug/l	TM16/PM30
Butylbenzyl phthalate	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Di-n-butyl phthalate #	<1.5	<1.5	<1.5	<1.5	<1.5						<1.5	ug/l	TM16/PM30
Di-n-Octyl phthalate	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Diethyl phthalate #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Dimethyl phthalate	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Other SVOCs													
1,2-Dichlorobenzene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
1,2,4-Trichlorobenzene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
1,3-Dichlorobenzene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
1,4-Dichlorobenzene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
2-Nitroaniline	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
2,4-Dinitrotoluene #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
2,6-Dinitrotoluene	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
3-Nitroaniline	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
4-Bromophenylphenylether #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
4-Chloroaniline	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
4-Chlorophenylphenylether #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
4-Nitroaniline	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
Azobenzene #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
Bis(2-chloroethoxy)methane #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
Bis(2-chloroethyl)ether #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Carbazole #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
Dibenzofuran #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
Hexachlorobenzene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Hexachlorobutadiene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Hexachlorocyclopentadiene	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Hexachloroethane #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Isophorone #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
N-nitrosodi-n-propylamine #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM16/PM30
Nitrobenzene #	<1	<1	<1	<1	<1						<1	ug/l	TM16/PM30
Surrogate Recovery 2-Fluorobiphenyl	124	125	121	123	126						<0	%	TM16/PM30
Surrogate Recovery p-Terphenyl-d14	125	132 ^{SV}	130	125	131 ^{SV}						<0	%	TM16/PM30

Element Materials Technology

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane Havant (Pfizer)
Contact: Marcus Bell
EMT Job No: 21/19084

VOC Report : Liquid

EMT Sample No.	1-6	7-12	13-18	19-24	25-30						Please see attached notes for all abbreviations and acronyms		
Sample ID	BH01	BH03	BH07	BH12	BHGA 07A								
Depth													
COC No / misc													
Containers	V H N P G	V H N P G	V H N P G	V H N P G	V H N P G								
Sample Date	29/11/2021 14:40	29/11/2021 13:00	29/11/2021 13:55	29/11/2021 15:40	29/11/2021 09:40								
Sample Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water								
Batch Number	1	1	1	1	1								
Date of Receipt	02/12/2021	02/12/2021	02/12/2021	02/12/2021	02/12/2021								
VOC MS													
Dichlorodifluoromethane	<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	ug/l	TM15/PM10
Chloromethane #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1	<0.1	<0.1	<0.1	<0.1						<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1	<1	<1						<1	ug/l	TM15/PM10
Chloroethane #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1	<1	<1						<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Chloroform #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Benzene #	<0.5	<0.5	<0.5	<0.5	<0.5						<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Toluene #	<5	<5	<5	<5	<5						<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Ethylbenzene #	<1	<1	<1	<1	<1						<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
o-Xylene #	<1	<1	<1	<1	<1						<1	ug/l	TM15/PM10
Styrene	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Bromoform #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4	<4	<4						<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2	<2	<2						<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3	<3	<3						<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	92	92	89	102	100						<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	96	93	89	100	97						<0	%	TM15/PM10

Matrix : Liquid

6 of 12

Client Name: EPS Ltd
Reference: UK21.5634
Location: 32 New Lane Havant (Pfizer)
Contact: Marcus Bell

[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.: 21/19084

SOILS

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.

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.

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.

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.

Please include all sections of this report if it is reproduced

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.

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: 21/19084

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
TM0	Not available	PM0	No preparation is required.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM5/TM36	please refer to TM5 and TM36 for method details	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	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.				
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			
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM16	Modified USEPA 8270D v5:2014. Quantitative determination of Semi-Volatile Organic compounds (SVOCs) by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			

EMT Job No: 21/19084

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.	PM0	No preparation is required.				
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	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	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			
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) – All anions comparable to BS ISO 15923-1: 2013	PM0	No preparation is required.				
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) – All anions comparable to BS ISO 15923-1: 2013	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
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.	PM0	No preparation is required.	Yes			
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.	PM0	No preparation is required.	Yes			

APPENDIX H

Geotechnical Records

Russell Peters
Quartz Project Services
2nd Floor
34 Dover Street
London
W1S 4NG

18th March 2022

C200810

Dear Russell,

New Lane, Havant - DP01 AMZL + MSVP – Phase 1 Earthworks Verification

Please accept this letter as confirmation of our satisfactory review of the following document:

CGL Phase 1 Earthworks Interim Verification Report ref. CGK/00218 dated March 2022

The CGL report scope is described on page 7, under Section 3.3 Specification and is in accordance with our understanding of the report requirement, referencing the correct site documentation. CGL report extract, for reference, as follows:

“The Contractor shall carry out the works in accordance with the requirements of the Highways Agency Manual of Contract Documents for Highway Works Volume 1: Specification for Highway Works, dated March 1998 with all current amendments (November 2021), herein referred to as the SHW, together with the Appendices to the Specification included in Pinnacle’s [Earthwork] Specification for the site.”

Pinnacle note the following key findings from the report as follows:

Page 4:

“...Appendix C. Phase 2 of the earthworks will entail ground improvement of the platform by cement stabilisation sufficient to carry the piling rig loads. Earthworks acceptability testing for placement and compaction of site won fill material was to be implemented in accordance with Pinnacle’s Earthworks Specification for the site (PCE Spec).

Cont/...

The objective of this interim report is to verify that Phase 1 of the earthworks completed to date are in accordance with Pinnacle's specification to allow commencement of the ground improvement stabilisation works under Phase 2."

Pinnacle are in agreement of the above and have no adverse comments.

- PAGE 8:

"Hand Shear Vane tests and Mexe Cone testing were specified to compare and corroborate the results obtained from laboratory triaxial undrained shear strength testing and plate load equivalent CBR tests. However, owing to the high gravel content, it was not possible to perform either the Mexe Cone or Hand Shear Vane tests. Dynamic Cone Penetrometer (DCP) tests were attempted to obtain an estimation for CBR, in lieu of Mexe Cone, however, it was considered these too gave spurious and misleading results due to the gravel content of the fill."

No adverse comments, all as discussed / noted previously when meeting January 19th 2022 with TSL & Anne Curtis (CGL).

- PAGE 8

"The thickness of the concrete slabs and foundations encountered were in excess of those anticipated prior to excavation. The foundations were up to 1.5m thick, in the southwestern area of the site. In the same area, concrete piles were encountered, and were removed. Excavations to a depth of around 2.0mbgl were required to remove the buried concrete. The excavations were backfilled with well compacted site won fill material. The concrete was processed on site, using up to three crushers, to Class 6F5 and Type 1 recycled aggregate. This material was stockpiled along the southern edge of the earthworks area, ready for reuse in Phase 2 of the works, or removal off site"

No adverse comments, possible site unknowns caveated on Tender ground works drawings, demolition arisings volumes based on TSL initial site-based estimates.

- Page 16

"No instability or unusual ground conditions were encountered during the works."

No adverse comments.

- Page 18

[relating to CBR test carried out on site]

"The results confirm that the materials passed the acceptability criteria on completion of placement and compaction."

Cont/...

No adverse comments

- Page 20

“No subgrade has been prepared or pavement placed to date. “

No adverse comments. All part of Phase 2 works to follow.

The CGL Report confirms that the groundworks specifications and documentation have been satisfied.

For any questions or design related need for additional information, please do not hesitate to contact us.

Kind Regards



Zuzanna Towarek

Project Leader

Pinnacle Consulting Engineers Limited

zuzanna.t@ukpinnacle.com

M: +44 (0) 7587 860 400



TSL Limited

32 New Lane, Havant

Phase 1 Earthworks Interim Verification Report

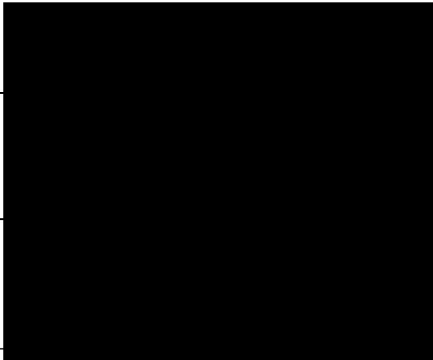
March, 2022



Card Geotechnics Limited
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Harrietsham, Maidstone
Kent, ME17 1QW
Telephone: 01622 858545
cgl-uk.com

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Card Geotechnics Limited ("CGL") has prepared this report in accordance with the instructions of TSL Limited ("the Client") under the terms of its appointment for consulting engineering services by the Client dated 10 December 2021. The report is for the sole and specific use of the Client, and CGL shall not be responsible for any use of the report or its contents for any purpose other than that for which it was prepared and provided. Should the Client require to pass copies of the report to other parties for information, the whole of the report should be so copied, but no professional liability or warranty shall be extended to other parties by CGL in this connection without the explicit written agreement thereto by CGL.

Author	Anne Curtis, Senior Engineer <i>BEng (Hons)</i>		
Checked/ Approved	Phil West, Regional Director BSc (Hons) MSc CEng MICE		
Reference	CGK/00218	Revision	0
		Issue Date	March 2022

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9.1 Details of Temporary Drainage

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APPENDICES

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Appendix G	Moisture Content and Field Dry Density NDG and Sand Replacement Tests
Appendix H	Hand Shear Vane, Mexe Cone and Dynamic Cone Penetrometer Tests
Appendix I	CBR Plate Load Tests

1. INTRODUCTION

The site is located at 32 New Lane Havant PO9 2NG in an area of mixed industrial and residential low rise housing in Havant Borough Council. By reference to documents on the borough's planning portal under planning application APP/21/00200 it is understood the site was formerly occupied by Wyeth and Pfizer pharmaceutical companies. The former development included laboratories and a cold chain packaging, storage, and distribution facility predominantly situated towards the rear of the site with car parking at the front alongside New Lane.

The proposed redevelopment of the site is a new warehouse unit, loading bay area, multi-storey car park, ancillary offices and facilities, landscaping and associated infrastructure and a new access from New Lane.

As part of the scope of works to remediate this site, an earthworks program was devised to form a level working piling platform for the new development. Phase 1 of the earthworks required levelling of the site won soils across the site by cut and fill, and infilling of the extensive excavations formed by removal of the existing slab foundations, which were up to 1.5m thick, and reinforced concrete piles. A plan showing the layout of the pre-existing buildings, where foundations were removed, is included in Appendix A, and the plan in Appendix B shows the location of the proposed warehouse building footprint.

The site was levelled to design formation level plus a 100mm sacrificial protection layer by cutting and filling site won material across the site, as shown in the isopachyte cut and fill drawing included in Appendix C. Phase 2 of the earthworks will entail ground improvement of the platform by cement stabilisation sufficient to carry the piling rig loads. Earthworks acceptability testing for placement and compaction of site won fill material was to be implemented in accordance with Pinnacle's Earthworks Specification for the site¹.

The objective of this interim report is to verify that Phase 1 of the earthworks completed to date are in accordance with Pinnacle's specification to allow commencement of the ground improvement stabilisation works under Phase 2.

¹ Pinnacle Consulting Engineers (December 2021). Earthworks Specification, Havant 32 New Lane. Version 2.0. Ref. C200810-PIN-XX-XX-SP-C-003.

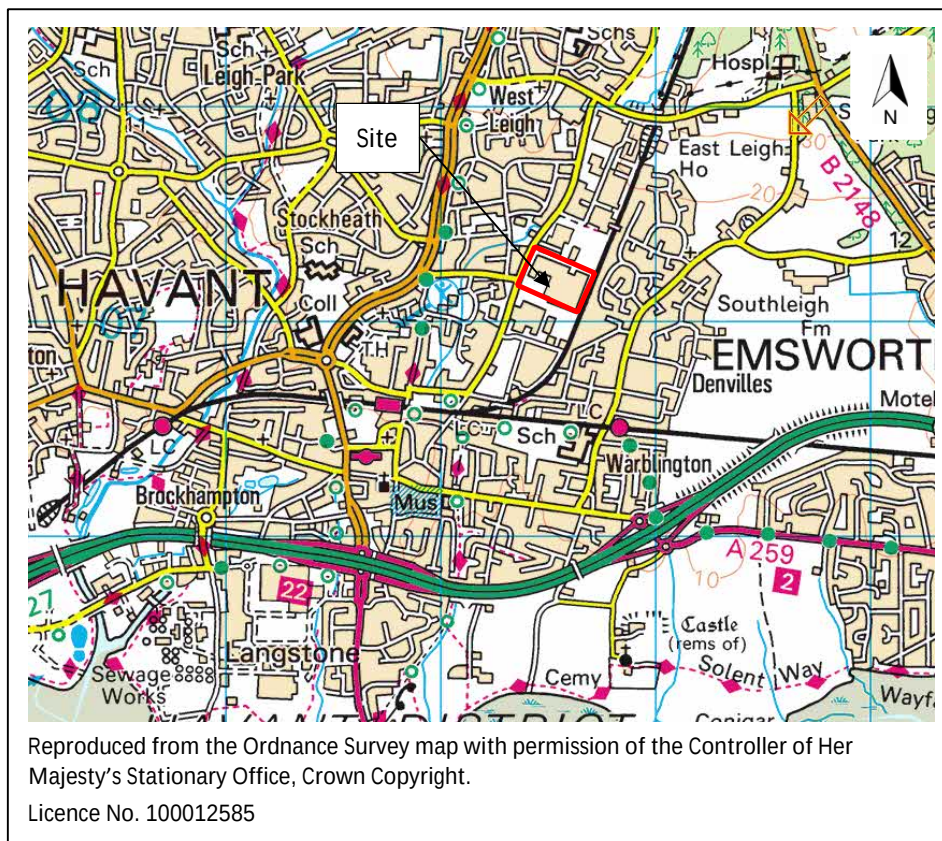
2. SITE LOCATION AND DESCRIPTION

2.1 Site Location

The site is located at 32 New Lane Havant PO9 2NG and is bound by New Lane to the west, industrial estates to the north and south a railway line to the east. The Ordnance Survey grid reference for the approximate centre of the site is 472525, 107219.

A site location plan is included in Plate 1.

Plate 1. Site Location Plan



2.2 Site Description

The site occupies a rectangular shaped parcel of land approximately 67,000m² (6.70 hectares or 16.5 acres). All former above ground structures had been demolished and removed from site as demolition waste prior to commencement for the Phase 1 earthworks remediation. In locations where structures and hardstanding had been removed the ground cover comprised gravelly clay or very clayey gravel. In the north and eastern half of the site, concrete foundations and hardstanding from the former development were still present.

2.3 Proposed Development

The proposed development includes construction of a warehouse with piled foundations, a multi storey car park, delivery unloading yard, landscaping, and other supporting infrastructure. It is understood the development will use a mix of piled and shallow foundations. A plan showing the proposed warehouse building footprint is included in Appendix B.

2.4 Ground Conditions

The British Geological Survey mapping Sheet 316² indicates the geology at the site is covered by superficial deposits of Head Gravel, comprising clayey gravel, in the west and Aeolian Deposits (Brickearth), consisting of mainly fine sandy silt, locally contaminated with gravel, in the east. These superficial strata rest unconformably on the London Clay Formation. A visual inspection of the composition of the exposed natural deposits on site suggest the superficial deposits are Head Gravel that comprised of orangish brown very clayey gravel or gravelly clay. The gravel was medium to coarse subangular to subrounded of flint. The site won fill, used to construct the platform, was Made Ground which comprised the Head Gravel mixed with some medium to coarse gravel of concrete, tiles and brick.

² British Geological Survey (1998). Geological Survey of England and Wales 1:63,360/1:50,000 geological map series, New Series Sheet 316.

3. WORKS INFORMATION

3.1 Definitions

In the Specification the “Client” shall mean TSL Limited (TSL), the “Engineer” shall mean Card Geotechnics Limited (CGL) and the “Contractor” shall mean Collins and their Sub-Contractors.

3.2 Summary of works undertaken

The scope of the works undertaken in Phase 1 earthworks comprised the following sequence of works as set out in Pinnacle’s Earthworks Specification¹:

Site clearance of any surface detritus shall be undertaken. Vegetation (i.e., shrubs, trees and roots etc.) mulched on site.

Breaking out existing slabs, tarmac and concrete foundations.

Crushing excavated concrete slabs and foundations to form Class 6F2 material for reuse on site or offsite; will be disposed off-site.

Disposal of unsuitable materials offsite to a suitable waste licensing facility;

Excavation of existing un-remediated fill and natural strata to formation level and proof rolling;

Stockpiling and classification of site won material for re-use on site;

Material acceptability testing to confirm suitability of material for earthworks;

Filling and proof rolling to 15.050mOD (formation level 14.950mOD +100mm sacrificial protection layer) with site won material including the completion of a site compaction trial to confirm the compaction method;

Acceptability end-product compliance testing on compacted fill and cut levels, at formation level +100mm sacrificial protection layer, prior to cement stabilisation suitable for a pile mat and construction materials;

3.3 Specification

The Contractor shall carry out the works in accordance with the requirements of the Highways Agency Manual of Contract Documents for Highway Works Volume 1: Specification for Highway Works, dated March 1998 with all current amendments (November 2021), herein referred to as the SHW, together with the Appendices to the Specification included in Pinnacle’s Specification¹ for the site.

3.3.1 Earthworks Specification

Pinnacle's Earthworks Specification¹ produced for the site outlined the specific earthworks methodology and verification procedure that was to be employed at the site to provide an adoptable development platform. The specification utilises the National Highways (formerly Highways England) Specification for Highways Works³ (SHW) and was tailored specifically to the commercial development proposed at the site. An Earthworks Strategy⁴ report prepared by Collins, TSL's earthworks contractor, sets out the proposed methodology for the earthworks based on the specification.

Material acceptability testing was undertaken in accordance with BS 1377-9:1990⁵. As part of this testing the site won excavated soil used as fill to level the site was classified as a Class 1A well graded granular material and Class 2C stony cohesive material. A compaction trial was undertaken at the commencement of the works to confirm the suitability of the proposed placement and compaction of the fill. The Class 1A and Class 2C fill were compacted in accordance with Method 2; Table 6/4 as defined in the SHW. This was achieved by building up in 225mm layers with 4 to 8 passes of a roller with mass per metre width >5000kg. This compaction methodology was assessed as acceptable at the beginning of the works based on a compaction trial of the initial area of fill placed. The compaction trial area was subsequently incorporated into the works.

End product testing was required for aspects of fill material placed within the scheme to include compaction testing, which specified 95% maximum dry density for placed materials with a maximum 5% air voids. Plate load CBR testing was undertaken using a 600mm diameter plate, where a minimum CBR value of 5.0% at formation level was required by the specification..

Hand Shear Vane tests and Mexe Cone testing were specified to compare and corroborate the results obtained from laboratory triaxial undrained shear strength testing and plate load equivalent CBR tests. However, owing to the high gravel content, it was not possible to perform either the Mexe Cone or Hand Shear Vane tests. Dynamic Cone Penetrometer (DCP) tests were attempted to obtain an estimation for CBR, in lieu of Mexe Cone, however, it was considered these too gave spurious and misleading results due to the gravel content of the fill.

³ Highways Agency. Manual of Contract Documents for Highway Works (March 1998 with all current amendments to November 2021). Volume 1: Specification for Highway Works.

⁴ Collins Earthworks (January 2022). Earthworks Strategy Document, Havant – Portsmouth. Ref. HAV-CEL-ZZ-00-SP-X-EWS116-XX P01

⁵ British Standard. BS 1377-1:1990. (Incorporating Amendment No. 1). Methods of Test for Soil Engineering Purposes.

4. EARTHWORKS

4.1 Outline Design

Phase 1 of the earthworks requires levelling of the site won soils across the site, and placement and compaction as engineered fill to form a level platform for construction to progress. This included infilling of excavations formed by removal of the existing slab foundations up to 1.5m thick, and reinforced concrete piles. Phase 2 of the earthworks will involve cement stabilisation of the platform for piling the foundations of the proposed new buildings. The proposed development is a new warehouse, multi storey car park, and surrounding areas of car parking, and landscaping. The stabilised engineered fill will form the subgrade for the external areas of car parking and hardstanding.

A plan showing the layout of the pre-existing buildings, where foundations were removed, is included in Appendix A. The location of the proposed warehouse building is shown in Appendix B, and an isopachyte drawing showing the cut and fill areas and proposed building layout is shown in Appendix C.

4.2 As-dug Ground Conditions

The excavated fill material consisted of a very gravelly clay or clayey gravel, where the gravel fraction comprised predominantly flint gravel with some concrete and masonry (brick, tiles).

This material was consistent with the anticipated material prior to the works.

4.3 Problems Not Envisaged at Design Stage and Their Solutions

4.3.1 Buried Foundations

The thickness of the concrete slabs and foundations encountered were in excess of those anticipated prior to excavation. The foundations were up to 1.5m thick, in the southwestern area of the site. In the same area, concrete piles were encountered, and were removed. Excavations to a depth of around 2.0mbgl were required to remove the buried concrete. The excavations were backfilled with well compacted site won fill material. The concrete was processed on site, using up to three crushers, to Class 6F5 and Type 1 recycled aggregate. This material was stockpiled along the southern edge of the earthworks area, ready for reuse in Phase 2 of the works, or removal off site.

It is understood that the larger than anticipated volume of foundation removal than had been anticipated, has led to a shortfall in site won fill required to raise the ground to formation level +100mm sacrificial protection layer in the eastern area of the site at test location grid squares, K2 to K4, H4 to H6, H10, J10, K4 to K7 and J10. In addition, the generated stockpiles of recycled aggregate have been larger than anticipated, beneath the footprints of which the formation has not been

prepared or tested for earthwork acceptability, in test grids C2, C3, D2 and D3. It is intended that completion of the earthworks in these areas, including removal of the stockpiled recycled aggregate will be completed within Phase 2 of the earthworks.

4.4 Materials Management and Haul Conditions

Haul roads were constructed at the site to mitigate against disturbance of the placed fill materials. No problems were encountered with the use of the recycled aggregate as haul road material.

5. MATERIALS CLASSIFICATION AND ACCEPTABILITY TESTING

5.1 Classification Procedure

Material classification and acceptability testing requirements and test frequencies were stipulated in Pinnacle's earthwork specification as given in Table 1.

Table 1. Appendix 5/1 Acceptability of Materials

Material	Test	Frequency of Testing
Class 1A	Grading	1 per 1,000m ³ (min. 3 per source)
	Single point MCV	1 per 1,000m ³ (min. 3 per source)
	Moisture Content	1 per 500m ³ (min. 3 per source)
	OMC / mc/Particle Density (2.5kg rammer)	1 per 2,000m ³ (min. 3 per source)
	Uniformity Coefficient	1 per 1,000m ³ (min. 3 per source)
	Chemical Suite, including ACM screen*	1 per 2,500m ³ (min. 3 per source)
Class 2C	Grading	1 per 1,000m ³ (min. 3 per source)
	Single point MCV	1 per 1,000m ³ (min. 3 per source)
	Moisture Content	1 per 1,000m ³ (min. 3 per source)
	OMC / mc/Particle Density (2.5kg rammer)	1 per 2,000m ³ (min. 3 per source)
	Undrained shear strength	1 per 1,000m ³ (min. 3 per source)
	Chemical Suite, including ACM screen*	1 per 2,500m ³ (min. 3 per source)
Class 6F2	Grading	1 per 1,000m ³ (min. 3 per source)
	Moisture Content	1 per 500m ³ (min. 3 per source)
	OMC / mc/Particle Density (vibrating rammer)	1 per 500m ³ (min. 3 per source)
	Moisture Content	1 per 1,000m ³ (min. 3 per source)
	Los Angeles Coefficient	1 per 1,000m ³ (min. 3 per source)
	Class Ra (asphalt content)	1 per 1,000m ³ (min. 3 per source)
	Bitumen content	1 per 1,000m ³ (min. 3 per source)
	Effective Angle of Internal Friction	1 per 1,000m ³ (min. 3 per source)
	Chemical Suite, including ACM screen*	1 per 2,500m ³ (min. 3 per source)

Note: ACM screening was undertaken by others in conjunction with the specified chemical testing.

5.2 Site Won Fill

To date, approximately 1,500m³ of site won material has been excavated and placed as engineered fill, prior to cement stabilisation. Three samples of the site won fill were obtained for classification and compaction testing of the fill, and the results are summarised in the following sections.

The results for the site won fill material acceptability testing are included in Appendix E.

5.2.1 Atterberg Limits and Plasticity Index Testing

Plasticity Index testing was undertaken in accordance with BS 1377:1990 Part 2:5:1990.

The results indicated that the samples classified as intermediate plasticity, with Plasticity Indexes ranging from 19% to 21%, Liquid Limits from 36% to 40% and Plastic Limits from 17% to 19%.

5.2.2 Particle Size Distribution Testing

Particle Size Distribution (PSD) testing was undertaken in accordance BS 1377:1990 Part 2:9.2.

The results indicated a grading classification of Class 2C for one sample. The remaining two samples were classified as Class 1A owing to lower fines content of 11% and 14%, slightly less than 15% required for classification as Class 2C. None of the samples contained material in excess of 125mm. A summary of the results is given in Table 2.

Table 2. Particle Size Distribution – Site Won Fill (Class 1A/2C)

Material	Sieve Particle Size Percentage Passing (mm)			
	300	125	2	0.063
Class 2C	-	100	55	47
Class 1A	100	100	-	11 - 14

5.2.3 Single Point Moisture Condition Value

Single Point Moisture Condition Value (MCV) tests were undertaken in accordance with BS 1377: Part 4: 1990: Clause 5.4. MCVs ranged between 8.2 and 9.8 where results for the Class 1A samples were 9.0 and 9.8, and 8.2 for the Class 2C sample.

5.2.4 Maximum Dry Density/Moisture Content Relationship

Compaction control parameters were determined in accordance with BS 1377 (1990), Part 4, Clause 3.4 using a 2.5kg hammer compacted in a CBR mould. The testing was undertaken to determine an appropriate end-product compaction criterion.

A summary of the maximum dry densities for the site won Class 1A and Class 2C material is set out in Table 3 below for assessment of relative compaction, using assumed particle densities of 2.53 Mg/m³ to 2.65 Mg/m³ to plot air voids.

Table 3. Maximum Dry Density Data – Site Won Fill

Compaction Test	SHW Class	Natural Moisture Content (%)	Optimum Moisture Content (%)	Maximum Dry Density (Mg/m ³)
2.5kg	2C	14 - 18	15	1.81
2.5kg	1A	14 - 15	12.0 – 15.0	1.85 – 1.87

5.2.5 Undrained Shear Strength

Undrained Shear Strength tests were undertaken as Triaxial Compression Without Pore Pressure Measurement in Accordance with BS 1377: Part 7: 1990 Clause 8. The results ranged between 69kPa and 75kPa corresponding to a 'medium' undrained shear strength⁶.

5.2.6 Uniformity Coefficient

The percentage passing 63µm was <10% therefore the uniformity coefficient was estimated to be >100 indicating a well graded soil.

5.3 Recycled Aggregate 6F2 and Type 1

Some recycled aggregate, produced on site from the excavated concrete foundations, has been placed to form areas of hard standing beneath the crushed concrete stockpiles, and for haul roads. It is understood this Class 6F5 and Type1 material will be removed and the ground brought up to formation level with Class 2 fill prior to cement stabilisation.

The results for the recycled material acceptability testing are included in Appendix F.

5.3.1 Particle Size Distribution Testing

Particle Size Distribution (PSD) testing was undertaken in accordance BS 1377:1990 Part 2:9.2.

Four PSD gradings undertaken on the Class 6F5 material and 3 PSD gradings on the Type 1 material confirmed the material classifications and the results are summarised in Table 4 and Table 5. One sample of Type 1 failed to meet the specified grading criteria, although conforming to the grading specification for Class 6F5, and one sample failed to meet the gradings for Class 6F5 and Type 1.

Table 4. Particle Size Distribution – Class 6F5

Material	Sieve Particle Size Percentage Passing (mm)						
	125	80	40	20	10	2	0.063
Class 6F5	92 - 100	75 - 100	64 - 97	42 - 79	23 - 51	10 - 27	2.3 - 12

Table 5. Particle Size Distribution – Type 1

Material	Sieve Particle Size Percentage Passing (mm)							
	63	31.5	16	8	4	2	1	0.063
Type 1	97 - 100	75 - 82	40 - 62	14 - 41	6 - 25	6 - 20	3 - 16	0.9 - 8.5

⁶ British Standard. BS 5930:2015. Code of Practice for Ground Investigations.

5.3.2 Maximum Dry Density/Moisture Content Relationship

Parameters were determined in accordance with BS 1377 (1990), Part 4, Clause 3.7 using a vibrating hammer. The testing was undertaken to determine an appropriate end-product compaction criterion.

A summary of the maximum dry densities on 6 samples of the recycled aggregate material is set out in Table 6 for assessment of relative compaction, using an assumed particle density of 2.65 Mg/m³ to plot air voids.

Table 6. Maximum Dry Density Data – Recycled Aggregate

Compaction Test	SHW Class	Natural Moisture Content (%)	Optimum Moisture Content (%)	Maximum Dry Density (Mg/m ³)
Vibrating Hammer	6F5/Type 1	5.9 – 10.9	10.5 – 12.5	1.91 – 1.98

5.3.3 Los Angeles Coefficient

Determination of resistance of coarse aggregate to fragmentation tests were undertaken in accordance with BS EN 1097-2: 2010. Los Angeles Coefficient results on three samples of Type 1, and three samples of Class 6F5 ranged between 27 and 33, all within the acceptable upper limit of 50.

5.3.4 Bituminous Material, Ra

Classification tests on the constituents of 6 samples of the recycled aggregate was undertaken in accordance with BSEN 933-11:2009 to determine bitumen content, Class Ra. The material comprised predominantly concrete, concrete products and concrete masonry, masonry units (bricks, tiles) and unbound aggregate, natural stone and hydraulically bound aggregate. No bitumen was recorded in the samples tested.

5.3.5 Effective Angle of Internal Friction

No results for effective angle of internal friction on the recycled aggregate have been made available to date.

6. FILL CONSTRUCTION

6.1 Excavation and Formation Preparation

The site won soils were excavated from areas, as required, to reduce levels to achieve formation level of the platform plus a 100mm sacrificial protection layer. The average cut depth was around 200mm, allowing for a 100mm thick sacrificial layer. The greatest thickness of cut was in the eastern half of the site where the maximum cut depth was 1.3m. The formation soils comprised very gravelly clay or clayey gravel, the gravel comprising of flint, concrete and brick. The formation soils were proof rolled and inspected to check for soft spots prior to in situ earthwork acceptability testing.

Natural soils were also excavated to enable removal of the buried foundations and concrete piles. These excavations were around 2.0m deep and south of the proposed building footprint (test grid squares H4 to H6 and K4 to K7).

The sides of the excavations were battered to maintain stability of the open excavations in the short term. CGL's Engineer did not observe any evidence of adverse instability of the excavations.

Photographs and records of formation level verification are included in the CGL site visit records, presented in Appendix D.

6.2 Source of Material Placed

The Class 2C stony cohesive and Class 1A well graded site won fill material were excavated from the areas of cut as shown on the isopachyte cut/fill plan in Appendix C.

6.3 Locations of Material Placed

The materials were placed in accordance with the Pinnacle Specification. Compliance testing was undertaken to demonstrate the materials met the Earthworks Acceptability Requirements, as defined in the Specification. The tests have been undertaken on all earthworks material placed to date, since the start of the Phase 1 earthworks operations. The results of the compliance testing have been used to validate the placement of the earthworks.

Photographs and records of fill placement and compaction are included in the CGL site visit records, included in Appendix D.

Acceptable site won fill (Class 2C and Class 1A) material was placed as fill to:-

- raise low spot areas to the finished platform formation level plus a 100mm thick sacrificial weather protection layer, in layers not exceeding 225mm.

- infill excavations arising from removal of the existing foundations and piles.

6.4 Weather Conditions

Weather conditions during placement of the material were variable and ranged between cold dry and sunny to occasional light rain or drizzle, except for the week commencing 14 February until 18 February 2022 when gale force storms occurred across the UK however, by this time the majority of earthworks had been completed.

6.5 Plant Used and Details of Problems Encountered

The plant used for transport, placement and compaction of the fill comprised the following:

- 30T dumper trucks
- 38T excavators
- 19T smooth wheeled roller

Compaction of the material was undertaken in accordance with the criteria given in Appendix 6/1. No problems were encountered with the plant used for the earthworks.

6.6 Instability Problems and Unusual Ground Conditions

No instability or unusual ground conditions were encountered during the works.

6.7 Drainage and Treatment of Soft Areas

No soft areas or unsuitable material requiring overdig excavation were encountered during the works. Ponded water was present locally on top of the sacrificial protection layer. Surface water collected in excavations resulting from removal of the buried structures, and groundwater was encountered in excavations at approximately 2.0mbgl in the west of the site. Accumulated water was pumped from the excavations by sump pumping to surface water drainage within the site boundary.

7. EARTHWORKS ACCEPTABILITY TESTING

7.1 Application of the Acceptability Criteria

The application of acceptability earthworks testing was controlled by TSL and the works were undertaken by Collins, TSL's earthworks contractor. Acceptability testing was in accordance with Specification Appendix 6/1 and the frequency of testing, as specified in Appendix 1/5. A UKAS accredited materials laboratory, Construction Testing Solutions (CTS) was used by TSL for the duration of the works to verify materials and Collins' work.

A 25m testing grid was adopted by TSL to track the progress of earthworks testing and reference the test results, as shown in Appendix B.

The 'end product compaction' earthworks acceptability testing as stipulated in the Earthworks Specification¹ is summarised in Table 7.

Table 7. End Product Compaction Testing

Compaction Method	Test	Frequency of Testing
End Product Compaction	Moisture Content and Field Dry Density (set of 5 NDG to 1 SRT). SRT shall be the large pouring cylinder method to BS 1377 Part 9.	1 set per 1,000m ²
	Undrained Shear Strength by Hand Vane	1 per 250 m ²
	CBR Plate Load Test	1 test per 625m ² (or maximum grid spacing of 25m) every 3rd layer
	Compaction Trial*	1 per method per source.

Note: Compaction trial to be undertaken for cement stabilisation of fill in Phase 2 of the earthworks.

7.2 Earthwork Acceptability Testing

7.2.1 Moisture Content and Field Dry Density

Compliance testing was carried out in accordance with BS 1377: Part 9 using the sand replacement method, core-cutter and nuclear density method (NDG) for density verification. The moisture content was derived using the oven-drying method carried out in accordance with BS1377: Part 2. A total of 62 NDG results were assessed against the relevant maximum dry densities (MDDs). The results indicate that greater than 95% relative compaction was achieved at all test locations, and all air voids were less than 5%. Dry densities ranged between 1.77 Mg/m³ and 2.01 Mg/m³, and moisture contents ranged between 10% and 17%.

The results of the NDG and sand replacement tests are included Appendix G.

7.2.2 Hand Shear Vane and Mexe Cone

Owing to the high gravel content within the fill material, the use of the Hand Shear Vane to obtain undrained shear strength, even within the more cohesive material, was deemed to be inappropriate. An attempt was made to carry out Mexe Cone tests which, again, consistently met refusal. As an alternative, Dynamic Cone Penetrometer (DCP) tests were undertaken at a few locations, from which an undrained shear strength may be estimated using empirical correlations. However, the results were spurious and it was therefore considered that any method of correlating to shear strength would be misleading.

Results of the attempted Hand Shear Vane, Mexe Cone and DCP tests are included in Appendix H.

7.2.3 CBR Plate Load

107 CBR plate load tests were undertaken on the completed filled areas, at a maximum grid spacing of 25m. Of these tests, 92 tests were at formation level, 8 tests were at the same grid location, on subformation and a top layer at formation layer, and 7 tests were retests following failure to meet the specified CBR of >5.0%. Following rerolling and retesting, all retest locations passed.

Results of the CBR plate load tests are included in Appendix I.

7.3 Results Summary

The results confirm that the materials passed the acceptability criteria on completion of placement and compaction.

Based on the on-site testing, the earthworks are considered to meet the specification requirements for the works completed to date. Areas where testing remains outstanding are beneath the stockpiles at the western edge of the site, and along the alignment where pre-existing piles were excavated and filling has yet to be completed.

The verification data from the material placed to date indicates the fill material and cut at formation level has performed well, achieving a greater than 95% compaction in all locations tested to date. In addition, air voids were limited to less 5%.

Seven CBR plate load tests recorded results less than the specified value of 5% on initial testing, however, all retests at these locations following rerolling, achieved >5%. CBR testing will be undertaken again once the formation surface is cement stabilised in Phase 2 of the earthworks.

7.4 Outstanding Phase 1 Earthworks

It is understood that the larger than anticipated volume of substructure removal was more than anticipated which has led to a shortfall in site won fill to raise the ground to formation level +100mm sacrificial protection layer in the eastern area of the site at test location grid squares, K2 to K4, H4 to H6, H10, J10, K4 to K7 and J10. In addition, the formation beneath the footprint of the recycled aggregate in the southwest corner of the site, in test grids C2, C3, D2 and D3 has not yet been completed. It is intended that completion of the earthworks to formation level, subject to completion of a full topographic survey, and earthwork acceptability testing, will be undertaken during Phase 2 of the earthworks when site is remobilised.

8. SUBGRADE/CAPPING/PAVEMENTS

No subgrade has been prepared or pavement placed to date.

9. DRAINAGE

9.1 Details of Temporary Drainage

Due to encountering groundwater in the excavations formed from removal of the existing foundations, and from rainfall, temporary sump-pumping was adopted where water had become ponded in some excavations. The water was pumped to temporary channels in the southern area of the site where it was filtered before being pumped into local storm water drains.