Stream Sediment and Surface Water Assessment

Hascombe Stream
Bramley

Prepared for:

ASDA
Asda House
Great Wilson Street
Leeds
LS11 5AD

EPS Project Reference:	UK23.6797d
Date Issued:	1st May 2025
Report Status:	Issue 2

NOTE TO COUNCIL'S WHEN UPLOADING THIS REPORT TO PLANNING PORTALS: There is no personal data in this report which requires redaction. If applied, certain Content Redaction Software (excluding Adobe Acrobat) will distort formatting, text, images and figures unnecessarily.

HASCOMBE STREAM, BRAMLEY

NON-TECHNICAL CLIENT SUMMARY

This report presents the findings of a sediment and water assessment undertaken to on the Hascombe Stream following our review of the following report: *Environment Agency Survey of Macro-invertebrates in the Hascombe Stream: Summary of Findings.*

Pertinent findings and conclusions may be summarised as follows:

- EPS attended site in November 2024 to undertake an inspection of accessible sections of the Hascombe Stream and obtain samples of stream sediment and surface water at set locations to establish whether the findings of the invertebrate survey could be related to fuel issues on Bramley High Street.
- While it was known and expected that highway surface water drainage discharges directly to the stream as part of the urban drainage network, several other 'ad hoc' drainpipes and outfalls were also identified. The stream also changes in its characteristics, becoming deeper and slower near the confluence with the River Wey due to a number of fallen trees that are restricting flow. Extensive leaf litter was present at the surface and on the bed of the stream at the confluence with the Wey along with evidence of brick and tarmac, assumed to be the result of fly tipping.
- No physical evidence of fuel contamination was noted at any of the locations inspected and sampled, with no fuel oil sheen present from either disturbed sediment or on the stream water itself. Some incidents of marsh oil were noted in the vicinity of Site 4, associated with natural decay of vegetation (largely leaf litter) within the channel.
- Laboratory analysis of sediment samples predominantly identified compounds which are 'too heavy' to be associated with petrol, as confirmed by laboratory interpretation. Very low levels of an additive compound to unleaded petrol were detected within stream water samples at all locations, which is not unexpected given the discharge of highways drainage and road washings. The consistency of concentration across all locations does not correlate with variations in observed invertebrate populations at different survey locations.
- It has been concluded through the findings of this work that the depleted invertebrate population reported at Site 4 is not associated with the fuel impacts at the petrol station on Bramley High Street.

The above points represent a simplified summary of the findings of this assessment and **must not** form the basis for key decisions for the proposed development. A thorough review of the details is contained within the following report, or alternatively get in touch and we will talk you through it.

Project Reference:	UK23.6797d
Title:	Stream Sediment and Surface Water Assessment – Hascombe Stream
Client:	ASDA
Date:	1st May 2025
EPS Contact Details:	7B Caxton House Broad Street Cambourne Cambridge CB23 6JN T: 01954 710666 E: info@epstrategies.co.uk W: www.epstrategies.co.uk
Status:	Issue 2
Note on Changes from Previous Issue	Inclusion of final EA survey findings report as Appendix B, where Issue 1 had Draft Report

Author:	**Reviewed:**	**Authorised:**
W Topping	*L Anderson*	*W Evans*
Will Topping	Lee Anderson	Will Evans
Consultant	Principal Consultant	Director

The report has been written, reviewed and authorised by the persons listed above. It has also undergone EPS' in house quality management inspection. Should you require any further assistance regarding the information provided within the report, please do not hesitate to contact us.

The National Planning Policy Framework requires a competent person to prepare site investigation information, which is defined as a person with a recognised relevant qualification, sufficient experience in dealing with the type(s) of pollution or land instability, and membership of a relevant professional organisation. EPS considers that it fulfils these criteria and would welcome any request for staff CVs or case studies to demonstrate it.

TABLE OF CONTENTS

Figures

Tables

Appendices

1 INTRODUCTION

In November 2024, Environmental Protection Strategies Ltd (EPS) was commissioned by ASDA to complete a stream sediment and surface water assessment of the Hascombe Stream in Bramley, ('the site'). A site location plan is presented as Figure 1 and selected site photographs are included as Appendix A.

The aim of these works was to provide information on the condition of both the streambed sediment and the watercourse of the Hascombe Stream. This work aims to provide additional context to the Environment Agency survey of macro-invertebrates in the Hascombe Stream. The EA report is included as Appendix B.

1.1 Scope of Works

To assess the quality of stream sediment and water quality through a sampling exercise.

Intrusive Investigation:

- Site walkover, inspection and obtaining photographic records.
- Health and safety briefing / site supervision.
- Collection and inspection of samples for visual and olfactory contamination, and laboratory analysis of sediment and surface water samples

Reporting:

- Data presentation.

The findings of the investigation are presented in the following sections.

1.2 Limitations and Constraints

The purpose of this report is to present the findings of a sampling investigation (stream sediment / water quality assessment) conducted at the location(s) specified. When examining the data collected from the investigations made during the assessment, Environmental Protection Strategies Ltd (EPS) makes the following statements:

No investigation method is capable of completely identifying all the ground conditions that might be present beneath a site. Where outlined in our report, we have examined the ground beneath a site by collection stream sediment and water samples. The sampling points are considered to be representative of the condition of the locations sampled. However, it should be appreciated that ground conditions and water quality are naturally variable. For this reason, it is possible that samples collected during the investigation may not represent the conditions across the entire site.

2 SITE CONTEXT

The following information has been obtained from publicly available records to characterise the site and setting.

2.1 Site Location and Context

Detail	Description
Location	Hascombe Stream watercourse flows through the village of Bramley from west to east. This investigation covers four sampling points located along an approximately 500m long stretch to the east of A281 Horsham Road. Further details on the sampling points are included in Section 3.1.
Description of Site/Stream	Four locations were sampled along the Hascombe Stream, to the east of the A281 Horsham Road which runs through the centre of Bramley village. The Hascombe Stream is a secondary watercourse, feeding into the River Wey the east of Bramley village. As a receiving water, it forms an essential part of the surface water urban drainage network for the village and it's highway network. The Hascombe Stream flows through the centre of Bramley and is culverted beneath the High Street. At this point, it is known that highway drainage discharges the stream from both the north and south. It is also understood that some utility ducts drain into the stream via pipework that outfalls into the stream near the bridge (including OpenReach). Historically, contamination in the form of sheens have been observed on the stream from this location, as a result of petrol fuel entering highway drainage at a point further up the High Street and these waters subsequently discharging onto the stream from the northern side. Petrol contaminated water is also likely to have discharged from the southern stream bank via historic direct connections which drain Open Reach utility chambers (also been impacted beneath the High Street), with ducts passing within the bridge to a chamber on the southern side which contains a drain pipe to the river. Sheens on the stream have been mitigated through the deployment and maintenance of a system of hydrocarbon absorbent booms down stream of these discharge points and since the commencement of groundwater remediation, the presence of sheens has been significant reduced, limited only to times of more extreme rainfall.

	The stream flows through a number of private gardens and can be described as a shallow (<0.40m deep), relatively fast flowing stream. The streambed can be seen from the bank and is largely gravelly, sandy until the stream reaches Linersh Drive (around 160m east of High Street). At this location, the stream appears to become slightly deeper where it is again culverted below a road and a number of inlets can be seen entering the stream. In Photo 7 at the end of this report, a single clay pipe can be seen entering the stream from a private property. In Photo 8, two plastic pipes run into the stream at the culvert, it is not clear if these pipes are associated with highway drainage or private drainage. The confluence of the Hascombe Stream and the River Wey is approximately 450m east of High Street. The nature of the stream is considerably different at the confluence, which is referred to as Site 4 throughout this report. At this point, a number of trees have fallen into the watercourse, restricting the flow and allowing the build up of leaves on the surface and stream bed. In addition, it was noted that bricks, concrete and asphalt were present in the streambed at some locations in this area, which may have been fly tipped into the stream. It is also noted that a sewage pumping station is present near the confluence of the watercourses. It has not been clarified whether there is any discharge into the Hascombe Stream or River Wey.

3 SUMMARY OF INVESTIGATIONS

The streambed sampling visits were completed across two dates in November 2024, when surface water samples were also collected. It should also be noted that EPS have included all of their data from SW01, as it forms part of the monitoring program for remediation in the village and provides useful context for stream water quality. All samples were collected in accordance with EPS standard operating procedures, copies of which will be made available on request.

3.1 Sampling Locations

The sampling location positions were located along the Hascombe Stream watercourse, details of each site are described below:

Sample Location	Site Description	National Grid Reference
SW01	This is the most western of the sampling locations, situated to the immediate north of Windrush Close within Bramley village. The stream is managed in this location with brickwork on either bank with a wooden footbridge crossing the watercourse. Several land drains enter the stream from the brickwork walls. Surface water samples are taken roughly 5m downstream of the remedial boom which is installed at this location. It should be noted that this location is repeatedly sampled by EPS as part of the monitoring programme associated with remediation.	500952, 144854
Linersh	Located off Barton Road, approximately 150m downstream and east of Site 3 lies the sampling location of Linersh. The stream flows through a culvert beneath Barton Road and is managed by brick and concrete structures along the southern bank, whilst the northern bank remains unmanaged. This area also features a couple of inlets which appear to connect to highway drainage and private connections. The sampling point is located a few metres downstream of the culvert.	501210, 144911
Site 3	This sampling location is approximately 130m east/downstream of SW01, located to the immediate east of the old train tracks. It corresponds with 'Site 3' in the EA Invertebrate Survey. This site features a steep slope descending toward the stream. This area is situated south of the residential gardens along Barton Road and the sampling point is taken a few metres away	501056, 144911

	from the culverted section of the stream beneath the embankment of the former train tracks.	
Site 4	Site 4 is located off an unmarked path branching from the residential area along Fisher Rowe Close, around 140m northeast of Linersh site. The Hascombe Stream lies about 40m upstream from its confluence with a tributary of the River Wey. The site is set within a wooded and densely vegetated area, where the western bank rises roughly 0.5m above the stream. This location corresponds with 'Site 4' in the EA Invertebrate Survey.	501346, 145022

A sampling location plan is presented as Figure 2.

3.2 Sediment Sampling

Sediment samples were recovered sampling locations Site 3 and Site 4 from within the streambed by an EPS engineer who entered the watercourse to collect the samples directly into sampling jars. This avoided cross contamination or disturbance of samples, which may cause volatilisation of key contaminants.

Each location was inspected for any physical evidence of contamination, such as staining, odour and the presence of separate phase liquids.

3.3 Surface Water Sampling

Sampling of the surface water was completed by taking a sample from the centre of the channel cross profile.

As with the soil sampling, each location was inspected for any physical evidence of contamination, such as odour and the presence of separate phase liquids including sheens.

3.4 Laboratory Testing

Samples were submitted to Element Materials Technology of Flintshire, who hold appropriate UKAS/MCERT accreditation for the required testing. Samples were transported in laboratory supplied containers and delivered by an approved courier.

Copies of the chain of custody documentation are held by EPS and will be made available on request. Furthermore, laboratory testing schedules detailing all samples submitted for environmental analysis are included within Table 1 and Table 2.

4 FINDINGS OF THE INVESTIGATION

4.1 Physical Evidence of Contamination – Sediment

No physical evidence of contamination was encountered during the sediment sampling. including hydrocarbon staining / odours. Some putrefiable material were identified within the streambed, comprising leaf fall organic matter. In addition, sporadic waste materials including brick and asphalt were noted on the streambed.

4.2 Laboratory Results –Sediment

A laboratory analysis testing schedule is presented as Table 1 and all environmental soil sample results obtained from the laboratory are included as Appendix C. The key results of laboratory testing on environmental soil samples are summarised below.

Contaminant	No. of Samples	No of Detections	Range of Detections (mg/kg)		Highest Location & Depth (m bgl)
			Min	Max	
MTBE	2	0	-		-
Benzene	2	0	-		-
Toluene	2	1	0.011		Site 4
Ethylbenzene	2	0	-		-
m/p-Xylene	2	0	-		-
o-Xylene	2	0	-		-
TPH CWG – Aliphatics					
C5-C6	2	0	-		-
C6-C8	2	0	-		-
C8-C10	2	0	-		-
C10-C12	2	0	-		-
C12-C16	2	0	-		-
C16-C21	2	0	-		-
C21-C35	2	0	-		-
TPH CWG – Aromatics					
C5-EC7	2	0	-		-
EC7-EC8	2	0	-		-
EC8-EC10	2	0	-		-
EC10-EC12	2	0	-		-
EC12-EC16	2	0	-		-
EC16-EC21	2	2	14	15	Site 3
EC21-EC35	2	2	29	188	Site 4

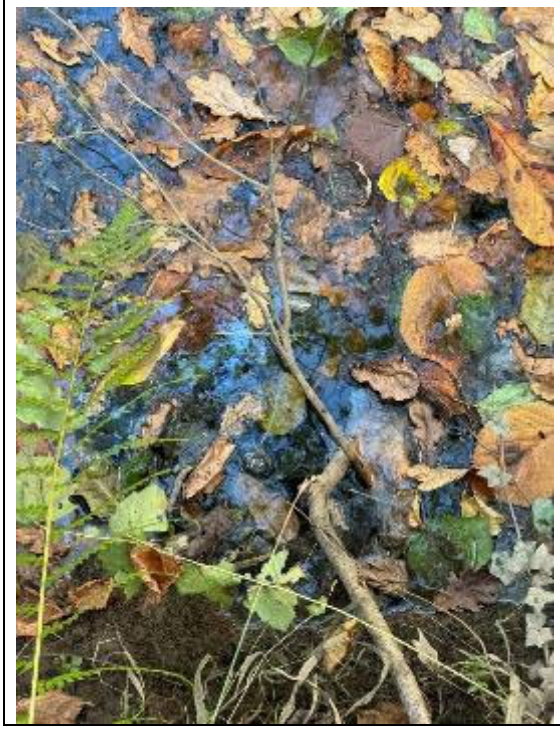
Notes:
TPH CWG Total Petroleum Hydrocarbons (Criteria Working Group)
MTBE Methyl Tertiary-Butyl Ether
- Contaminant not found above laboratory detection limits
mg/kg Part per Million
The Laboratory interpretation of the results from Site 4 were '*Trace of PAHs & Naturally occurring compounds*', with only '*Trace of PAHs*' for Site 3.

4.3 Physical Evidence of Contamination – Surface Water

No evidence of contamination was encountered during the surface water sampling., including evidence of fuel.

The build-up of fallen foliage within near stagnant areas of the stream can create anoxic conditions. The breakdown of organic matter within an anoxic environment leads to the production of methane and a small amount of long chain hydrocarbons as 'marsh oil', which was identified within the below image, close to Site 4:

Image showing iridescent 'marsh oil' close to Site 4



The formation of 'marsh oil' is likely to be particularly prevalent due to the sampling date, November, coming following the shedding of leaves of the deciduous trees that cover much of the stream banks.

4.4 Laboratory Results – Surface Water

A laboratory analysis testing schedule is presented as Table 2 and all water sample results obtained from the laboratory are included as Appendix D. The key results of laboratory testing on environmental soil samples are summarised below.

Contaminant	No. of Samples	No of Detections	Range of Detections (ug/l)		Highest Location
			Min	Max	
MTBE	11	7	1	10	SW01
Benzene	11	0	-		-
Toluene	11	0			
Ethylbenzene	11	0	-		-
m/p-Xylene	11	0	-		-
o-Xylene	11	0	-		-
TPH CWG – Aliphatics					
C5-C6	11	0	-		-
C6-C8	11	0	-		-
C8-C10	11	0	-		-
C10-C12	11	0	-		-
C12-C16	11	0	-		-
C16-C21	11	0	-		-
C21-C35	11	0	-		-
TPH CWG – Aromatics					
C5-EC7	11	0	-		-
EC7-EC8	11	0	-		-
EC8-EC10	11	0	-		-
EC10-EC12	11	0	-		-
EC12-EC16	11	0	-		-
EC16-EC21	11	0	-		-
EC21-EC35	11	0	-		-

Notes:

TPH CWG	Total Petroleum Hydrocarbons (Criteria Working Group)
MTBE	Methyl Tertiary-Butyl Ether
-	Contaminant not found above laboratory detection limits
ug/	Part per Billion

5 CONCLUSIONS

The following key conclusions have been drawn from this work:

1. No physical evidence of fuel contamination was noted at any of the locations inspected and sampled, with no fuel oil sheen present from either disturbed sediment or on the stream water itself. Some incidents of marsh oil were noted in the vicinity of Sample point 4., associated with natural decay of vegetation (largely leaf litter) within the channel.
2. Toluene, which is a component compound of petrol, was reported within the sediment sample at Site 4, but at a concentration well below generic assessment quality criteria for controlled waters. Significantly higher (up to four orders of magnitude) concentrations of longer chain 'heavier' hydrocarbons were found within sediment from Site 3 and 4, which could not be associated with petrol. These fractions would however be expected to be associated with bituminous materials, such as the tarmac rubble noted on the stream bed at Site 4, presumably as a result of fly tipping.
3. The only detection from the samples of the stream water itself was MTBE, which is an additive to unleaded petrol. It is notably more soluble than other compounds associated with petrol and it is not unexpected to be found within waters that receive waters from highway surface water drainage and road washings, which are discharged directly to the stream at several points as an essential part of the urban drainage network. MTBE is generally considered to have a low acute and chronic toxicity to aquatic organisms (it has a low health risk to humans). It is also notable that MTBE was reported at similar low concentrations at all sampled locations irrespective of the invertebrate population.
4. It is concluded through the findings of this work that the depleted invertebrate population reported at site 4 is not associated with the fuel impacts at the petrol station on Bramley High Street.

FIGURES

Rev	Date	Drawn	Description	Ch'k'd

The Geotechnical and Environmental Engineers
www.epstrategies.co.uk

Site: PFS Bramley
UK23.6797d

Client: ASDA

Title: Fig 1 - Site Location Plan

Surveyed:	WT	Drawn by:	WT
Checked by:	LA	Date:	19/12/24

Scale: [A4 Sheet] | Drawing Reference: Fig1_UK23.6797d

Job No: UK23.6797d | Rev:

KEY:

Hascombe Stream Sample Location

Approximate Location of Hascombe Stream

N

Rev	Date	Drawn	Description	Ch'k'd

The Geotechnical and Environmental Engineers
www.epstrategies.co.uk

Site: Bramley

Client: ASDA

Title: Hascombe Stream Sample Location Plan

Surveyed:		Drawn by:	JP
Checked by:	LA	Date:	09/01/2025

Scale [A3 Sheet]	Drawing Reference
NTS	HSBramley_Nov2024

Job No	Rev
UK23.6797	01

TABLES

Table 1 –Laboratory Testing Schedule (Soil)

Sample ID	TPH Suite
Site 3	X
Site 4	X

Notes:
m bgl meters below ground level
X Sample Taken

Table 2 – Laboratory Testing Schedule (Surface Waters)

Sample ID	Sample Date	TPH Suite	VOC/SVOC Suite
SW01	05/04/24	X	-
SW01	21/05/24	X	-
SW01	29/05/24	X	-
SW01	12/07/24	X	-
SW01	21/08/24	X	-
Site 3	12/11/24	-	X
Site 4	12/11/24	-	X
SW01	21/11/24	-	X
Site 3	21/11/24	-	X
Linersh	21/11/24	-	X
Site 4	21/11/24	-	X

Notes:
m bgl meters below ground level
X Sample Taken
- Sample Not Analysed

APPENDICES

APPENDIX A

Selected Site Photographs

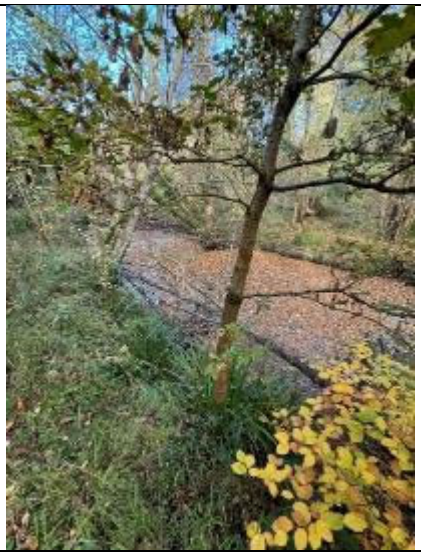
Photo 1: Photo near Site 4.	Photo 2: Photo of River Wey with extensive leaf litter on the surface.
	
Photo 3: Image showing the collection of leaves at the base of the streambed near Site 4.	Photo 4: Image showing the culverted section close to sampling point, Site 3.
	
Photo 5: Photo of Site 3 with depth pole for reference.	Photo 6: Photo of Site 4 with depth pole for reference
	

Photo 7 :Example of outlet into the stream from private property at Linersh Road.	Photo 8:Image of culvert at Linersh Road showing multiple pipes entering the stream. It is unclear which relate to private discharge or Highways.
	

APPENDIX B

Environment Agency Survey of Macro-invertebrates in the Hascombe Stream: Summary of Findings

Environment Agency Survey of Macro-invertebrates in the Hascombe Stream: Summary of Findings

Introduction

From February 2023 the Environment Agency received reports of intermittent oil pollution seen in the Hascombe Stream as it runs through the village of Bramley in Surrey.

A macro-invertebrate survey was undertaken on the 20th of September 2024 to determine whether the intermittent oil discharges had impacted the invertebrate communities of Hascombe Stream. Aquatic macro-invertebrates are small invertebrates more than 1mm long living in the watercourse. Pollution events, whether continuous or intermittent, can affect the macro-invertebrate communities living in the watercourse. The effects on the communities, such as the impact to abundance or diversity of groups of macro-invertebrates, can indicate the type or location of pollution, and can remain noticeable for relatively long periods after the event.

We assessed the macro-invertebrate community at 4 locations, shown in the map below. One upstream of the source of oil on the High Street and 3 sites approximately 50m, 200m and 600m downstream. The upstream location was assessed to see what the invertebrate community in the stream was like upstream of the location at which the oil entered the stream.

Results

The macro-invertebrate survey on the 20th of September 2024 found a good quality invertebrate community was present in Hascombe Stream at site 1, upstream of the oil input at the High Street. A short distance downstream of the oil input, at site 2, the community was also good with no evidence of effects from the oil.

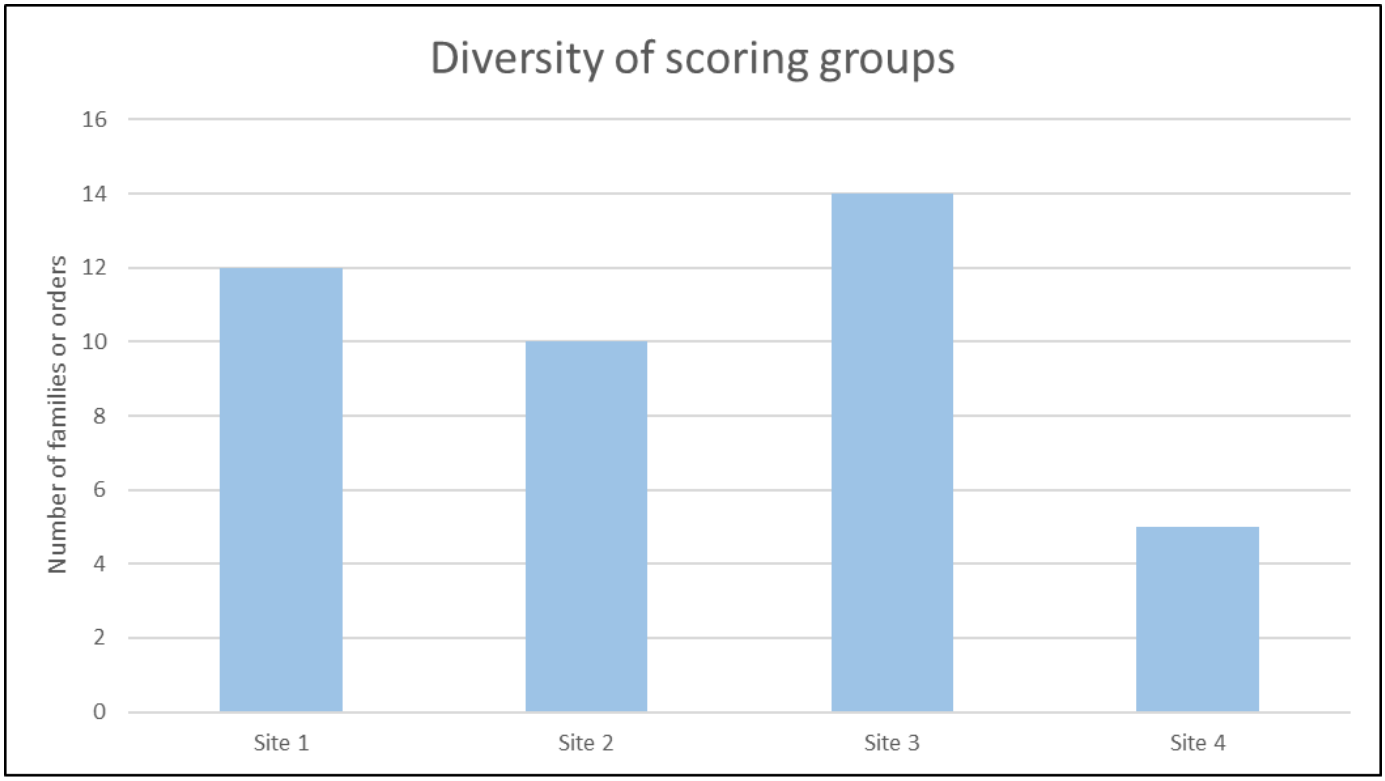
Around two hundred metres downstream of the input at site 3, the community was also good and even more diverse but did contain a small number of recently dead invertebrates. This was after recent rainfall, and some oil was seen on the water surface. Oil is harmful to some invertebrates, and the dead invertebrates found at site 3 were from groups sensitive to oil pollution.

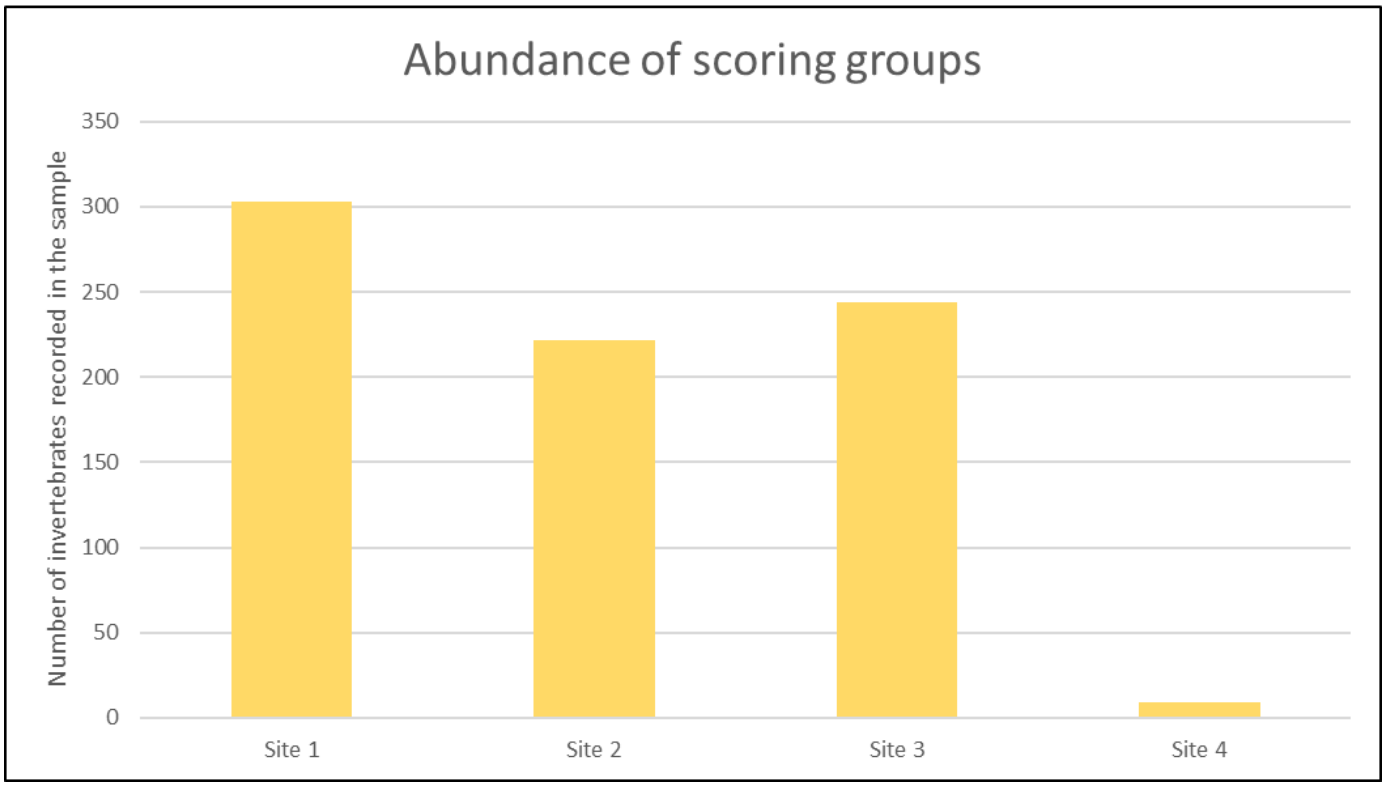
However, around six hundred metres downstream of the oil input at site 4, the invertebrate community in Hascombe Stream was poor. Both the diversity and abundance were low. The other sites had abundances ranging between 220 and 300 invertebrates per sample. In comparison, at Site 4 only 10 invertebrates were found in the sample.

At site 4 there was evidence of oil contamination in the stream bed, as oil was liberated from the sample when it was placed into the analysis tray. Oil was also seen in the tray at Site 3 but to a much lesser extent.

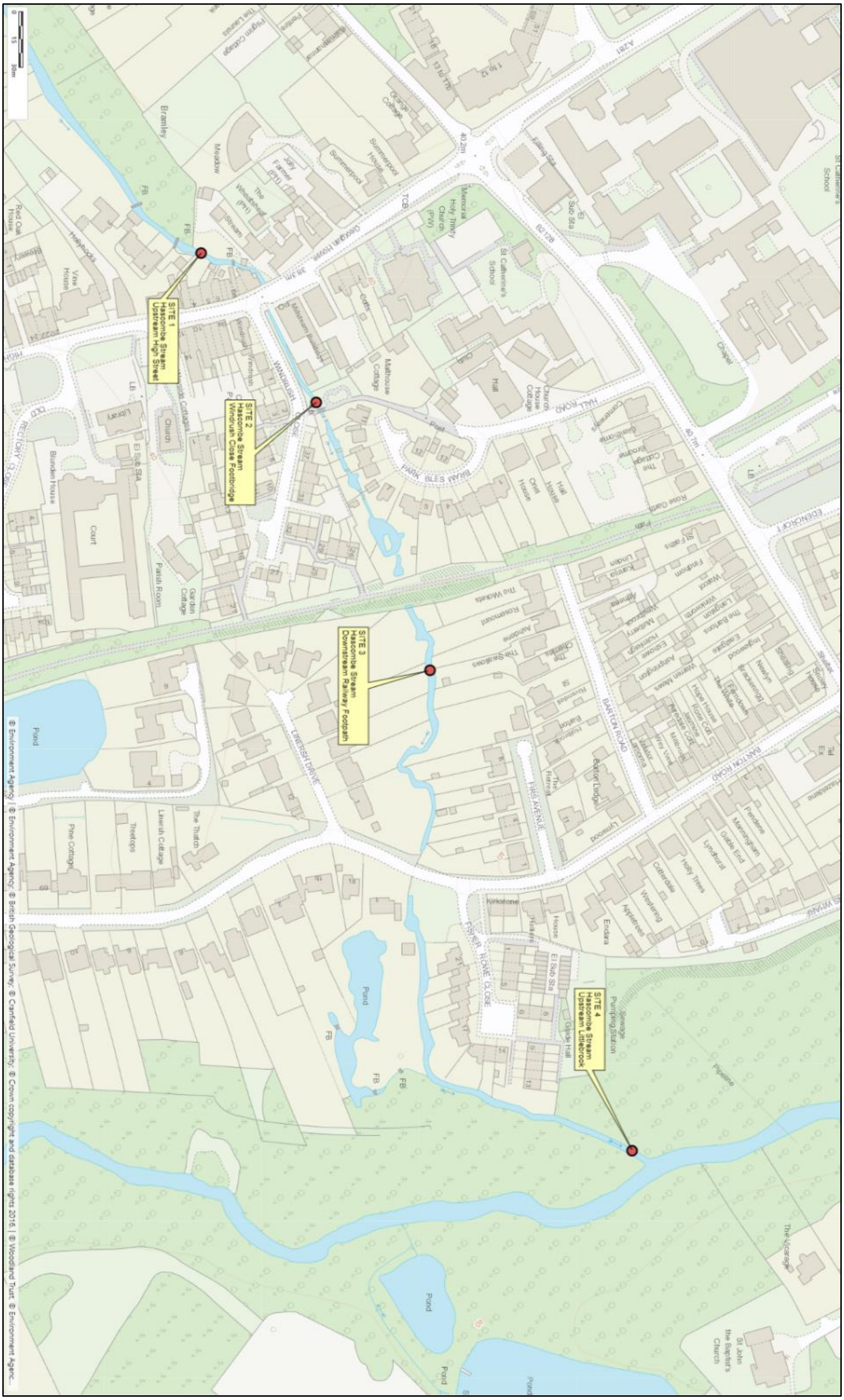
It therefore appears that the invertebrate community at site 4 in the lower section of the Hascombe stream, above its confluence with the Littlebrook, was impacted by a pollutant. Due to the depth and steep banks Littlebrook itself could not be assessed, but with the

dilution from this much larger watercourse it is not thought there will have been significant impacts from the oil there.





Map 1: Sampling locations



APPENDIX C

Environmental Laboratory Analysis - Sediment

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Lee Anderson
Date :	21st November, 2024
Your reference :	UK23.6797B
Our reference :	Test Report 24/19312 Batch 1
Location :	Bramley
Date samples received :	14th November, 2024
Status :	Final Report
Issue :	202411211718

Six samples were received for analysis on 14th November, 2024 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 7.964 kg of CO2

Scope 1&2&3 emissions - 18.821 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Client Name: EPS Ltd
Reference: UK23.6797B
Location: Bramley
Contact: Lee Anderson
EMT Job No: 24/19312

Report : Solid

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

EMT Sample No.	10-11	13-14									LOD/LOR	Units	Method No.
Sample ID	SITE 4 HASCOMBE-S	SITE 3 HASCOMBE-S											
Depth													
COC No / misc													
Containers	V J	V J											
Sample Date	12/11/2024	12/11/2024											
Sample Type	Sand	Sand											
Batch Number	1	1											
Date of Receipt	14/11/2024	14/11/2024											
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #M	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C6-C8 (HS_1D_AL) #M	<0.1	<0.1									<0.1	mg/kg	TM36/PM12
>C8-C10 (HS_1D_AL)	0.2	<0.1									<0.1	mg/kg	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #M	<0.2	<0.2									<0.2	mg/kg	TM5/PM8/PM16
>C12-C16 (EH_CU_1D_AL) #M	<4	<4									<4	mg/kg	TM5/PM8/PM16
>C16-C21 (EH_CU_1D_AL) #M	<7	<7									<7	mg/kg	TM5/PM8/PM16
>C21-C35 (EH_CU_1D_AL) #M	23	<7									<7	mg/kg	TM5/PM8/PM16
>C35-C40 (EH_CU_1D_AL)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aliphatics C5-40 (EH_CU+HS_1D_AL)	<26	<26									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
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) #M	<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) #	14	15									<7	mg/kg	TM5/PM8/PM16
>EC21-EC35 (EH_CU_1D_AR) #	188	29									<7	mg/kg	TM5/PM8/PM16
>EC35-EC40 (EH_CU_1D_AR)	<7	<7									<7	mg/kg	TM5/PM8/PM16
Total aromatics C5-40 (EH_CU+HS_1D_AR)	202	44									<26	mg/kg	TM5/TM36/PM8/PM12/PM16
Total aliphatics and aromatics(C5-40) (EH_CU+HS_1D_Total)	202	<52									<52	mg/kg	TM5/TM36/PM8/PM12/PM16
MTBE #	<5	<5									<5	ug/kg	TM36/PM12
Benzene #	<5	<5									<5	ug/kg	TM36/PM12
Toluene #	11	<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
Natural Moisture Content	78.9	38.9									<0.1	%	PM4/PM0
Sample Type	Sand	Sand										None	PM13/PM0
Sample Colour	Medium Brown	Medium Brown										None	PM13/PM0
Other Items	stones, vegetation	stones										None	PM13/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: EPS Ltd
Reference: UK23.6797B
Location: Bramley
Contact: Lee Anderson
EMT Job No: 24/19312

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, HN=$HN0_3$

EMT Sample No.	7-9	12									LOD/LOR	Units	Method No.
Sample ID	SITE 4 HASCOMBE-W	SITE 3 HASCOMBE-W											
Depth													
COC No / misc													
Containers	V G	G											
Sample Date	12/11/2024	12/11/2024											
Sample Type	Surface Water	Surface Water											
Batch Number	1	1											
Date of Receipt	14/11/2024	14/11/2024											
MTBE #	<5	<5									<5	ug/l	TM36/PM12
Benzene #	<5	<5									<5	ug/l	TM36/PM12
Toluene #	<5	<5									<5	ug/l	TM36/PM12
Ethylbenzene #	<5	<5									<5	ug/l	TM36/PM12
m/p-Xylene #	<5	<5									<5	ug/l	TM36/PM12
o-Xylene #	<5	<5									<5	ug/l	TM36/PM12
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<10	<10									<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL) #	<10	<10									<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL) #	<10	<10									<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<5	<5									<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL) #	<10	<10									<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL) #	<10	<10									<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL) #	<10	<10									<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL) #	<10	<10									<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR) #	<10	<10									<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<10	<10									<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<10	<10									<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<5	<5									<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR) #	<10	<10									<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR) #	<10	<10									<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR) #	<10	<10									<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	<10	<10									<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total) #	<10	<10									<10	ug/l	TM5/TM36/PM12/PM16/PM30

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: EPS Ltd
Reference: UK23.6797B
Location: Bramley
Contact: Lee Anderson
EMT Job No: 24/19312

VOC Report : **Liquid**

EMT Sample No.	7-9	12											
Sample ID	SITE 4 HASCOMBE-W	SITE 3 HASCOMBE-W											
Depth											Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V G	G											
Sample Date	12/11/2024	12/11/2024											
Sample Type	Surface Water	Surface Water											
Batch Number	1	1											
Date of Receipt	14/11/2024	14/11/2024											
VOC MS											LOD/LOR	Units	Method No.
Dichlorodifluoromethane	<2	<2									<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	1.7	1.8									<0.1	ug/l	TM15/PM10
Chloromethane #	<3	<3									<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1	<0.1									<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1									<1	ug/l	TM15/PM10
Chloroethane #	<3	<3									<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3	<3									<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3	<3									<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3	<3									<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3	<3									<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3	<3									<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3	<3									<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1									<1	ug/l	TM15/PM10
Bromochloromethane #	<2	<2									<2	ug/l	TM15/PM10
Chloroform #	<2	<2									<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2	<2									<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3	<3									<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2	<2									<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2	<2									<2	ug/l	TM15/PM10
Benzene #	<0.5	<0.5									<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3	<3									<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2	<2									<2	ug/l	TM15/PM10
Dibromomethane #	<3	<3									<3	ug/l	TM15/PM10
Bromodichloromethane #	<2	<2									<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2									<2	ug/l	TM15/PM10
Toluene #	<5	<5									<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2									<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2	<2									<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3	<3									<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2	<2									<2	ug/l	TM15/PM10
Dibromochloromethane #	<2	<2									<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2	<2									<2	ug/l	TM15/PM10
Chlorobenzene #	<2	<2									<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2	<2									<2	ug/l	TM15/PM10
Ethylbenzene #	<1	<1									<1	ug/l	TM15/PM10
m/p-Xylene #	<2	<2									<2	ug/l	TM15/PM10
o-Xylene #	<1	<1									<1	ug/l	TM15/PM10
Styrene	<2	<2									<2	ug/l	TM15/PM10
Bromoform #	<2	<2									<2	ug/l	TM15/PM10
Isopropylbenzene #	<3	<3									<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4									<4	ug/l	TM15/PM10
Bromobenzene #	<2	<2									<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3	<3									<3	ug/l	TM15/PM10
Propylbenzene #	<3	<3									<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3	<3									<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3	<3									<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3	<3									<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3	<3									<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3	<3									<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3	<3									<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3	<3									<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3	<3									<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3	<3									<3	ug/l	TM15/PM10
n-Butylbenzene #	<3	<3									<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3	<3									<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2									<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3									<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3									<3	ug/l	TM15/PM10
Naphthalene	<2	<2									<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3									<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	109	106									<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	100	96									<0	%	TM15/PM10

Client Name: EPS Ltd

Reference: UK23.6797B

Location: Bramley

Contact: Lee Anderson

Matrix : Solid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/19312	1	SITE 4 HASCOMBE-S		10-11	Trace of PAHs & Naturally occurring compounds
24/19312	1	SITE 3 HASCOMBE-S		13-14	Trace of PAHs

Client Name: EPS Ltd

Reference: UK23.6797B

Location: Bramley

Contact: Lee Anderson

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/19312	1	SITE 4 HASCOMBE-W		7-9	No interpretation possible
24/19312	1	SITE 3 HASCOMBE-W		12	No interpretation possible

Client Name: EPS Ltd
Reference: UK23.6797B
Location: Bramley
Contact: Lee Anderson

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/19312						

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.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/19312

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 35°C ±5°C.

Where Mineral Oil 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 overesitimate 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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: 24/19312

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			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.	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.	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	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.			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		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	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	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
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: 24/19312

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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.				
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			
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			
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
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	Yes	AR	Yes

APPENDIX D

Environmental Laboratory Analysis – Surface Water

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Lee Anderson
Date :	15th April, 2024
Your reference :	UK23.6797
Our reference :	Test Report 24/5867 Batch 1
Location :	PFS Bramley
Date samples received :	6th April, 2024
Status :	Final Report
Issue :	202404151606

One sample was received for analysis on 6th April, 2024 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 1.593 kg of CO2

Scope 1&2&3 emissions - 3.764 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Project Manager

Element Materials Technology

Client Name: EPS Ltd
Reference: UK23.6797
Location: PFS Bramley
Contact: Lee Anderson
EMT Job No: 24/5867

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

Please see attached notes for all abbreviations and acronyms

EMT Sample No.	1-4										LOD/LOR	Units	Method No.
Sample ID	SW1												
Depth	0.00												
COC No / misc													
Containers	V P G												
Sample Date	05/04/2024 08:45												
Sample Type	Ground Water												
Batch Number	1												
Date of Receipt	06/04/2024												
MTBE #	10										<5	ug/l	TM36/PM12
Benzene #	<5										<5	ug/l	TM36/PM12
Toluene #	<5										<5	ug/l	TM36/PM12
Ethylbenzene #	<5										<5	ug/l	TM36/PM12
m/p-Xylene #	<5										<5	ug/l	TM36/PM12
o-Xylene #	<5										<5	ug/l	TM36/PM12
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<5										<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<5										<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Sulphate as SO4 #	22.2										<0.5	mg/l	TM38/PM0
Chloride #	17.7										<0.3	mg/l	TM38/PM0
Nitrate as NO3 #	9.1										<0.2	mg/l	TM38/PM0
Nitrite as NO2 #	<0.02										<0.02	mg/l	TM38/PM0
Sulphide	<0.01										<0.01	mg/l	TM107/PM0
COD (Settled) #	11										<7	mg/l	TM57/PM0
Dissolved Iron II	<1										<1	mg/l	TM213/PM31
Dissolved Iron III	<1										<1	mg/l	TM30/TM213/PM0

Client Name: EPS Ltd

Reference: UK23.6797

Location: PFS Bramley

Contact: Lee Anderson

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/5867	1	SW1	0.00	1-4	No interpretation possible

Client Name: EPS Ltd
Reference: UK23.6797
Location: PFS Bramley
Contact: Lee Anderson

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/5867						

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.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/5867

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 35°C ±5°C.

Where Mineral Oil 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 overesitimate 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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: 24/5867

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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			
TM30/TM213	Calculation of Fe (III) based on Iron and Fe(II)	PM0	No preparation is required.				
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) – All anions comparable to BS ISO 15923-1: 2013I	PM0	No preparation is required.	Yes			
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometerically.	PM0	No preparation is required.	Yes			
TM107	Determination of Sulphide/Thiocyanate by Skalar Continuous Flow Analyser	PM0	No preparation is required.				
TM213	Fe(II) and Mn(II) by IC and Spectro	PM31	Prep of Waters for Inorganics				

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Lee Anderson
Date :	10th January, 2025
Your reference :	UK23.6797
Our reference :	Test Report 24/8856 Batch 1
Location :	Bramley PFS
Date samples received :	24th May, 2024
Status :	Final report
Issue :	202501101001

One sample was received for analysis on 24th May, 2024 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 5.792 kg of CO2

Scope 1&2&3 emissions - 13.688 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Technical Account Manager

Client Name: EPS Ltd
Reference: UK23.6797
Location: Bramley PFS
Contact: Lee Anderson
EMT Job No: 24/8856

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	16-18												
Sample ID	SW01												
Depth													
COC No / misc													
Containers	V G												
Sample Date	21/05/2024												
Sample Type	Surface Water												
Batch Number	1												
Date of Receipt	24/05/2024												

Please see attached notes for all abbreviations and acronyms

											LOD/LOR	Units	Method No.
MTBE #	<5										<5	ug/l	TM36/PM12
Benzene #	<5										<5	ug/l	TM36/PM12
Toluene #	<5										<5	ug/l	TM36/PM12
Ethylbenzene #	<5										<5	ug/l	TM36/PM12
m/p-Xylene #	<5										<5	ug/l	TM36/PM12
o-Xylene #	<5										<5	ug/l	TM36/PM12
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<5										<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<5										<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30

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

Client Name: EPS Ltd

Reference: UK23.6797

Location: Bramley PFS

Contact: Lee Anderson

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/8856	1	SW01		16-18	No interpretation possible

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/8856

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 35°C ±5°C.

Where Mineral Oil 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 overesitimate 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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.

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Olivia Francis
Date :	10th January, 2025
Your reference :	UK23.6797
Our reference :	Test Report 24/9434 Batch 1
Location :	N/A
Date samples received :	1st June, 2024
Status :	Final report
Issue :	202501101003

One sample was received for analysis on 1st June, 2024 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 5.575 kg of CO2

Scope 1&2&3 emissions - 13.175 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Technical Account Manager

Client Name: EPS Ltd
Reference: UK23.6797
Location: N/A
Contact: Olivia Francis
EMT Job No: 24/9434

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	1-3										LOD/LOR	Units	Method No.
Sample ID	SW01												
Depth													
COC No / misc													
Containers	V G												
Sample Date	29/05/2024												
Sample Type	Surface Water												
Batch Number	1												
Date of Receipt	01/06/2024												
MTBE #	<5										<5	ug/l	TM36/PM12
Benzene #	<5										<5	ug/l	TM36/PM12
Toluene #	<5										<5	ug/l	TM36/PM12
Ethylbenzene #	<5										<5	ug/l	TM36/PM12
m/p-Xylene #	<5										<5	ug/l	TM36/PM12
o-Xylene #	<5										<5	ug/l	TM36/PM12
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<5										<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<5										<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30

Please see attached notes for all abbreviations and acronyms

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

Client Name: EPS Ltd

Reference: UK23.6797

Location: N/A

Contact: Olivia Francis

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/9434	1	SW01		1-3	No interpretation possible

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/9434

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 35°C ±5°C.

Where Mineral Oil 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 overesitimate 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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.

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Jaziel Pineda
Date :	10th January, 2025
Your reference :	UK23.6797
Our reference :	Test Report 24/12152 Batch 1
Location :	Bramley
Date samples received :	13th July, 2024
Status :	Final report
Issue :	202501101005

One sample was received for analysis on 13th July, 2024 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 14.408 kg of CO2

Scope 1&2&3 emissions - 34.049 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Technical Account Manager

Element Materials Technology

Client Name: EPS Ltd
Reference: UK23.6797
Location: Bramley
Contact: Jaziel Pineda
EMT Job No: 24/12152

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	1-3										LOD/LOR	Units	Method No.
Sample ID	SW01												
Depth													
COC No / misc													
Containers	V G												
Sample Date	12/07/2024												
Sample Type	Liquid												
Batch Number	1												
Date of Receipt	13/07/2024												
Total Phosphorus	279										<5	ug/l	TM30/PM14
MTBE	<5										<5	ug/l	TM36/PM12
Benzene	<5										<5	ug/l	TM36/PM12
Toluene	<5										<5	ug/l	TM36/PM12
Ethylbenzene	<5										<5	ug/l	TM36/PM12
m/p-Xylene	<5										<5	ug/l	TM36/PM12
o-Xylene	<5										<5	ug/l	TM36/PM12
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)	<10										<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL)	<10										<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL)	<10										<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL)	<5										<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL)	<10										<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL)	<10										<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL)	<10										<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR)	<10										<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR)	<10										<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR)	<10										<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)	<5 SV										<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR)	<10 SV										<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR)	<10 SV										<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR)	<10 SV										<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR)	<10 SV										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	<10 SV										<10	ug/l	TM5/TM36/PM12/PM16/PM30
COD (Settled)	<7										<7	mg/l	TM57/PM0
Fats Oils and Grease	<4										<4	mg/l	TM187/PM30
Rapidly Settleable Solids	<2										<2	ml/l	TM67/PM0
Settleable Solids	<2										<2	ml/l	TM67/PM0
Total Suspended Solids	13										<10	mg/l	TM37/PM0

Please see attached notes for all abbreviations and acronyms

Client Name: EPS Ltd

Reference: UK23.6797

Location: Bramley

Contact: Jaziel Pineda

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/12152	1	SW01		1-3	No interpretation possible

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/12152

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 35°C ±5°C.

Where Mineral Oil 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 overesitimate 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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: 24/12152

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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.				
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				
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.				
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				
TM30/TM213	Calculation of Fe (III) based on Iron and Fe(II)	PM0	No preparation is required.				
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.				
TM37	Modified methods - TSS: USEPA 160.2 (1985), EN872:2005 and APHA SMEWW 2540D:1999 22nd Edition; VSS: USEPA 1684 (Jan 2001), USEPA 160.4 (1971) and SMEWW 2540E:1999 22nd Edition. Gravimetric determination of Total Suspended Solids (TSS) and Volatile Suspended Solids (VSS). Sample is filtered through a 1.5um pore size glass fibre filter and the resulting residue is dried and weighed at 105°C for TSS and 550°C for VSS.	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: 2013l	PM0	No preparation is required.				
TM57	Modified US EPA Method 410.4. (Rev. 2.0 1993) Comparable with ISO 15705:2002. Chemical Oxygen Demand is determined by hot digestion with Potassium Dichromate and measured spectrophotometerically.	PM0	No preparation is required.				

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Lee Anderson
Date :	10th January, 2025
Your reference :	UK23.6797
Our reference :	Test Report 24/14489 Batch 1
Location :	N/A
Date samples received :	23rd August, 2024
Status :	Final report
Issue :	202501101008

One sample was received for analysis on 23rd August, 2024 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 13.684 kg of CO2

Scope 1&2&3 emissions - 32.338 kg of CO2

Authorised By:

Phil Sommerton BSc
Senior Technical Account Manager

Client Name: EPS Ltd
Reference: UK23.6797
Location: N/A
Contact: Lee Anderson
EMT Job No: 24/14489

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
$H=H_2SO_4$, Z=ZnAc, N=NaOH, $HN=HN0_3$

EMT Sample No.	22-24										LOD/LOR	Units	Method No.
Sample ID	SW1												
Depth													
COC No / misc													
Containers	V G												
Sample Date	21/08/2024												
Sample Type	Surface Water												
Batch Number	1												
Date of Receipt	23/08/2024												
MTBE #	<5										<5	ug/l	TM36/PM12
Benzene #	<5										<5	ug/l	TM36/PM12
Toluene #	<5										<5	ug/l	TM36/PM12
Ethylbenzene #	<5										<5	ug/l	TM36/PM12
m/p-Xylene #	<5										<5	ug/l	TM36/PM12
o-Xylene #	<5										<5	ug/l	TM36/PM12
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL) #	<10										<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL) #	<5										<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR) #	<10										<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR) #	<5										<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total) #	<10										<10	ug/l	TM5/TM36/PM12/PM16/PM30

Please see attached notes for all abbreviations and acronyms

Client Name: EPS Ltd

Reference: UK23.6797

Location: N/A

Contact: Lee Anderson

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/14489	1	SW1		22-24	No interpretation possible

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/14489

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 35°C ±5°C.

Where Mineral Oil 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 overesitimate 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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: 24/14489

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	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 degrees Celsius or 105 degrees Celsius. Calculation based on ISO 11465:1993(E) and BS1377-2:1990.	PM0	No preparation is required.			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.	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.	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	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.			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		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	PM12/PM16/PM30	please refer to PM16/PM30 and PM12 for method details	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
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

Element Materials Technology
Unit 3 Deeside Point
Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

P: +44 (0) 1244 833780
F: +44 (0) 1244 833781
W: www.element.com

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

Attention :	Lee Anderson
Date :	3rd December, 2024
Your reference :	UK23.6797
Our reference :	Test Report 24/19929 Batch 1
Location :	PFS Bramley
Date samples received :	23rd November, 2024
Status :	Final Report
Issue :	202501061317

Twenty four samples were received for analysis on 23rd November, 2024 of which twenty 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.

The greenhouse gas emissions generated (in Carbon – Co2e) to obtain the results in this report are estimated as:

Scope 1&2 emissions - 31.784 kg of CO2

Scope 1&2&3 emissions - 75.113 kg of CO2

Authorised By:

Bruce Leslie
Project Manager

Client Name: EPS Ltd
Reference: UK23.6797
Location: PFS Bramley
Contact: Lee Anderson
EMT Job No: 24/19929

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H_2SO_4, Z=ZnAc, N=NaOH, HN=$HN0_3$

EMT Sample No.	19-21	22-24	25-27	28-30							LOD/LOR	Units	Method No.
Sample ID	SW01	Site 3	Linersh	Site 4									
Depth													
COC No / misc													
Containers	V G	V G	V G	V G									
Sample Date	21/11/2024	21/11/2024	21/11/2024	21/11/2024									
Sample Type	Liquid	Liquid	Liquid	Liquid									
Batch Number	1	1	1	1									
Date of Receipt	23/11/2024	23/11/2024	23/11/2024	23/11/2024									
Methyl Tertiary Butyl Ether	1.1	1.1	1.0	1.0							<0.1	ug/l	TM15/PM10
Benzene	<0.5	<0.5	<0.5	<0.5							<0.5	ug/l	TM15/PM10
Toluene	<5	<5	<5	<5							<5	ug/l	TM15/PM10
Ethylbenzene	<1	<1	<1	<1							<1	ug/l	TM15/PM10
m/p-Xylene	<2	<2	<2	<2							<2	ug/l	TM15/PM10
o-Xylene	<1	<1	<1	<1							<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	98	95	97	97							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	95	95	96	97							<0	%	TM15/PM10
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)	<10	<10	<10	<10							<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL)	<10	<10	<10	<10							<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL)	<10	<10	<10	<10							<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL)	<5	<5	<5	<5							<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL)	<10	<10	<10	<10							<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL)	<10	<10	<10	<10							<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL)	<10	<10	<10	<10							<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	<10	<10	<10	<10							<10	ug/l	TM5/TM36/PM12/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR)	<10	<10	<10	<10							<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR)	<10	<10	<10	<10							<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR)	<10	<10	<10	<10							<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)	<5	<5	<5	<5							<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR)	<10	<10	<10	<10							<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR)	<10	<10	<10	<10							<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR)	<10	<10	<10	<10							<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR)	<10	<10	<10	<10							<10	ug/l	TM5/TM36/PM12/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	<10	<10	<10	<10							<10	ug/l	TM5/TM36/PM12/PM16/PM30

Please see attached notes for all abbreviations and acronyms

Please include all sections of this report if it is reproduced
All solid results are expressed on a dry weight basis unless stated otherwise.

Client Name: EPS Ltd
Reference: UK23.6797
Location: PFS Bramley
Contact: Lee Anderson
EMT Job No: 24/19929

VOC Report : **Liquid**

EMT Sample No.	19-21	22-24	25-27	28-30						28-30			
Sample ID	SW01	Site 3	Linersh	Site 4						SW04 (SITE4)			
Depth											Please see attached notes for all abbreviations and acronyms		
COC No / misc													
Containers	V G	V G	V G	V G						V G			
Sample Date	21/11/2024	21/11/2024	21/11/2024	21/11/2024						21/11/2024			
Sample Type	Liquid	Liquid	Liquid	Liquid						Liquid			
Batch Number	1	1	1	1						1	LOD/LOR	Units	Method No.
Date of Receipt	23/11/2024	23/11/2024	23/11/2024	23/11/2024						23/11/2024			
VOC MS													
Dichlorodifluoromethane	<2	<2	<2	<2						<2	<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether	1.1	1.1	1.0	1.0						1.0	<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	98	95	97	97						97	<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	95	95	96	97						97	<0	%	TM15/PM10

Client Name: EPS Ltd

Reference: UK23.6797

Location: PFS Bramley

Contact: Lee Anderson

Matrix : Liquid

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	EPH Interpretation
24/19929	1	SW01		19-21	No interpretation possible
24/19929	1	Site 3		22-24	No interpretation possible
24/19929	1	Linersh		25-27	No interpretation possible
24/19929	1	Site 4		28-30	No interpretation possible

Client Name: EPS Ltd
Reference: UK23.6797
Location: PFS Bramley
Contact: Lee Anderson

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 24/19929						

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.
It is a requirement under ISO 17025 that we inform clients if samples are deviating i.e. outside what is expected. A deviating sample indicates that the sample 'may' be compromised but not necessarily will be compromised. The result is still accredited and our analytical reports will still show accreditation on the relevant analytes.

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 24/19929

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 35°C ±5°C.

Where Mineral Oil 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 overesitimate 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 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 requirement of our Accreditation Body 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.

Age of Diesel

The age of release estimation is based on the nC17/pristane ratio only as prescribed by Christensen and Larsen (1993) and Kaplan, Galperin, Alimi et al., (1996).
Age estimation should be treated with caution as it can be influenced by site specific factors of which the laboratory are not aware.

Tentatively Identified Compounds (TICs)

Where Tentatively Identified Compounds (TICs) are reported, up to 10 Tentatively Identified Compounds will be listed where there is found to be a greater than 80% match with the NIST library. The reported concentration is determined semi-quantitively, with a matrix specific limit of detection. Note, other compounds may be present but are not reported.

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 quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
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	x20 Dilution
AB	x50 Dilution
AC	x200 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: 24/19929

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
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.				
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				
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.				
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.				

7B Caxton House
Broad Street
Cambourne
Cambridge CB23 6JN

T +44(0) 1954 710666
E info@epstrategies.co.uk
W www.epstrategies.co.uk

Registered Number: 4330320