

14 October 2025

63 Macrae Road
Eden Office Park
Ham Green
Bristol
BS20 0DD

For the attention of Chris Jarman,

Re: Afan Way, Port Talbot

Dear Chris,

Please see below assessment of the recent groundwater testing undertaken in September 2025.

1. Background

The most recent National Resource Wales (NRW) comments referenced *P2025/0560*, dated 3rd September 2025 have highlighted the requirement of additional groundwater testing.

Additional groundwater testing has been undertaken in the Petroleum Filling Station (PFS) area in the northeastern area of site in accordance with the EA recommendations. CP04 from the previous investigation undertaken five years ago was also located, sample was obtained and tested as set out below.

2. Scope of Works

Groundtech visited site on 10th September and 26th September 2025 to record groundwater levels and obtain groundwater samples from CP101 to CP103 and CP04.

During the return visits, the installations were purged to a minimum three times the volume of the water column in the borehole prior to sampling. Purging was undertaken at a slower rate than the well development, and the sampling at a slower rate again.

The method of sampling selected was using low flow pump.

Where possible a water meter was used to test the pH, temperature and conductivity before sampling until equilibrium conditions were met in accordance with BS 10175 guidelines.

Samples were sent to the UKAS Accredited laboratory the same day, sampling was carried out in general accordance with BS 5930 and BS 5667.

3. Groundwater Level

Groundwater was recorded in all four monitoring wells during the sampling visits, the groundwater levels are summarised below.

Location Ref	Depth to Groundwater (m begl)	Strata
CP101	3.01	Natural Clay
CP102	2.96	Natural Clay
CP103	2.93	Natural Clay
CP04	2.76	Natural Clay

The wells were bailed prior to the groundwater sampling to remove the perched water from the well.

4. Geo-Environmental Testing Results

Geo-Environmental testing was undertaken on all four groundwater samples (CP101 to CP103 and CP04) obtained during the return visits. The samples were screened for the same suite of testing in accordance with NRW recommendations, summarised below:

- Heavy metals
- Speciated Polycyclic Aromatic Hydrocarbons (PAHs)
- Speciated Total Petroleum Hydrocarbons inc BTEX (TPH CWG)
- Volatile Organic Compounds (VOCs)
- Phenols
- Cyanide
- Sulphate
- pH
- Dissolved Organic Carbon (DoC)
- Hardness

The Geo-Environmental Testing results (EMT 25/15147 & 25/16132) are appended and a summary of the results are provided below.

Metals				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
Arsenic	<2.5 - 4.2	50	0	-
Boron	158 - 217	2000	0	-
Cadmium	<0.5	0.25	0	-
Chromium	<1.5 - 1.8	4.7	0	-
Hexavalent Chromium	<0.006	3.4	0	-
Copper	<7	1	0	-
Lead	<5 - 8	14	1	CP04
Mercury	<1	0.07	0	-
Nickel	<2 - 4	34	0	-
Selenium	<3	10	0	-
Zinc	<3 - 97	10.9	1	CP04
Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
Naphthalene	<0.1	2	0	-
Benzo(a)pyrene	<0.005	0.00017	0	-
Indeno(123cd)pyrene	<0.005	0.00017	0	-
Benzo(ghi)perylene	<0.005	0.00017	0	-

Pyrene	<0.005 - 0.007	0.00017	1	CP04
Benzo(b)fluoranthene	<0.008	0.00017	0	-
Benzo(k)fluoranthene	<0.008	0.00017	0	-
TPH CWG – Aliphatics				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
>C5-C6	<10	15,000 (WHO)	0	-
>C6-C8	<10	15,000 (WHO)	0	-
>C8-C10	<10	300 (WHO)	0	-
>C10-C12	<5	300 (WHO)	0	-
>C12-C16	<10	300 (WHO)	0	-
>C16-C35	<10	300 (WHO)	0	-
Total aliphatics C5-35	<10	-	-	-
TPH CWG – Aromatics				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
>C5-EC7	<10	10 (WHO)	0	-
>EC7-EC8	<10	74 (WHO)	0	-
>EC8-EC10	<10	300 (WHO)	0	-
>EC10-EC12	<5	111 (WHO)	0	-
>EC12-EC16	<10	90 (WHO)	0	-
>EC16-EC21	<10	90 (WHO)	0	-
>EC21-EC35	<10	90 (WHO)	0	-
Total aromatics C5-35	<10	-	-	-
Total aliphatics and aromatics(C5-35)	<10	-	-	-
MTBE	0.5 - 1.5	15	0	-
Benzene	<0.5	10	0	-
Toluene	<5.0	380	0	-
Ethylbenzene	<1.0	300	0	-
m/p-Xylene	<2.0	30	0	-
o-Xylene	<1.0	30	0	-
Others				
Total Hardness	221 to 374 mg/l			
Cyanide	<0.001 ug/l			
Dissolved Organic Carbon	5 – 8 mg/l			

All of the Volatile Organic Compounds (VOCs) tested for were recorded at concentrations below the laboratory limits of detection.

5. Geo-Environmental Testing Results

Metals

No elevated concentrations of heavy metals were recorded above the EQS values in CP101 to CP103 in the PFS area.

Elevated concentrations of lead and zinc have been recorded in the groundwater sample obtained from CP04 to the west of the PFS area.

It is important to note that the screening value for cadmium is 0.25ug/l which is below the laboratory limit of detection of 0.5ug/l. It is a possibility that cadmium is present above the screening value however the exceedance would be slight and would not influence the assessment. No significant sources of cadmium have been identified through the previous reports and cadmium is not present at high concentrations in the soils.

Previously, no elevated Contaminants of Concern (CoC) including heavy metals were recorded in CP04, the only elevated heavy metal concentration was a minor exceedance of chromium in CP02 in the western area of the site. The chromium is attributed to the previous industrial land use onsite and in the surrounding area. All levels of chromium were previously and are currently present below the laboratory detection limit in the PFS area.

Speciated Polycyclic Aromatic Hydrocarbons (PAHs)

The majority of the PAH concentrations were recorded below the laboratory limit of detection and fall below the relevant EQS screening values. In some cases, the screening value is lower than the laboratory limit of detection, however any concentrations would be present at very low levels, are likely indicative of the surrounding industrial area and would not impact the assessment.

A single elevated concentration of pyrene has been recorded in CP04 slightly above the detection limit, the source of the PAHs is Made Ground sources indicative of the surrounding area.

Concentrations of PAHs have generally been recorded below the laboratory detection limit in the previous groundwater testing and below the screening values.

The testing results illustrate that the aquifer is not impacted by the PFS or other previous substructure sources such as USTs and tar tank located onsite.

Total Petroleum Hydrocarbons (TPH CWG)

All of the concentrations of speciated hydrocarbons and BTEX fall below the laboratory limit of detection and appropriate screening values.

Detectable concentrations of MTBE were recorded in all samples screened up to a maximum level of 1.5ug/l, significantly below the assumed screening value of 15ug/l. The source of the minor concentrations of MTBE is residual fuel based contamination associated with the groundwater as a result of the sites former usage as a PFS.

The supplementary testing undertaken in April 2024 recorded concentrations of speciated hydrocarbons above the laboratory limit of detection in the PFS area in groundwater. The concentrations were generally present at lower end aliphatic and middle aromatic, indicating petrol ranged and sourced from the historic USTs. All these contaminants were below the relevant screening values.

The USTs in the PFS area and wider site have previously been removed from site as discussed in *GRO-21252-6068*.

Testing confirms that the aquifer beneath the site is not impacted by Made Ground, PFS or other substructure features including USTs supporting the findings of the previous work carried out at the site.

Previously encountered perched groundwater is no longer present at the site, which recorded the previously elevated concentrations of hydrocarbons. The perched water was considered to be residual associated with rainfall, the proposed development will comprise a new drainage system which will capture rainfall.

The lack of hydrocarbons identified in the aquifer confirms that the aquifer has not been impacted by the former usage of the site, supporting the previous investigations findings.

The clay in the PFS area is of a thickness of minimum 0.5m but up to 2.3m in thick in areas, which has inhibited the downwards migration of residual hydrocarbons from the PFS area.

In CP04, no elevated hydrocarbons have been recorded demonstrating that the wider site not impacted from other substructure including USTs and tar tank. Remediation has been previously undertaken at the tanks have been removed from the site.

Other Contaminants of Concern (CoC)

No other CoC was detected above the relevant screening values by the groundwater testing, including phenols and cyanide with all values falling below the laboratory limit of detection.

6. Findings and Discussion

No elevated concentrations of fuel-based contaminants have been recorded by the recent groundwater sampling recommended by NRW. Slight elevated concentrations of metals have been recorded indicative of the site and surrounding area in accordance with previous groundwater testing.

Detectable levels of MTBE have been noted in the wells as a result of MTBE being more mobile than other fuel compounds such as BTEX. The MTBE is residual associated with the former usage as a PFS, the wells were bailed prior to sampling. Nevertheless, the MTBE is below the screening value.

The concentrations of speciated hydrocarbons previously recorded above the laboratory limit of detection in the PFS area minimal and recorded below the EQS values. The source is possibly the PFS however indicative of the surrounding industrial area. The clay layer has restricted the downwards migration of contaminants into the aquifer below.

The clay layer underlying the site is shown to have mitigated the downwards migration of contaminants into the underlying Secondary A Aquifer. All piling should be undertaken in accordance with the piling risk assessment (GRO-21252-6009), small diameter piles are proposed for the PFS area to create a suitable seal and prevent the creation of a preferential pathway.

No elevated concentrations of hydrocarbons have been recorded in the PFS area or wider site through several phases of investigation. A single slight exceedance of Aliphatic C21 to C35 was recorded circa 20 years ago, the wider groundwater testing undertaken by Groundtech, including testing in PFS area has not recorded any elevated concentrations with the majority recorded below the laboratory limits of detection.

Please do not hesitate to contact the undersigned if you have any queries.

Yours Sincerely

For Groundtech Consulting Limited



Luke Harrison

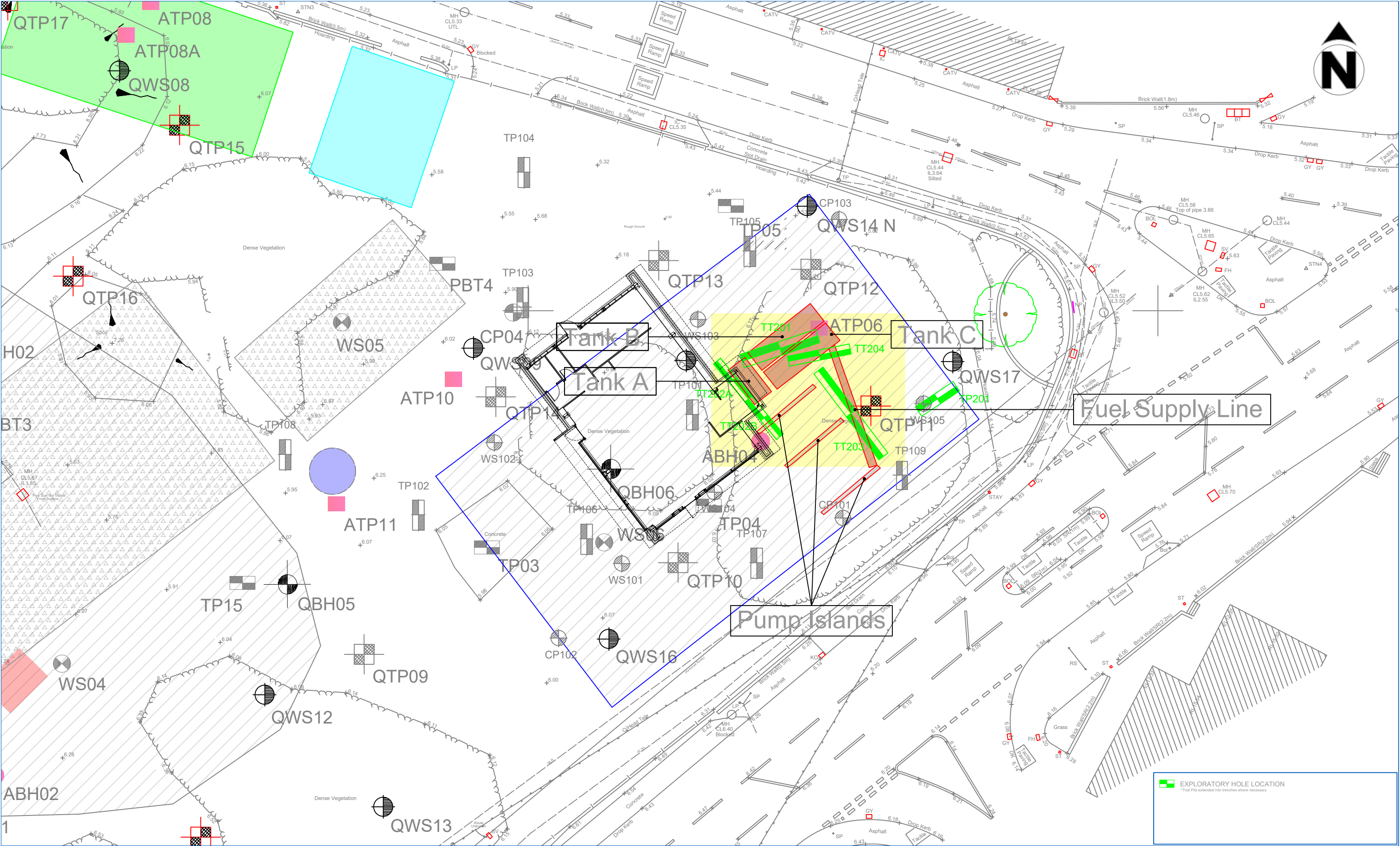
Principal Consulting Engineer

lh@groundtechconsulting.com

Enc. *Exploratory Hole Location Plan (GRO-21252-P04_1.4)*
Geo-Environmental Testing Results (September 2025)



APPENDIX 1 - Plans



GROUNDTECH CONSULTING	CLIENT	DATE			Status		Notes APPROXIMATE CABLE PERCUSSIVE BOREHOLE LOCATION (GROUNDTECH 2021) APPROXIMATE WINDOWLESS SAMPLE BOREHOLE LOCATION (GROUNDTECH 2021) APPROXIMATE TRIAL PIT LOCATION (GROUNDTECH 2021) APPROXIMATE PLATE LOAD TEST LOCATION (GROUNDTECH 2021) APPROXIMATE CABLE PERCUSSIVE BOREHOLE LOCATION (GROUNDTECH 2024) APPROXIMATE WINDOWLESS SAMPLE BOREHOLE LOCATION (GROUNDTECH 2024) APPROXIMATE TRIAL PIT LOCATION (GROUNDTECH 2024) ARCADIS TRIAL PIT LOCATION ARCADIS BOREHOLE LOCATION QUANTUM TRIAL PIT LOCATION QUANTUM WINDOWLESS SAMPLE LOCATION QUANTUM CABLE PERCUSSIVE BOREHOLE LOCATION
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APPENDIX 2 - Groundwater Testing Results



Groundtech Consulting Limited
PO Box 499
Manchester
United Kingdom
M28 8EE



Attention :	Luke Harrison
Date :	6th October, 2025
Your reference :	GRO-21252
Our reference :	Test Report 25/15147 Batch 1
Location :	Port Talbot
Date samples received :	13th September, 2025
Status :	Final Report
Issue :	202510061413

Three samples were received for analysis on 13th September, 2025 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied. All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

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

Scope 1&2 emissions - 7.819 kg of CO2

Scope 1&2&3 emissions - 18.479 kg of CO2

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21252
Location: Port Talbot
Contact: Luke Harrison
EMT Job No: 25/15147

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
 H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN0₃

EMT Sample No.	1-8	9-16	17-24							Please see attached notes for all abbreviations and acronyms		
Sample ID	BH101	BH102	BH103									
Depth												
COC No / misc												
Containers	V H H N Z P G	V H H N Z P G	V H H N Z P G									
Sample Date	10/09/2025	10/09/2025	10/09/2025									
Sample Type	Ground Water	Ground Water	Ground Water									
Batch Number	1	1	1									
Date of Receipt	13/09/2025	13/09/2025	13/09/2025							LOD/LOR	Units	Method No.
Dissolved Arsenic	<2.5	<2.5	3.8							<2.5	ug/l	TM30/PM14
Dissolved Boron	163	158	161							<12	ug/l	TM30/PM14
Dissolved Cadmium	<0.5	<0.5	<0.5							<0.5	ug/l	TM30/PM14
Total Dissolved Chromium	<1.5	<1.5	<1.5							<1.5	ug/l	TM30/PM14
Dissolved Copper	<7	<7	<7							<7	ug/l	TM30/PM14
Dissolved Lead	<5	<5	<5							<5	ug/l	TM30/PM14
Dissolved Mercury	<1	<1	<1							<1	ug/l	TM30/PM14
Dissolved Nickel	<2	<2	<2							<2	ug/l	TM30/PM14
Dissolved Selenium	<3	<3	<3							<3	ug/l	TM30/PM14
Dissolved Zinc	<3	3	12							<3	ug/l	TM30/PM14
Total Hardness Dissolved (as CaCO ₃)	224	221	228							<1	mg/l	TM30/PM14
PAH MS												
Naphthalene	<0.1	<0.1	<0.1							<0.1	ug/l	TM4/PM30
Acenaphthylene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Acenaphthene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Fluorene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Phenanthrene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Anthracene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Fluoranthene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Pyrene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Benzo(a)anthracene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Chrysene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.008	<0.008	<0.008							<0.008	ug/l	TM4/PM30
Benzo(a)pyrene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Indeno(123cd)pyrene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Dibenzo(ah)anthracene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
Benzo(ghi)perylene	<0.005	<0.005	<0.005							<0.005	ug/l	TM4/PM30
PAH 16 Total	<0.173	<0.173	<0.173							<0.173	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.008	<0.008	<0.008							<0.008	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.008	<0.008	<0.008							<0.008	ug/l	TM4/PM30
PAH Surrogate % Recovery	80	72	85							<0	%	TM4/PM30
VOC TICs	ND	ND	ND								None	TM15/PM10
Methyl Tertiary Butyl Ether	0.5	0.7	0.6							<0.1	ug/l	TM15/PM10
Benzene	<0.5	<0.5	<0.5							<0.5	ug/l	TM15/PM10
Toluene	<5	<5	<5							<5	ug/l	TM15/PM10
Ethylbenzene	<1	<1	<1							<1	ug/l	TM15/PM10
m/p-Xylene	<2	<2	<2							<2	ug/l	TM15/PM10
o-Xylene	<1	<1	<1							<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	96	103	103							<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	94	97	97							<0	%	TM15/PM10
EPH (C8-C40) (EH_1D_Total)	<10	<10	<10							<10	ug/l	TM5/PM30

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Containers	V H H N Z P G	V H H N Z P G	V H H N Z P G										
Sample Date	10/09/2025	10/09/2025	10/09/2025										
Sample Type	Ground Water	Ground Water	Ground Water										
Batch Number	1	1	1										
Date of Receipt	13/09/2025	13/09/2025	13/09/2025								LOD/LOR	Units	Method No.
TPH CWG													
Aliphatics													
>C5-C6 (HS_1D_AL)	<10	<10	<10								<10	ug/l	TM36/PM12
>C6-C8 (HS_1D_AL)	<10	<10	<10								<10	ug/l	TM36/PM12
>C8-C10 (HS_1D_AL)	<10	<10	<10								<10	ug/l	TM36/PM12
>C10-C12 (EH_CU_1D_AL)	<5	<5	<5								<5	ug/l	TM5/PM16/PM30
>C12-C16 (EH_CU_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>C16-C21 (EH_CU_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>C21-C35 (EH_CU_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total aliphatics C5-35 (EH_CU+HS_1D_AL)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Aromatics													
>C5-EC7 (HS_1D_AR)	<10	<10	<10								<10	ug/l	TM36/PM12
>EC7-EC8 (HS_1D_AR)	<10	<10	<10								<10	ug/l	TM36/PM12
>EC8-EC10 (HS_1D_AR)	<10	<10	<10								<10	ug/l	TM36/PM12
>EC10-EC12 (EH_CU_1D_AR)	<5	<5	<5								<5	ug/l	TM5/PM16/PM30
>EC12-EC16 (EH_CU_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>EC16-EC21 (EH_CU_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
>EC21-EC35 (EH_CU_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total aromatics C5-35 (EH_CU+HS_1D_AR)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total)	<10	<10	<10								<10	ug/l	TM5/PM16/PM30
Total Phenols HPLC	<0.15	<0.15	<0.15								<0.15	mg/l	TM26/PM0
Sulphate as SO4	40.6	38.3	39.8								<0.5	mg/l	TM38/PM0
Total Cyanide	<0.01	<0.01	<0.01								<0.01	mg/l	TM89/PM0
Hexavalent Chromium	<0.006	<0.006	<0.006								<0.006	mg/l	TM38/PM0
Dissolved Organic Carbon	6	5	5								<2	mg/l	TM60/PM0
pH	7.41	7.45	7.17								<0.01	pH units	TM73/PM0
Total Organic Carbon	6	7	7								<2	mg/l	TM60/PM0

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Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21252
Location: Port Talbot
Contact: Luke Harrison
EMT Job No: 25/15147

VOC Report : Liquid

EMT Sample No.	1-8	9-16	17-24								Please see attached notes for all abbreviations and acronyms		
Sample ID	BH101	BH102	BH103										
Depth													
COC No / misc													
Containers	V H H N N Z P G	V H H N N Z P G	V H H N N Z P G										
Sample Date	10/09/2025	10/09/2025	10/09/2025										
Sample Type	Ground Water	Ground Water	Ground Water										
Batch Number	1	1	1								LOD/LOR	Units	Method No.
Date of Receipt	13/09/2025	13/09/2025	13/09/2025										
VOC MS													
Dichlorodifluoromethane	<2	<2	<2								<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether	0.5	0.7	0.6								<0.1	ug/l	TM15/PM10
Chloromethane	<3	<3	<3								<3	ug/l	TM15/PM10
Vinyl Chloride	<0.1	<0.1	<0.1								<0.1	ug/l	TM15/PM10
Bromomethane	<1	<1	<1								<1	ug/l	TM15/PM10
Chloroethane	<3	<3	<3								<3	ug/l	TM15/PM10
Trichlorofluoromethane	<3	<3	<3								<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE)	<3	<3	<3								<3	ug/l	TM15/PM10
Dichloromethane (DCM)	<3	<3	<3								<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene	<3	<3	<3								<3	ug/l	TM15/PM10
1,1-Dichloroethane	<3	<3	<3								<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene	<3	<3	<3								<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1	<1	<1								<1	ug/l	TM15/PM10
Bromochloromethane	<2	<2	<2								<2	ug/l	TM15/PM10
Chloroform	<2	<2	<2								<2	ug/l	TM15/PM10
1,1,1-Trichloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
1,1-Dichloropropene	<3	<3	<3								<3	ug/l	TM15/PM10
Carbon tetrachloride	<2	<2	<2								<2	ug/l	TM15/PM10
1,2-Dichloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
Benzene	<0.5	<0.5	<0.5								<0.5	ug/l	TM15/PM10
Trichloroethene (TCE)	<3	<3	<3								<3	ug/l	TM15/PM10
1,2-Dichloropropane	<2	<2	<2								<2	ug/l	TM15/PM10
Dibromomethane	<3	<3	<3								<3	ug/l	TM15/PM10
Bromodichloromethane	<2	<2	<2								<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2	<2	<2								<2	ug/l	TM15/PM10
Toluene	<5	<5	<5								<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2	<2	<2								<2	ug/l	TM15/PM10
1,1,2-Trichloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
Tetrachloroethene (PCE)	<3	<3	<3								<3	ug/l	TM15/PM10
1,3-Dichloropropane	<2	<2	<2								<2	ug/l	TM15/PM10
Dibromochloromethane	<2	<2	<2								<2	ug/l	TM15/PM10
1,2-Dibromoethane	<2	<2	<2								<2	ug/l	TM15/PM10
Chlorobenzene	<2	<2	<2								<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane	<2	<2	<2								<2	ug/l	TM15/PM10
Ethylbenzene	<1	<1	<1								<1	ug/l	TM15/PM10
m/p-Xylene	<2	<2	<2								<2	ug/l	TM15/PM10
o-Xylene	<1	<1	<1								<1	ug/l	TM15/PM10
Styrene	<2	<2	<2								<2	ug/l	TM15/PM10
Bromoform	<2	<2	<2								<2	ug/l	TM15/PM10
Isopropylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,1,2,2-Tetrachloroethane	<4	<4	<4								<4	ug/l	TM15/PM10
Bromobenzene	<2	<2	<2								<2	ug/l	TM15/PM10
1,2,3-Trichloropropane	<3	<3	<3								<3	ug/l	TM15/PM10
Propylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
2-Chlorotoluene	<3	<3	<3								<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
4-Chlorotoluene	<3	<3	<3								<3	ug/l	TM15/PM10
tert-Butylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
sec-Butylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
4-Isopropyltoluene	<3	<3	<3								<3	ug/l	TM15/PM10
1,3-Dichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,4-Dichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
n-Butylbenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,2-Dichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2	<2	<2								<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3	<3	<3								<3	ug/l	TM15/PM10
Naphthalene	<2	<2	<2								<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3	<3	<3								<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	96	103	103								<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	94	97	97								<0	%	TM15/PM10

Element Materials Technology **Notification of Deviating Samples**

Client Name: Groundtech Consulting Limited **Matrix :** Liquid

Reference: GRO-21252

Location: Port Talbot

Contact: Luke Harrison

Notification of Deviating Samples

Matrix : Liquid

[illegible]

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

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.: 25/15147

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 overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

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

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

DEVIATING SAMPLES

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

SURROGATES

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

DILUTIONS

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

BLANKS

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

Please include all sections of this report if it is reproduced

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-quantitatively, 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: 25/15147

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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			
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			
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry); WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec 1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

EMT Job No: 25/15147

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/S ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GC/FID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	Yes			
TM38	Soluble Ion analysis using Discrete Analyser. Modified US EPA methods: Chloride 325.2 (1978), Sulphate 375.4 (Rev.2 1993), o-Phosphate 365.2 (Rev.2 1993), TON 353.1 (Rev.2 1993), Nitrite 354.1 (1971), Hex Cr 7196A (1992), NH4+ 350.1 (Rev.2 1993) - All anions comparable to BS ISO 15923-1: 2013I	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: 2013I	PM0	No preparation is required.	Yes			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM0	No preparation is required.	Yes			

Groundtech Consulting Limited
PO Box 499
Manchester
United Kingdom
M28 8EE



4225



Attention : Luke Harrison
Date : 7th October, 2025
Your reference : GRO-21252
Our reference : Test Report 25/16132 Batch 1
Location : Port Talbot
Date samples received : 30th September, 2025
Status : Final Report
Issue : 202510071202

One sample was received for analysis on 30th September, 2025 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 - 3.041 kg of CO2

Scope 1&2&3 emissions - 7.186 kg of CO2

Authorised By:



Bruce Leslie
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21252
Location: Port Talbot
Contact: Luke Harrison
EMT Job No: 25/16132

Report : Liquid

Liquids/products: V=40ml vial, G=glass bottle, P=plastic bottle
H=H₂SO₄, Z=ZnAc, N=NaOH, HN=HN0₃

EMT Sample No.	1-9										Please see attached notes for all abbreviations and acronyms		
Sample ID	CP04												
Depth													
COC No / misc													
Containers	V H H N H C L N Z P G												
Sample Date	26/09/2025												
Sample Type	Ground Water												
Batch Number	1												
Date of Receipt	30/09/2025												
Dissolved Arsenic #	4.2										<2.5	ug/l	TM30/PM14
Dissolved Boron	217										<12	ug/l	TM30/PM14
Dissolved Cadmium #	<0.5										<0.5	ug/l	TM30/PM14
Total Dissolved Chromium #	1.8										<1.5	ug/l	TM30/PM14
Dissolved Copper #	<7										<7	ug/l	TM30/PM14
Dissolved Lead #	8										<5	ug/l	TM30/PM14
Dissolved Mercury #	<1										<1	ug/l	TM30/PM14
Dissolved Nickel #	4										<2	ug/l	TM30/PM14
Dissolved Selenium #	<3										<3	ug/l	TM30/PM14
Dissolved Zinc #	97										<3	ug/l	TM30/PM14
Total Hardness Dissolved (as CaCO3)	374										<1	mg/l	TM30/PM14
PAH MS													
Naphthalene #	<0.1										<0.1	ug/l	TM4/PM30
Acenaphthylene #	<0.005										<0.005	ug/l	TM4/PM30
Acenaphthene #	<0.005										<0.005	ug/l	TM4/PM30
Fluorene #	<0.005										<0.005	ug/l	TM4/PM30
Phenanthrene #	<0.005										<0.005	ug/l	TM4/PM30
Anthracene #	<0.005										<0.005	ug/l	TM4/PM30
Fluoranthene #	0.008										<0.005	ug/l	TM4/PM30
Pyrene #	0.007										<0.005	ug/l	TM4/PM30
Benzo(a)anthracene #	<0.005										<0.005	ug/l	TM4/PM30
Chrysene #	<0.005										<0.005	ug/l	TM4/PM30
Benzo(bk)fluoranthene #	<0.008										<0.008	ug/l	TM4/PM30
Benzo(a)pyrene #	<0.005										<0.005	ug/l	TM4/PM30
Indeno(123cd)pyrene #	<0.005										<0.005	ug/l	TM4/PM30
Dibenzo(ah)anthracene #	<0.005										<0.005	ug/l	TM4/PM30
Benzo(ghi)perylene #	<0.005										<0.005	ug/l	TM4/PM30
PAH 16 Total #	<0.173										<0.173	ug/l	TM4/PM30
Benzo(b)fluoranthene	<0.008										<0.008	ug/l	TM4/PM30
Benzo(k)fluoranthene	<0.008										<0.008	ug/l	TM4/PM30
PAH Surrogate % Recovery	78										<0	%	TM4/PM30
VOC TICs	ND											None	TM15/PM10
Methyl Tertiary Butyl Ether #	1.5										<0.1	ug/l	TM15/PM10
Benzene #	<0.5										<0.5	ug/l	TM15/PM10
Toluene #	<5										<5	ug/l	TM15/PM10
Ethylbenzene #	<1										<1	ug/l	TM15/PM10
m/p-Xylene #	<2										<2	ug/l	TM15/PM10
o-Xylene #	<1										<1	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	107										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	108										<0	%	TM15/PM10
EPH (C8-C40) (EH_1D_Total) #	<10										<10	ug/l	TM5/PM30

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21252
Location: Port Talbot
Contact: Luke Harrison
EMT Job No: 25/16132

Report : Liquid

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

EMT Sample No.	1-9										Please see attached notes for all abbreviations and acronyms			
Sample ID	CP04													
Depth														
COC No / misc														
Containers	V H H N HCL N Z P G													
Sample Date	26/09/2025													
Sample Type	Ground Water													
Batch Number	1													LOD/LOR
Date of Receipt	30/09/2025													
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/PM3	
>C12-C16 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM3	
>C16-C21 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM3	
>C21-C35 (EH_CU_1D_AL) #	<10										<10	ug/l	TM5/PM16/PM3	
Total aliphatics C5-35 (EH_CU+HS_1D_AL) *	<10										<10	ug/l	TM5/PM16/PM3/PM10/PM20/PM25/PM50	
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/PM3	
>EC12-EC16 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM3	
>EC16-EC21 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM3	
>EC21-EC35 (EH_CU_1D_AR) #	<10										<10	ug/l	TM5/PM16/PM3	
Total aromatics C5-35 (EH_CU+HS_1D_AR) *	<10										<10	ug/l	TM5/PM16/PM3/PM10/PM20/PM25/PM50	
Total aliphatics and aromatics(C5-35) (EH_CU+HS_1D_Total) *	<10										<10	ug/l	TM5/PM16/PM3/PM10/PM20/PM25/PM50	
Total Phenols HPLC	<0.15										<0.15	mg/l	TM26/PM0	
Sulphate as SO4 #	79.7										<0.5	mg/l	TM38/PM0	
Total Cyanide #	<0.01										<0.01	mg/l	TM89/PM0	
Hexavalent Chromium	<0.006										<0.006	mg/l	TM38/PM0	
Dissolved Organic Carbon #	8										<2	mg/l	TM60/PM0	
pH #	7.84										<0.01	pH units	TM73/PM0	
Total Organic Carbon #	10										<2	mg/l	TM60/PM0	

Element Materials Technology

Client Name: Groundtech Consulting Limited
Reference: GRO-21252
Location: Port Talbot
Contact: Luke Harrison
EMT Job No: 25/16132

VOC Report : Liquid

EMT Sample No.	1-9										Please see attached notes for all abbreviations and acronyms		
Sample ID	CP04												
Depth													
COC No / misc													
Containers	V H H N Z P G												
Sample Date	26/09/2025												
Sample Type	Ground Water												
Batch Number	1												
Date of Receipt	30/09/2025										LOD/LOR	Units	Method No.
VOC MS													
Dichlorodifluoromethane	<2										<2	ug/l	TM15/PM10
Methyl Tertiary Butyl Ether #	1.5										<0.1	ug/l	TM15/PM10
Chloromethane #	<3										<3	ug/l	TM15/PM10
Vinyl Chloride #	<0.1										<0.1	ug/l	TM15/PM10
Bromomethane	<1										<1	ug/l	TM15/PM10
Chloroethane #	<3										<3	ug/l	TM15/PM10
Trichlorofluoromethane #	<3										<3	ug/l	TM15/PM10
1,1-Dichloroethene (1,1 DCE) #	<3										<3	ug/l	TM15/PM10
Dichloromethane (DCM) #	<3										<3	ug/l	TM15/PM10
trans-1-2-Dichloroethene #	<3										<3	ug/l	TM15/PM10
1,1-Dichloroethane #	<3										<3	ug/l	TM15/PM10
cis-1-2-Dichloroethene #	<3										<3	ug/l	TM15/PM10
2,2-Dichloropropane	<1										<1	ug/l	TM15/PM10
Bromochloromethane #	<2										<2	ug/l	TM15/PM10
Chloroform #	<2										<2	ug/l	TM15/PM10
1,1,1-Trichloroethane #	<2										<2	ug/l	TM15/PM10
1,1-Dichloropropene #	<3										<3	ug/l	TM15/PM10
Carbon tetrachloride #	<2										<2	ug/l	TM15/PM10
1,2-Dichloroethane #	<2										<2	ug/l	TM15/PM10
Benzene #	<0.5										<0.5	ug/l	TM15/PM10
Trichloroethene (TCE) #	<3										<3	ug/l	TM15/PM10
1,2-Dichloropropane #	<2										<2	ug/l	TM15/PM10
Dibromomethane #	<3										<3	ug/l	TM15/PM10
Bromodichloromethane #	<2										<2	ug/l	TM15/PM10
cis-1-3-Dichloropropene	<2										<2	ug/l	TM15/PM10
Toluene #	<5										<5	ug/l	TM15/PM10
trans-1-3-Dichloropropene	<2										<2	ug/l	TM15/PM10
1,1,2-Trichloroethane #	<2										<2	ug/l	TM15/PM10
Tetrachloroethene (PCE) #	<3										<3	ug/l	TM15/PM10
1,3-Dichloropropane #	<2										<2	ug/l	TM15/PM10
Dibromochloromethane	<2										<2	ug/l	TM15/PM10
1,2-Dibromoethane #	<2										<2	ug/l	TM15/PM10
Chlorobenzene #	<2										<2	ug/l	TM15/PM10
1,1,1,2-Tetrachloroethane #	<2										<2	ug/l	TM15/PM10
Ethylbenzene #	<1										<1	ug/l	TM15/PM10
m/p-Xylene #	<2										<2	ug/l	TM15/PM10
o-Xylene #	<1										<1	ug/l	TM15/PM10
Styrene	<2										<2	ug/l	TM15/PM10
Bromoform	<2										<2	ug/l	TM15/PM10
Isopropylbenzene #	<3										<3	ug/l	TM15/PM10
1,1,1,2,2-Tetrachloroethane	<4										<4	ug/l	TM15/PM10
Bromobenzene #	<2										<2	ug/l	TM15/PM10
1,2,3-Trichloropropane #	<3										<3	ug/l	TM15/PM10
Propylbenzene #	<3										<3	ug/l	TM15/PM10
2-Chlorotoluene #	<3										<3	ug/l	TM15/PM10
1,3,5-Trimethylbenzene #	<3										<3	ug/l	TM15/PM10
4-Chlorotoluene #	<3										<3	ug/l	TM15/PM10
tert-Butylbenzene #	<3										<3	ug/l	TM15/PM10
1,2,4-Trimethylbenzene #	<3										<3	ug/l	TM15/PM10
sec-Butylbenzene #	<3										<3	ug/l	TM15/PM10
4-Isopropyltoluene #	<3										<3	ug/l	TM15/PM10
1,3-Dichlorobenzene #	<3										<3	ug/l	TM15/PM10
1,4-Dichlorobenzene #	<3										<3	ug/l	TM15/PM10
n-Butylbenzene #	<3										<3	ug/l	TM15/PM10
1,2-Dichlorobenzene #	<3										<3	ug/l	TM15/PM10
1,2-Dibromo-3-chloropropane	<2										<2	ug/l	TM15/PM10
1,2,4-Trichlorobenzene	<3										<3	ug/l	TM15/PM10
Hexachlorobutadiene	<3										<3	ug/l	TM15/PM10
Naphthalene	<2										<2	ug/l	TM15/PM10
1,2,3-Trichlorobenzene	<3										<3	ug/l	TM15/PM10
Surrogate Recovery Toluene D8	107										<0	%	TM15/PM10
Surrogate Recovery 4-Bromofluorobenzene	108										<0	%	TM15/PM10

Client Name:	Groundtech Consulting Limited
Reference:	GRO-21252
Location:	Port Talbot
Contact:	Luke Harrison

[illegible]

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

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.: 25/16132

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 overestimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

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

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

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

Where Mineral Oil 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-quantitatively, 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: 25/16132

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.				
TM4	Modified USEPA 8270D v5:2014 method for the solvent extraction and determination of PAHs by GC-MS.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM16/PM30	Fractionation into aliphatic and aromatic fractions using a Rapid Trace SPE/Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	Yes			
TM5	Modified 8015B v2:1996 method for the determination of solvent Extractable Petroleum Hydrocarbons (EPH) within the range C8-C40 by GCFID. For waters the solvent extracts dissolved phase plus a sheen if present.	PM30	Water samples are extracted with solvent using a magnetic stirrer to create a vortex.	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			
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			
TM26	Determination of phenols by Reversed Phased High Performance Liquid Chromatography and Electro-Chemical Detection.	PM0	No preparation is required.				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec.1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified				
TM30	Determination of Trace Metals by ICP-OES (Inductively Coupled Plasma-Optical Emission Spectrometry): WATERS by Modified USEPA Method 200.7, Rev. 4.4, 1994; Modified EPA Method 6010B, Rev.2, Dec.1996; Modified BS EN ISO 11885:2009: SOILS by Modified USEP 6010B, Rev.2, Dec.1996; Modified EPA Method 3050B, Rev.2, Dec.1996	PM14	Preparation of waters and leachates for metals by ICP OES/ICP MS. Samples are filtered for Dissolved metals, and remain unfiltered for Total metals then acidified	Yes			

EMT Job No: 25/16132

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/ANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM36	Modified US EPA method 8015B v2:1996. Determination of Gasoline Range Organics (GRO) in the carbon chain range of C4-12 by headspace GC-FID. MTBE by GCFID co-elutes with 3-methylpentane if present and therefore can give a false positive. Positive MTBE results will be re-run using GC-MS to double check, when requested.	PM12	Modified US EPA method 5021A v2:2014. Preparation of solid and liquid samples for GC headspace analysis.	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.				
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			
TM60	TC/TOC analysis of Waters by High Temperature Combustion followed by NDIR detection. Based on the following modified standard methods: USEPA 9060A (2002), APHA SMEWW 5310B:1999 22nd Edition, ASTM D 7573, and USEPA 415.1.	PM0	No preparation is required.	Yes			
TM73	Modified US EPA methods 150.1 (1982) and 9045D Rev. 4 - 2004) and BS1377-3:1990. Determination of pH by Metrohm automated probe analyser.	PM0	No preparation is required.	Yes			
TM89	Modified USEPA method OIA-1667 (1999). Determination of cyanide by Flow Injection Analyser. Where WAD cyanides are required a Ligand displacement step is carried out before analysis.	PM0	No preparation is required.	Yes			