East Midlands Gateway
Phase 2 (EMG2)

Document DCO 6.14D/MCO 6.14D
ENVIRONMENTAL STATEMENT

Volume 2 Technical Appendices

Appendix 14D

EMG2 Technical Note: Surface Water Sampling

July 2025

14

The East Midlands Gateway Phase 2
and Highway Order 202X and The East Midlands Gateway
Rail Freight and Highway (Amendment) Order 202X

SEGRO.COM/SLPEMG2

SEGRO

EMG Phase 2, Derby

Technical note: Surface Water Sampling

October 2024

CLIENT: SEGRO Plc

PROJECT REFERENCE: 146959

DOCUMENT NUMBER: TN01_Rev2

Prepared by	Approved by	Date
Oliver Wedlake	Dicken Maclean	18/10/2024

This document has been prepared in accordance with procedure OP/P02 of the *Fairhurst Quality and Environmental Management System*

1 Surface Water Sampling

Fairhurst was appointed by SEGRO Plc to carry out a surface water sampling and testing at the East Midlands Gateway green site. South of the East Midlands Airport, Ashby Road, DE74 2TN, England, United Kingdom DE74 2TN, National Grid Ref SK 46061 25289.

The sampling locations were designed by Fairhurst with comment from Frog Environmental, who requested the inclusion of SW4.

On the 2nd of October Structural Soils carried out a surface water sampling suite for each of four locations across the EMG phase 2 area. The surface water sampling included in situ parameters and sample preservation as required for the testing suite. See Appendix A for the layout for sample locations.

The locations tested are designated SW1-4 and were taken at water features such as streams or irrigation ditches. The testing suite required is included in Appendix B. All testing was conducted by Envirolab except the acrylamide which was carried out by RPS. With the results laid out in Appendix C.

In situ parameter readings and notes on sampling is presented in Appendix D.

Due to an absence of surface water at the proposed location of SW1 on the day of testing, the location was revised and SW1 was moved to a nearby stream 20m West of the original location.

The surface water testing results have been presented as factual only.

A. PHOTOS & INVESTIGATION PLAN

Photo of SW1 sampling location:

SW3 sampling location :

SW4 sampling location:

Legend

- Boundary
- Surface water sampling plan

0 75 150 m

FAIRHURST

Project Title

East Midlands Gateway Phase 2

Drawing Title

Surface Water Sampling Location Plan

Project Number	148749
Drawn By	OW
Checker/Approver	

Drawing number	Rev
n/a	00

B. Testing Scope

Sample Type	Determinand	Accreditation Status	Detection Limit	Units
Surface Water	pH	UKAS	+ / - 0.1	pH units
Surface Water	Electrical Conductivity	None	<10	µS/cm
Surface Water	Total Suspended Solids	UKAS	2	mg/l
Surface Water	Turbidity	None	0.1	NTU
Surface Water	Biochemical Oxygen Demand (BOD)	UKAS	<2	mg/l
Surface Water	Chemical Oxygen Demand (COD)	UKAS	<2	mg/l
Surface Water	Dissolved Orga3nic Carbon (DOC)			
Surface Water	Ammonium (NH4)	UKAS	<15	µg/l
Surface Water	Ammoniacal Nitrogen (N)	UKAS	<15	ug/l
Surface Water	Ammonia (NH3)	UKAS	<15	µg/l
Surface Water	Nitrate (as N03)	UKAS	< 0.01	mg/l
Surface Water	Nitrite (as N02)	UKAS	< 1	µg/l
Surface Water	Total Oxidised Nitrogen (TON)	None	< 0.3	mg/l
Surface Water	Dissolved (Reactive) Phosphate (as P)	UKAS	<20	µg/l
Surface Water	Phosphorus (total)	UKAS	<50	µg/l
Surface Water	Alkalinity (as CaCO3)	UKAS	< 3	mgCaCO3/l
Surface Water	Hardness - Total (as CaCO3)	UKAS	1	mgCaCO3/l
Surface Water	Calcium (dissolved)	UKAS	<0.012	mg/l
Surface Water	Sulphate as SO4 (water soluble)	UKAS	1	mg/l
Surface Water	Acrylamide	UKAS		
Surface Water	Arsenic (dissolved)	UKAS		µg/l
Surface Water	Aluminium (dissolved)	UKAS	< 1	µg/l
Surface Water	Boron (dissolved)	UKAS	<10	µg/l
Surface Water	Cadmium (dissolved)	UKAS	< 0.02	µg/l
Surface Water	Chloride	UKAS	1	mg/l
Surface Water	Chromium III	UKAS	1	µg/l
Surface Water	Chromium VI	UKAS	1	µg/l
Surface Water	Copper (dissolved)	UKAS	< 0.5	µg/l
Surface Water	Cyanide (total)	UKAS		ug/l
Surface Water	Iron (dissolved)	UKAS	<4	µg/l
Surface Water	Lead (dissolved)	UKAS	< 0.2	µg/l
Surface Water	Manganese (dissolved)	UKAS	< 0.05	µg/l
Surface Water	Mercury (dissolved)	UKAS	0.5	ug/l

Surface Water	Molybdenum (dissolved)	UKAS		µg/l
Surface Water	Nickel (dissolved)	UKAS	< 0.5	µg/l
Surface Water	Selenium (dissolved)	UKAS		ug/l
Surface Water	Zinc (dissolved)	UKAS	< 0.5	µg/l
Surface Water	Phenols (total)	UKAS	0.03	mg/l
Surface Water	Benzene, Toulene, Ethylbenzene, p&m-xylene, o-xylene, MTBE	UKAS	1	µg/l
Surface Water	16 speciated PAH Naphthalene, Acenaphthylene, Acenaphthene, Fluorene, Phenanthrene, Anthracene, Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene, (Benzo(a)-pyrene (BaP), Benzo(b)-fluor-anthene, Benzo(k)-fluor-anthene, Benzo(g,h,i)-perylene and Indeno(1,2,3-cd)-pyrene. Benzo(a)pyrene)	UKAS	0.001	ug/l
Surface Water	Total EPA PAH			
Surface Water	TPHCWG Aliphatic and Aromatic (C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C40) and Total	UNACC	0.01	ug/l

C. Testing Results

envirolab
Hattersley Science & Technology Park
Stockport Road, Hattersley, SK14 3QU

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 24/09538
Issue Number: 1 **Date:** 14 October, 2024

Client:
Structural Soils Limited (Castleford)
The Potteries
Pottery Street
Castleford
West Yorkshire
UK
WF10 1NJ

Project Manager: Richard Law
Project Name: EMG2
Project Ref: 765938
Order No: N/A
Date Samples Received: 03/10/24
Date Instructions Received: 03/10/24
Date Analysis Completed: 14/10/24

Approved by:

Gemma Berrisford
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 24/09538

Client Project Name: EMG2

Client Project Ref: 765938

Lab Sample ID	24/09538/1	24/09538/2	24/09538/3	24/09538/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW1	SW2	SW3	SW4						
Depth to Top										
Depth To Bottom										
Date Sampled	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24						
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
pH (w)$_A^\#$	8.15	8.00	8.09	7.81				pH	0.01	A-T-031w
Electrical conductivity @ 20degC (w)$_A^\#$	455	500	511	633				µs/cm	10	A-T-037w
COD (settled)$_A^\#$	22	25	31	53				mg/l	5	A-T-034w
BOD (settled, 5 day)$_A$	2	2	1	6				mg/l	1	A-T-048
Alkalinity (total) (w) Colorimetry$_A^\#$	228	212	220	209				mg/l Ca CO3	20	A-T-038w
Hardness Total$_A^\#$	251	284	294	334				mg/l Ca CO3	4	A-T-049w
Total Suspended Solids (w)$_A^\#$	20	46	20	62				mg/l	10	A-T-036w
Ammoniacal nitrogen as N (w)$_A^\#$	<0.05	0.06	0.06	0.82				mg/l	0.05	A-T-033w
Ammonium / Ammoniacal nitrogen as NH4 (w)$_A^\#$	<0.065	0.079	0.080	1.055				mg/l	0.065	A-T-033w
Ammonia / Ammoniacal Nitrogen as NH3 (w)$_A^\#$	<0.061	0.074	0.076	0.998				mg/l	0.061	A-T-033w
Chloride (w)$_A^\#$	22	35	38	43				mg/l	1	A-T-026w
Nitrite (w)$_A^\#$	<0.1	<0.1	<0.1	0.6				mg/l	0.1	A-T-026w (N)
Nitrate (w)$_A^\#$	2.9	12.4	12.3	52.2				mg/l	0.1	A-T-026w (N)
Nitrogen, Total Oxidised TOxN (w)$_A^\#$	0.7	2.8	2.8	12.0				mg/l	0.1	A-T-026w (N)
Phosphate (orthophosphate) as P (w)$_A^\#$	0.025	0.100	0.076	0.184				mg/l	0.007	A-T-026w
Phosphorus,Total (dissolved)$_A$	25	138	101	317				µg/l	20	A-T-072w
Sulphate (w)$_A^\#$	28	35	34	51				mg/l	1	A-T-026w
Cyanide (total) (w)$_A^\#$	<0.005	<0.005	<0.005	<0.005				mg/l	0.005	A-T-042wTCN
Phenols - Total by HPLC (w)$_A$	<0.01	<0.01	<0.01	<0.01				mg/l	0.01	A-T-050w
DOC - Dissolved Organic Carbon (w)$_A^\#$	8.4	8.3	7.9	14.9				mg/l	2	A-T-032w
Aluminium (dissolved)$_A$	126	20	166	22				µg/l	10	A-T-072w
Arsenic (dissolved)$_A^\#$	1	1	1	2				µg/l	1	A-T-025w
Boron (dissolved)$_A^\#$	80	76	78	75				µg/l	10	A-T-025w
Cadmium (dissolved)$_A^\#$	<0.2	<0.2	<0.2	<0.2				µg/l	0.2	A-T-025w
Calcium (dissolved)$_A^\#$	67	76	78	90				mg/l	1	A-T-049w
Copper (dissolved)$_A^\#$	13	9	10	7				µg/l	4	A-T-025w
Chromium (dissolved)$_A^\#$	1	8	8	<1				µg/l	1	A-T-025w
Chromium (hexavalent) (w)$_A^\#$	<0.01	<0.01	<0.01	<0.01				mg/l	0.01	A-T-040w
Chromium (trivalent) (w)	<0.01	<0.01	<0.01	<0.01				mg/l	0.01	Calc
Iron (dissolved)$_A^\#$	284	58	278	88				µg/l	10	A-T-025w
Lead (dissolved)$_A^\#$	2	<1	2	2				µg/l	1	A-T-025w
Manganese (dissolved)$_A^\#$	26	11	15	10				µg/l	1	A-T-025w

Envirolab Job Number: 24/09538

Client Project Name: EMG2

Client Project Ref: 765938

Lab Sample ID	24/09538/1	24/09538/2	24/09538/3	24/09538/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW1	SW2	SW3	SW4						
Depth to Top										
Depth To Bottom										
Date Sampled	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24						
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1				µg/l	0.1	A-T-025w
Molybdenum (dissolved)$_{A}^{\#}$	3.7	3.2	3.1	0.9				µg/l	0.5	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	3	2	2	3				µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	24	11	15	6				µg/l	2	A-T-025w
Acrylamide (w)$_{A}$	Appended	Appended	Appended	Appended				µg/l	0.1	Subcon RPS MHw
Turbidity (w)$_{A}$	14.0	32.1	24.7	43.4				NTU	0.1	Turbidity Meter

Envirolab Job Number: 24/09538

Client Project Name: EMG2

Client Project Ref: 765938

Lab Sample ID	24/09538/1	24/09538/2	24/09538/3	24/09538/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW1	SW2	SW3	SW4						
Depth to Top										
Depth To Bottom										
Date Sampled	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24						
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
PAH 16MS (w)										
Acenaphthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Acenaphthylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_{A}^{\#}$	<0.01	0.02	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_{A}^{\#}$	<0.01	0.02	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_{A}^{\#}$	0.01	0.02	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_{A}^{\#}$	<0.01	0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Chrysene (w)$_{A}^{\#}$	<0.01	0.02	<0.01	<0.01				µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Fluoranthene (w)$_{A}^{\#}$	0.01	0.05	<0.01	0.02				µg/l	0.01	A-T-019w
Fluorene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Naphthalene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Phenanthrene (w)$_{A}^{\#}$	<0.01	0.02	<0.01	0.01				µg/l	0.01	A-T-019w
Pyrene (w)$_{A}^{\#}$	0.01	0.04	<0.01	0.01				µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_{A}^{\#}$	0.03	0.20	<0.01	0.04				µg/l	0.01	A-T-019w

Envirolab Job Number: 24/09538

Client Project Name: EMG2

Client Project Ref: 765938

Lab Sample ID	24/09538/1	24/09538/2	24/09538/3	24/09538/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SW1	SW2	SW3	SW4						
Depth to Top										
Depth To Bottom										
Date Sampled	02-Oct-24	02-Oct-24	02-Oct-24	02-Oct-24						
Sample Type	WATER - SW	WATER - SW	WATER - SW	WATER - SW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
TPH UKCWG (w) with Clean Up										
Ali >C5-C6 (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	14	17	<5	20				µg/l	5	A-T-055w
Ali >C35-C44 (w)$_A$	<5	<5	<5	<5				µg/l	5	A-T-055w
Total Aliphatics (w)$_A$	14	17	<5	20				µg/l	5	Calc-As Recd
Aro >C5-C7 (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	<5	<5	<5	<5				µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	<5	5	<5	8				µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	6	7	<5	13				µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A^{\#}$	<10	<10	<10	<10				µg/l	10	A-T-055w
Aro >C35-C44 (w)$_A$	<5	<5	<5	<5				µg/l	5	A-T-055w
Total Aromatics (w)$_A$	<10	12	<10	21				µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C44) (w)$_A$	20	29	<10	41				µg/l	10	Calc-As Recd
BTEX - Benzene (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w

Report Notes

General

•This report shall not be reproduced, except in full, without written approval from Envirolab.
•The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client and can affect the validity of results.
•The results reported herein relate only to the material supplied to the laboratory.
•The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **four weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
•Analytical results reflect the quality of the sample at the time of analysis only.
•Opinions and Interpretations expressed are outside our scope of accreditation.
•A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
•If a sample is outside of the calibration range or affected by interferences then it may need diluting. This will result in the limit of detection (LOD) being raised.
•Subcontracted Analysis: Please see the appended report for any deviations, current LODs and accreditation status of the test.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "D" on Asbestos	Analysis performed on a dried aliquot of sample provided.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
Trace	Asbestos found not suitable for Gravimetric Quantification – not enough to accurately weigh.
N/A	Not applicable

Asbestos

Identification: Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
"Trace Asbestos Identified" will be reported if there is not enough present to verify the type.
Quantification: Generally a 2 stage process including visual identification, hand picking and weighing, and fibre counting. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres). "TRACE" will be reported as a quantification result.
PLEASE INFORM THE LABORATORY IF YOU WOULD LIKE THE STAGE 3 SEDIMENTATION PROCESS CARRIED OUT. Note this will be subcontracted.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25^0C / 11550µS/cm @ 20^0C fall outside the calibration range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Hattersley Science & Technology Park, Stockport Road, Hattersley, SK14 3QU
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: Structural Soils Limited (Castleford), The Potteries, Pottery Street, Castleford, West Yorkshire, UK, WF10 1NJ

Project: EMG2

Clients Project No: 765938

Project No: 24/09538

Date Received: 03/10/2024 (am)

Cool Box Temperatures (°C): 11.8

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	24/09538/1	24/09538/2	24/09538/3	24/09538/4
Client Sample No				
Client Sample ID/Depth	SW1	SW2	SW3	SW4
Date Sampled	02/10/24	02/10/24	02/10/24	02/10/24
A-T-019w	07/10/2024	07/10/2024	07/10/2024	07/10/2024
A-T-022w	08/10/2024	08/10/2024	08/10/2024	08/10/2024
A-T-025w	10/10/2024	10/10/2024	10/10/2024	10/10/2024
A-T-026w	04/10/2024	04/10/2024	04/10/2024	08/10/2024
A-T-026w (N)	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-031w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-032w	07/10/2024	07/10/2024	07/10/2024	07/10/2024
A-T-033w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-034w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-036w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-037w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-038w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-040w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-042wTCN	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-048	08/10/2024	08/10/2024	08/10/2024	08/10/2024
A-T-049w	04/10/2024	04/10/2024	04/10/2024	04/10/2024
A-T-050w	08/10/2024	07/10/2024	07/10/2024	07/10/2024
A-T-055w	07/10/2024	07/10/2024	07/10/2024	07/10/2024
A-T-072w	07/10/2024	07/10/2024	07/10/2024	07/10/2024
Calc	10/10/2024	10/10/2024	10/10/2024	10/10/2024
Calc-As Recd	08/10/2024	08/10/2024	08/10/2024	08/10/2024
Turbidity Meter	03/10/2024	03/10/2024	03/10/2024	03/10/2024

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

A TETRA TECH COMPANY

Certificate of Analysis

Report No.: **24-07825-1**

Issue No.: **1**
Date of Issue **14/10/2024**

Customer Details:	Envirolab Ltd, 7 - 8 Sandpits Business Park, Mottram Road, Hyde, Greater Manchester, SK14 3AR, United Kingdom
Customer Contact:	Maleyka Owen-Agjef
Customer Order No.:	P0755263
Customer Reference:	Not Supplied
Quotation Reference:	Q24-02084 (Issue: 11)
Description:	4 water samples
Date Received:	04/10/2024
Date Started:	04/10/2024
Date Completed:	10/10/2024
Test Methods:	Details available on request (refer to SOP code against relevant result/s)
Notes:	None

Approved By: **David Long, LIMS Manager**

RPS Environmental Management Limited trading as RPS Mountainheath. Registered in England No. 01756175.
13 St Martins Way, Bedford, Bedfordshire, MK42 0LF. T +44 1462 480 400
A member of the RPS Group plc. Terms and conditions apply - copy on request

Results Summary

Report No.: 24-07825-1

Customer Reference: Not Supplied

Customer Order No: P0755263

Customer Sample No						**24/09538/1 SW1**	**24/09538/2 SW2**	**24/09538/3 SW3**	**24/09538/4 SW4**
RPS Sample No						71037	71038	71039	71040
Sample Type						**WATER**	**WATER**	**WATER**	**WATER**
Sample Matrix						SW	SW	SW	SW
Sampling Date						02/10/2024	02/10/2024	02/10/2024	02/10/2024
Determinand	**CAS No**	**Codes**	**SOP**	**RL**	**Units**				
acrylamide	79-06-1	N	L001	0.1	µg/L	< 0.10	< 0.10	< 0.10	0.11

Deviating Samples

Report No.: 24-07825-1

Customer Reference: Not Supplied

Customer Order No: P0755263

Our policy on Deviating Samples has been implemented in accordance with UKAS Policy on Deviating Samples (TPS63).
RPS is not responsible for the integrity of samples as received, unless RPS personnel performed the sampling. Samples submitted may be declared to be deviating.
Where applicable the analysis method remains UKAS accredited, however results reported for a deviating sample may be compromised.
Where no sampling date was supplied, samples have been declared to be deviating. If the date can be supplied, results may be reissued if assessed not deviating.
Where the sample container used was unsuitable or broken, the sample is flagged as deviating and re-sampling/re-submisson may be required.

RPS No.	Customer No.	Customer ID	Date Sampled	Containers Received	Deviating	Reason for Deviation
71037	24/09538/1	SW1	02/10/2024	GGB500 500 mL green glass bottle	No	
71038	24/09538/2	SW2	02/10/2024	GGB500 500 mL green glass bottle	No	
71039	24/09538/3	SW3	02/10/2024	GGB500 500 mL green glass bottle	No	
71040	24/09538/4	SW4	02/10/2024	GGB500 500 mL green glass bottle	No	

Report No.: 24-07825-1

Type	Matrix Code	Description
Food	CEREALPROD	Cereals, grains & products
Food	DRIEDFRUIT	Dried fruits
Food	FRIEDBAKED	Fried or baked food
Food	LEGUME	Legumes
Food	MEAT	Meat
Food	POWDERED	Powdered food
Food	PULSE	Pulses (dried legumes)
Food	VEGETABLES	Vegetables
Gas	TDTUBE	TD Tube
Gas	TENAX	Tenax Tube
Gas	TUBE	Tube
Gas	VAPOUR	Gas
Geological	SED_MAR	Marine Sediment
Geological	SED_RIV	River Sediment
Geological	SLUDG_SOL	Sludge (solid only)
Geological	SOIL	Soil
Liquid	BEVERAGE	Beverage
Liquid	BLOOD	Blood
Liquid	CONDENSATE	Condensate
Liquid	FOAM_LIQ	Liquid foam
Liquid	FORMULATN	Formula
Liquid	LEACHATE	Leachate
Liquid	OIL/GREASE	Oil or grease
Liquid	SLUDG_LIQ	Sludge (liquid only)
Liquid	SOLVENT	Solvent
Liquid	URINE	Urine
Sludge	SLUDG_WHL	Sludge for bulk route
Solid	BADGE	Badge
Solid	BEDDING	Bedding
Solid	BIOTA	Biota (general)
Solid	BIOTA_F	Biota (fish)
Solid	BIOTA_SF	Biota (shellfish)
Solid	CONSTRCTN	Construction materials
Solid	FABRIC	Fabrics & furnishing materials
Solid	FEED	Animal feed
Solid	FERTILISER	Fertiliser
Solid	FILTER	Filter
Solid	FOAM	Solid foam material
Solid	LATEX	Latex/Rubber
Solid	PACKAGING	Packaging material
Solid	PAPER	Paper
Solid	PLANT	Plant (vegetation)
Solid	POWDER	Powder
Solid	SWAB	Swab
Water	BAL	Ballast Water
Water	BIL	Bilge Water
Water	DW	Drinking Water
Water	EFFLUENT	Effluent
Water	GW	Ground Water
Water	INFLUENT	Influent
Water	MINEW	Mine Water
Water	SALTW	Salt Water
Water	SW	Surface Water
Water	TW	Tap Water
Water	W	Unknown Water

Report No.: 24-07825-1

Key Code	Description
N	Not Accredited Test
U	UKAS Accredited Test - UKAS accreditation is only implied if the report carries the UKAS logo
UF	UKAS Flexible Scope Test
M	MCERTS Accredited Test - MCERTS accreditation is only implied if the report carries the MCERTS logo
O	Marine Management Organisation (MMO) Validated
SN	Subcontracted to approved laboratory not accredited for the test
SU	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
SIN	Subcontracted to internal RPS Group laboratory not accredited for the test
SIU	Subcontracted to internal RPS Group laboratory UKAS Accredited for the test
SIM	Subcontracted to internal RPS Group laboratory MCERTS/UKAS Accredited for the test
*	Modified standard method
I/S (in results)	Insufficient Sample
U/S (in results)	Unsuitable Sample
S/C (in results)	See Comments
ND (in results)	Not Detected
DW (in units)	Results are expressed on a dry weight basis
L (in results)	Result is outside normal limits

Sample Type	Sample Retention and Disposal Period
Foodstuff	1 month (if frozen) from the issue date of this report
Waters	2 weeks from the issue date of this report
Other Liquids	1 month from the issue date of this report
Solids / Soils	1 month from the issue date of this report
Sediments	1 month from the issue date of this report

Note: Sample retention may be subject to agreement with the customer for particular projects

Dev code	Description
D	No sampling date provided.
T	No sampling time provided.
Z	Temperature of samples exceeded in transit/storage.
V	Excessive headspace for volatile determinands.
P	Sample submitted without required preservative(s).
C	Incorrect container.
H	Holding time exceeded (sampling to extraction).
X	Holding time exceeded (sampling to receipt).

Note: Where the following information is included in this certificate, it has usually been supplied by the customer: Customer Sample ID, Sample Location, Sample Depth, Sampling Date and Sampling Time. The laboratory shall not be responsible for any information that is supplied by the customer that may affect the validity of results.

D. Sampling notes, including in situ parameter readings

STRUCTURAL SOILS LTD

Groundwater Monitoring

Position ID: SW1

Monitoring Date: 02 Oct 2024 14:32:12

Round: W/C 30.09.2024

Record ID: SSLGW000593421

Groundwater Monitoring Has Been Accepted

Project Information (Incomplete)

Project ID	*Name*	*Client*	*Project Manager*
765938	EMG Surface Waters	Fairhurst Group LLP	Richard Law

Previous Weather Observations

Weather	*Air Temp*	*Ground Surface*	*Wind*
Cloudy, dry	12.0	Wet	Medium

Water Monitoring Device

Device	*Calibration Date*	*Daily Check*
Smart Troll / In Situ / ST1	02/10/2024	[X] Yes

Location and Well Information (Incomplete)

Installation information

Datum	*Description*	*Offset (m)*	*Ref*	*Length (m)*	*Diameter (mm)*	*Material*	*Type*	*Well Depth (m)*	*Previous Water Depth (m)*
<Select>	NA		1			<Select>	<Select>		

Pre-Testing Remarks

Borehole accessible?	*Padlock?*	*Bung?*	*Location Label?*	*Additional Remarks*
Yes	<Select>	<Select>	<Select>	No water of any kind at map location for SW1, samples taken from nearby location w3w: opposite.burst.regret

GPS Location 53° 47' 43.122" N 1° 35' 15.706" W

Recorded Time	*Water Depth from Datum (m)*

LNAPL and DNAPL (Incomplete)

Well Headspace

Well Headspace Reading (PID/FID) (ppm)

Purging (Incomplete)

Sampling Method (X) <Select> ( ) Peristaltic ( ) Bladder ( ) Other

Probe Readings

Units

Temp(°C)	*Conductivity*	*DO (mg/l)*	*pH*	*ORP(mV)*	*Salinity*	*Turb*	*TDS*	
	(X) uS/cm ( ) mS/cm							

Probe Readings Table

Probe Readings

Time	*Temp*	*Cond*	*D.O.*	*pH*	*ORP*	*Eh*	*DTW(m)*	*Dry*
10:53:49	13.75	2509.00	8.32	8	168.90	373.42		[ ]

DTW(m) = Depth to Water, TDS = Total Dissolved Solids
The Green highlights denote the Stabilisation Criteria for Low Flow Sampling according to USEPA (EPA/504/S-95/504 April 1996) and RSK technical procedure TP210 (2020)

Post Test remarks

Colour	*Odour*	*Visible oily sheen*
Clear	No	No

Samples

Samples Taken Table

Depth	*Sample Ref*	*Sample Type*	*Containers used*	*Flow Rate*
0.00	SW1	EW	2 x Glass Bottle 1 Litre, 1 x Plastic Bottle 500ml, 2 x Vial, 1 x Blue Top, 1 x Red Top, 1 x Yellow Top	

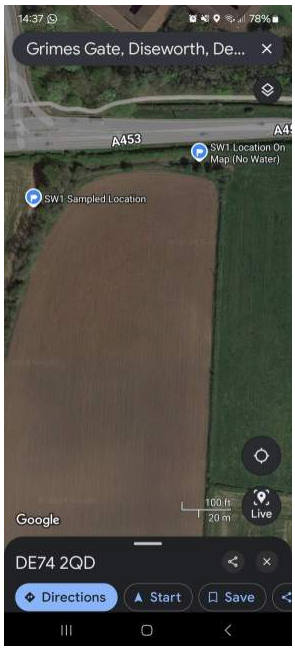
Sample Collection Time 10:53:26

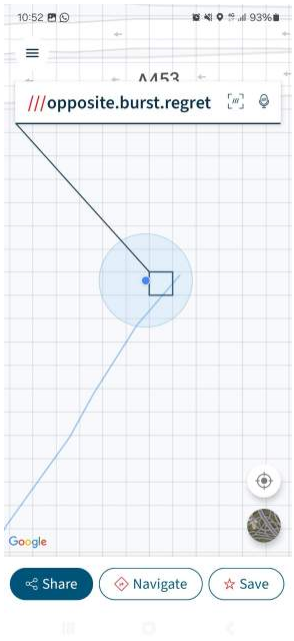
Sample Notes See photos for adjusted location

Pictures

Pictures

4 records

Picture	*Description*
	Location on map completely dry, no waterways at all
	Location sampled from

	SW1 replacement location
	W3w of actual location sampled

Completion record

BH Secured on Leaving? (X) <Select> ( ) Yes ( ) No

SSL Completion Confirmation by Author

Data Collected By

James Verity james.verity@soils.co.uk

Additional Email Distribution

External Email Distribution 0 records

Reviewer Sign Off

Reviewer Sign Off	( ) (X) Accepted ( ) Rejected
Send to Data Processing	( ) <Select> (X) Yes ( ) No

Reviewer: Signature

Reviewer Name

Radka Pandulova	Radka.Pandulova@soils.co.uk

STRUCTURAL SOILS LTD

Groundwater Monitoring

Position ID: SW2

Monitoring Date: 02 Oct 2024 14:28:03

Round: W/C 30.09.2024

Record ID: SSLGW000593420

Groundwater Monitoring Has Been Accepted

Project Information (Incomplete)

Project ID	*Name*	*Client*	*Project Manager*
765938	EMG Surface Waters	Fairhurst Group LLP	Richard Law

Weather Observations

Weather	*Air Temp*	*Ground Surface*	*Wind*
Cloudy, dry	12.0	Wet	Medium

Water Monitoring Device

Device	*Calibration Date*	*Daily Check*
Smart Troll / In Situ / ST1	02/10/2024	[X] Yes

Location and Well Information (Incomplete)

Installation information

Datum	*Description*	*Offset (m)*	*Ref*	*Length (m)*	*Diameter (mm)*	*Material*	*Type*	*Well Depth (m)*	*Previous Water Depth (m)*
<Select>	NA		1			<Select>	<Select>		

Pre-Testing Remarks

Borehole accessible?	*Padlock?*	*Bung?*	*Location Label?*	*Additional Remarks*
Yes	<Select>	<Select>	<Select>	W3w pans.comic.plums

GPS Location 53° 47' 43.049" N 1° 35' 15.88" W

Recorded Time	*Water Depth from Datum (m)*

LNAPL and DNAPL (Incomplete)

Well Headspace

Well Headspace Reading (PID/FID) (ppm)

Purging (Incomplete)

Sampling Method (X) <Select> ( ) Peristaltic ( ) Bladder ( ) Other

Probe Readings

Units

Temp(°C)	*Conductivity*	*DO (mg/l)*	*pH*	*ORP(mV)*	*Salinity*	*Turb*	*TDS*	
	(X) uS/cm ( ) mS/cm							

Probe Readings Table

Probe Readings

Time	*Temp*	*Cond*	*D.O.*	*pH*	*ORP*	*Eh*	*DTW(m)*	*Dry*
10:20:38	13.32	2633.00	7.78	7.89	183.60	388.95		[ ]

DTW(m) = Depth to Water, TDS = Total Dissolved Solids
The Green highlights denote the Stabilisation Criteria for Low Flow Sampling according to USEPA (EPA/504/S-95/504 April 1996) and RSK technical procedure TP210 (2020)

Post Test remarks

Colour	*Odour*	*Visible oily sheen*
Clear	No	No

Samples

Samples Taken Table

Depth	*Sample Ref*	*Sample Type*	*Containers used*	*Flow Rate*
0.00	SW2	EW	2 x Glass Bottle 1 Litre, 1 x Plastic Bottle 500ml, 2 x Vial, 1 x Blue Top, 1 x Red Top, 1 x Yellow Top	

Sample Collection Time 10:20:59

Sample Notes

Pictures

Pictures

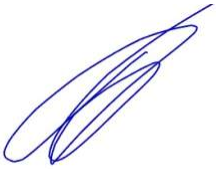
1 record

Picture	*Description*
	Sample location

Completion record

BH Secured on Leaving?	( ) <Select>	(X) Yes	( ) No

SSL Completion Confirmation by Author



Data Collected By

James Verity	james.verity@soils.co.uk

Additional Email Distribution

External Email Distribution 0 records

Reviewer Sign Off

Reviewer Sign Off	( ) (X) Accepted ( ) Rejected
Send to Data Processing	( ) <Select> (X) Yes ( ) No

Reviewer: Signature

Reviewer Name

Radka Pandulova Radka.Pandulova@soils.co.uk

STRUCTURAL SOILS LTD

Groundwater Monitoring

Position ID: SW3

Monitoring Date: 02 Oct 2024 14:39:41

Round: W/C 30.09.2024

Record ID: SSLGW000593422

Groundwater Monitoring Has Been Accepted

Project Information (Incomplete)

Project ID	*Name*	*Client*	*Project Manager*
765938	EMG Surface Waters	Fairhurst Group LLP	Richard Law

Previous Weather Observations

Weather	*Air Temp*	*Ground Surface*	*Wind*
Cloudy, dry	12.0	Wet	Medium

Water Monitoring Device

Device	*Calibration Date*	*Daily Check*
Smart Troll / In Situ / ST1	02/10/2024	[X] Yes

Location and Well Information (Incomplete)

Installation information

Datum	*Description*	*Offset (m)*	*Ref*	*Length (m)*	*Diameter (mm)*	*Material*	*Type*	*Well Depth (m)*	*Previous Water Depth (m)*
<Select>	NA		1			<Select>	<Select>		

Pre-Testing Remarks

Borehole accessible?	*Padlock?*	*Bung?*	*Location Label?*	*Additional Remarks*
Yes	<Select>	<Select>	<Select>	W3w: assets.wicked.highlight

GPS Location 53° 47' 42.961" N 1° 35' 15.987" W

Recorded Time	*Water Depth from Datum (m)*

LNAPL and DNAPL (Incomplete)

Well Headspace

Well Headspace Reading (PID/FID) (ppm)

Purging (Incomplete)

Sampling Method (X) <Select> ( ) Peristaltic ( ) Bladder ( ) Other

Probe Readings

Units

Temp(°C)	*Conductivity*	*DO (mg/l)*	*pH*	*ORP(mV)*	*Salinity*	*Turb*	*TDS*	
	(X) uS/cm ( ) mS/cm							

Probe Readings Table

Probe Readings

Time	*Temp*	*Cond*	*D.O.*	*pH*	*ORP*	*Eh*	*DTW(m)*	*Dry*
11:29:54	13.28	2604.30	8.22	7.95	167.40	372.75		[ ]

DTW(m) = Depth to Water, TDS = Total Dissolved Solids
The Green highlights denote the Stabilisation Criteria for Low Flow Sampling according to USEPA (EPA/504/S-95/504 April 1996) and RSK technical procedure TP210 (2020)

Post Test remarks

Colour	*Odour*	*Visible oily sheen*
Clear	No	No

Samples

Samples Taken Table

Depth	*Sample Ref*	*Sample Type*	*Containers used*	*Flow Rate*
0.00	SW3	EW	2 x Glass Bottle 1 Litre, 1 x Plastic Bottle 500ml, 2 x Vial, 1 x Blue Top, 1 x Red Top, 1 x Yellow Top	

Sample Collection Time 11:29:09

Sample Notes

Pictures

Pictures

1 record

Picture	*Description*
	Sample location

Completion record

BH Secured on Leaving?	(X) <Select>	( ) Yes	( ) No

SSL Completion Confirmation by Author

Data Collected By

James Verity	james.verity@soils.co.uk

Additional Email Distribution

External Email Distribution 0 records

Reviewer Sign Off

Reviewer Sign Off	( ) (X) Accepted ( ) Rejected
Send to Data Processing	( ) <Select> (X) Yes ( ) No

Reviewer: Signature

Reviewer Name

Radka Pandulova Radka.Pandulova@soils.co.uk

STRUCTURAL SOILS LTD

Groundwater Monitoring

Position ID: SW4

Monitoring Date: 02 Oct 2024 14:42:59

Round: W/C 30.09.2024

Record ID: SSLGW000593423

Groundwater Monitoring Has Been Accepted

Project Information (Incomplete)

Project ID	*Name*	*Client*	*Project Manager*
765938	EMG Surface Waters	Fairhurst Group LLP	Richard Law

Previous Weather Observations

Weather	*Air Temp*	*Ground Surface*	*Wind*
Cloudy, dry	12.0	Wet	Medium

Water Monitoring Device

Device	*Calibration Date*	*Daily Check*
Smart Troll / In Situ / ST1	02/10/2024	[X] Yes

Location and Well Information (Incomplete)

Installation information

Datum	*Description*	*Offset (m)*	*Ref*	*Length (m)*	*Diameter (mm)*	*Material*	*Type*	*Well Depth (m)*	*Previous Water Depth (m)*
<Select>	NA		1			<Select>	<Select>		

Pre-Testing Remarks

Borehole accessible?	*Padlock?*	*Bung?*	*Location Label?*	*Additional Remarks*
Yes	<Select>	<Select>	<Select>	W3w: presented.concerts.factored

GPS Location 53° 47' 43.095" N 1° 35' 15.978" W

Recorded Time	*Water Depth from Datum (m)*

LNAPL and DNAPL (Incomplete)

Well Headspace

Well Headspace Reading (PID/FID) (ppm)

Purging (Incomplete)

Sampling Method (X) <Select> ( ) Peristaltic ( ) Bladder ( ) Other

Probe Readings

Units

Temp(°C)	*Conductivity*	*DO (mg/l)*	*pH*	*ORP(mV)*	*Salinity*	*Turb*	*TDS*	
	(X) uS/cm ( ) mS/cm							

Probe Readings Table

Probe Readings

Time	*Temp*	*Cond*	*D.O.*	*pH*	*ORP*	*Eh*	*DTW(m)*	*Dry*
11:42:52	12.78	2914.50	8.57	7.88	169.30	374.65		[ ]

DTW(m) = Depth to Water, TDS = Total Dissolved Solids
The Green highlights denote the Stabilisation Criteria for Low Flow Sampling according to USEPA (EPA/504/S-95/504 April 1996) and RSK technical procedure TP210 (2020)

Post Test remarks

Colour	*Odour*	*Visible oily sheen*
Clear	No	No

Samples

Samples Taken Table

Depth	*Sample Ref*	*Sample Type*	*Containers used*	*Flow Rate*
0.00	SW4	EW	2 x Glass Bottle 1 Litre, 1 x Plastic Bottle 500ml, 2 x Vial, 1 x Blue Top, 1 x Red Top, 1 x Yellow Top	

Sample Collection Time 11:42:01

Sample Notes

Pictures

Pictures

1 record

Picture	*Description*
	Sample location

Completion record

BH Secured on Leaving?	(X) <Select>	( ) Yes	( ) No

SSL Completion Confirmation by Author

Data Collected By

James Verity	james.verity@soils.co.uk

Additional Email Distribution

External Email Distribution 0 records

Reviewer Sign Off

Reviewer Sign Off	( ) (X) Accepted ( ) Rejected
Send to Data Processing	( ) <Select> (X) Yes ( ) No

Reviewer: Signature

Reviewer Name

Radka Pandulova Radka.Pandulova@soils.co.uk

www.fairhurst.co.uk

Aberdeen
Bristol
Birmingham
Dundee
Edinburgh
Elgin
Glasgow
Huddersfield
Inverness
Leeds
London
Manchester
Newcastle upon Tyne
Sevenoaks
Sheffield
Taunton
Watford
Westhill

FAIRHURST

CIVIL ENGINEERING • STRUCTURAL ENGINEERING • TRANSPORTATION • ROADS & BRIDGES
PORTS & HARBOURS • GEOTECHNICAL & ENVIRONMENTAL ENGINEERING • PLANNING &
DEVELOPMENT • WATER SERVICES • HEALTH & SAFETY / CDM SERVICES