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Newport City Council
Civic Centre
Newport
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Attention: Luke Embrey

CERTIFICATE OF ANALYSIS

Date of report Generation: 14 January 2022
Customer: Newport City Council
Sample Delivery Group (SDG): 211211-114
Your Reference: Dec leachate 2021
Location: Newport landfill
Report No: 629463
Order Number: 700172611

This report has been revised and directly supersedes 629159 in its entirety.

We received 4 samples on Saturday December 11, 2021 and 4 of these samples were scheduled for analysis which was completed on Friday January 14, 2022. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

Chemical testing (unless subcontracted) performed at ALS Environmental Hawarden.

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager





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Validated

SDG: 211211-114
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Superseded Report: 629159

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
25509211	C3B		0.00 - 0.00	09/12/2021
25509225	C4B		0.00 - 0.00	09/12/2021
25509191	C2C		0.00 - 0.00	09/12/2021
25509169	LF08_07		0.00 - 0.00	09/12/2021

Only received samples which have had analysis scheduled will be shown on the following pages.



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Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4*5@ Sample deviation (see appendix)		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	C3B	C4B	C2C	LF08_07		
Component	LOD/Units	Method						
Ionic balance	% Diff	Calculation	-1.66	-10.6	-1.06	-3.93		
Alkalinity, Total as CaCO3	<2 mg/l	TM043	5880 #	3580 #	8200 #	4100 #		
Alkalinity, Total as CaCO3 (diss.filt)	<2 mg/l	TM043	5800	3520	8200	4040		
Alkalinity, Bicarbonate as CaCO3 (diss.filt)	<2 mg/l	TM043	5800	3520	8200	4040		
BOD, unfiltered	<1 mg/l	TM045	271 #	44.9 #	53 #	40.4 #		
Organic Carbon, Total	<3 mg/l	TM090	718 ♦	319 ♦	772 ♦	275 ♦		
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	1070	558	1660	638		
Sulphide	<0.01 mg/l	TM101	0.0698	1.47	0.0607	0.0646		
COD, unfiltered	<7 mg/l	TM107	2530 #	1030 #	2510 #	813 #		
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120	13.2 #	14.4 #	18 #	9.44 #		
Arsenic (diss.filt)	<0.5 µg/l	TM152	33.9 #	10.9 #	28.4 #	27.1 #		
Boron (diss.filt)	<10 µg/l	TM152	13500 #	8430 #	10300 #	4740 #		
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.08 #		
Chromium (diss.filt)	<1 µg/l	TM152	351 #	66 #	289 #	44.9 #		
Copper (diss.filt)	<0.3 µg/l	TM152	5.03 #	0.461 #	2.75 #	0.691 #		
Lead (diss.filt)	<0.2 µg/l	TM152	0.892 #	<0.2 #	0.49 #	<0.2 #		
Manganese (diss.filt)	<3 µg/l	TM152	434 #	1360 #	335 #	764 #		
Nickel (diss.filt)	<0.4 µg/l	TM152	96.6 #	95.2 #	158 #	88.2 #		
Selenium (diss.filt)	<1 µg/l	TM152	1.54 #	1.11 #	1.71 #	1.11 #		
Zinc (diss.filt)	<1 µg/l	TM152	32.2 #	7.01 #	20.5 #	9.87 #		
Sodium (Dis.Filt)	<0.076 mg/l	TM152	1200 #	1370 #	1620 #	758 #		
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	195 #	189 #	190 #	162 #		
Potassium (Dis.Filt)	<0.2 mg/l	TM152	327 #	304 #	794 #	269 #		
Calcium (Dis.Filt)	<0.2 mg/l	TM152	137 #	333 #	79.4 #	208 #		
Iron (Dis.Filt)	<0.019 mg/l	TM152	1 #	2.35 #	0.592 #	1.36 #		
Hardness, Total as CaCO3	<0.65 mg/l	TM152	1140	1610	983	1190		
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	3550	1910	3350	864		
Nitrite as NO2	<0.05 mg/l	TM184	<0.05	<0.05	<0.05	<0.05		
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	20.2	0.953	39.5	3.43		
Sulphate	<2 mg/l	TM184	<20	2.8	177	<2		
Chloride	<2 mg/l	TM184	1740	3610	2330	1320		
Nitrate as NO3	<0.3 mg/l	TM184	<6	1.01	<6	0.489		



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VOC MS (W)

Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.fit Dissolved / filtered sample. tot.unfit Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1-4-§@ Sample deviation (see appendix)		Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	C3B	C4B	C2C	LF08_07		
Component	LOD/Units	Method						
Dibromofluoromethane**	%	TM208	108	109	108	111		
Toluene-d8**	%	TM208	98.3	97.9	97.5	98.8		
4-Bromofluorobenzene**	%	TM208	94.5	97.4	96.3	98		
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbon disulphide	<1 µg/l	TM208	1.14 #	<1 #	1.64 #	<1 #		
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #		
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	2.34 #	<1 #	3.48 #		
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
2,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	1.02 #	<1 #	<1 #		
Benzene	<1 µg/l	TM208	3.06 #	2.69 #	5.81 #	5.46 #		
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
Toluene	<1 µg/l	TM208	9.17 #	1.52 #	3.39 #	<1 #		
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #		



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VOC MS (W)

Results Legend			Customer Sample Ref.	C3B	C4B	C2C	LF08_07		
# ISO17025 accredited. M mCERTS accredited. sq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery (F) Trigger breach confirmed 1.4.5@ Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00 Land Leachate (LE) 09/12/2021 11/12/2021 211211-114 25509211	0.00 - 0.00 Land Leachate (LE) 09/12/2021 11/12/2021 211211-114 25509225	0.00 - 0.00 Land Leachate (LE) 09/12/2021 11/12/2021 211211-114 25509191	0.00 - 0.00 Land Leachate (LE) 09/12/2021 11/12/2021 211211-114 25509169			
Component	LOD/Units	Method							
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Ethylbenzene	<1 µg/l	TM208	9.83 #	6.35 #	7.23 #	<1 #	<1 #		
m,p-Xylene	<1 µg/l	TM208	9.39 #	4.21 #	7.6 #	2.21 #	<1 #		
o-Xylene	<1 µg/l	TM208	5.65 #	2.87 #	4.31 #	1.44 #	<1 #		
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Isopropylbenzene	<1 µg/l	TM208	1.4 #	<1 #	<1 #	<1 #	<1 #		
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,2,4-Trimethylbenzene	<1 µg/l	TM208	1.8 #	1.38 #	2.51 #	1.5 #	<1 #		
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	4.65 #	<1 #	<1 #		
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #		
Naphthalene	<1 µg/l	TM208	1.02 #	<1 #	2.27 #	<1 #	<1 #		



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Table of Results - Appendix

Method No	Reference	Description
Calculation		
TM043	Method 2320B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part109 1984	Determination of alkalinity in aqueous samples
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser
TM107	ISO 6060-1989	Determination of Chemical Oxygen Demand using COD Dr Lange Kit
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	ISO 17294-2:2016 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS)	Analysis of Aqueous Samples by ICP-MS
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4, Standard Methods for the examination of waters and wastewaters 20th Edition, PHA, Washington DC, USA. ISBN 0-87553-235-7 and The Determination of Alkalinity and Acidity in water HMSO, 1981, ISBN 0 11 751601 5.	Determination of pH, EC, TDS and Alkalinity in Aqueous samples

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Environmental Hawarden (Method codes TM) or ALS Environmental Aberdeen (Method codes S).



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Test Completion Dates

Lab Sample No(s)	25509211	25509225	25509191	25509169
Customer Sample Ref.	C3B	C4B	C2C	LF08_07
AGS Ref.				
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Land Leachate	Land Leachate	Land Leachate	Land Leachate

Alkalinity as CaCO3	16-Dec-2021	16-Dec-2021	17-Dec-2021	17-Dec-2021
Alkalinity Filtered as CaCO3	16-Dec-2021	16-Dec-2021	20-Dec-2021	16-Dec-2021
Ammoniacal Nitrogen	16-Dec-2021	16-Dec-2021	16-Dec-2021	17-Dec-2021
Anions by Kone (w)	16-Dec-2021	16-Dec-2021	16-Dec-2021	16-Dec-2021
BOD True Total	17-Dec-2021	17-Dec-2021	17-Dec-2021	17-Dec-2021
COD Unfiltered	23-Dec-2021	22-Dec-2021	22-Dec-2021	23-Dec-2021
Conductivity (at 20 deg.C)	16-Dec-2021	16-Dec-2021	16-Dec-2021	16-Dec-2021
Cyanide Comp/Free/Total/Thiocyanate	17-Dec-2021	17-Dec-2021	17-Dec-2021	17-Dec-2021
Dissolved Metals by ICP-MS	20-Dec-2021	20-Dec-2021	20-Dec-2021	20-Dec-2021
EPH (DRO) (C10-C40) Aqueous (W)	19-Dec-2021	19-Dec-2021	19-Dec-2021	19-Dec-2021
Ionic Balance	20-Dec-2021	20-Dec-2021	20-Dec-2021	20-Dec-2021
Nitrite by Kone (w)	16-Dec-2021	16-Dec-2021	16-Dec-2021	16-Dec-2021
pH Value	16-Dec-2021	16-Dec-2021	16-Dec-2021	16-Dec-2021
Phosphate by Kone (w)	16-Dec-2021	16-Dec-2021	16-Dec-2021	16-Dec-2021
Sulphide	16-Dec-2021	16-Dec-2021	16-Dec-2021	17-Dec-2021
Total Organic and Inorganic Carbon	14-Jan-2022	11-Jan-2022	14-Jan-2022	11-Jan-2022
VOC MS (W)	23-Dec-2021	23-Dec-2021	23-Dec-2021	23-Dec-2021



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Chromatogram

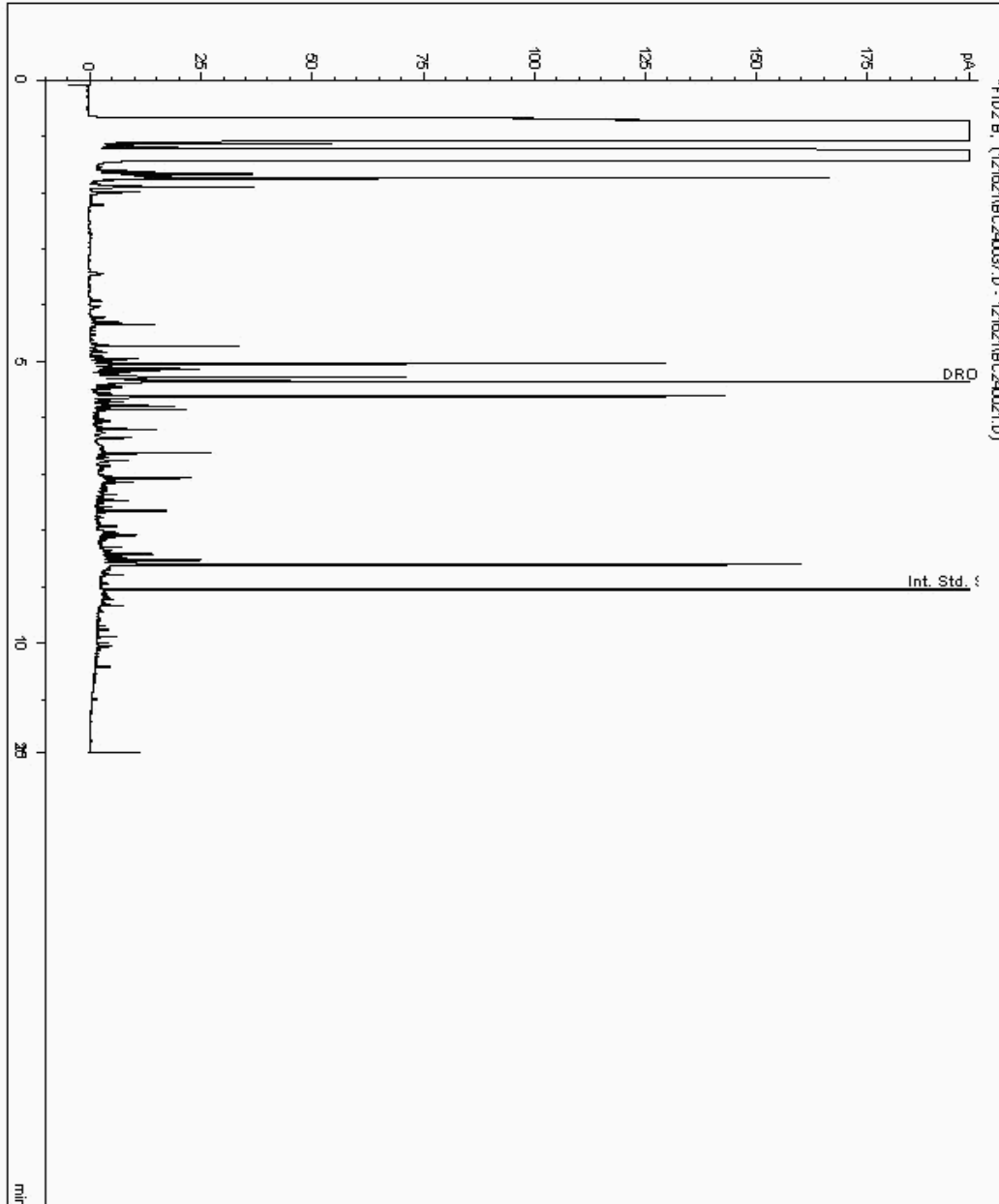
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 25530192
Sample ID : C2C

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 23834865-
Date Acquired : 17/12/2021 07:48:01 PM
Units : mg/l





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Chromatogram

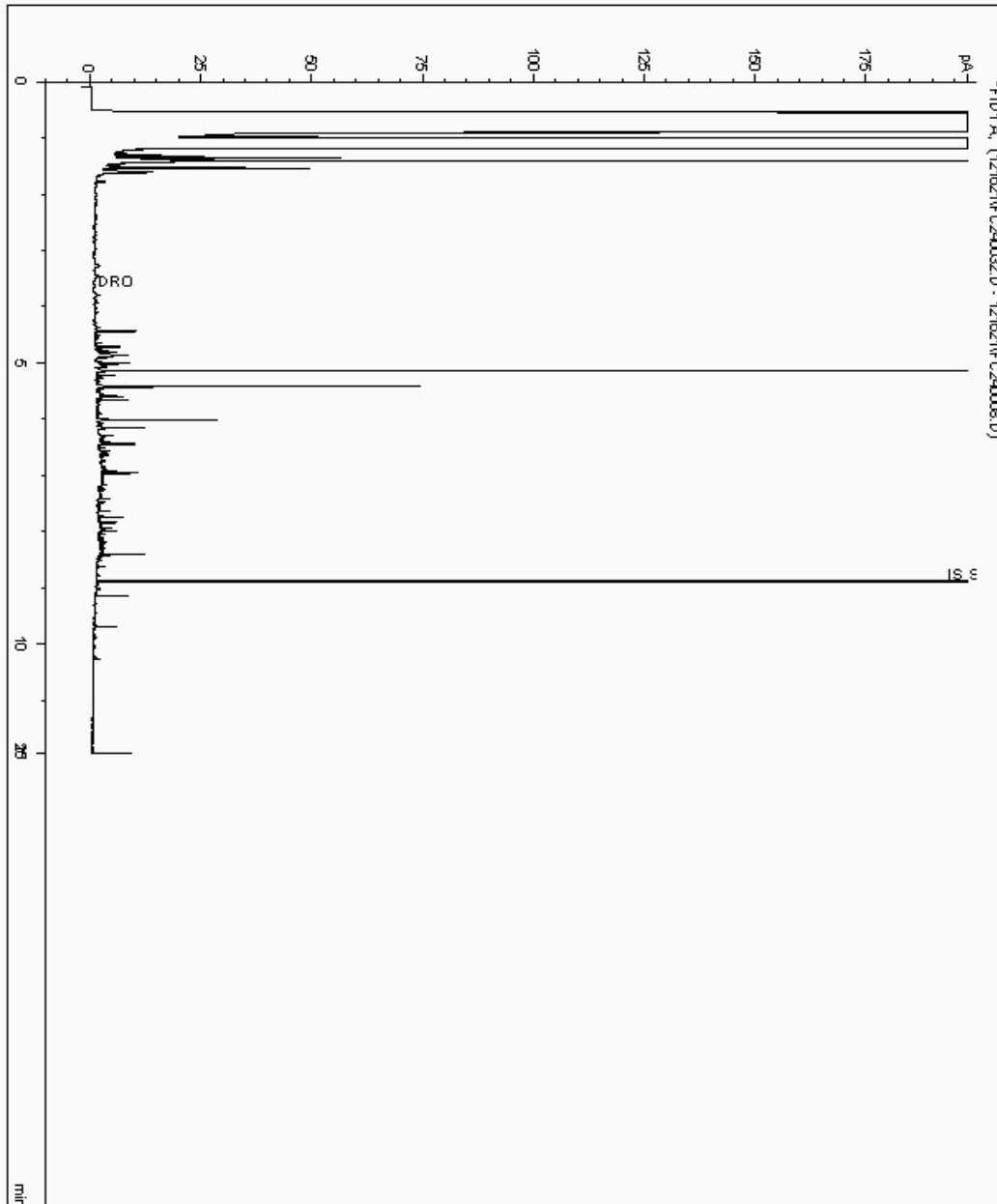
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 25534105
Sample ID : LF08_07

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 23834826-
Date Acquired : 17/12/2021 05:49:01 PM
Units : ppm





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Chromatogram

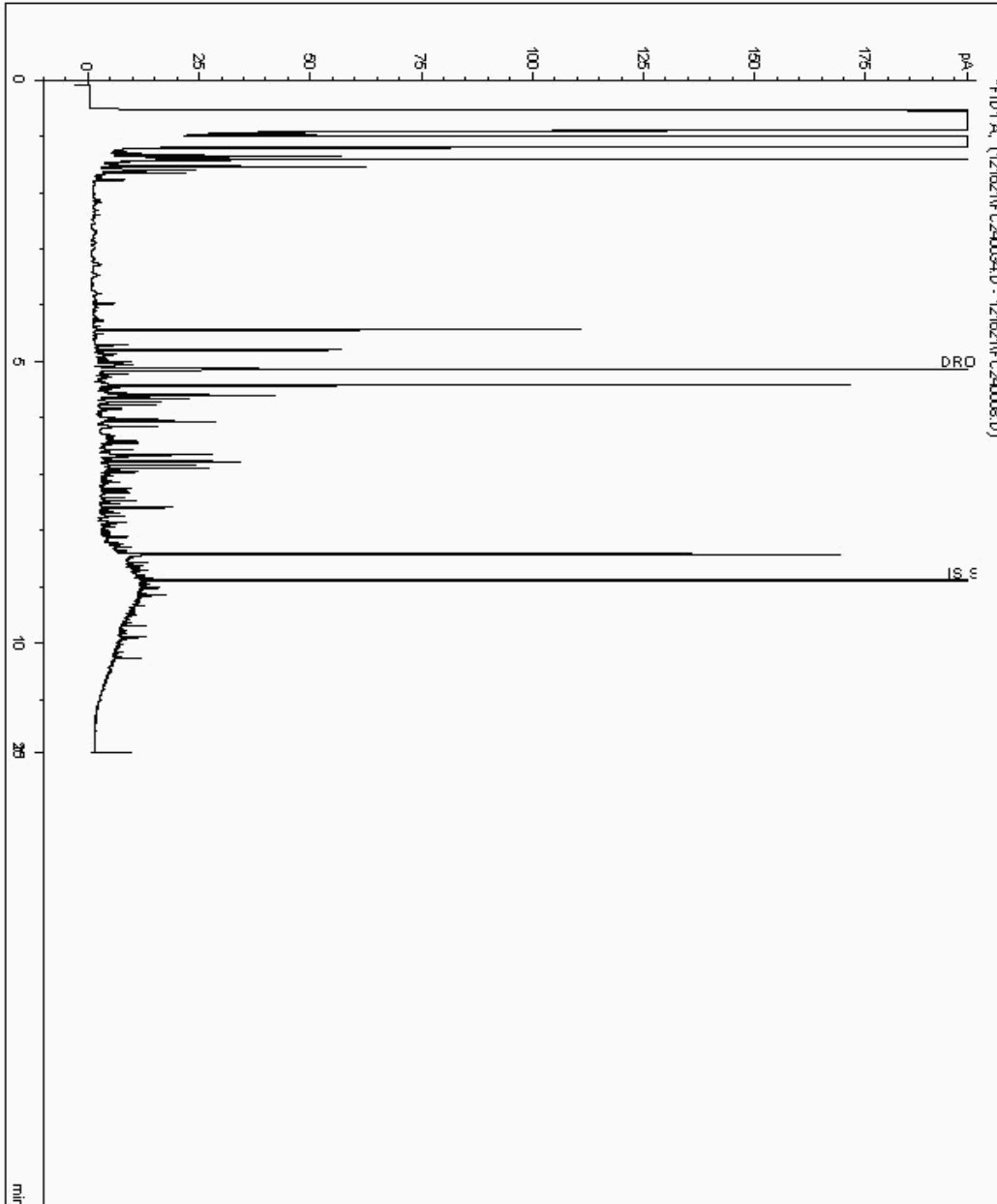
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 25534109
Sample ID : C3B

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 23834927-
Date Acquired : 17/12/2021 06:36:55 PM
Units : ppm





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Chromatogram

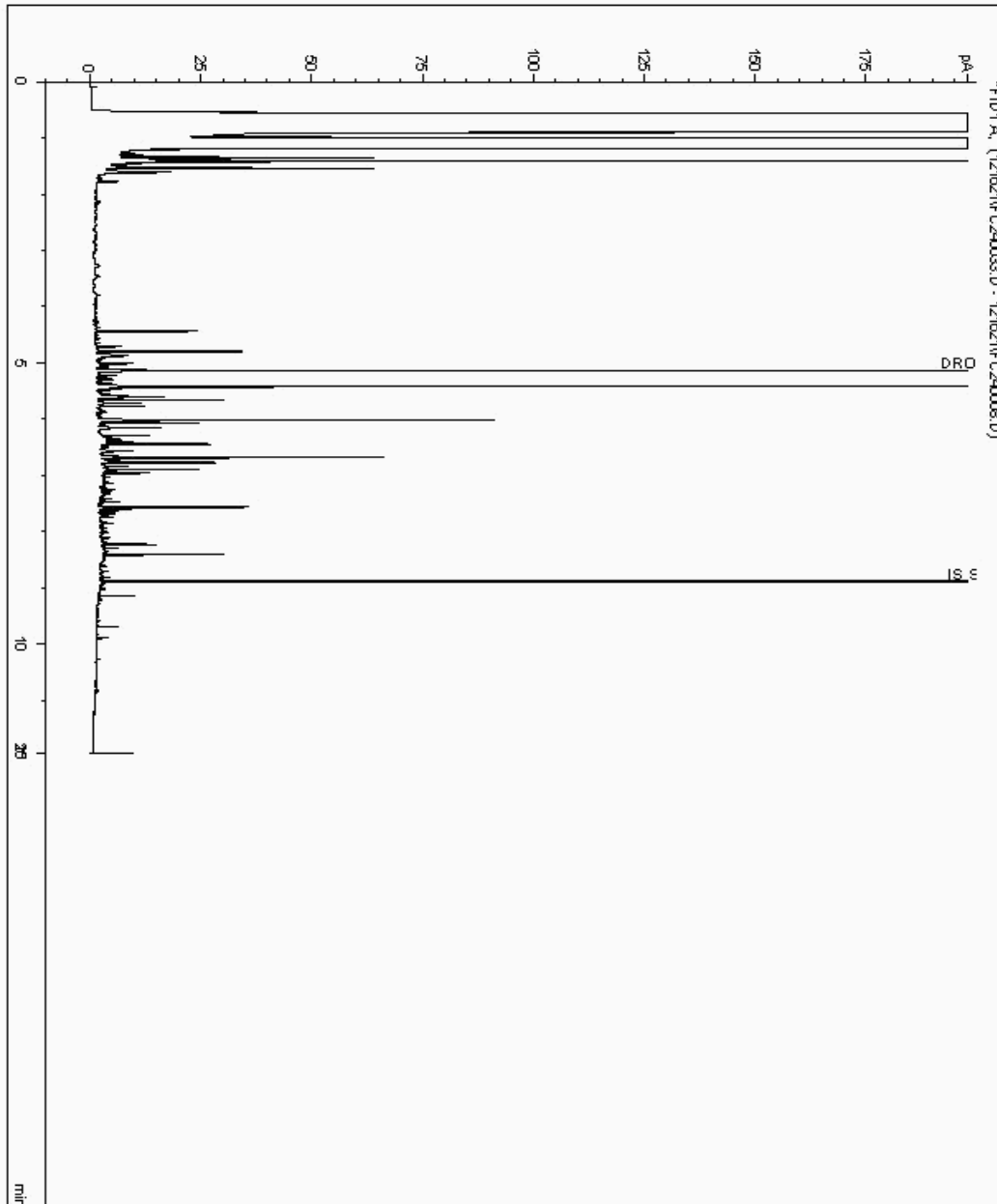
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 25534114
Sample ID : C4B

Depth : 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 23834986-
Date Acquired : 17/12/2021 06:12:48 PM
Units : ppm





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Appendix

General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

2. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALS reserve the right to charge for samples received and stored but not analysed.

3. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

4. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

5. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

6. NDP - No determination possible due to insufficient/unsuitable sample.

7. Results relate only to the items tested.

8. LoDs (Limit of Detection) for wet tests reported on a dry weight basis are not corrected for moisture content.

9. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

10. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

11. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

12. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.

13. For leachate preparations other than Zero Headspace Extraction (ZHE) volatile loss may occur.

14. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

15. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

16. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

17 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

19. Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Matrix interference
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples
§	Sampled on date not provided

20. Asbestos

When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining.

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.