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Newport City Council
Civic Centre
Newport
NP20 4UR

Attention: Luke Embrey

CERTIFICATE OF ANALYSIS

Date of report Generation:	06 November 2020
Customer:	Newport City Council
Sample Delivery Group (SDG):	200916-84
Your Reference:	Sept Leachate Area 2
Location:	Newport landfill site
Report No:	574402

This report has been revised and directly supersedes 574400 in its entirety.

We received 4 samples on Wednesday September 16, 2020 and 4 of these samples were scheduled for analysis which was completed on Friday November 06, 2020. 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 (Method codes TM) or ALS Environmental Aberdeen (Method codes S).

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

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
22834609	C4		0.00 - 0.00	14/09/2020
22834580	C2B		0.00 - 0.00	14/09/2020
22834632	C3B		0.00 - 0.00	14/09/2020
22834652	C1D		0.00 - 0.00	14/09/2020

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

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Results Legend

X Test

N No Determination Possible

Sample Types -
S - Soil/Solid
UNS - Unspecified Solid
GW - Ground Water
SW - Surface Water
LE - Land Leachate
PL - Prepared Leachate
PR - Process Water
SA - Saline Water
TE - Trade Effluent
TS - Treated Sewage
US - Untreated Sewage
RE - Recreational Water
DW - Drinking Water Non-regulatory
UNL - Unspecified Liquid
SL - Sludge
G - Gas
OTH - Other

Lab Sample No(s)									22834609							22834580						22834632						
Customer Sample Reference									C4							C2B						C3B						
AGS Reference																												
Depth (m)									0.00 - 0.00							0.00 - 0.00						0.00 - 0.00						
Container	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)							
Sample Type	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE							

Alkalinity as CaCO3	All	NDPs: 0 Tests: 4			X						X						X					
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 4			X						X						X					
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 4				X						X							X			
Anions by ion Chromatography	All	NDPs: 1 Tests: 0															N					
Anions by Kone (w)	All	NDPs: 1 Tests: 3			X						X						N					
BOD True Total	All	NDPs: 0 Tests: 4		X						X						X						
COD Unfiltered	All	NDPs: 0 Tests: 4		X						X						X						
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 4			X						X						X					
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 4						X						X								X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 4					X						X							X		
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4	X							X					X							
Ionic Balance	All	NDPs: 1 Tests: 3			X						X						N					
Mercury Dissolved	All	NDPs: 0 Tests: 4					X						X							X		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 4						X						X								X
Organotins in Aqueous Samples	All	NDPs: 0 Tests: 4	X							X					X							

22834652	C1D		0.00 - 0.00	ZnAc (ALE246)	LE																	
				NaOH (ALE245)	LE										X						X	
				HNO3 Filtered (ALE204)	LE											X				X		
				H2SO4 (ALE244)	LE			X															
				500ml Plastic (ALE208)	LE		X		X			X				X					X			
				250ml BOD (ALE212)	LE								X	X									
				0.5l glass bottle (ALE227)	LE														X				X
22834632	C3B		0.00 - 0.00	ZnAc (ALE246)	LE																	

CERTIFICATE OF ANALYSIS

Validated

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Results Legend

X Test

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Lab Sample No(s)			22834609								22834580								22834632							
Customer Sample Reference			C4								C2B								C3B							
AGS Reference																										
Depth (m)			0.00 - 0.00								0.00 - 0.00								0.00 - 0.00							
Container			0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)					
Sample Type			LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE	LE			
Pesticides (Suite I) by GCMS	All	NDPs: 0 Tests: 4	X							X							X									
Pesticides (Suite II) by GCMS	All	NDPs: 0 Tests: 5	X							X							X		X							
Pesticides (Suite III) by GCMS	All	NDPs: 0 Tests: 4	X							X							X									
pH Value	All	NDPs: 0 Tests: 4			X							X							X							
Phenols by HPLC (W)	All	NDPs: 0 Tests: 4				X							X							X						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 4			X							X							X							
Pyrethroids in water by GC-MS	All	NDPs: 0 Tests: 4	X							X							X									
Sulphide	All	NDPs: 0 Tests: 4							X							X										
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 4	X							X							X									
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 4				X							X							X						

								22834652
							C1D	
							0.00 - 0.00	
ZnAc (ALE246)	NaOH (ALE245)	HNO3 Filtered (ALE204)	H2SO4 (ALE244)	500ml Plastic (ALE208)	250ml BOD (ALE212)	0.5l glass bottle (ALE227)	ZnAc (ALE246)	
LE	LE	LE	LE	LE	LE	LE	LE	
						X		
						X		
						X		
				X				
			X					
				X				
						X		
X							X	
						X		
			X					

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Results Legend

#	ISO17025 accredited.
M	*m*CERTS 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)

Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
Ionic balance	% Diff	Calulation		-2.54	-1.58		0.378		
Alkalinity, Total as CaCO3	<2 mg/l	TM043		3060 #	6480 #	8400 #	3520 #		
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043		2990	6610	8720	3580		
Alkalinity, Bicarbonate as CaCO3 (diss.filt)	<2 mg/l	TM043		2990	6610	8720	3580		
BOD, unfiltered	<1 mg/l	TM045		53.2 #	78.6 #	251 #	31.4 #		
Organic Carbon, Total	<3 mg/l	TM090		268	520	1980	197		
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		361	1200	1820	496		
Sulphide	<0.01 mg/l	TM101		0.221	0.0342	0.0814	1.52		
COD, unfiltered	<7 mg/l	TM107		1030 #	1770 #	6980 #	678 #		
Conductivity @ 20 deg.C	<0.02 mS/cm	TM120		11.1 #	14.2 #	19.8 #	7.19 #		
Arsenic (diss.filt)	<0.5 µg/l	TM152		8.2 #	79.6 #	130 #	6.49 #		
Boron (diss.filt)	<10 µg/l	TM152		6910 #	11400 #	24100 #	4870 #		
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	0.0989 #	0.0819 #	<0.08 #		
Chromium (diss.filt)	<1 µg/l	TM152		43.9 #	162 #	533 #	43.8 #		
Copper (diss.filt)	<0.3 µg/l	TM152		2.54 #	19.8 #	1.53 #	0.572 #		
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2 #	0.833 #	3.25 #	0.479 #		
Manganese (diss.filt)	<3 µg/l	TM152		1890 #	636 #	288 #	1170 #		
Nickel (diss.filt)	<0.4 µg/l	TM152		85.4 #	162 #	183 #	66.2 #		
Selenium (diss.filt)	<1 µg/l	TM152		1.2 #	1.31 #	3.2 #	<1 #		
Zinc (diss.filt)	<1 µg/l	TM152		24.2 #	26.5 #	27.1 #	13.9 #		
Sodium (Dis.Filt)	<0.076 mg/l	TM152		1490 #	1350 #	2260 #	711 #		
Magnesium (Dis.Filt)	<0.036 mg/l	TM152		218 #	226 #	189 #	141 #		
Potassium (Dis.Filt)	<0.2 mg/l	TM152		298 #	548 #	531 #	264 #		
Calcium (Dis.Filt)	<0.2 mg/l	TM152		448 #	105 #	61.6 #	218 #		
Iron (Dis.Filt)	<0.019 mg/l	TM152		13 #	5.21 #	1.38 #	1.62 #		
Hardness, Total as CaCO3	<0.65 mg/l	TM152		2020	1190	932	1120		
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		2210	1650	5860	1380		
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	0.468 #	<0.01 #	<0.01 #		
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		<0.05	16.4	40.1	0.264		
Sulphate	<2 mg/l	TM184		<20	<20		<2		
Chloride	<2 mg/l	TM184		3050	1980		823		

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Results Legend

#	ISO17025 accredited.
M	*m*CERTS 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)

Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
Nitrate as NO3	<0.3 mg/l	TM184		<0.3	<1.5		0.459		
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1	<0.5		0.104		
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	0.05 #	0.18 #	<0.05 #		
pH	<1 pH Units	TM256		7.15 #	7.88 #	7.99 #	7.37 #		
Phenol	<0.002 mg/l	TM259		<0.01 #	<0.02 #	0.73 #	0.02 #		
Cresols	<0.006 mg/l	TM259		0.07 #	<0.06 #	0.58 #	<0.03 #		
Xylenols	<0.008 mg/l	TM259		<0.04 #	<0.08 #	<0.08 #	<0.04 #		
Phenols, Total Detected monohydric	<0.016 mg/l	TM259		<0.08 #	<0.16 #	1.31 #	<0.08 #		
Dibutyl tin	<5 ng/l	TM328		<150	<1500	<1500	<150		
Tributyl tin	<1 ng/l	TM328		<30	<300	<300	<30		
Tetrabutyl tin	<2 ng/l	TM328		<60	<600	<600	<60		
Triphenyl tin	<1 ng/l	TM328		<30	<300	<300	<30		
Surrogate	%	TM328		57.6	96.5	92.1	88.6		
Trifluralin	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
alpha-HCH	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
gamma-HCH (Lindane)	<0.01 µg/l	TM343		<0.01	<0.02	<0.2	<0.01		
Heptachlor	<0.01 µg/l	TM343		<0.02	<0.01	<0.4	<0.02		
Aldrin	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
beta-HCH	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
Isodrin	<0.01 µg/l	TM343		<0.01	<0.01	<0.4	<0.01		
delta-HCH	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
Heptachlor epoxide	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
o,p'-DDE	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
Endosulphan I	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
trans-Chlordane	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
cis-Chlordane	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
p,p'-DDE	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
Dieldrin	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
o,p'-DDD (TDE)	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		
Endrin	<0.01 µg/l	TM343		<0.02	<0.02	<0.6	<0.02		
o,p'-DDT	<0.01 µg/l	TM343		<0.06	<0.06	<1.6	<0.06		
p,p'-DDD (TDE)	<0.01 µg/l	TM343		<0.01	<0.01	<0.2	<0.01		

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Results Legend

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Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
Endosulphan II	<0.02 µg/l	TM343		<0.02	<0.02	<0.4	<0.02		
p,p'-DDT	<0.01 µg/l	TM343		<0.15	<0.15	<2	<0.15		
o,p'-Methoxychlor	<0.01 µg/l	TM343		<0.07	<0.07	<1.2	<0.07		
p,p'-Methoxychlor	<0.01 µg/l	TM343		<0.15	<0.15	<2	<0.15		
Endosulphan Sulphate	<0.02 µg/l	TM343		<0.06	<0.06	<0.8	<0.06		
Permethrin I	<0.01 µg/l	TM343		<0.02	<0.02	<0.2	<0.02		
Permethrin II	<0.01 µg/l	TM343		<0.02	<0.02	<0.2	<0.02		
1,3,5-Trichlorobenzene	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Hexachlorobutadiene	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
1,2,4-Trichlorobenzene	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
1,2,3-Trichlorobenzene	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Dichlorvos	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Dichlobenil	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Mevinphos	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Tecnazene	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Hexachlorobenzene	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Demeton-S-methyl	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Phorate	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Diazinon	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Triallate	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Atrazine	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Simazine	<0.01 µg/l	TM344		<0.02	<0.01	<0.01	<0.01		
Disulfoton	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Propetamphos	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Chlorpyriphos-methyl	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Dimethoate	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Pirimiphos-methyl	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Chlorpyriphos	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Methyl Parathion	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Malathion	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Fenthion	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Fenitrothion	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

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1-4+5@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
Triadimefon	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Pendimethalin	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Parathion	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Chlorfenvinphos	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
trans-Chlordane	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
cis-Chlordane	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Ethion	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Carbophenothion	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Triazophos	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Phosalone	<0.01 µg/l	TM344		<0.02	<0.01	<0.02	<0.01		
Azinphos methyl	<0.02 µg/l	TM344		<0.08	<0.04	<0.08	<0.04		
Azinphos ethyl	<0.02 µg/l	TM344		<0.04	<0.02	<0.04	<0.02		
Etridiazole	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Pentachlorobenzene	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Tributylphosphate	<0.01 µg/l	TM345			<0.1	<0.1			
Propachlor	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Quintozene (PCNB)	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Omethoate	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Propazine	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Propyzamide	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Alachlor	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Prometryn	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Telodrin	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Terbutryn	<0.01 µg/l	TM345		<0.01	0.418	0.62	<0.01		
Chlorothalonil	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Etrimphos	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Metazachlor	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Cyanazine	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Trietazine	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Coumaphos	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Phosphamidon I	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		
Phosphamidon II	<0.01 µg/l	TM345		<0.01	<0.1	<0.1	<0.01		

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Results Legend

#	ISO17025 accredited.
M	*m*CERTS 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+$@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
Cypermethrin	<0.05 µg/l	TM398		<0.1	<0.05	<0.1	<0.05		

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS 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)

Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2-Chlorophenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2-Methylphenol (aq)	<1 µg/l	TM176		<8	<10	250	<8		
2-Nitroaniline (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
2-Nitrophenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
3-Nitroaniline (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
4-Chloroaniline (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
4-Methylphenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
4-Nitroaniline (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
4-Nitrophenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Azobenzene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Acenaphthylene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Acenaphthene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Anthracene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<16	<20	80.8	<16		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<8	<10	<20	<8		

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS 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)

Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Carbazole (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Chrysene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Dibenzofuran (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Diethyl phthalate (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Dimethyl phthalate (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<40	<50	<100	<40		
Fluoranthene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Fluorene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Hexachlorobenzene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Pentachlorophenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Phenol (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Hexachloroethane (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Nitrobenzene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Naphthalene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Isophorone (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Phenanthrene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
Pyrene (aq)	<1 µg/l	TM176		<8	<10	<20	<8		
SVOC TIC (aq)		TM176		Detected	Detected	Detected	Detected		
Total SVOC TIC	<10 µg/l	TM176		5520	3240	23000	3060		
1,1'-oxybis[2-ethoxy-]ethane	µg/l	TM176					107		
2(3H)-Benzothiazolone	µg/l	TM176		432		1760			

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS 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)

Component	LOD/Units	Method	Customer Sample Ref.	C4	C2B	C3B	C1D		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)	Land Leachate (LE)		
			Date Sampled	14/09/2020	14/09/2020	14/09/2020	14/09/2020		
			Sampled Time	.	.	.	.		
			Date Received	16/09/2020	16/09/2020	16/09/2020	16/09/2020		
			SDG Ref	200916-84	200916-84	200916-84	200916-84		
			Lab Sample No.(s)	22834609	22834580	22834632	22834652		
			AGS Reference						
2-Phenyl-2-Butanol	µg/l	TM176				1780			
3,5,5-trimethyl hexanoic acid	µg/l	TM176		497	940	3390	625		
3,5-di-tert-Butyl-4-hydroxypheny lpropionic acid	µg/l	TM176				1090			
3-Ethylheptanoic acid	µg/l	TM176				2890			
4,4'-(1-methylethylidene)bis phenol	µg/l	TM176				4990			
Ibuprofen	µg/l	TM176			145				
Methoxymethyl-dimethylcyclohe ptatriene	µg/l	TM176				481			
p-tert-butyl benzoic acid	µg/l	TM176				403			
Triisopropylphosphate	µg/l	TM176		3190	1700	3080	1850		
unknown	µg/l	TM176			457	3160	479		
unknown 1	µg/l	TM176		218					
unknown 2	µg/l	TM176		832					
unknown 3	µg/l	TM176		357					

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Notification of NDPs (No determination possible)

Date Received : 16/09/2020 10:46:37

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
22834632	C3B	0.00 - 0.00	Ionic Balance	Sample too coloured
22834632	C3B	0.00 - 0.00	Anions by Kone (w)	Sample too coloured
22834632	C3B	0.00 - 0.00	Anions by ion Chromatography	Sample too coloured

Table of Results - Appendix

Method No	Reference	Description
Calulation		
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	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
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.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM328		
TM343	EPA 8270D - Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of Selected Pesticides (Suite I) in Liquids by GCMS
TM344	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite II) by GCMS
TM345	EPA 8270D – Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of selected pesticides (Suite III) by GCMS
TM398		Pyrethroids in water by GC-MS

NA = not applicable.

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

CERTIFICATE OF ANALYSIS

SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Test Completion Dates

Lab Sample No(s)	22834609	22834580	22834632	22834652
Customer Sample Ref.	C4	C2B	C3B	C1D
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	20-Sep-2020	20-Sep-2020	20-Sep-2020	20-Sep-2020
Alkalinity Filtered as CaCO3	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Ammoniacal Nitrogen	18-Sep-2020	23-Sep-2020	21-Sep-2020	19-Sep-2020
Anions by Kone (w)	22-Sep-2020	22-Sep-2020		22-Sep-2020
BOD True Total	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020
COD Unfiltered	20-Sep-2020	20-Sep-2020	20-Sep-2020	20-Sep-2020
Conductivity (at 20 deg.C)	18-Sep-2020	18-Sep-2020	18-Sep-2020	18-Sep-2020
Cyanide Comp/Free/Total/Thiocyanate	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Dissolved Metals by ICP-MS	23-Sep-2020	22-Sep-2020	23-Sep-2020	22-Sep-2020
EPH (DRO) (C10-C40) Aqueous (W)	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020
Ionic Balance	24-Sep-2020	24-Sep-2020		24-Sep-2020
Mercury Dissolved	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020
Nitrite by Kone (w)	18-Sep-2020	18-Sep-2020	18-Sep-2020	18-Sep-2020
Organotins in Aqueous Samples	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020
Pesticides (Suite I) by GCMS	23-Sep-2020	23-Sep-2020	23-Sep-2020	23-Sep-2020
Pesticides (Suite II) by GCMS	22-Sep-2020	22-Sep-2020	25-Sep-2020	22-Sep-2020
Pesticides (Suite III) by GCMS	24-Sep-2020	24-Sep-2020	24-Sep-2020	24-Sep-2020
pH Value	18-Sep-2020	18-Sep-2020	18-Sep-2020	18-Sep-2020
Phenols by HPLC (W)	21-Sep-2020	21-Sep-2020	21-Sep-2020	21-Sep-2020
Phosphate by Kone (w)	18-Sep-2020	18-Sep-2020	18-Sep-2020	18-Sep-2020
Pyrethroids in water by GC-MS	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020
Sulphide	22-Sep-2020	22-Sep-2020	22-Sep-2020	22-Sep-2020
SVOC MS (W) - Aqueous	28-Sep-2020	06-Nov-2020	06-Nov-2020	28-Sep-2020
Total Organic and Inorganic Carbon	19-Sep-2020	19-Sep-2020	19-Sep-2020	19-Sep-2020

CERTIFICATE OF ANALYSIS

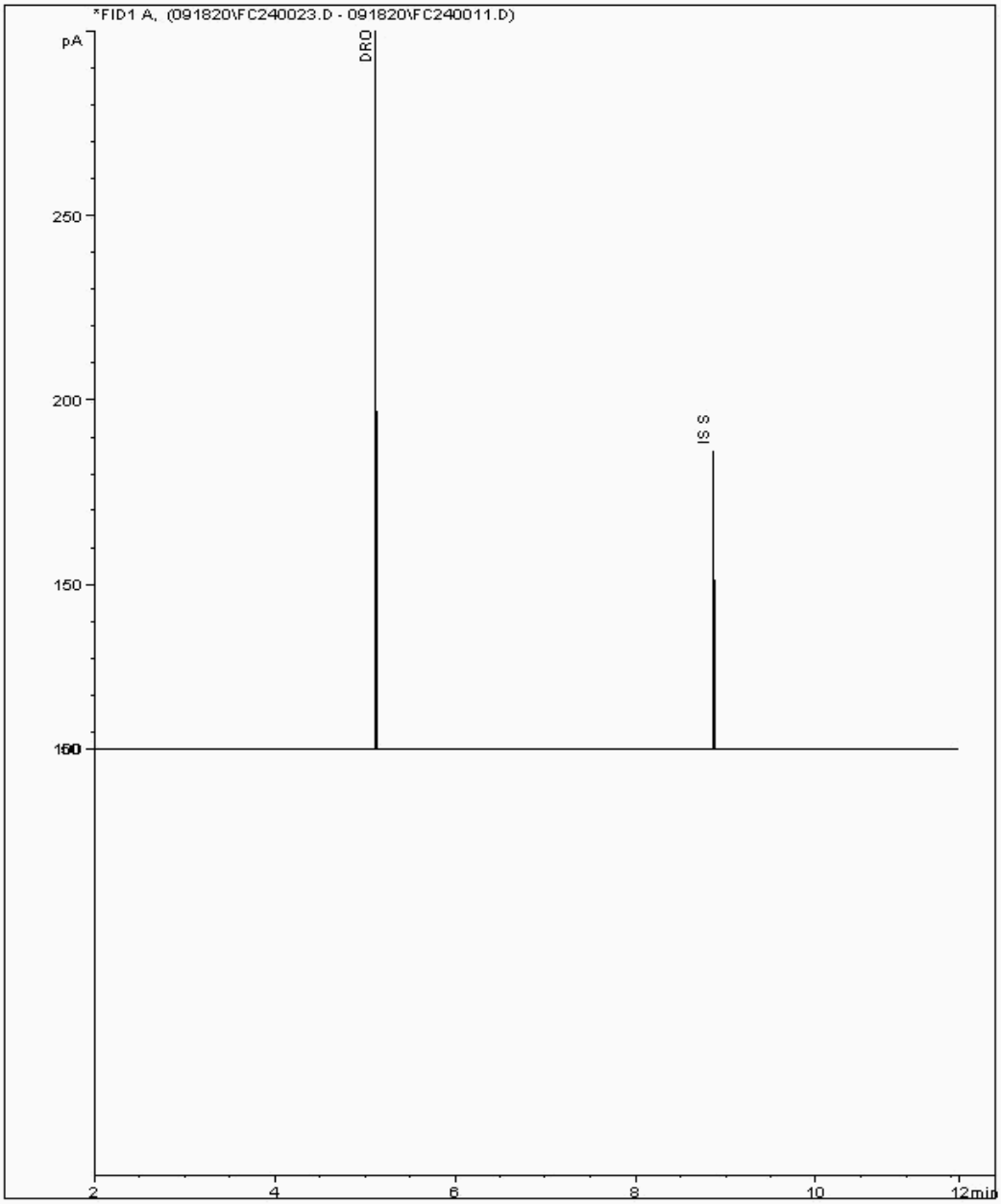
SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 22842996 **Sample ID :** C4 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21446662-
Date Acquired : 18/09/2020 22:53:25 PM
Units : ppm



CERTIFICATE OF ANALYSIS

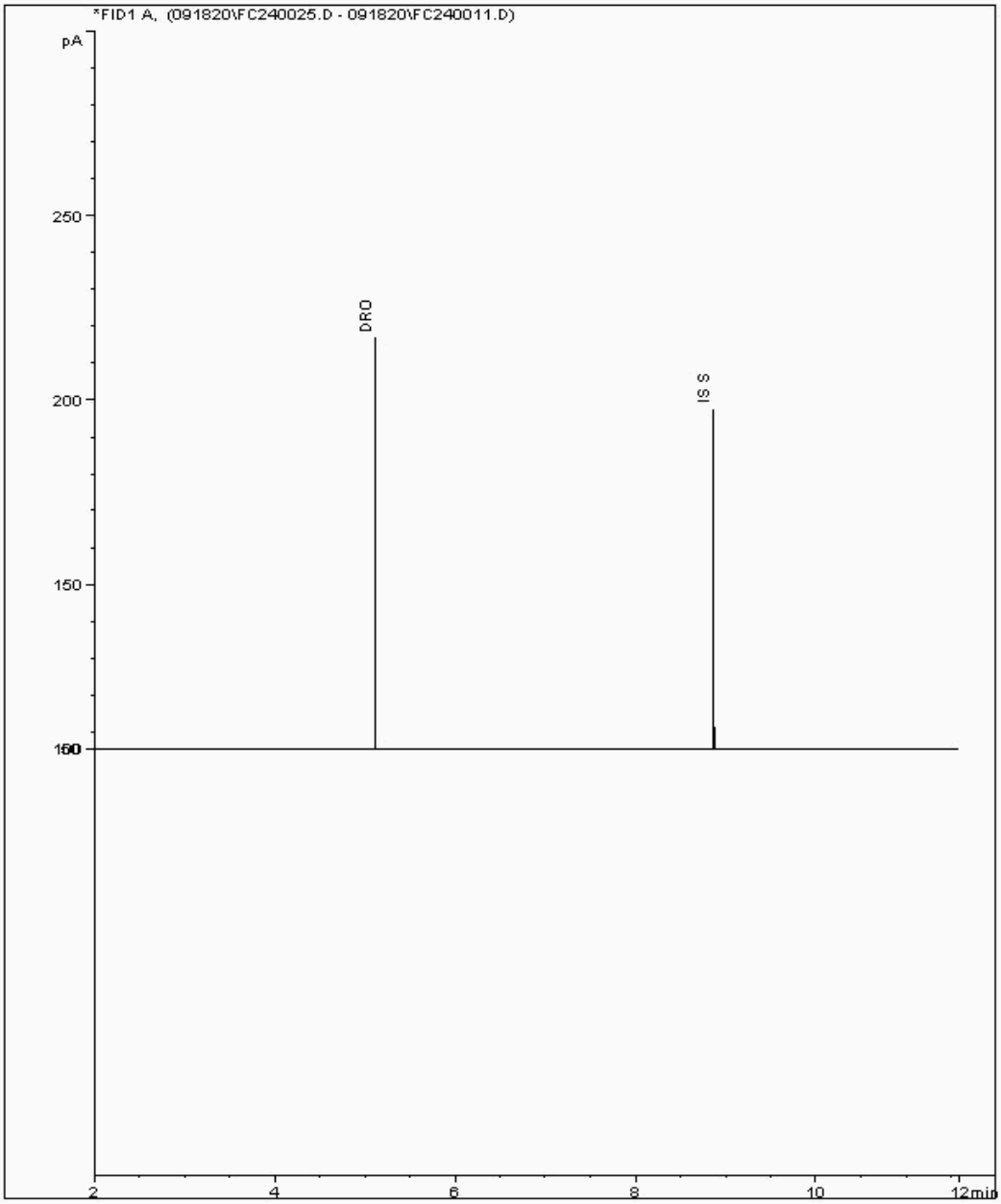
SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 22843083 **Sample ID :** C1D **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21446727-
Date Acquired : 18/09/2020 23:41:35 PM
Units : ppm



CERTIFICATE OF ANALYSIS

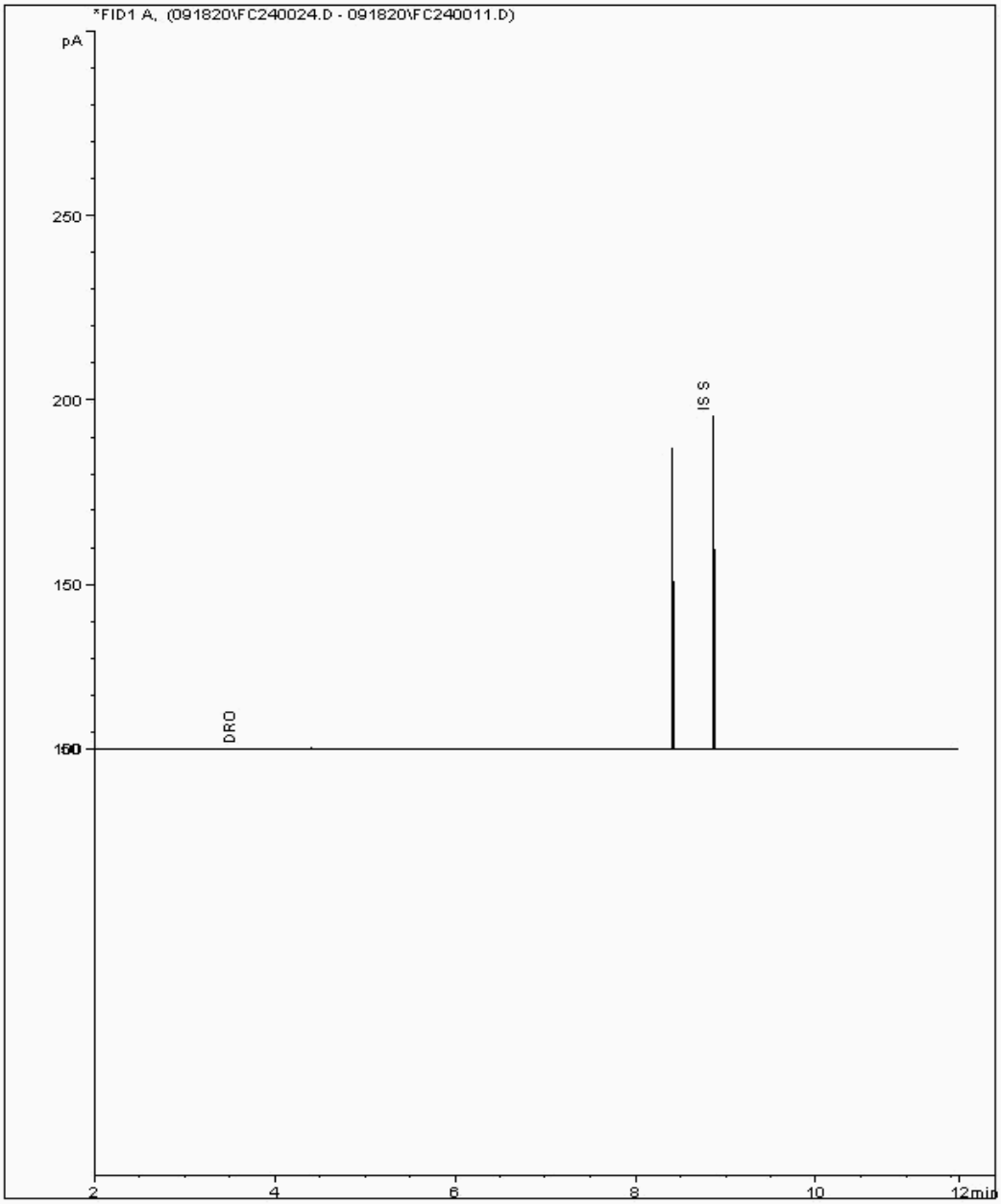
SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 22843205 **Sample ID :** C3B **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21446695-
Date Acquired : 18/09/2020 23:17:32 PM
Units : ppm



CERTIFICATE OF ANALYSIS

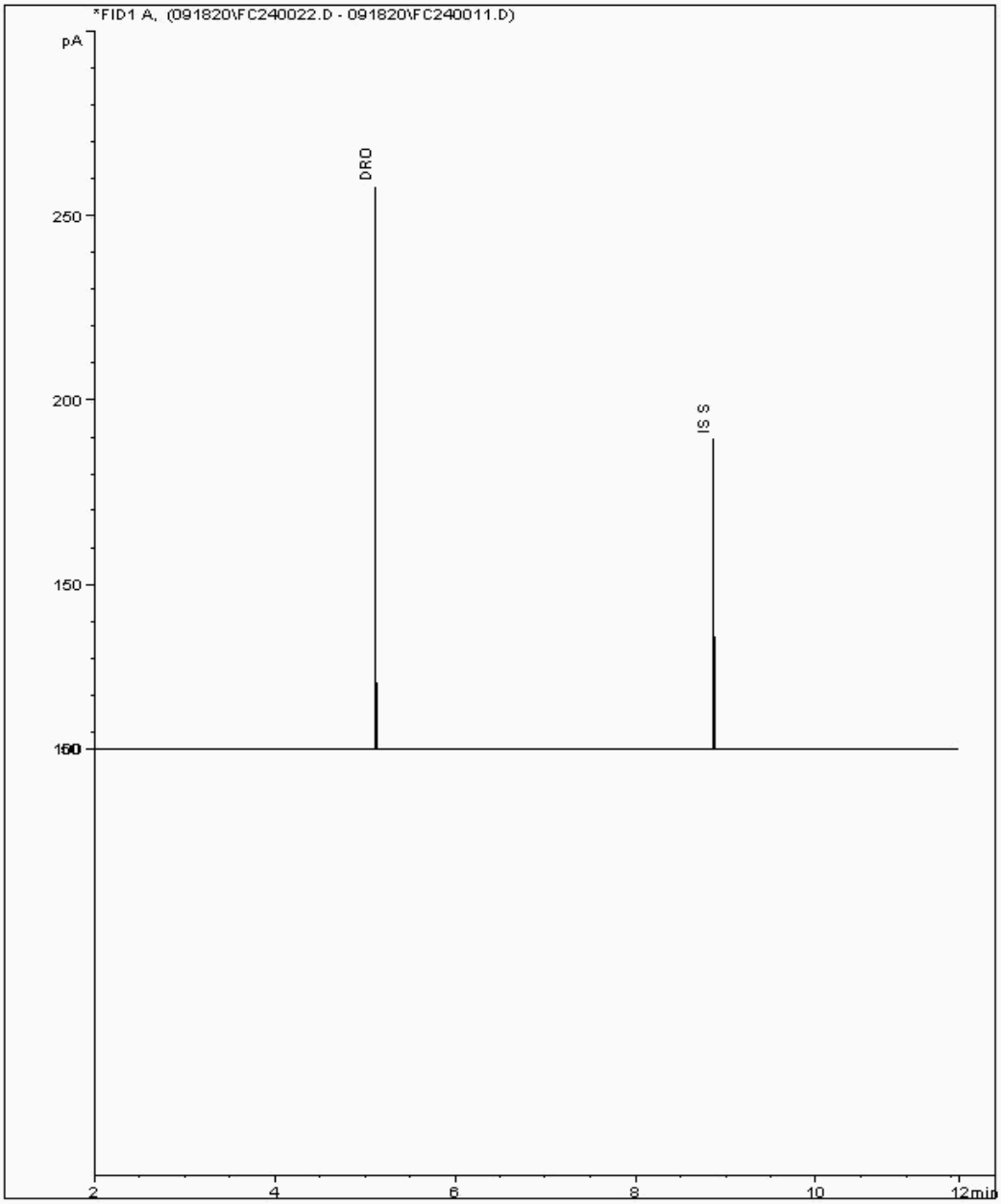
SDG:	200916-84	**Client Reference:**	Sept Leachate Area 2	**Report Number:**	574402
Location:	Newport landfill site	**Order Number:**	700154310	**Superseded Report:**	574400

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 22843257 **Sample ID :** C2B **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 21446608-
Date Acquired : 18/09/2020 22:29:11 PM
Units : ppm



Appendix General

1. Results are expressed on a dry weight basis (dried at 35ºC) 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. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

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. **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.

18. **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**

19. **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, based on HSG 248 (2005).

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.
Standing Committee of Analysts, *The Quantification of Asbestos in Soil (2017).*

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.