Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528700
Fax: (01244) 528701
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Website: www.alsenvironmental.co.uk

Newport City Council
Civic Centre
Newport
NP20 4UR

Attention: Meirion Humphreys

CERTIFICATE OF ANALYSIS

Date:	03 August 2018
Customer:	H_NCC_NPT
Sample Delivery Group (SDG):	180629-24
Your Reference:	
Location:	Docksway Landfill Site
Report No:	467242

This report has been revised and directly supersedes 467116 in its entirety.

We received 17 samples on Friday June 29, 2018 and 17 of these samples were scheduled for analysis which was completed on Friday August 03, 2018. 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).

Approved By:

Sonia McWhan

Operations Manager

ALS Environmental is part of ALS Life Sciences Limited. ALS Life Sciences Limited registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
17839759	C3_Asb		0.00 - 0.00	28/06/2018
17839732	C2B		0.00 - 0.00	28/06/2018
17839851	GW03_09		0.00 - 0.00	28/06/2018
17839682	GW06_13		0.00 - 0.00	28/06/2018
17839880	GW06_34		0.00 - 0.00	28/06/2018
17839639	GW06_36		0.00 - 0.00	28/06/2018
17839653	GW06_37		0.00 - 0.00	28/06/2018
17839707	GW07_40		0.00 - 0.00	28/06/2018
17839805	GW09_31		0.00 - 0.00	28/06/2018
17839831	GW09_32		0.00 - 0.00	28/06/2018
17839898	GW09_35		0.00 - 0.00	28/06/2018
17839865	GW12_33		0.00 - 0.00	28/06/2018
17839669	GW12_38		0.00 - 0.00	28/06/2018
17839765	LF_C3B		0.00 - 0.00	28/06/2018
17839633	SW_23		0.00 - 0.00	28/06/2018
17839787	SW_24		0.00 - 0.00	28/06/2018
17839793	SW_1A		0.00 - 0.00	28/06/2018

Maximum Sample/Coolbox Temperature (°C) : **7168992**

ISO5667-3 Water quality - Sampling - Part3 -
During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

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

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

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)			17839759																					17839732												17839851												17839682
Customer Sample Reference			C3_Asb																					C2B												GW03_09												GW06_13
AGS Reference																																																
Depth (m)			0.00 - 0.00																					0.00 - 0.00												0.00 - 0.00												0.00 - 0.00
Container			250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
Sample Type			SW	SW	SW	LE	LE	LE	LE	LE	LE	LE	LE	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 11														X																																
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 2						X																																								
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 17			X				X								X																															
Anions by Kone (w)	All	NDPs: 0 Tests: 17		X				X								X																																
BOD True Total	All	NDPs: 0 Tests: 17	X				X								X																																	
COD Unfiltered	All	NDPs: 0 Tests: 17	X				X								X																																	
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 17		X				X								X																																
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 13									X								X								X																					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13								X								X																														
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 11												X																																		X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 13				X								X																																		X
Ionic Balance	All	NDPs: 0 Tests: 11						X																																								
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13									X								X								X																					
pH Value	All	NDPs: 0 Tests: 17		X				X								X																																
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13						X								X																																

17839639	GW06_36		0.00 - 0.00	HNO3 Filtered (ALE204)	GW										X						
				H2SO4 (ALE244)	GW			X													
				500ml Plastic (ALE208)	GW	X			X			X						X		X	X
				250ml BOD (ALE212)	GW					X	X										
				0.5l glass bottle (ALE227)	GW											X	X				
17839880	GW06_34		0.00 - 0.00	ZnAc (ALE246)	GW																
				Vial (ALE297)	GW																
				NaOH (ALE245)	GW								X						X		
				HNO3 Filtered (ALE204)	GW										X						
				H2SO4 (ALE244)	GW			X													
				500ml Plastic (ALE208)	GW	X			X			X						X		X	X
				250ml BOD (ALE212)	GW					X	X										
				0.5l glass bottle (ALE227)	GW											X	X				
17839682	GW06_13		0.00 - 0.00	ZnAc (ALE246)	GW																
				Vial (ALE297)	GW																
				NaOH (ALE245)	GW								X						X		
				HNO3 Filtered (ALE204)	GW										X						
				H2SO4 (ALE244)	GW			X													
				500ml Plastic (ALE208)	GW	X			X			X						X		X	X
				250ml BOD (ALE212)	GW					X	X										

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

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)			17839759											17839732											17839851		17839682
Customer Sample Reference			C3_Asb											C2B											GW03_09		GW06_13
AGS Reference																											
Depth (m)			0.00 - 0.00											0.00 - 0.00											0.00 - 0.00		0.00 - 0.00
Container			250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
Sample Type			SW	SW	SW	LE	LE	LE	LE	LE	LE	LE	LE	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Sulphide	All	NDPs: 0 Tests: 13											X								X	
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2							X													
VOC MS (W)	All	NDPs: 0 Tests: 13										X								X		

17839639	GW06_36		0.00 - 0.00	HNO3 Filtered (ALE204)	GW						
				H2SO4 (ALE244)	GW						
				500ml Plastic (ALE208)	GW						
				250ml BOD (ALE212)	GW						
				0.5l glass bottle (ALE227)	GW						
17839880	GW06_34		0.00 - 0.00	ZnAc (ALE246)	GW		X				
				Vial (ALE297)	GW						X
				NaOH (ALE245)	GW						
				HNO3 Filtered (ALE204)	GW						
				H2SO4 (ALE244)	GW						
				500ml Plastic (ALE208)	GW						
				250ml BOD (ALE212)	GW						
				0.5l glass bottle (ALE227)	GW						
17839682	GW06_13		0.00 - 0.00	ZnAc (ALE246)	GW		X				
				Vial (ALE297)	GW						X
				NaOH (ALE245)	GW						
				HNO3 Filtered (ALE204)	GW						
				H2SO4 (ALE244)	GW						
				500ml Plastic (ALE208)	GW						
				250ml BOD (ALE212)	GW						

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

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)			17839639																				17839653												17839707												17839805
Customer Sample Reference			GW06_36																				GW06_37												GW07_40												GW09_31
AGS Reference																																															
Depth (m)			0.00 - 0.00																				0.00 - 0.00												0.00 - 0.00												0.00 - 0.00
Container			NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 11						X								X						
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 17							X								X					
Anions by Kone (w)	All	NDPs: 0 Tests: 17						X								X						
BOD True Total	All	NDPs: 0 Tests: 17					X								X							
COD Unfiltered	All	NDPs: 0 Tests: 17					X								X							
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 17						X								X						
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 13	X								X								X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13								X								X				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 11				X								X								X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 13				X								X								X
Ionic Balance	All	NDPs: 0 Tests: 11						X								X						
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13	X								X								X			
pH Value	All	NDPs: 0 Tests: 17						X								X						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13						X								X						
Sulphide	All	NDPs: 0 Tests: 13			X								X								X	

17839898	GW09_35		0.00 - 0.00	HNO3 Filtered (ALE204)	GW									X							
				H2SO4 (ALE244)	GW			X													
				500ml Plastic (ALE208)	GW		X		X				X							X		X	
				250ml BOD (ALE212)	GW					X		X											
				0.5l glass bottle (ALE227)	GW											X		X					
17839831	GW09_32		0.00 - 0.00	ZnAc (ALE246)	GW																		X
				Vial (ALE297)	GW																		
				NaOH (ALE245)	GW									X						X			
				HNO3 Filtered (ALE204)	GW										X								
				H2SO4 (ALE244)	GW			X															
				500ml Plastic (ALE208)	GW		X		X				X						X		X		X	
				250ml BOD (ALE212)	GW					X		X											
				0.5l glass bottle (ALE227)	GW											X		X					
17839805	GW09_31		0.00 - 0.00	ZnAc (ALE246)	GW																		X
				Vial (ALE297)	GW																		
				NaOH (ALE245)	GW									X						X			
				HNO3 Filtered (ALE204)	GW										X								
				H2SO4 (ALE244)	GW			X															
				500ml Plastic (ALE208)	GW		X		X				X						X		X		X	
				250ml BOD (ALE212)	GW					X		X											

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

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)	17839639			17839653									17839707								17839805
Customer Sample Reference	GW06_36			GW06_37									GW07_40								GW09_31
AGS Reference																					
Depth (m)	0.00 - 0.00			0.00 - 0.00									0.00 - 0.00								0.00 - 0.00
Container	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
Sample Type	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
VOC MS (W) — All — NDPs: 0, Tests: 13		X								X								X			

17839898	GW09_35		0.00 - 0.00	HNO3 Filtered (ALE204)	GW		
				H2SO4 (ALE244)	GW		
				500ml Plastic (ALE208)	GW		
				250ml BOD (ALE212)	GW		
				0.5l glass bottle (ALE227)	GW		
17839831	GW09_32		0.00 - 0.00	ZnAc (ALE246)	GW		
				Vial (ALE297)	GW		X
				NaOH (ALE245)	GW		
				HNO3 Filtered (ALE204)	GW		
				H2SO4 (ALE244)	GW		
				500ml Plastic (ALE208)	GW		
				250ml BOD (ALE212)	GW		
				0.5l glass bottle (ALE227)	GW		
17839805	GW09_31		0.00 - 0.00	ZnAc (ALE246)	GW		
				Vial (ALE297)	GW		X
				NaOH (ALE245)	GW		
				HNO3 Filtered (ALE204)	GW		
				H2SO4 (ALE244)	GW		
				500ml Plastic (ALE208)	GW		
				250ml BOD (ALE212)	GW		

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

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)			17839898																				17839865																17839669																17839765
Customer Sample Reference			GW09_35																				GW12_33																GW12_38																LF_C3B
AGS Reference																																																						
Depth (m)			0.00 - 0.00																				0.00 - 0.00																0.00 - 0.00																0.00 - 0.00
Container			NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	LE
Alkalinity as CaCO3	All	NDPs: 0 Tests: 11						X								X						
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 2																				
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 17							X								X					
Anions by Kone (w)	All	NDPs: 0 Tests: 17						X								X						
BOD True Total	All	NDPs: 0 Tests: 17					X								X							
COD Unfiltered	All	NDPs: 0 Tests: 17					X								X							
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 17						X								X						
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 13	X								X								X			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13								X								X				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 11				X								X								
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 13				X								X								X
Ionic Balance	All	NDPs: 0 Tests: 11						X								X						
Nitrite by Kone (w)	All	NDPs: 0 Tests: 13	X								X								X			
pH Value	All	NDPs: 0 Tests: 17						X								X						
Phosphate by Kone (w)	All	NDPs: 0 Tests: 13						X								X						

17839793	SW_1A		0.00 - 0.00	H2SO4 (ALE244)	SW			X													
				500ml Plastic (ALE208)	SW				X			X								X	
				250ml BOD (ALE212)	SW					X	X										
17839787	SW_24		0.00 - 0.00	H2SO4 (ALE244)	SW			X													
				500ml Plastic (ALE208)	SW				X			X								X	
				250ml BOD (ALE212)	SW					X	X										
17839633	SW_23		0.00 - 0.00	H2SO4 (ALE244)	SW			X													
				500ml Plastic (ALE208)	SW				X			X								X	
				250ml BOD (ALE212)	SW					X	X										
17839765	LF_C3B		0.00 - 0.00	ZnAc (ALE246)	LE																
				Vial (ALE297)	LE																
				NaOH (ALE245)	LE								X					X			
				HNO3 Filtered (ALE204)	LE									X							
				H2SO4 (ALE244)	LE			X													
				500ml Plastic (ALE208)	LE		X		X			X						X		X	X
				250ml BOD (ALE212)	LE					X	X										

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

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)			17839898									17839865									17839669									17839765
Customer Sample Reference			GW09_35									GW12_33									GW12_38									LF_C3B
AGS Reference																														
Depth (m)			0.00 - 0.00									0.00 - 0.00									0.00 - 0.00									0.00 - 0.00
Container			NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	HNO3 Filtered (ALE204)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	LE
Sulphide	All	NDPs: 0 Tests: 13			X								X								X	
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2																				
VOC MS (W)	All	NDPs: 0 Tests: 13		X								X								X		

17839793	SW_1A		0.00 - 0.00	H2SO4 (ALE244)	SW							
				500ml Plastic (ALE208)	SW							
				250ml BOD (ALE212)	SW							
17839787	SW_24		0.00 - 0.00	H2SO4 (ALE244)	SW							
				500ml Plastic (ALE208)	SW							
				250ml BOD (ALE212)	SW							
17839633	SW_23		0.00 - 0.00	H2SO4 (ALE244)	SW							
				500ml Plastic (ALE208)	SW							
				250ml BOD (ALE212)	SW							
17839765	LF_C3B		0.00 - 0.00	ZnAc (ALE246)	LE		X					
				Vial (ALE297)	LE						X	
				NaOH (ALE245)	LE							
				HNO3 Filtered (ALE204)	LE							
				H2SO4 (ALE244)	LE				X			
				500ml Plastic (ALE208)	LE							
				250ml BOD (ALE212)	LE							

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% 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
1-5&+§@	Sample deviation (see appendix)

Customer Sample Ref.			C3_Asb	C2B	GW03_09	GW06_13	GW06_34	GW06_36
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sample Type			Surface Water (SW)	Land Leachate (LE)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018
Sampled Time			.	.	.	.	.	.
Date Received			29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018
SDG Ref			180629-24	180629-24	180629-24	180629-24	180629-24	180629-24
Lab Sample No.(s)			17839759	17839732	17839851	17839682	17839880	17839639
AGS Reference								
Component	**LOD/Units**	**Method**						
Ionic balance	% Diff	Calulation		1.84	-58.6	-3.27	5.48	4
Alkalinity, Total as CaCO3	<2 mg/l	TM043			650 #	895 #	605 #	970 #
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043		7150				
BOD, unfiltered	<1 mg/l	TM045	5.34 #	97.5 #	<1 #	<1 #	15.6 #	<1 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090			5.11 ♦	11.3	13.9	12.5
Organic Carbon, Total	<3 mg/l	TM090		541 ♦				
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	0.246 #	1310	0.214 #	10.7 #	2.9 #	10.8 #
Sulphide	<0.01 mg/l	TM101		0.208	0.0258 #	0.0832 #	9.33 #	0.651 #
COD, unfiltered	<7 mg/l	TM107	66.5 #	1690 #	52 #	139 #	46.6 #	131 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120	1.61 #	15.1 #	3.55 #	7.46 #	1.24 #	10.1 #
Arsenic (diss.filt)	<0.5 µg/l	TM152		65.2 #	1.45 #	6.95 #	6.98 #	4.23 #
Boron (diss.filt)	<10 µg/l	TM152		8370 #	179 #	1520 #	567 #	1400 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		0.0929 #	<0.08 #	<0.08 #	<0.08 #	0.271 #
Chromium (diss.filt)	<1 µg/l	TM152		238 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152		0.655 #	2.36 #	<0.3 #	<0.3 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152		0.961 #	0.333 #	<0.2 #	<0.2 #	0.203 #
Manganese (diss.filt)	<3 µg/l	TM152		759 #	175 #	193 #	3070 #	504 #
Nickel (diss.filt)	<0.4 µg/l	TM152		177 #	1.85 #	1.33 #	2.74 #	2.81 #
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152		23.1 #	3.42 #	4.51 #	3.7 #	2.33 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152		693 #	8.48 #	55.4 #	20.9 #	67.5 ♦ #
Iron (Dis.Filt)	<0.019 mg/l	TM152		10.7 #	0.0554 #	0.407 #	0.681 #	2.09 #
Hardness, Total as CaCO3	<0.65 mg/l	TM152		1060	334	1170	651	1580
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		1620	<100	<100	<100	<100
Nitrite as NO2	<0.05 mg/l	TM184		<0.5	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		24.9	2.76 #	4.43 #	3.49 #	9.24 #
Sulphate	<2 mg/l	TM184		<10	180 #	137 #	56.3 #	96.2 #
Chloride	<2 mg/l	TM184	225 #	1910	847 #	2540 #	91.7 #	3550 #
Nitrate as NO3	<0.3 mg/l	TM184		<1.5	7.65	<0.3	<0.3	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.5	1.74 #	<0.1 #	<0.1 #	<0.1 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
pH	<1 pH Units	TM256	8.11 #	7.87 #	7.96 #	8.05 #	7.66 #	7.93 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% 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
1-5&+§@	Sample deviation (see appendix)

Customer Sample Ref.			GW06_37	GW07_40	GW09_31	GW09_32	GW09_35	GW12_33
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018
Sampled Time			.	.	.	.	.	.
Date Received			29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018
SDG Ref			180629-24	180629-24	180629-24	180629-24	180629-24	180629-24
Lab Sample No.(s)			17839653	17839707	17839805	17839831	17839898	17839865
AGS Reference								
Component	**LOD/Units**	**Method**						
Ionic balance	% Diff	Calulation	-3.79	-9.24	1.42	15.4	-22.1	-3.25
Alkalinity, Total as CaCO3	<2 mg/l	TM043	1040 #	565 #	585 #	350 #	905 #	990 #
BOD, unfiltered	<1 mg/l	TM045	8.06 #	2.23 #	<1 #	7.38 #	<1 #	11 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090	27.7	15.2	11.1 ♦	17.2	12.6	23.7
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	27.5 #	11.1 #	2.21 #	7.13 #	8.67 #	17.8 #
Sulphide	<0.01 mg/l	TM101	5.75 #	0.141 #	0.659 #	0.0161 #	0.253 #	0.147 #
COD, unfiltered	<7 mg/l	TM107	187 #	44.3 #	31.1 #	100 #	135 #	82.4 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120	12.3 #	1.63 #	1.88 #	1.87 #	11.5 #	3.26 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	22.2 #	13.3 #	3.39 #	4.87 #	3.81 #	186 #
Boron (diss.filt)	<10 µg/l	TM152	1740 #	1300 #	475 #	662 #	1210 #	1380 #
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3 #	<0.3 #	<0.3 #	0.75 #	1.91 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	<0.2 #	0.277 #	<0.2 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152	425 #	77.6 #	1580 #	584 #	1240 #	616 #
Nickel (diss.filt)	<0.4 µg/l	TM152	2.45 #	5.13 #	4.81 #	4.58 #	2.77 #	3.85 #
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	<1 #	10.1 #	5.53 #	5.43 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152	79.5 #	27.7 #	23.2 #	30 #	47.2 ♦ #	44.9 #
Iron (Dis.Filt)	<0.019 mg/l	TM152	1.64 #	0.907 #	2.14 #	2.64 #	2.27 #	8.45 #
Hardness, Total as CaCO3	<0.65 mg/l	TM152	1540	278	848	535	1300	722
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	<100	<100	<100	292	<100	129
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	6.83 #	9.11 #	0.396 #	<0.05 #	9.95 #	0.708 #
Sulphate	<2 mg/l	TM184	<2 #	162 #	256 #	355 #	143 #	<2 #
Chloride	<2 mg/l	TM184	4580 #	228 #	227 #	267 #	4270 #	700 #
Nitrate as NO3	<0.3 mg/l	TM184	<0.3	1.5	<0.3	0.623	<0.3	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	<0.1 #	0.348 #	<0.1 #	0.152 #	<0.1 #	<0.1 #
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
pH	<1 pH Units	TM256	7.85 #	8.19 #	7.59 #	7.39 #	7.87 #	7.76 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% 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
1-5&+§@	Sample deviation (see appendix)

Customer Sample Ref.			GW12_38	LF_C3B	SW_23	SW_24	SW_1A
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sample Type			Ground Water (GW)	Land Leachate (LE)	Surface Water (SW)	Surface Water (SW)	Surface Water (SW)
Date Sampled			28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018
Sampled Time			.	.	.	.	.
Date Received			29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018
SDG Ref			180629-24	180629-24	180629-24	180629-24	180629-24
Lab Sample No.(s)			17839669	17839765	17839633	17839787	17839793
AGS Reference							
Component	**LOD/Units**	**Method**					
Ionic balance	% Diff	Calulation	3.09	0.643			
Alkalinity, Total as CaCO3	<2 mg/l	TM043	600 #				
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043		3680			
BOD, unfiltered	<1 mg/l	TM045	4.49 #	103 #	7.01 #	4.9 #	3.76 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090	9.56				
Organic Carbon, Total	<3 mg/l	TM090		378 ♦			
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	2.14 #	450	26.9 #	<0.2 #	0.352 #
Sulphide	<0.01 mg/l	TM101	0.103 #	0.225			
COD, unfiltered	<7 mg/l	TM107	150 #	1110 #	52.2 #	29.2 #	8.21 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120	5.84 #	7.14 #	1.54 #	0.345 #	0.569 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	2.87 #	26.8 #			
Boron (diss.filt)	<10 µg/l	TM152	1180 #	4410 #			
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #			
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	176 #			
Copper (diss.filt)	<0.3 µg/l	TM152	1.27 #	0.658 #			
Lead (diss.filt)	<0.2 µg/l	TM152	0.281 #	0.725 #			
Manganese (diss.filt)	<3 µg/l	TM152	424 #	1220 #			
Nickel (diss.filt)	<0.4 µg/l	TM152	2.81 #	35.6 #			
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #			
Zinc (diss.filt)	<1 µg/l	TM152	13.8 #	38 #			
Potassium (Dis.Filt)	<0.2 mg/l	TM152	45.7 #	200 #			
Iron (Dis.Filt)	<0.019 mg/l	TM152	0.259 #	1.72 #			
Hardness, Total as CaCO3	<0.65 mg/l	TM152	1120	1510			
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	553	1440			
Nitrite as NO2	<0.05 mg/l	TM184	1.59 #	<0.05			
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.716 #	10			
Sulphate	<2 mg/l	TM184	660 #	<2			
Chloride	<2 mg/l	TM184	1550 #	754	182 #	30 #	21.3 #
Nitrate as NO3	<0.3 mg/l	TM184	0.71	0.304			
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	0.644 #	<0.1			
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #			
pH	<1 pH Units	TM256	7.63 #	7.66 #	7.77 #	8.58 #	8.28 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% 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
1-5&+§@	Sample deviation (see appendix)

Customer Sample Ref.			C2B	GW03_09	GW06_13	GW06_34	GW06_36	GW06_37
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sample Type			Land Leachate (LE)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018
Sampled Time			.	.	.	.	.	.
Date Received			29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018
SDG Ref			180629-24	180629-24	180629-24	180629-24	180629-24	180629-24
Lab Sample No.(s)			17839732	17839851	17839682	17839880	17839639	17839653
AGS Reference								
Component	**LOD/Units**	**Method**						
Benzene	<1 µg/l	TM208	7.35 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	10 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	2.91 #	<1 #	<1 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% 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
1-5&+§@	Sample deviation (see appendix)

Customer Sample Ref.			GW07_40	GW09_31	GW09_32	GW09_35	GW12_33	GW12_38
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sample Type			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
Date Sampled			28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018	28/06/2018
Sampled Time			.	.	.	.	.	.
Date Received			29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018	29/06/2018
SDG Ref			180629-24	180629-24	180629-24	180629-24	180629-24	180629-24
Lab Sample No.(s)			17839707	17839805	17839831	17839898	17839865	17839669
AGS Reference								
Component	**LOD/Units**	**Method**						
Benzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% 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
1-5&+§@	Sample deviation (see appendix)

Customer Sample Ref.	LF_C3B
Depth (m)	0.00 - 0.00
Sample Type	Land Leachate (LE)
Date Sampled	28/06/2018
Sampled Time	.
Date Received	29/06/2018
SDG Ref	180629-24
Lab Sample No.(s)	17839765
AGS Reference	

Component	LOD/Units	Method	LF_C3B
Benzene	<1 µg/l	TM208	<1 #
o-Xylene	<1 µg/l	TM208	<1 #
Naphthalene	<1 µg/l	TM208	<1 #

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
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)
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
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.	Determination of pH in Water and Leachate using the GLpH pH Meter

NA = not applicable.

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

Validated

CERTIFICATE OF ANALYSIS

SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Test Completion Dates

Lab Sample No(s)	17839759	17839732	17839851	17839682	17839880	17839639	17839653	17839707	17839805	17839831
Customer Sample Ref.	C3_Asb	C2B	GW03_09	GW06_13	GW06_34	GW06_36	GW06_37	GW07_40	GW09_31	GW09_32
AGS Ref.										
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Surface Water	Land Leachate	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Alkalinity as CaCO3			04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018
Alkalinity Filtered as CaCO3		09-Jul-2018	24-Jul-2018	06-Jul-2018	03-Jul-2018	24-Jul-2018	04-Jul-2018	06-Jul-2018	09-Jul-2018	06-Jul-2018
Ammoniacal Nitrogen	10-Jul-2018	06-Jul-2018	24-Jul-2018	09-Jul-2018	10-Jul-2018	24-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018
Anions by Kone (w)	04-Jul-2018	09-Jul-2018	24-Jul-2018	09-Jul-2018	09-Jul-2018	24-Jul-2018	09-Jul-2018	09-Jul-2018	09-Jul-2018	09-Jul-2018
BOD True Total	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018
COD Unfiltered	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018
Conductivity (at 20 deg.C)	09-Jul-2018	10-Jul-2018	10-Jul-2018	09-Jul-2018	09-Jul-2018	09-Jul-2018	09-Jul-2018	09-Jul-2018	10-Jul-2018	09-Jul-2018
Cyanide Comp/Free/Total/Thiocyanate		03-Jul-2018	03-Jul-2018	04-Jul-2018	03-Jul-2018	03-Jul-2018	04-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018
Dissolved Metals by ICP-MS		11-Jul-2018	25-Jul-2018	13-Jul-2018	10-Jul-2018	02-Aug-2018	11-Jul-2018	11-Jul-2018	10-Jul-2018	10-Jul-2018
Dissolved Organic/Inorganic Carbon			09-Jul-2018	04-Jul-2018	03-Jul-2018	03-Jul-2018	04-Jul-2018	04-Jul-2018	09-Jul-2018	04-Jul-2018
EPH (DRO) (C10-C40) Aqueous (W)		03-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018
Ionic Balance		11-Jul-2018	30-Jul-2018	13-Jul-2018	11-Jul-2018	03-Aug-2018	12-Jul-2018	12-Jul-2018	11-Jul-2018	12-Jul-2018
Nitrite by Kone (w)		02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018
pH Value	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018
Phosphate by Kone (w)		03-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018
Sulphide		06-Jul-2018	06-Jul-2018	06-Jul-2018	06-Jul-2018	06-Jul-2018	06-Jul-2018	06-Jul-2018	06-Jul-2018	06-Jul-2018
Total Organic and Inorganic Carbon		10-Jul-2018								
VOC MS (W)		04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018

Lab Sample No(s)	17839898	17839865	17839669	17839765	17839633	17839787	17839793
Customer Sample Ref.	GW09_35	GW12_33	GW12_38	LF_C3B	SW_23	SW_24	SW_1A
AGS Ref.							
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water	Land Leachate	Surface Water	Surface Water	Surface Water
Alkalinity as CaCO3	04-Jul-2018	04-Jul-2018	04-Jul-2018				
Alkalinity Filtered as CaCO3	24-Jul-2018	03-Jul-2018	04-Jul-2018	25-Jul-2018			
Ammoniacal Nitrogen	24-Jul-2018	10-Jul-2018	10-Jul-2018	09-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018
Anions by Kone (w)	24-Jul-2018	09-Jul-2018	09-Jul-2018	24-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018
BOD True Total	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018
COD Unfiltered	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018	10-Jul-2018
Conductivity (at 20 deg.C)	09-Jul-2018	10-Jul-2018	09-Jul-2018	09-Jul-2018	09-Jul-2018	10-Jul-2018	09-Jul-2018
Cyanide Comp/Free/Total/Thiocyanate	03-Jul-2018	03-Jul-2018	04-Jul-2018	03-Jul-2018			
Dissolved Metals by ICP-MS	02-Aug-2018	10-Jul-2018	13-Jul-2018	11-Jul-2018			
Dissolved Organic/Inorganic Carbon	03-Jul-2018	03-Jul-2018	04-Jul-2018				
EPH (DRO) (C10-C40) Aqueous (W)	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018			
Ionic Balance	03-Aug-2018	11-Jul-2018	13-Jul-2018	25-Jul-2018			
Nitrite by Kone (w)	02-Jul-2018	02-Jul-2018	02-Jul-2018	02-Jul-2018			
pH Value	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018	05-Jul-2018
Phosphate by Kone (w)	03-Jul-2018	03-Jul-2018	03-Jul-2018	03-Jul-2018			
Sulphide	06-Jul-2018	06-Jul-2018	06-Jul-2018	06-Jul-2018			
Total Organic and Inorganic Carbon				10-Jul-2018			
VOC MS (W)	04-Jul-2018	04-Jul-2018	04-Jul-2018	04-Jul-2018			

Validated

CERTIFICATE OF ANALYSIS

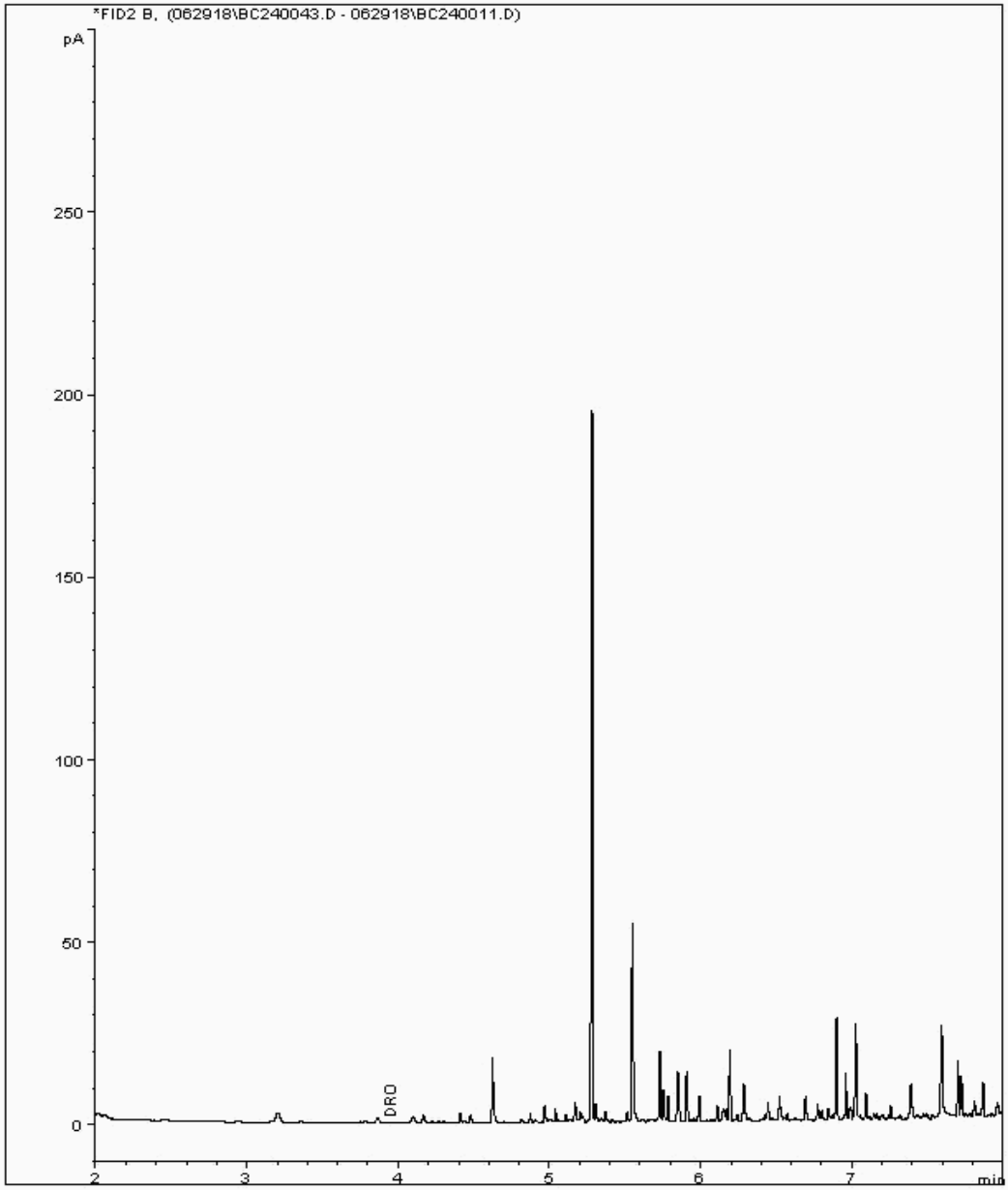
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17842946 **Sample ID :** LF_C3B **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763564-
Date Acquired : 01/07/2018 01:35:56 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

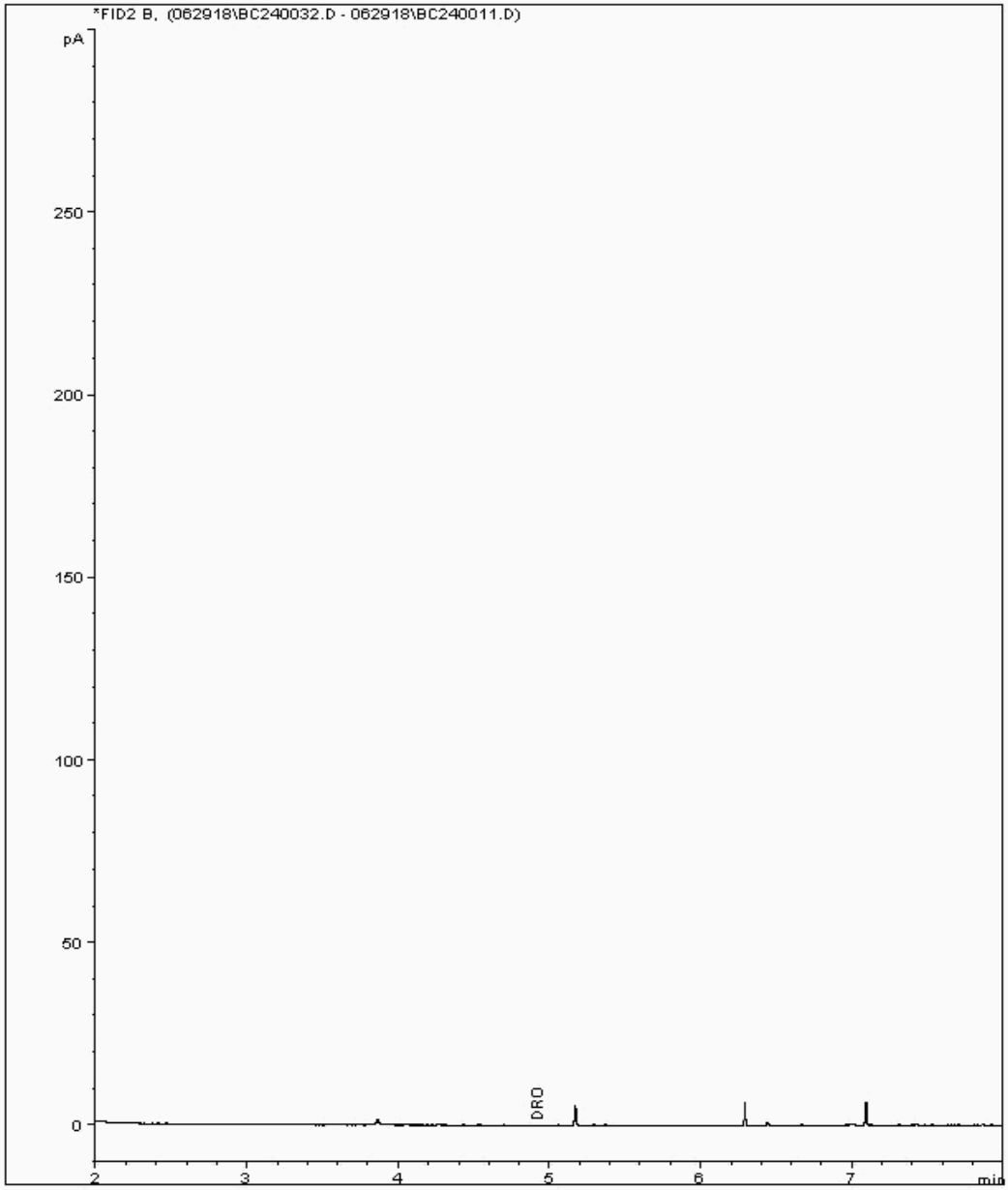
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17843018 **Sample ID :** GW06_34 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763664-
Date Acquired : 30/06/2018 20:49:03 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

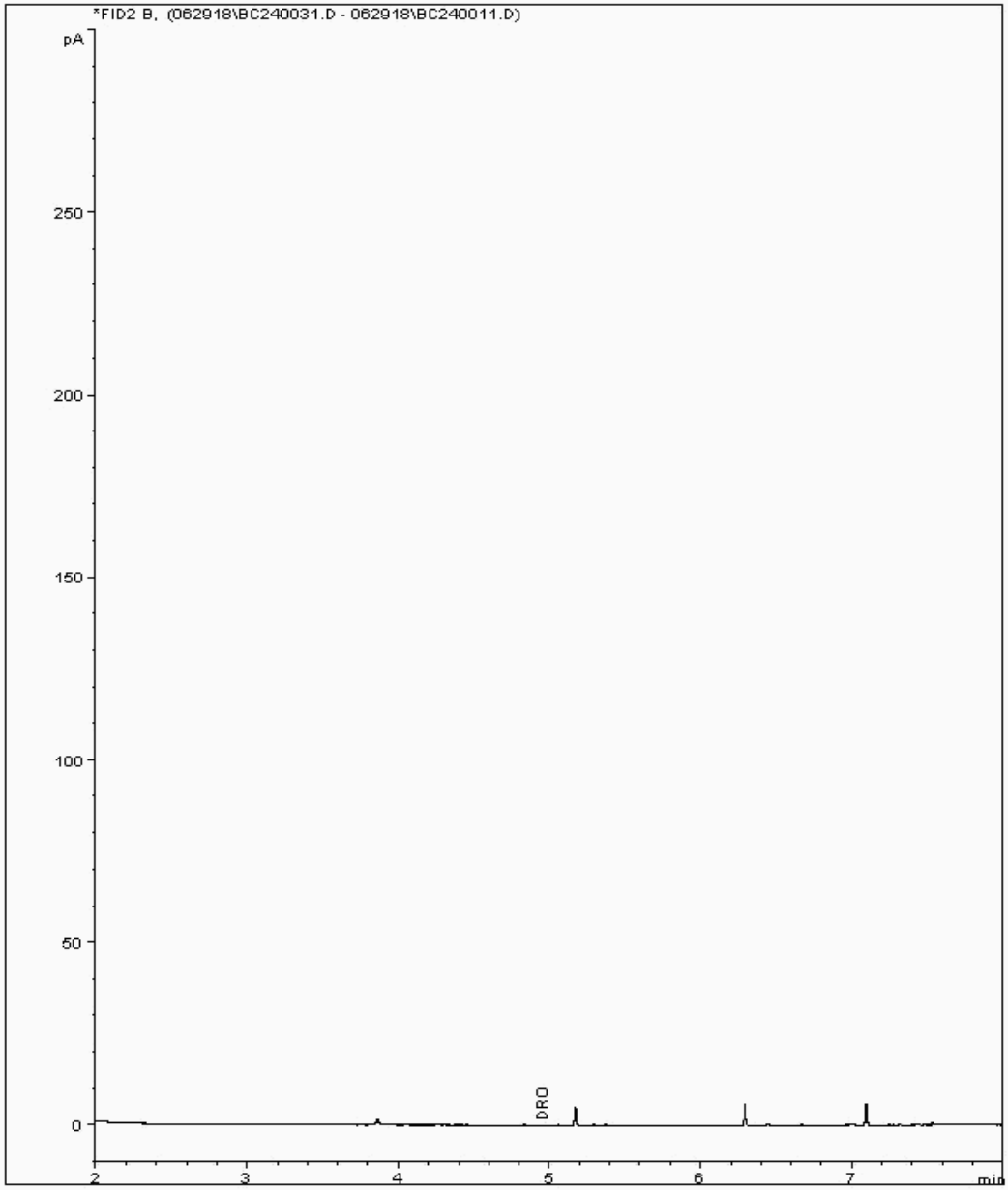
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17843052 **Sample ID :** GW06_36 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763376-
Date Acquired : 30/06/2018 20:22:51 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

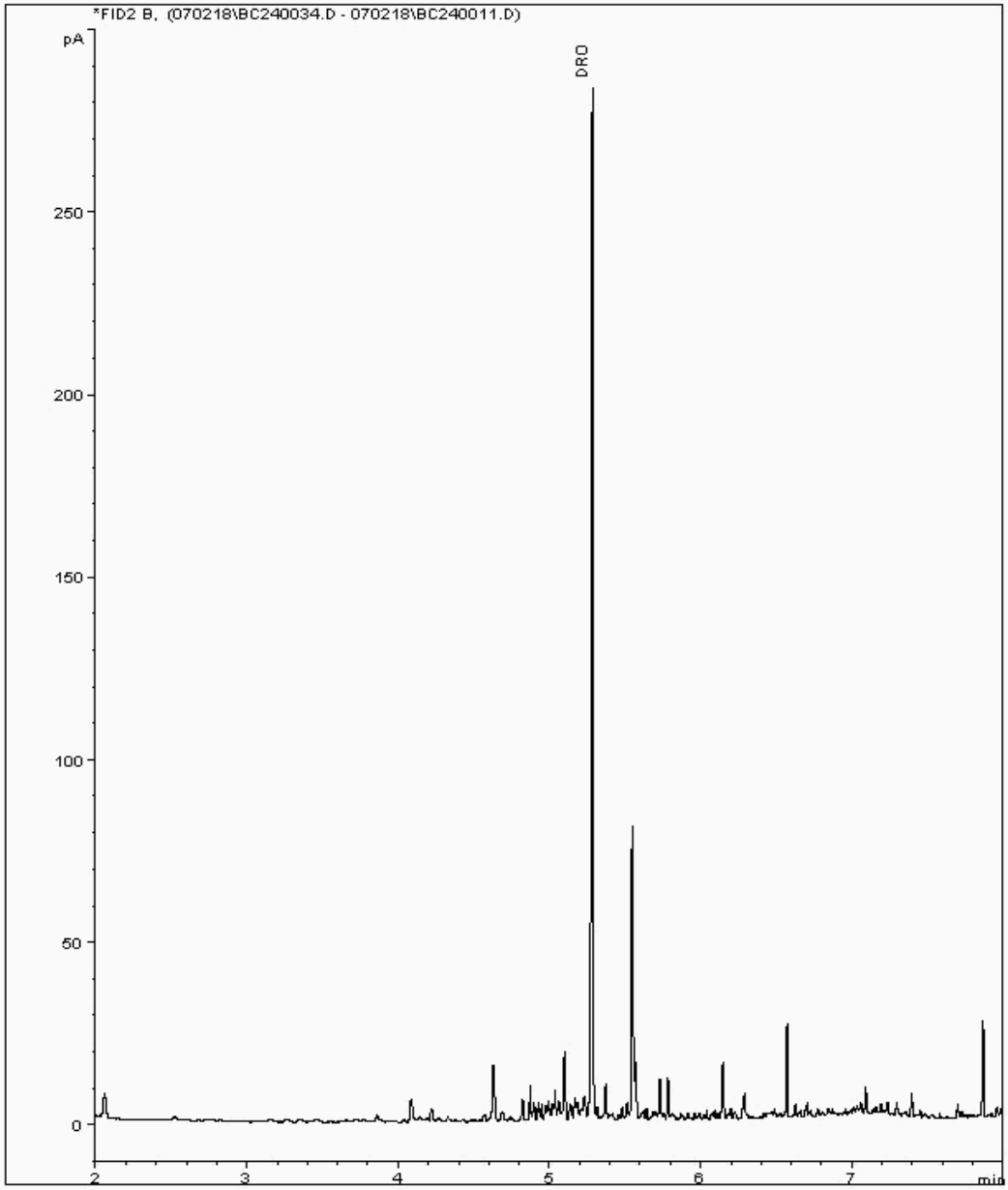
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17843078 **Sample ID :** C2B **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763529-
Date Acquired : 03/07/2018 06:04:42 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

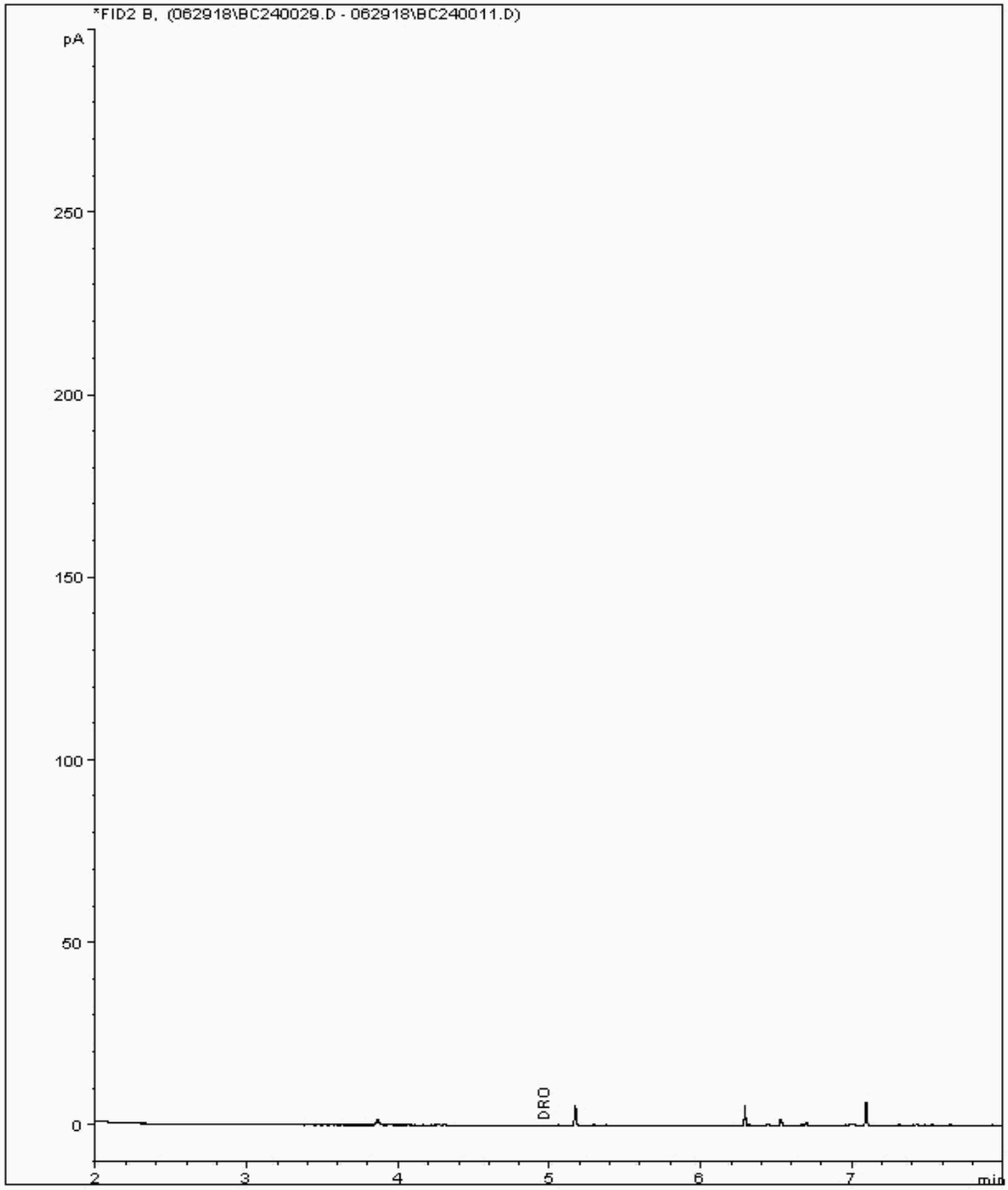
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17843092 **Sample ID :** GW09_35 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763684-
Date Acquired : 30/06/2018 19:30:13 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

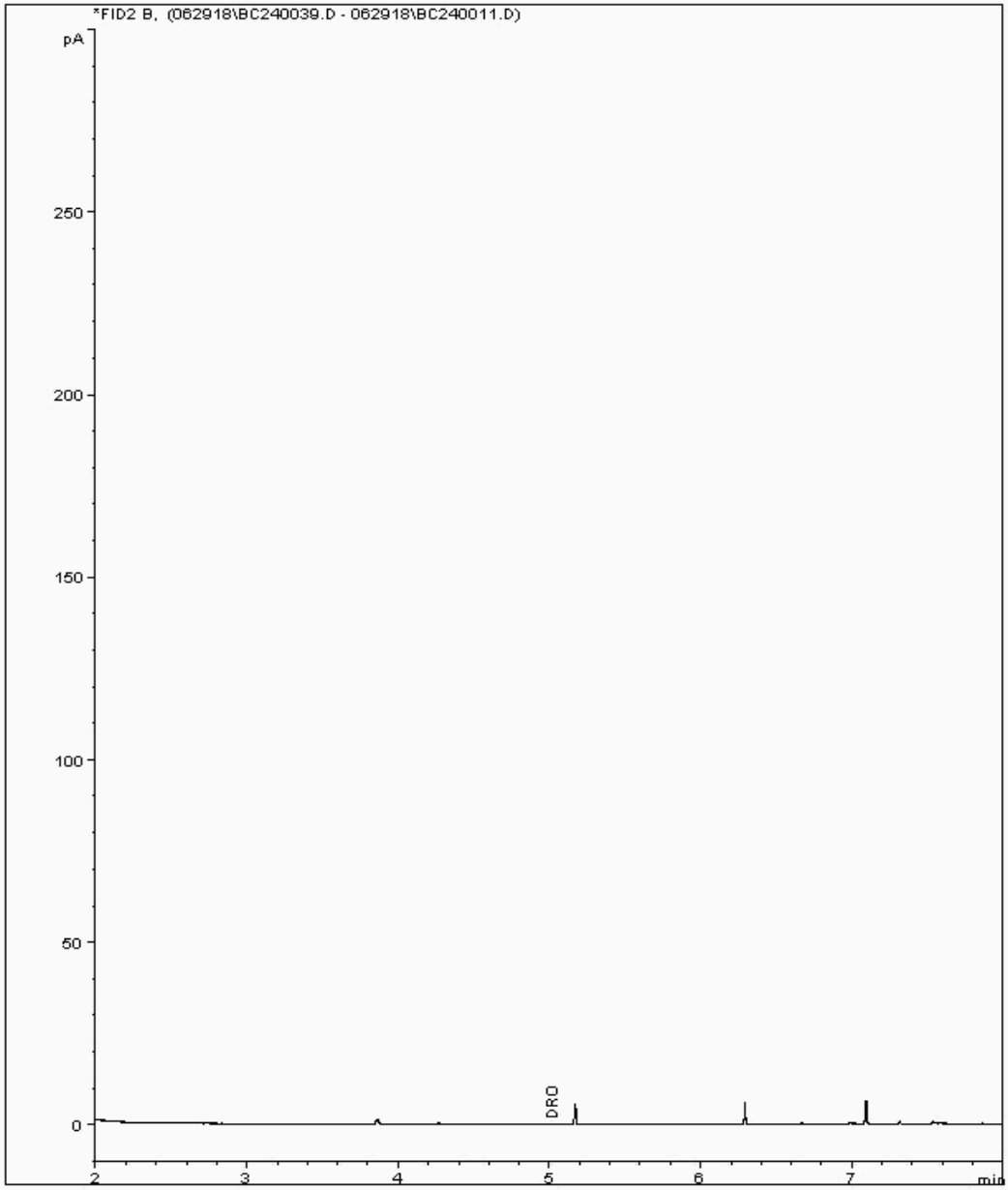
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17844104 **Sample ID :** GW07_40 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763495-
Date Acquired : 30/06/2018 23:52:15 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

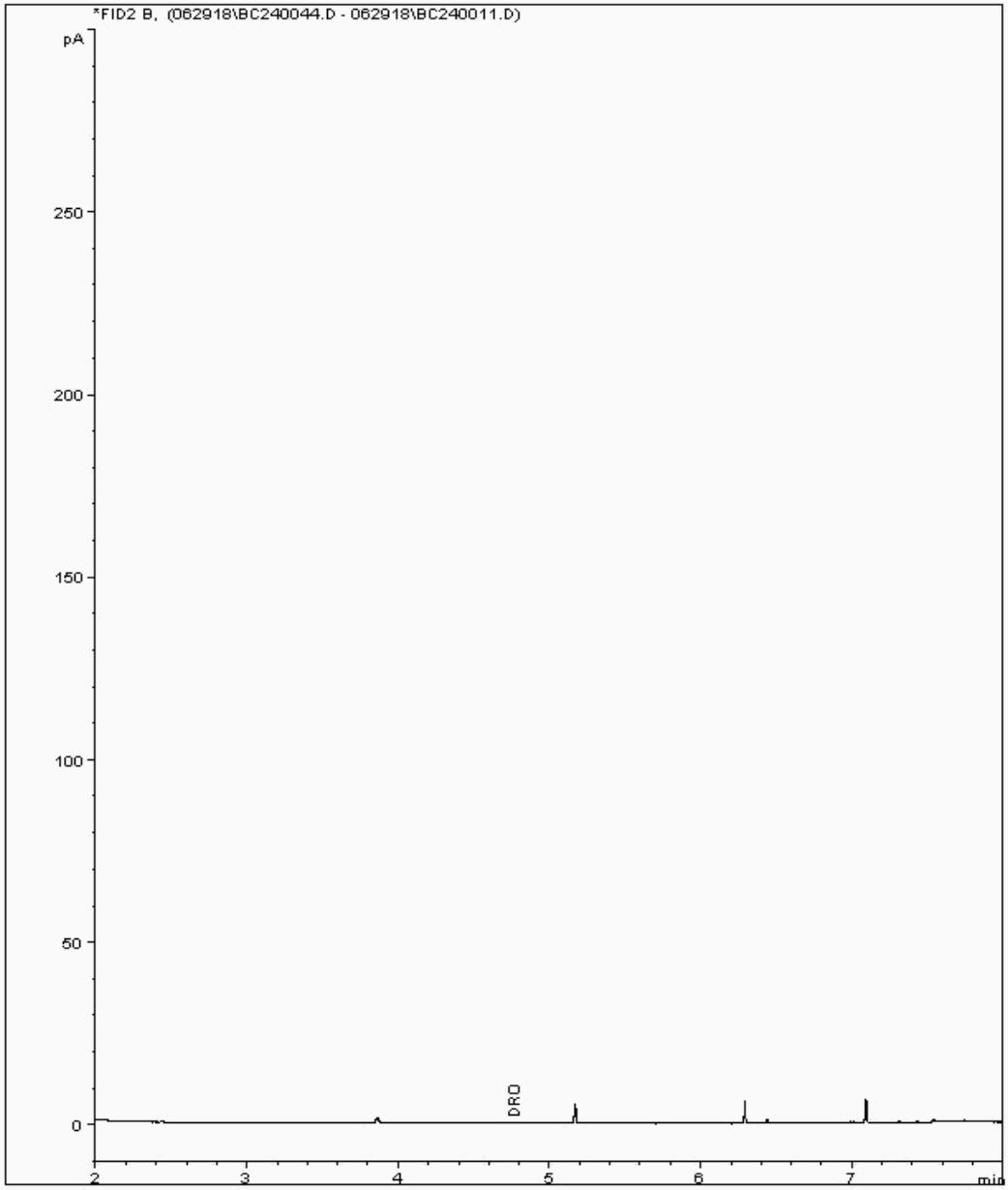
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17844134 **Sample ID :** GW12_33 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763647-
Date Acquired : 01/07/2018 02:01:37 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

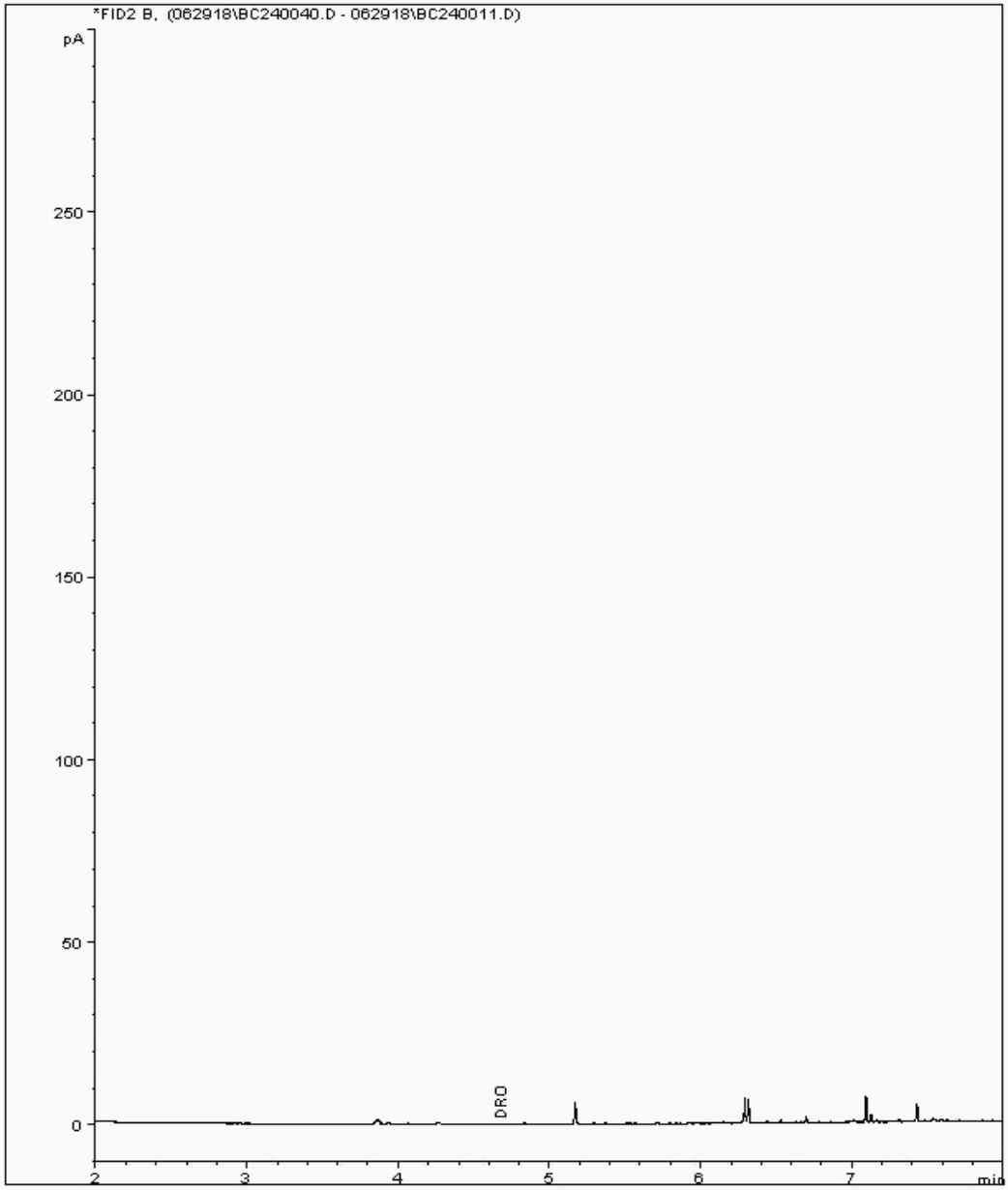
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17844155 **Sample ID :** GW09_32 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763613-
Date Acquired : 01/07/2018 00:18:17 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

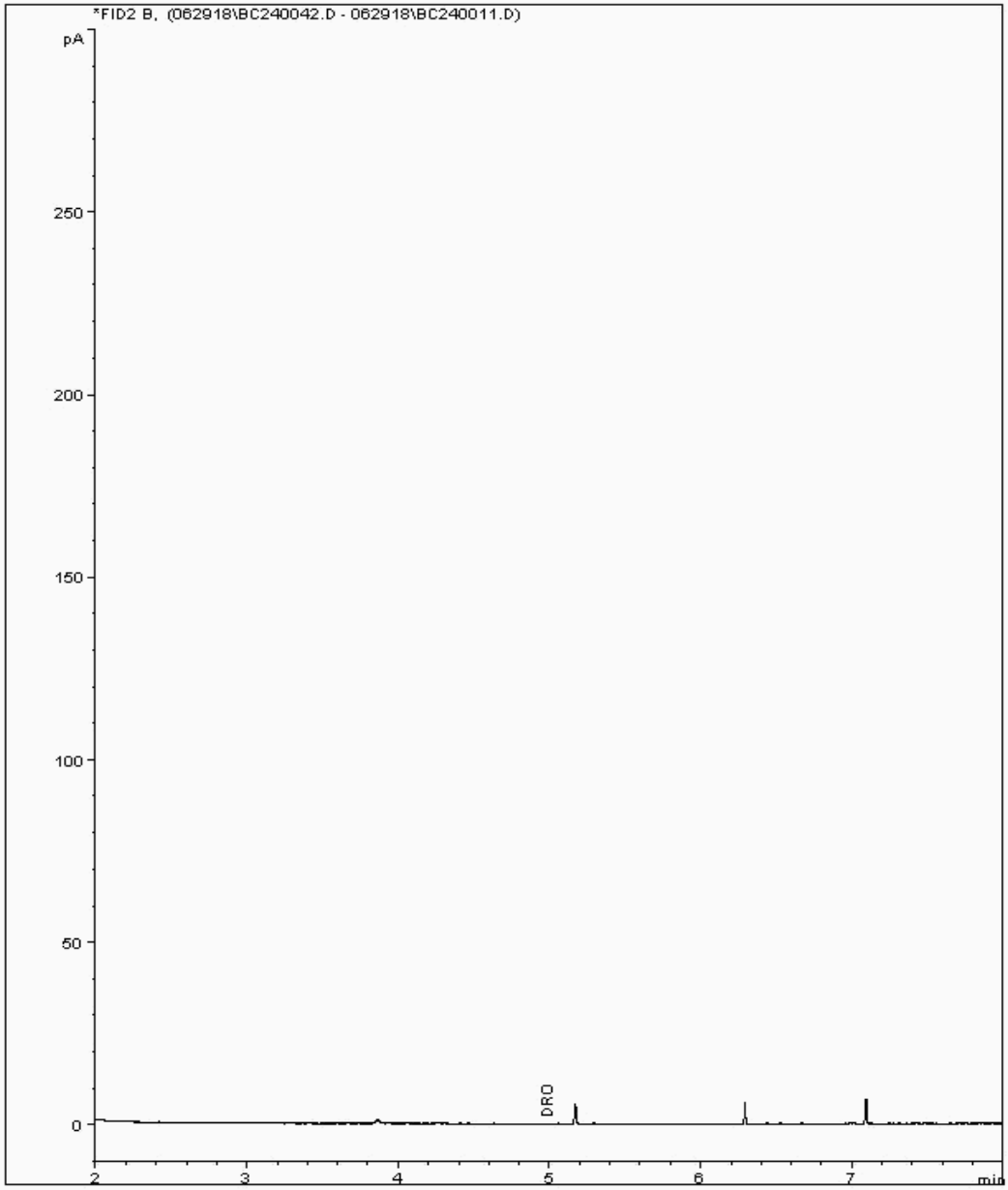
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17844174 **Sample ID :** GW03_09 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763630-
Date Acquired : 01/07/2018 01:10:06 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

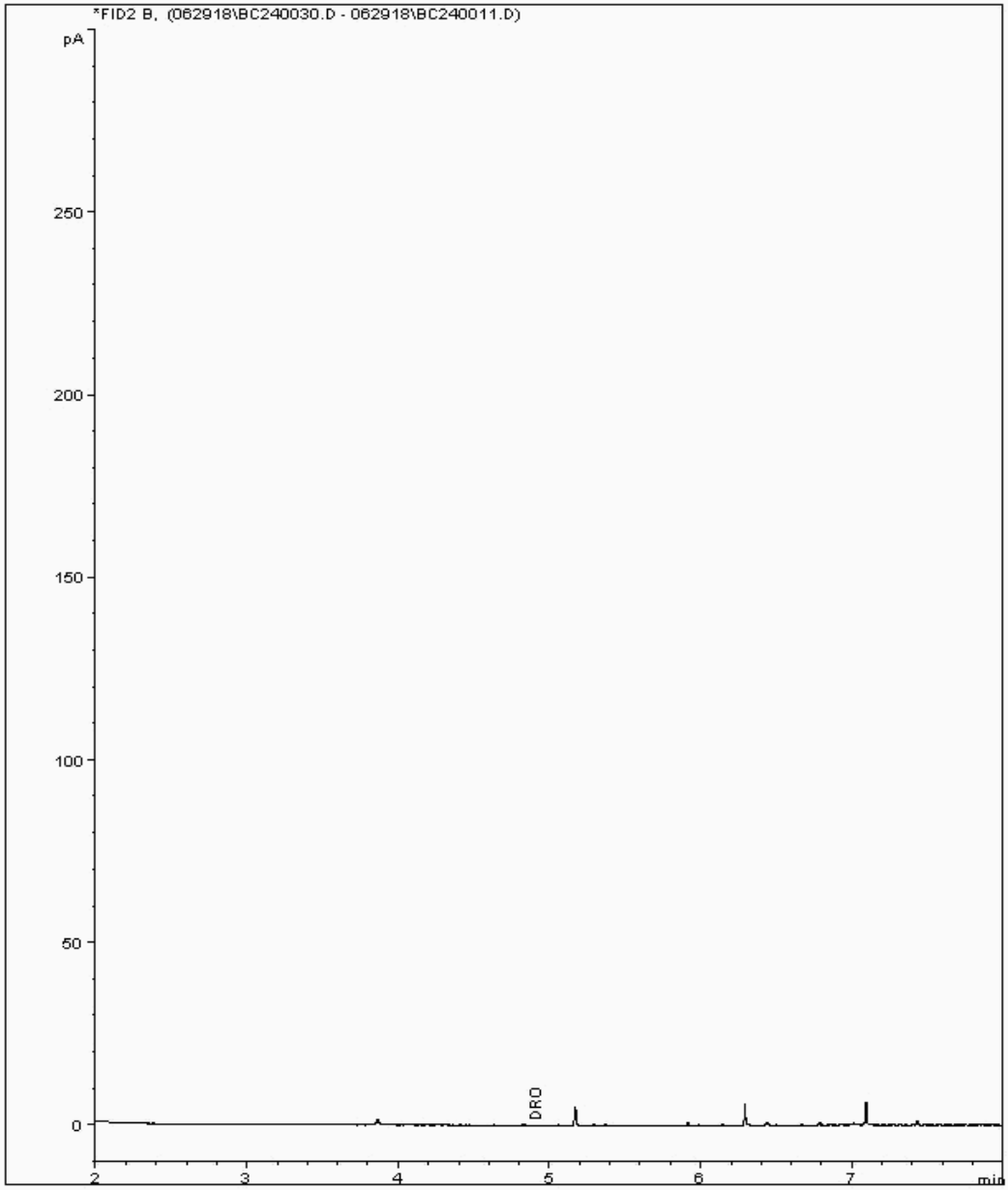
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17844245 **Sample ID :** GW09_31 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763596-
Date Acquired : 30/06/2018 19:56:35 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

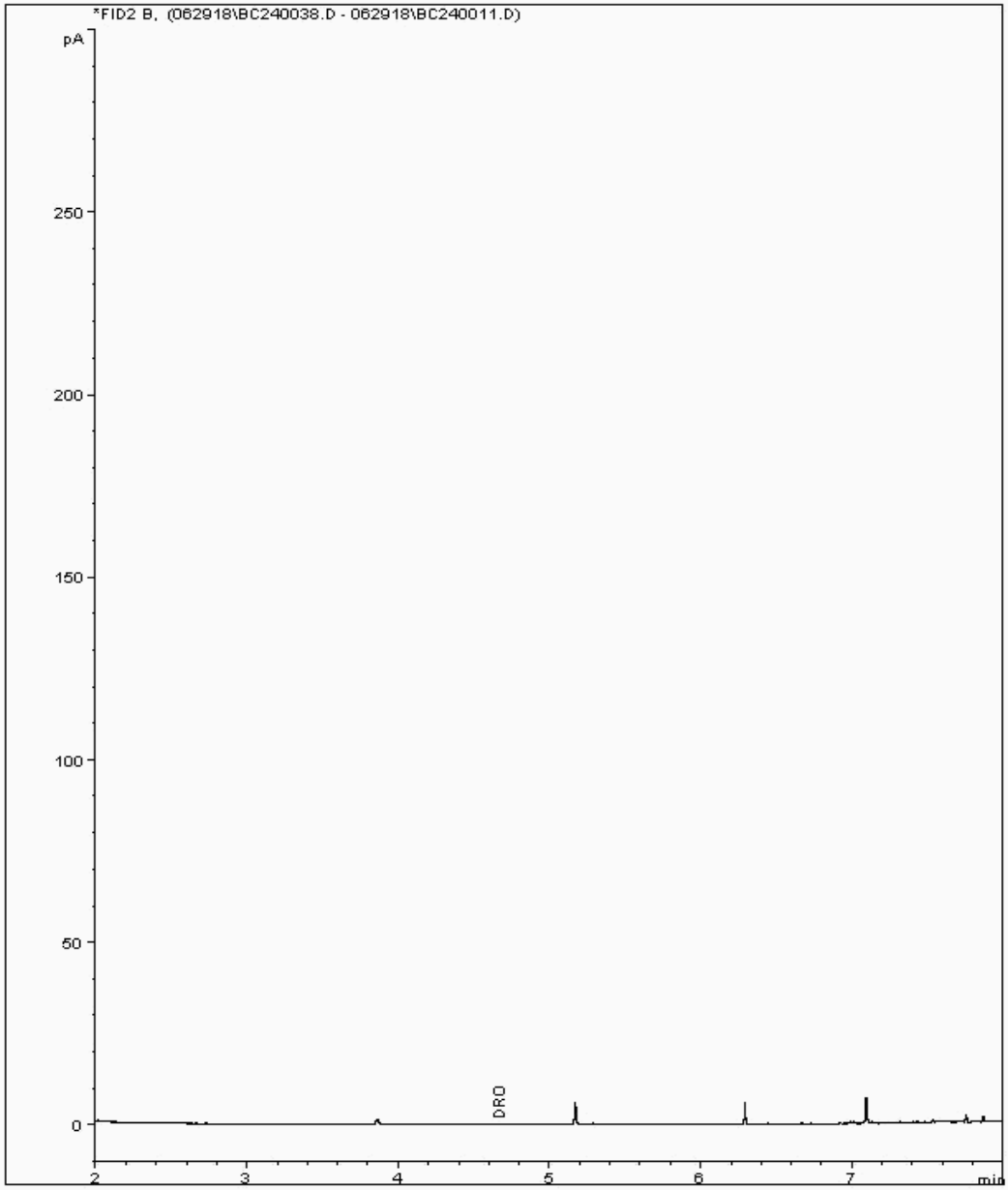
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17845526 **Sample ID :** GW12_38 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763436-
Date Acquired : 30/06/2018 23:26:08 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

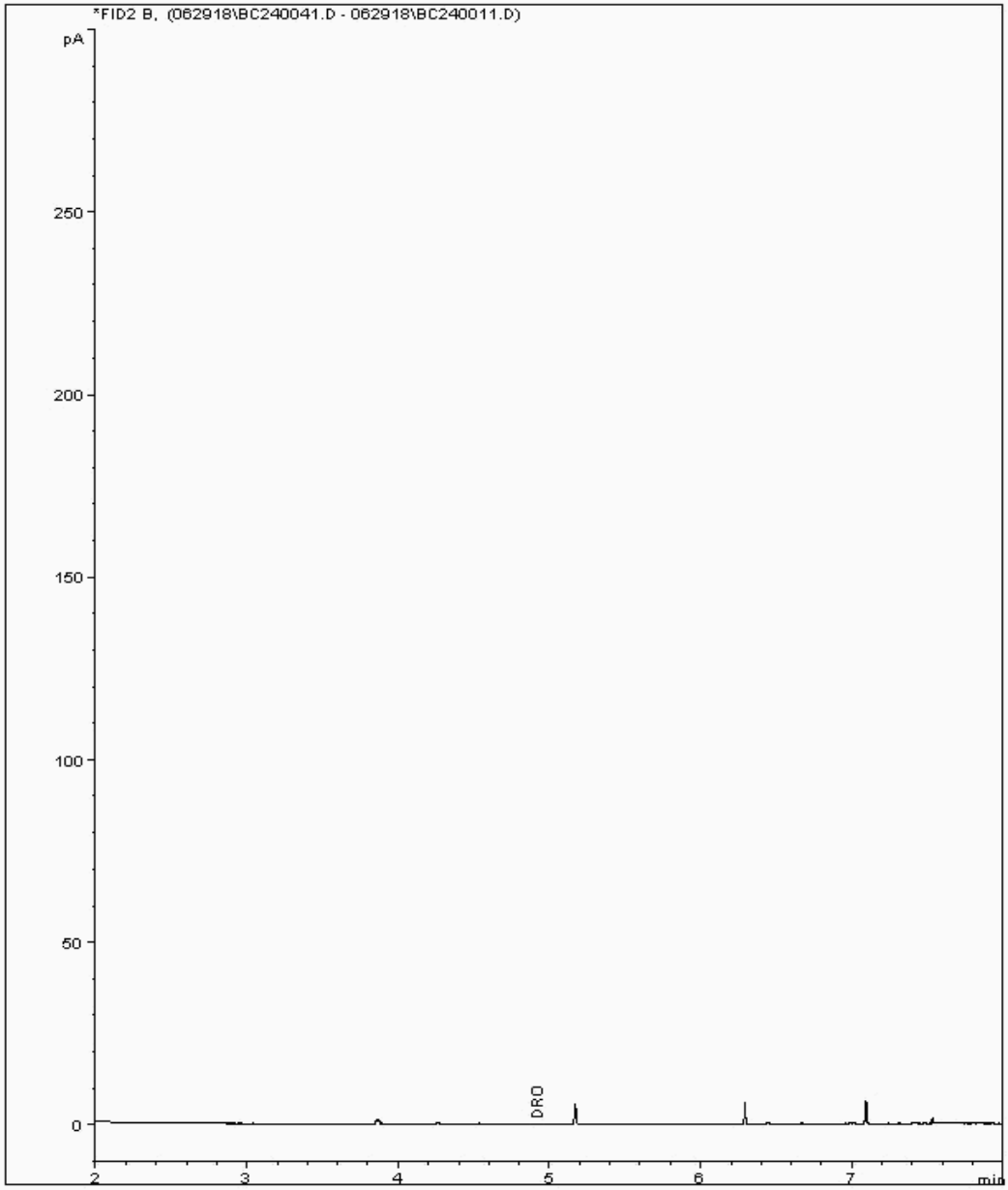
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17845543 **Sample ID :** GW06_37 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763403-
Date Acquired : 01/07/2018 00:44:08 PM
Units : mg/l



Validated

CERTIFICATE OF ANALYSIS

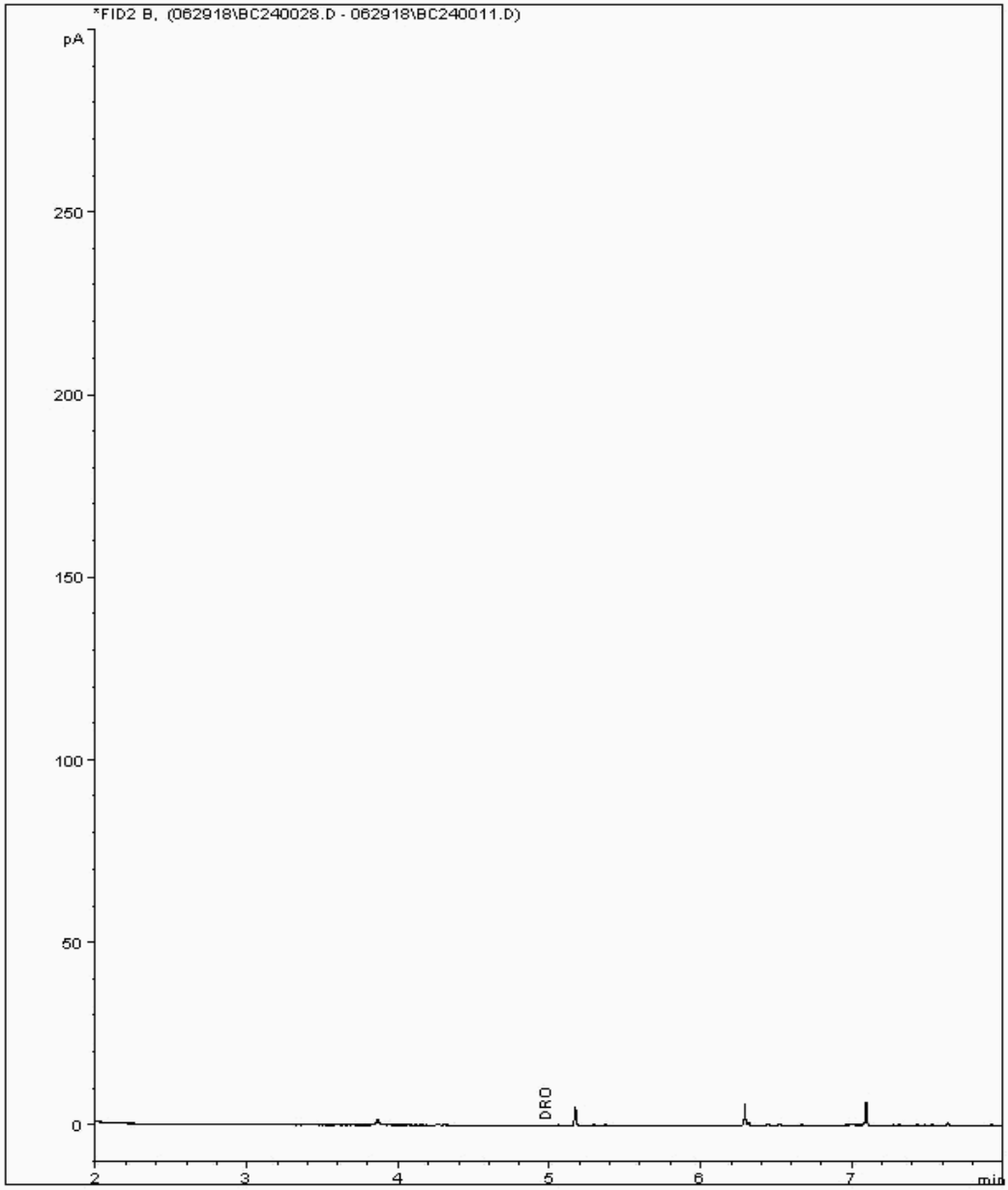
SDG:	180629-24	**Client Reference:**		**Report Number:**	467242
Location:	Docksway Landfill Site	**Order Number:**	700124102	**Superseded Report:**	467116

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17845560 **Sample ID :** GW06_13 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16763468-
Date Acquired : 30/06/2018 19:04:04 PM
Units : mg/l



Appendix

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. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. 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.

4. 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.

5. 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.

6. 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.

7. 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.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

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

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals - total metals must be requested separately.

11. Results relate only to the items tested.

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

13. **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.

14. **Product analyses** - Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

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

18. 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.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

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

General

21. 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.

22. 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.

23. 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.

24. **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.

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	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

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.

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.