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

Newport City Council
Civic Centre
Newport
NP20 4UR

Attention: Meirion Humphreys

CERTIFICATE OF ANALYSIS

Date:	03 April 2018
Customer:	H_NCC_NPT
Sample Delivery Group (SDG):	180320-61
Your Reference:	
Location:	Docksway Landfill Site
Report No:	450134

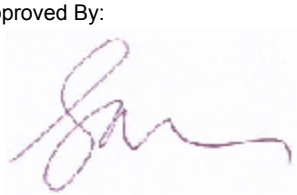
This report has been revised and directly supersedes 449872 in its entirety.

We received 15 samples on Tuesday March 20, 2018 and 15 of these samples were scheduled for analysis which was completed on Tuesday April 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.

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
17238036	C2B		0.00 - 0.00	19/03/2018
17237995	GW06_13		0.00 - 0.00	19/03/2018
17238128	GW06_34		0.00 - 0.00	19/03/2018
17238155	GW06_36		0.00 - 0.00	19/03/2018
17238168	GW06_37		0.00 - 0.00	19/03/2018
17238006	GW06_39		0.00 - 0.00	19/03/2018
17238021	GW07_40		0.00 - 0.00	19/03/2018
17238077	GW09_31		0.00 - 0.00	19/03/2018
17238094	GW09_32		0.00 - 0.00	19/03/2018
17238143	GW09_35		0.00 - 0.00	19/03/2018
17238063	GW12_30		0.00 - 0.00	19/03/2018
17238111	GW12_33		0.00 - 0.00	19/03/2018
17237980	GW12_38		0.00 - 0.00	19/03/2018
17238050	LF08_07		0.00 - 0.00	19/03/2018
17237965	SW_1A		0.00 - 0.00	19/03/2018

Maximum Sample/Coolbox Temperature (°C) : **3.8**

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.

CERTIFICATE OF ANALYSIS

Validated

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)									17238036							17237995							17238128
Customer Sample Reference									C2B							GW06_13							GW06_34
AGS Reference																							
Depth (m)									0.00 - 0.00							0.00 - 0.00							0.00 - 0.00
Container									0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Sample Type									LE	LE	LE	LE	LE	LE	LE	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 12																X					X					
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 2								X																		
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 12																	X							X		
		NDPs: 0 Tests: 2										X																
Anions by Kone (w)	All	NDPs: 0 Tests: 12																X					X					
		NDPs: 0 Tests: 2								X																		
BOD True Total	All	NDPs: 0 Tests: 12															X								X			
		NDPs: 0 Tests: 2									X																	
COD Unfiltered	All	NDPs: 0 Tests: 12															X								X			
		NDPs: 0 Tests: 2									X																	
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 12																X					X					
		NDPs: 0 Tests: 2								X																		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 12																		X							X	
		NDPs: 0 Tests: 2											X															
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 12																X					X					

17238006	GW06_39		0.00 - 0.00	H2SO4 (ALE244)	GW			X															
				250ml BOD (ALE212)	GW							X		X									
				1lplastic (ALE221)	GW	X				X						X						X	
				0.5l glass bottle (ALE227)	GW																		
17238168	GW06_37		0.00 - 0.00	ZnAc (ALE246)	GW																		
				Vial (ALE297)	GW																		
				NaOH (ALE245)	GW																X		
				HNO3 uf (ALE204)	GW																	X	
				H2SO4 (ALE244)	GW			X															
				500ml Plastic (ALE208)	GW	X				X						X							
				250ml BOD (ALE212)	GW							X		X									
				0.5l glass bottle (ALE227)	GW																		
17238155	GW06_36		0.00 - 0.00	ZnAc (ALE246)	GW																		
				Vial (ALE297)	GW																		
				NaOH (ALE245)	GW																X		
				H2SO4 (ALE244)	GW			X															
				250ml BOD (ALE212)	GW							X		X									
				1lplastic (ALE221)	GW	X				X						X						X	
				0.5l glass bottle (ALE227)	GW																		
17238128	GW06_34		0.00 - 0.00	ZnAc (ALE246)	GW																		

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:** 450134
Location:	Dockswaу Landfill Site	**Order Number:**	700111791	**Superseded Report:** 449872

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

			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Lab Sample No(s)			17238036							17237995							17238128					
Customer Sample Reference			C2B							GW06_13							GW06_34					
AGS Reference																						
Depth (m)			0.00 - 0.00							0.00 - 0.00							0.00 - 0.00					
Container			0.5l glass bottle (ALE227)	1plastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	1plastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Sample Type			LE	LE	LE	LE	LE	LE	LE	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2		X																		
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 12								X							X					
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 12								X							X					
		NDPs: 0 Tests: 2	X																			
Ionic Balance	All	NDPs: 0 Tests: 12										X						X				
		NDPs: 0 Tests: 2		X																		
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 11										X						X				
		NDPs: 0 Tests: 2		X																		
Nitrite by Kone (w)	All	NDPs: 0 Tests: 12												X							X	
		NDPs: 0 Tests: 2					X															
pH Value	All	NDPs: 0 Tests: 12										X						X				
		NDPs: 0 Tests: 2		X																		
Phosphate by Kone (w)	All	NDPs: 0 Tests: 12										X						X				
		NDPs: 0 Tests: 2		X																		
Sulphide	All	NDPs: 0 Tests: 12														X						

17238006	GW06_39		0.00 - 0.00	H2SO4 (ALE244)	GW																		
				250ml BOD (ALE212)	GW																		
				1lplastic (ALE221)	GW					X		X					X		X				
				0.5l glass bottle (ALE227)	GW		X		X														
17238168	GW06_37		0.00 - 0.00	ZnAc (ALE246)	GW																		X
				Vial (ALE297)	GW																		
				NaOH (ALE245)	GW										X								
				HNO3 uf (ALE204)	GW							X											
				H2SO4 (ALE244)	GW																		
				500ml Plastic (ALE208)	GW					X							X		X				
				250ml BOD (ALE212)	GW																		
				0.5l glass bottle (ALE227)	GW		X		X														
17238155	GW06_36		0.00 - 0.00	ZnAc (ALE246)	GW																		X
				Vial (ALE297)	GW																		
				NaOH (ALE245)	GW										X								
				H2SO4 (ALE244)	GW																		
				250ml BOD (ALE212)	GW																		
				1lplastic (ALE221)	GW					X		X					X		X				
				0.5l glass bottle (ALE227)	GW		X		X														
17238128	GW06_34		0.00 - 0.00	ZnAc (ALE246)	GW																		X

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)			17238036	17237995	17238128
Customer Sample Reference			C2B	GW06_13	GW06_34
AGS Reference					
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Container			0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)
Sample Type			LE	LE	LE	LE	LE	LE	LE	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Sulphide	All	NDPs: 0 Tests: 2							X														
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2				X																	
VOC MS (W)	All	NDPs: 0 Tests: 12													X								X
		NDPs: 0 Tests: 2						X															

17238006	GW06_39		0.00 - 0.00	H2SO4 (ALE244)	GW				
				250ml BOD (ALE212)	GW				
				1lplastic (ALE221)	GW				
				0.5l glass bottle (ALE227)	GW				
17238168	GW06_37		0.00 - 0.00	ZnAc (ALE246)	GW				
				Vial (ALE297)	GW			x	
				NaOH (ALE245)	GW				
				HNO3 uf (ALE204)	GW				
				H2SO4 (ALE244)	GW				
				500ml Plastic (ALE208)	GW				
				250ml BOD (ALE212)	GW				
				0.5l glass bottle (ALE227)	GW				
17238155	GW06_36		0.00 - 0.00	ZnAc (ALE246)	GW				
				Vial (ALE297)	GW			x	
				NaOH (ALE245)	GW				
				H2SO4 (ALE244)	GW				
				250ml BOD (ALE212)	GW				
				1lplastic (ALE221)	GW				
				0.5l glass bottle (ALE227)	GW				
17238128	GW06_34		0.00 - 0.00	ZnAc (ALE246)	GW				

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)				17238006					17238021							17238077					17238094		
Customer Sample Reference				GW06_39					GW07_40							GW09_31					GW09_32		
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)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)
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: 12						X							X							X	
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 12								X								X					
Anions by Kone (w)	All	NDPs: 0 Tests: 12						X							X							X	
BOD True Total	All	NDPs: 0 Tests: 12							X							X							X
COD Unfiltered	All	NDPs: 0 Tests: 12							X							X							X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 12						X							X							X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 12	X								X							X					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 12						X							X							X	
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 12				X								X							X		
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 12				X								X							X		
Ionic Balance	All	NDPs: 0 Tests: 12						X							X							X	
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 11						X							X							X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 12	X								X							X					
pH Value	All	NDPs: 0 Tests: 12						X							X							X	
Phosphate by Kone (w)	All	NDPs: 0 Tests: 12						X							X							X	

17238111	GW12_33		0.00 - 0.00	0.5l glass bottle (ALE227)	GW									X	X					
17238063	GW12_30		0.00 - 0.00	ZnAc (ALE246)	GW															
				Vial (ALE297)	GW															
				NaOH (ALE245)	GW							X						X		
				HNO3 uf (ALE204)	GW								X				X			
				H2SO4 (ALE244)	GW		X													
				250ml BOD (ALE212)	GW				X	X										
				1lplastic (ALE221)	GW	X		X			X					X			X	X
				0.5l glass bottle (ALE227)	GW									X	X					
17238143	GW09_35		0.00 - 0.00	ZnAc (ALE246)	GW															
				Vial (ALE297)	GW															
				NaOH (ALE245)	GW							X						X		
				H2SO4 (ALE244)	GW		X													
				250ml BOD (ALE212)	GW				X	X										
				1lplastic (ALE221)	GW	X		X			X		X			X	X		X	X
				0.5l glass bottle (ALE227)	GW									X	X					
17238094	GW09_32		0.00 - 0.00	ZnAc (ALE246)	GW															
				Vial (ALE297)	GW															
				NaOH (ALE245)	GW							X						X		
				H2SO4 (ALE244)	GW		X													

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)			17238006							17238021							17238077							17238094		
Customer Sample Reference			GW06_39							GW07_40							GW09_31							GW09_32		
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)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	1lplastic (ALE221)	250ml BOD (ALE212)				
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW				
Sulphide	All	NDPs: 0 Tests: 12			X							X							X							
VOC MS (W)	All	NDPs: 0 Tests: 12		X							X							X								

17238111	GW12_33		0.00 - 0.00	0.5l glass bottle (ALE227)	GW				
17238063	GW12_30		0.00 - 0.00	ZnAc (ALE246)	GW		X		
				Vial (ALE297)	GW	X			
				NaOH (ALE245)	GW				
				HNO3 uf (ALE204)	GW				
				H2SO4 (ALE244)	GW				
				250ml BOD (ALE212)	GW				
				1lplastic (ALE221)	GW				
				0.5l glass bottle (ALE227)	GW				
17238143	GW09_35		0.00 - 0.00	ZnAc (ALE246)	GW		X		
				Vial (ALE297)	GW	X			
				NaOH (ALE245)	GW				
				H2SO4 (ALE244)	GW				
				250ml BOD (ALE212)	GW				
				1lplastic (ALE221)	GW				
				0.5l glass bottle (ALE227)	GW				
17238094	GW09_32		0.00 - 0.00	ZnAc (ALE246)	GW		X		
				Vial (ALE297)	GW	X			
				NaOH (ALE245)	GW				
				H2SO4 (ALE244)	GW				

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)											17238111							17237980				
Customer Sample Reference											GW12_33							GW12_38				
AGS Reference																						
Depth (m)											0.00 - 0.00							0.00 - 0.00				
Container											1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)
Sample Type											GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Alkalinity as CaCO3	All	NDPs: 0 Tests: 12									X								X				
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 1																	X				
		NDPs: 0 Tests: 2																					
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1																					
		NDPs: 0 Tests: 12											X							X			
		NDPs: 0 Tests: 2																					
Anions by Kone (w)	All	NDPs: 0 Tests: 1																					
		NDPs: 0 Tests: 12									X								X				
		NDPs: 0 Tests: 2																					
BOD True Total	All	NDPs: 0 Tests: 1																					
		NDPs: 0 Tests: 12		X						X													
		NDPs: 0 Tests: 2																					
COD Unfiltered	All	NDPs: 0 Tests: 1																					
		NDPs: 0 Tests: 12		X						X													
		NDPs: 0 Tests: 2																					

Lab Sample No(s)											17238050							17237965				
Customer Sample Reference											LF08_07							SW_1A				
AGS Reference																						
Depth (m)											0.00 - 0.00							0.00 - 0.00				
Container											0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	ZnAc (ALE246)		250ml BOD (ALE212)				
Sample Type											LE	LE	LE	LE	LE	LE		SW				
Alkalinity as CaCO3	All	NDPs: 0 Tests: 12																					
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 1																					
		NDPs: 0 Tests: 2											X										
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 1																					
		NDPs: 0 Tests: 12																					
		NDPs: 0 Tests: 2												X									
Anions by Kone (w)	All	NDPs: 0 Tests: 1																					
		NDPs: 0 Tests: 12																					
		NDPs: 0 Tests: 2											X										
BOD True Total	All	NDPs: 0 Tests: 1																X					
		NDPs: 0 Tests: 12																					
		NDPs: 0 Tests: 2										X											
COD Unfiltered	All	NDPs: 0 Tests: 1																X					
		NDPs: 0 Tests: 12																					
		NDPs: 0 Tests: 2										X											

						17237965
						SW_1A
						0.00 - 0.00
					H2SO4 (ALE244)	500ml Plastic (ALE208)
					SW	SW
						X
X						

CERTIFICATE OF ANALYSIS

SDG:	180320-61	Client Reference:		Report Number:	450134
Location:	Docksway Landfill Site	Order Number:	700111791	Superseded Report:	449872

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)								17238111							17237980						17238050	17237965
Customer Sample Reference								GW12_33							GW12_38						LF08_07	SW_1A
AGS Reference																						
Depth (m)								0.00 - 0.00							0.00 - 0.00						0.00 - 0.00	0.00 - 0.00
Container			1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	ZnAc (ALE246)	250ml BOD (ALE212)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	LE	LE	LE	LE	LE	LE	SW
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 1																				
		NDPs: 0 Tests: 12	X								X											
		NDPs: 0 Tests: 2																X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 12				X							X									
		NDPs: 0 Tests: 2																		X		
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 12	X								X											
		NDPs: 0 Tests: 2																X				
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 12							X													
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 12							X													
		NDPs: 0 Tests: 2														X						
Ionic Balance	All	NDPs: 0 Tests: 12	X								X											
		NDPs: 0 Tests: 2																X				
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 11	X																			
		NDPs: 0 Tests: 2																X				
Nitrite by Kone (w)	All	NDPs: 0 Tests: 12				X							X									

17237965	SW_1A		0.00 - 0.00	H2SO4 (ALE244)	SW																				
				500ml Plastic (ALE208)	SW		X																		

Validated

CERTIFICATE OF ANALYSIS

SDG: 180320-61
Location: Docksway Landfill Site
Client Reference:
Order Number: 700111791
Report Number: 450134
Superseded Report: 449872

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)			17238111						17237980							17238050						17237965
Customer Sample Reference			GW12_33						GW12_38							LF08_07						SW_1A
AGS Reference																						
Depth (m)			0.00 - 0.00						0.00 - 0.00							0.00 - 0.00						0.00 - 0.00
Container			1lplastic (ALE221)	250ml BOD (ALE212)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	Vial (ALE297)	ZnAc (ALE246)	0.5l glass bottle (ALE227)	250ml BOD (ALE212)	500ml Plastic (ALE208)	H2SO4 (ALE244)	NaOH (ALE245)	ZnAc (ALE246)	250ml BOD (ALE212)
Sample Type			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	LE	LE	LE	LE	LE	LE	SW
Nitrite by Kone (w)	All	NDPs: 0 Tests: 2																		X		
pH Value	All	NDPs: 0 Tests: 1																				
		NDPs: 0 Tests: 12	X								X											
		NDPs: 0 Tests: 2																X				
Phosphate by Kone (w)	All	NDPs: 0 Tests: 12	X								X											
		NDPs: 0 Tests: 2																X				
Sulphide	All	NDPs: 0 Tests: 12						X							X							
		NDPs: 0 Tests: 2																			X	
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2																	X			
VOC MS (W)	All	NDPs: 0 Tests: 12					X							X								
		NDPs: 0 Tests: 2																X				

17237965	SW_1A		0.00 - 0.00	H2SO4 (ALE244)	SW
				500ml Plastic (ALE208)	SW
X					

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)

Component	LOD/Units	Method	Customer Sample Ref.	C2B	GW06_13	GW06_34	GW06_36	GW06_37	GW06_39
			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	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018
			Sampled Time	.	.	.	.	.	.
			Date Received	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018
			SDG Ref	180320-61	180320-61	180320-61	180320-61	180320-61	180320-61
			Lab Sample No.(s)	17238036	17237995	17238128	17238155	17238168	17238006
			AGS Reference						
Ionic balance	% Diff	Calulation		-1.82	-1.53	-0.0678	-1.29	-3.11	-1.64
Alkalinity, Total as CaCO3	<2 mg/l	TM043			665 #	555 #	485 #	1060 #	1040 #
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043		6920					
BOD, unfiltered	<1 mg/l	TM045		95.3 #	<1 #	17 #	8.73 #	15.6 #	2.19 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090			9.39	9.39	5.85	21.1	13.8
Organic Carbon, Total	<3 mg/l	TM090		554					
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		1320	2.64 #	11.8 #	10.8 #	22.9 #	6.06 #
Sulphide	<0.01 mg/l	TM101		0.0881	0.249 #	1.06 #	0.162 #	1.26 #	0.0706 #
COD, unfiltered	<7 mg/l	TM107		1750 #	54.4 #	50.4 #	59.2 #	273 #	61.2 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		14.5 #	4.75 #	1.21 #	5.44 #	11.5 #	5.52 #
Arsenic (diss.filt)	<0.5 µg/l	TM152		67.5 #	3.46 #	22.2 #	4.1 #	45.5 #	9.76 #
Boron (diss.filt)	<10 µg/l	TM152		5510 #	1020 #	690 #	619 #	2330 #	1350 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		0.11 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152		225 #	<1 #	<1 #	<1 #	1.32 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152		11.7 #	0.524 #	0.327 #	0.345 #	2.92 #	<0.3 #
Lead (diss.filt)	<0.2 µg/l	TM152		1.77 #	<0.2 #	0.218 #	<0.2 #	6.62 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152		773 #	87.7 #	1310 #	230 #	1040 #	879 #
Nickel (diss.filt)	<0.4 µg/l	TM152		197 #	2.12 #	2.74 #	2.2 #	3.09 #	5.85 #
Selenium (diss.filt)	<1 µg/l	TM152		1.82 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152		90.7 #	10.4 #	4.33 #	1.58 #	16.4 #	1.43 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152		470 #	37.7 #	19.9 #	35.5 #	61 #	58.1 #
Iron (Dis.Filt)	<0.019 mg/l	TM152		9.82 #	<0.019 #	1.47 #	0.0353 #	14.5 #	0.031 #
Hardness, Total as CaCO3	<0.65 mg/l	TM152		729	717	558	754	990	623
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		1710	134	145	341	141	<100
Nitrite as NO2	<0.05 mg/l	TM184		<0.05	<0.05 #	<0.05 #	<0.05 #	0.086 #	<0.05 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		26.4	2.7 #	0.258 #	4.33 #	5.94 #	1.28 #
Sulphate	<2 mg/l	TM184		9.9	180 #	107 #	142 #	17.6 #	162 #
Chloride	<2 mg/l	TM184		1800	1380 #	89.2 #	1710 #	4080 #	1620 #
Nitrate as NO3	<0.3 mg/l	TM184		0.921	9.48	<0.3	<0.3	<0.3	<0.3
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		0.194	2.15 #	<0.1 #	<0.1 #	<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		7.88 #	7.84 #	7.41 #	7.38 #	7.55 #	7.79 #

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)

Component	LOD/Units	Method	Customer Sample Ref.	GW07_40	GW09_31	GW09_32	GW09_35	GW12_30	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	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018
			Sampled Time	.	.	.	.	.	.
			Date Received	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018
			SDG Ref	180320-61	180320-61	180320-61	180320-61	180320-61	180320-61
			Lab Sample No.(s)	17238021	17238077	17238094	17238143	17238063	17238111
			AGS Reference						
Ionic balance	% Diff	Calulation		-1.27	-3.05	-1.12	-0.239	0.566	-0.998
Alkalinity, Total as CaCO3	<2 mg/l	TM043		630 #	420 #	325 #	890 #	590 #	840 #
BOD, unfiltered	<1 mg/l	TM045		<1 #	3.66 #	11.2 #	<1 #	2.58 #	12 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090		23	7.93	22	7.17	18.6	18.4
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		3.79 #	1.89 #	2.99 #	12.9 #	0.777 #	9.79 #
Sulphide	<0.01 mg/l	TM101		0.0526 #	0.324 #	0.0917 #	0.228 #	0.0497 #	0.0764 #
COD, unfiltered	<7 mg/l	TM107		77.6 #	31.1 #	105 #	83.5 #	65.5 #	80.9 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		1.44 #	1.13 #	1.71 #	11.2 #	1.46 #	2.49 #
Arsenic (diss.filt)	<0.5 µg/l	TM152		2.15 #	2.36 #	1.82 #	1.87 #	42.6 #	95.8 #
Boron (diss.filt)	<10 µg/l	TM152		573 #	430 #	313 #	1360 #	372 #	1060 #
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 #	1.42 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152		15.7 #	2.03 #	4.92 #	<0.3 #	1.78 #	0.438 #
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2 #	<0.2 #	<0.2 #	<0.2 #	3.12 #	<0.2 #
Manganese (diss.filt)	<3 µg/l	TM152		176 #	471 #	1080 #	474 #	2690 #	609 #
Nickel (diss.filt)	<0.4 µg/l	TM152		6 #	3.71 #	22.4 #	1.03 #	6.3 #	7.66 #
Selenium (diss.filt)	<1 µg/l	TM152		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152		10.9 #	8.56 #	6.33 #	<1 #	10.8 #	2.84 #
Potassium (Dis.Filt)	<0.2 mg/l	TM152		73.6 #	37.4 #	24.3 #	58.1 #	8.48 #	38.6 #
Iron (Dis.Filt)	<0.019 mg/l	TM152		0.0303 #	0.0433 #	0.0638 #	0.0263 #	23.9 #	3.6 #
Hardness, Total as CaCO3	<0.65 mg/l	TM152		645	504	420	1550	435	540
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		<100	<100	227	<100	<100	<100
Nitrite as NO2	<0.05 mg/l	TM184		0.245 #	0.234 #	2.72 #	<0.05 #	<0.05 #	3 #
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184		0.446 #	0.116 #	<0.05 #	9.54 #	<0.05 #	0.516 #
Sulphate	<2 mg/l	TM184		121 #	181 #	394 #	138 #	81.9 #	92.9 #
Chloride	<2 mg/l	TM184		147 #	97.2 #	186 #	4040 #	187 #	383 #
Nitrate as NO3	<0.3 mg/l	TM184		21.8	6.72	28.4	<0.3	0.334	2.55
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		5.01 #	1.59 #	7.25 #	<0.1 #	<0.1 #	1.49 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
pH	<1 pH Units	TM256		7.6 #	7.75 #	7.08 #	7.47 #	7.49 #	7.32 #

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)

Component	LOD/Units	Method	GW12_38	LF08_07	SW_1A
Customer Sample Ref.			GW12_38	LF08_07	SW_1A
Depth (m)			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Sample Type			Ground Water (GW)	Land Leachate (LE)	Surface Water (SW)
Date Sampled			19/03/2018	19/03/2018	19/03/2018
Sampled Time			.	.	.
Date Received			20/03/2018	20/03/2018	20/03/2018
SDG Ref			180320-61	180320-61	180320-61
Lab Sample No.(s)			17237980	17238050	17237965
AGS Reference					
Ionic balance	% Diff	Calulation	-5.59	-0.596	
Alkalinity, Total as CaCO3	<2 mg/l	TM043	265 #		
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043	220	5920	
BOD, unfiltered	<1 mg/l	TM045	4.07 #	66.7 #	<1 #
Carbon, Organic (diss.filt)	<3 mg/l	TM090	6.02		
Organic Carbon, Total	<3 mg/l	TM090		442	
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	2.15 #	1040	<0.2 #
Sulphide	<0.01 mg/l	TM101	0.0146 #	0.0695	
COD, unfiltered	<7 mg/l	TM107	134 #	1420 #	<7 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120	2.25 #	12.5 #	0.337 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	3.27 #	<0.5 #	
Boron (diss.filt)	<10 µg/l	TM152	410 #	<10 #	
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	<0.08 #	
Chromium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	
Copper (diss.filt)	<0.3 µg/l	TM152	4.43 #	<0.3 #	
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 #	<0.2 #	
Manganese (diss.filt)	<3 µg/l	TM152	164 #	<3 #	
Nickel (diss.filt)	<0.4 µg/l	TM152	2.74 #	<0.4 #	
Selenium (diss.filt)	<1 µg/l	TM152	<1 #	<1 #	
Zinc (diss.filt)	<1 µg/l	TM152	3.55 #	<1 #	
Sodium (Dis.Filt)	<0.076 mg/l	TM152	259 #		
Magnesium (Dis.Filt)	<0.036 mg/l	TM152	41.4 #		
Potassium (Dis.Filt)	<0.2 mg/l	TM152	25.6 #	<0.2 #	
Calcium (Dis.Filt)	<0.2 mg/l	TM152	128 #		
Iron (Dis.Filt)	<0.019 mg/l	TM152	<0.019 #	<0.019 #	
Hardness, Total as CaCO3	<0.65 mg/l	TM152	490	<0.65	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172	579	1100	
Nitrite as NO2	<0.05 mg/l	TM184	0.078 #	<0.05	
Phosphate (Ortho as PO4)	<0.05 mg/l	TM184	0.536 #	9.07	
Sulphate	<2 mg/l	TM184	328 #	<2	
Chloride	<2 mg/l	TM184	462 #	1580	41.6 #
Nitrate as NO3	<0.3 mg/l	TM184	10.8	0.708	

Validated

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)

Component	LOD/Units	Method	Customer Sample Ref.	GW12_38	LF08_07	SW_1A			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Land Leachate (LE)	Surface Water (SW)			
			Date Sampled	19/03/2018	19/03/2018	19/03/2018			
			Sampled Time	-	-	-			
			Date Received	20/03/2018	20/03/2018	20/03/2018			
			SDG Ref	180320-61	180320-61	180320-61			
			Lab Sample No.(s)	17237980	17238050	17237965			
			AGS Reference						
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		2.47 #	0.151				
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #				
pH	<1 pH Units	TM256		7.48 #	7.76 #	7.95 #			

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)

Component	LOD/Units	Method	Customer Sample Ref.	C2B	GW06_13	GW06_34	GW06_36	GW06_37	GW06_39
			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	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018
			Sampled Time	.	.	.	.	.	.
			Date Received	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018
			SDG Ref	180320-61	180320-61	180320-61	180320-61	180320-61	180320-61
			Lab Sample No.(s)	17238036	17237995	17238128	17238155	17238168	17238006
			AGS Reference						
Benzene	<1 µg/l	TM208		4.39 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208			<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		5.37 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		2 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)

Component	LOD/Units	Method	Customer Sample Ref.	GW07_40	GW09_31	GW09_32	GW09_35	GW12_30	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	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018	19/03/2018
			Sampled Time	.	.	.	.	.	.
			Date Received	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018	20/03/2018
			SDG Ref	180320-61	180320-61	180320-61	180320-61	180320-61	180320-61
			Lab Sample No.(s)	17238021	17238077	17238094	17238143	17238063	17238111
			AGS Reference						
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 #

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

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)

Component	LOD/Units	Method	Customer Sample Ref.	GW12_38	LF08_07			
			Depth (m)	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Ground Water (GW)	Land Leachate (LE)			
			Date Sampled	19/03/2018	19/03/2018			
			Sampled Time	.	.			
			Date Received	20/03/2018	20/03/2018			
			SDG Ref	180320-61	180320-61			
			Lab Sample No.(s)	17237980	17238050			
			AGS Reference					
Benzene	<1 µg/l	TM208		<1 #	2.31 1 #			
m,p-Xylene	<1 µg/l	TM208		<1 #				
o-Xylene	<1 µg/l	TM208		<1 #	<1 1 #			
Naphthalene	<1 µg/l	TM208		<1 #	<1 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
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES
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).

CERTIFICATE OF ANALYSIS

SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Test Completion Dates

Lab Sample No(s)	17238036	17237995	17238128	17238155	17238168	17238006	17238021	17238077	17238094	17238143
Customer Sample Ref.	C2B	GW06_13	GW06_34	GW06_36	GW06_37	GW06_39	GW07_40	GW09_31	GW09_32	GW09_35
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	Land Leachate	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Alkalinity as CaCO3		28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018
Alkalinity Filtered as CaCO3	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	27-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018
Ammoniacal Nitrogen	27-Mar-2018	27-Mar-2018	27-Mar-2018	27-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	27-Mar-2018	28-Mar-2018	28-Mar-2018
Anions by Kone (w)	27-Mar-2018	28-Mar-2018	28-Mar-2018	27-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	27-Mar-2018
BOD True Total	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018
COD Unfiltered	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018
Conductivity (at 20 deg.C)	22-Mar-2018	22-Mar-2018	26-Mar-2018	22-Mar-2018	22-Mar-2018	27-Mar-2018	27-Mar-2018	27-Mar-2018	26-Mar-2018	22-Mar-2018
Cyanide Comp/Free/Total/Thiocyanate	23-Mar-2018	23-Mar-2018	26-Mar-2018	23-Mar-2018	23-Mar-2018	26-Mar-2018	26-Mar-2018	23-Mar-2018	26-Mar-2018	23-Mar-2018
Dissolved Metals by ICP-MS	27-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018
Dissolved Organic/Inorganic Carbon		23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018
EPH (DRO) (C10-C40) Aqueous (W)	26-Mar-2018	24-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	24-Mar-2018	26-Mar-2018
Ionic Balance	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018
Metals by iCap-OES Dissolved (W)	23-Mar-2018	26-Mar-2018	23-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	26-Mar-2018
Nitrite by Kone (w)	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	22-Mar-2018	26-Mar-2018	26-Mar-2018	22-Mar-2018	26-Mar-2018	22-Mar-2018
pH Value	21-Mar-2018	22-Mar-2018	22-Mar-2018	21-Mar-2018	22-Mar-2018	22-Mar-2018	22-Mar-2018	22-Mar-2018	22-Mar-2018	21-Mar-2018
Phosphate by Kone (w)	26-Mar-2018	26-Mar-2018	23-Mar-2018	26-Mar-2018	26-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	26-Mar-2018
Sulphide	29-Mar-2018	29-Mar-2018	28-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018
Total Organic and Inorganic Carbon	27-Mar-2018									
VOC MS (W)	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018

Lab Sample No(s)	17238063	17238111	17237980	17238050	17237965
Customer Sample Ref.	GW12_30	GW12_33	GW12_38	LF08_07	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
Type	Ground Water	Ground Water	Ground Water	Land Leachate	Surface Water
Alkalinity as CaCO3	28-Mar-2018	28-Mar-2018	28-Mar-2018		
Alkalinity Filtered as CaCO3	28-Mar-2018	28-Mar-2018	28-Mar-2018	28-Mar-2018	
Ammoniacal Nitrogen	28-Mar-2018	27-Mar-2018	28-Mar-2018	27-Mar-2018	27-Mar-2018
Anions by Kone (w)	28-Mar-2018	28-Mar-2018	27-Mar-2018	27-Mar-2018	27-Mar-2018
BOD True Total	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018
COD Unfiltered	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018	23-Mar-2018
Conductivity (at 20 deg.C)	27-Mar-2018	26-Mar-2018	22-Mar-2018	22-Mar-2018	22-Mar-2018
Cyanide Comp/Free/Total/Thiocyanate	26-Mar-2018	26-Mar-2018	23-Mar-2018	26-Mar-2018	
Dissolved Metals by ICP-MS	29-Mar-2018	29-Mar-2018	28-Mar-2018	29-Mar-2018	
Dissolved Organic/Inorganic Carbon	23-Mar-2018	23-Mar-2018	23-Mar-2018		
EPH (DRO) (C10-C40) Aqueous (W)	26-Mar-2018	24-Mar-2018	26-Mar-2018	26-Mar-2018	
Ionic Balance	29-Mar-2018	29-Mar-2018	03-Apr-2018	29-Mar-2018	
Metals by iCap-OES Dissolved (W)	28-Mar-2018	23-Mar-2018		23-Mar-2018	
Nitrite by Kone (w)	26-Mar-2018	26-Mar-2018	26-Mar-2018	26-Mar-2018	
pH Value	22-Mar-2018	22-Mar-2018	21-Mar-2018	22-Mar-2018	22-Mar-2018
Phosphate by Kone (w)	23-Mar-2018	23-Mar-2018	23-Mar-2018	26-Mar-2018	
Sulphide	29-Mar-2018	29-Mar-2018	29-Mar-2018	29-Mar-2018	
Total Organic and Inorganic Carbon				27-Mar-2018	
VOC MS (W)	23-Mar-2018	23-Mar-2018	23-Mar-2018	28-Mar-2018	

CERTIFICATE OF ANALYSIS

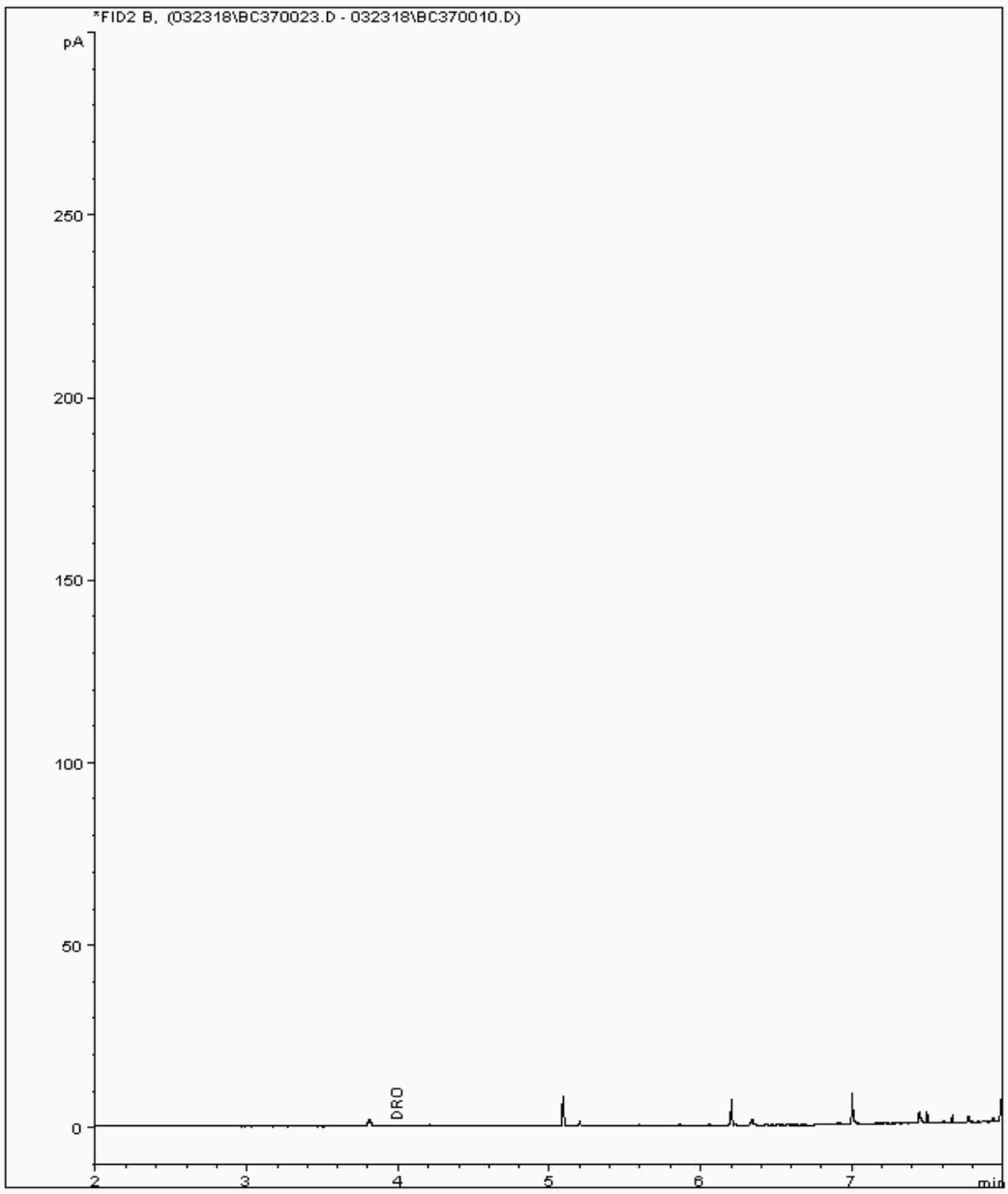
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17241728 **Sample ID :** GW12_38 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185122-
Date Acquired : 24/03/2018 00:07:28 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

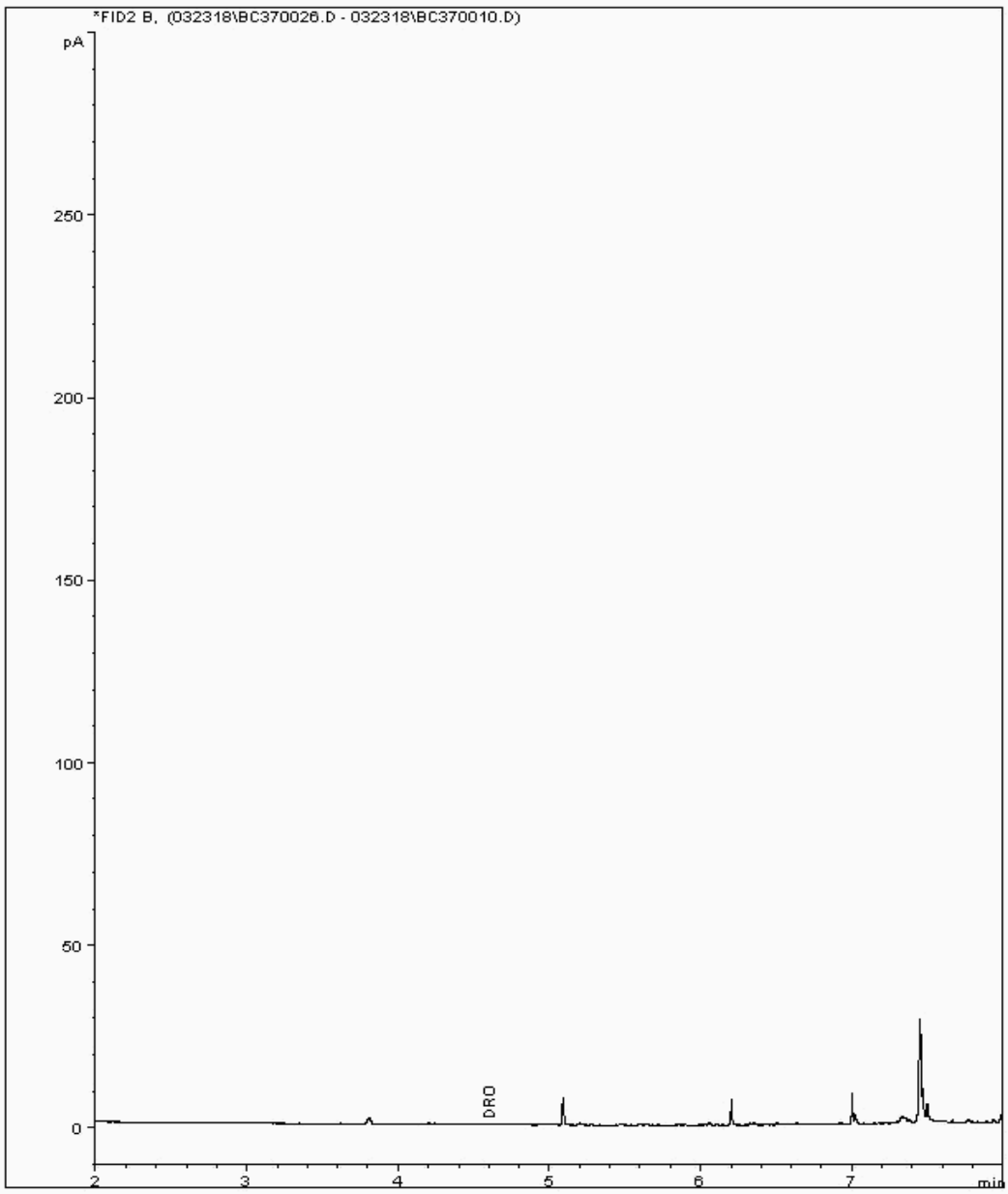
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17241747 **Sample ID :** GW06_36 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185350-
Date Acquired : 24/03/2018 01:16:51 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

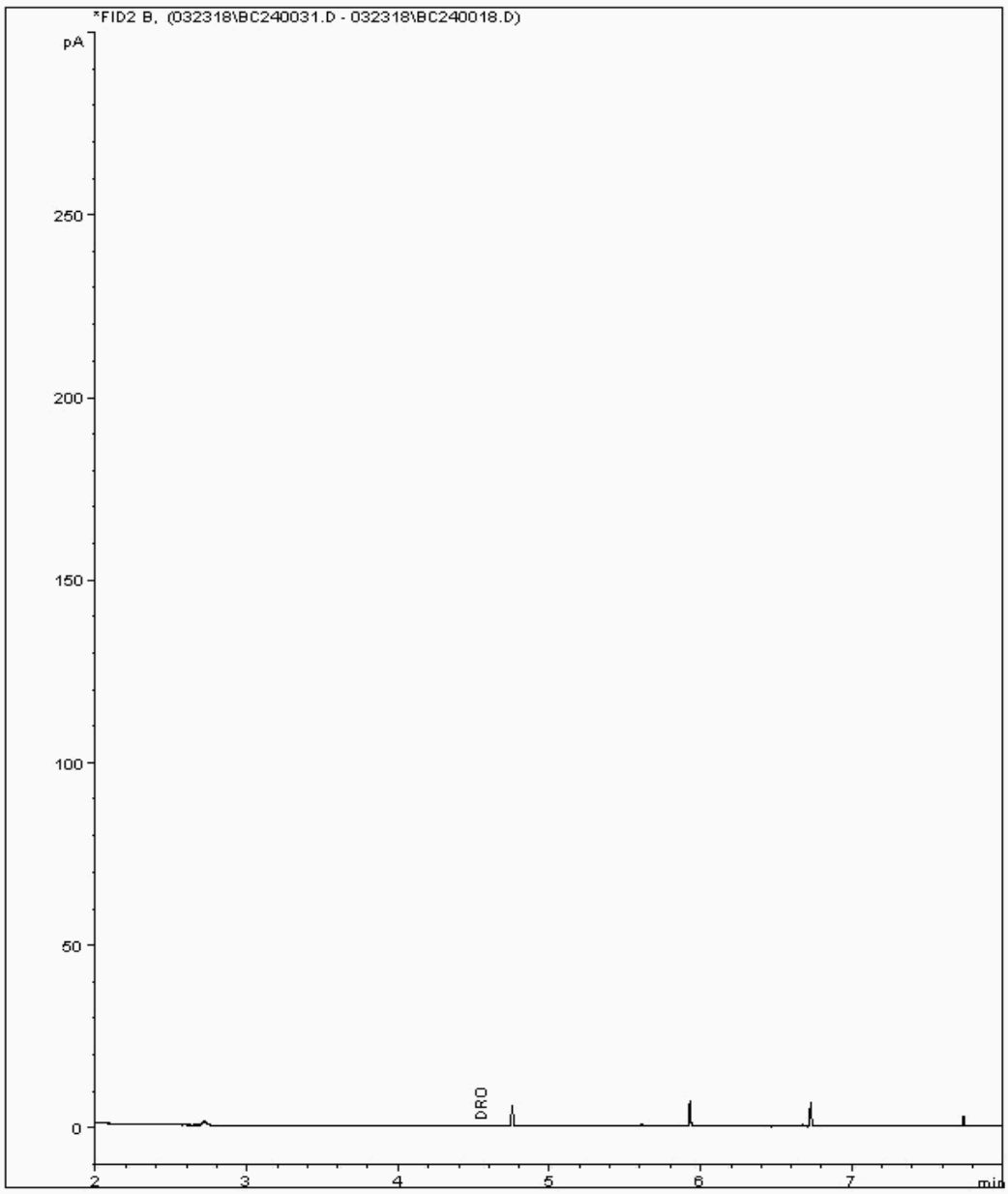
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17241757 **Sample ID :** GW09_35 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185327-
Date Acquired : 24/03/2018 01:00:01 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

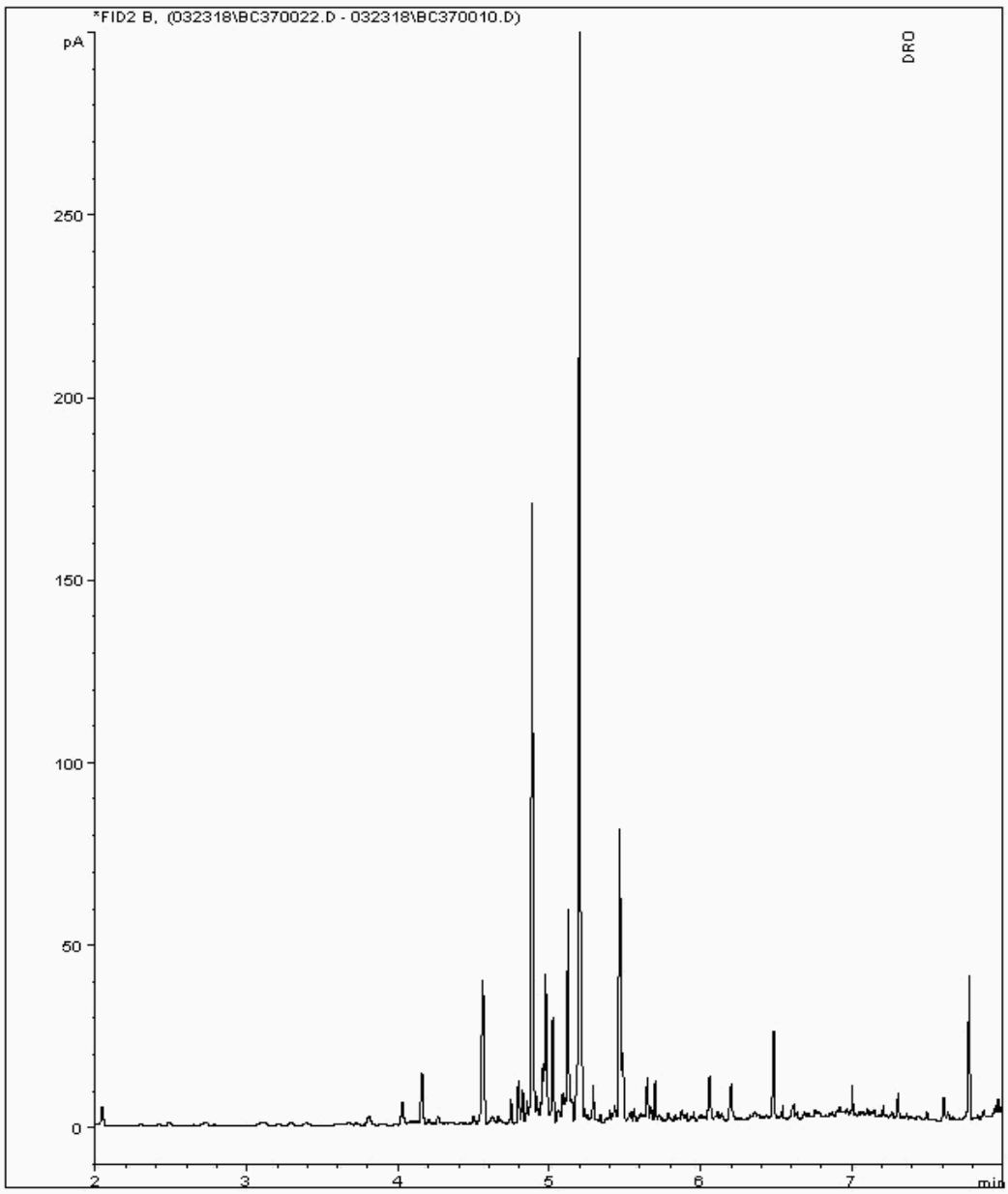
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17241767 **Sample ID :** C2B **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185194-
Date Acquired : 23/03/2018 23:44:18 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

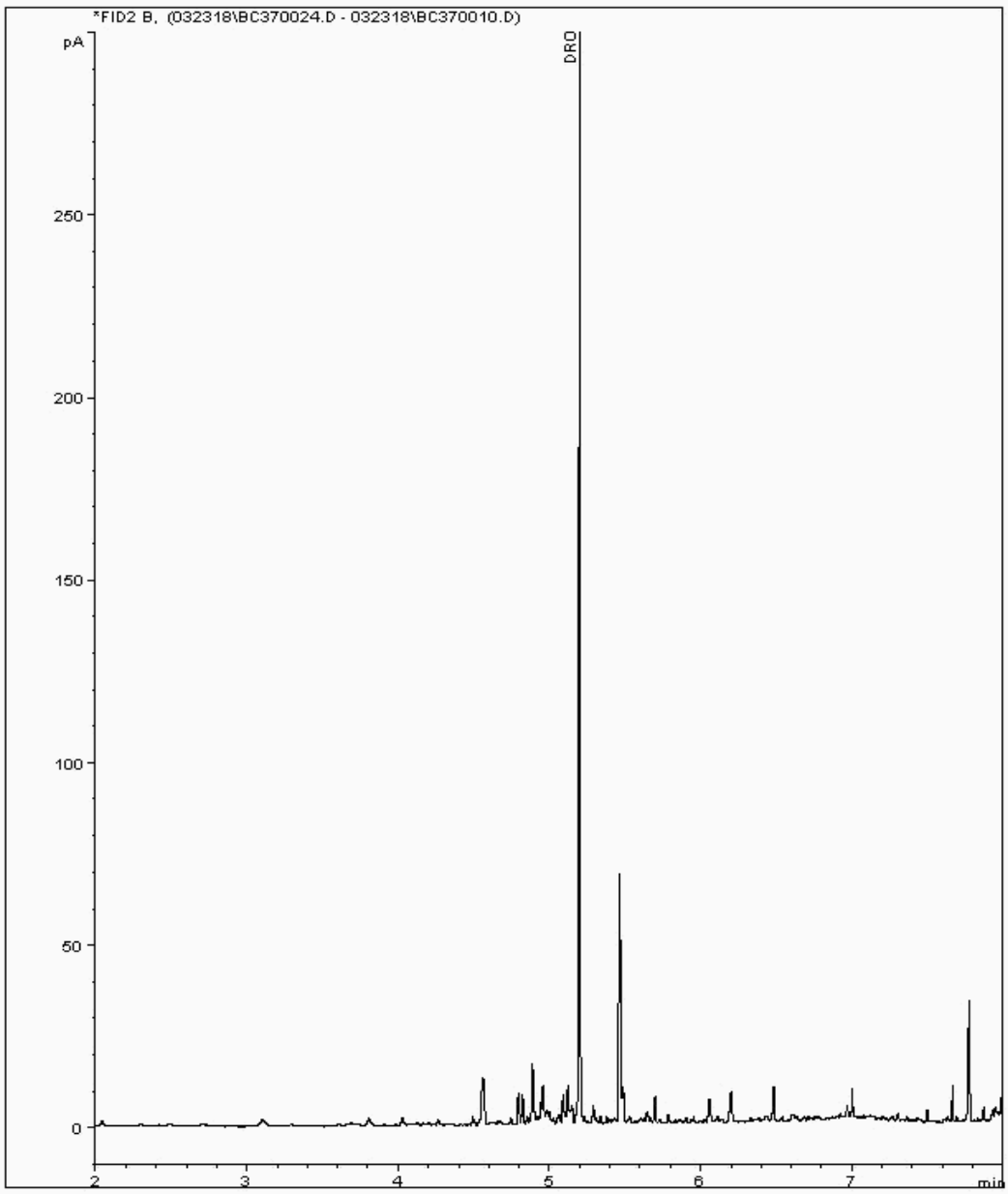
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17245869 **Sample ID :** LF08_07 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185215-
Date Acquired : 24/03/2018 00:30:28 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

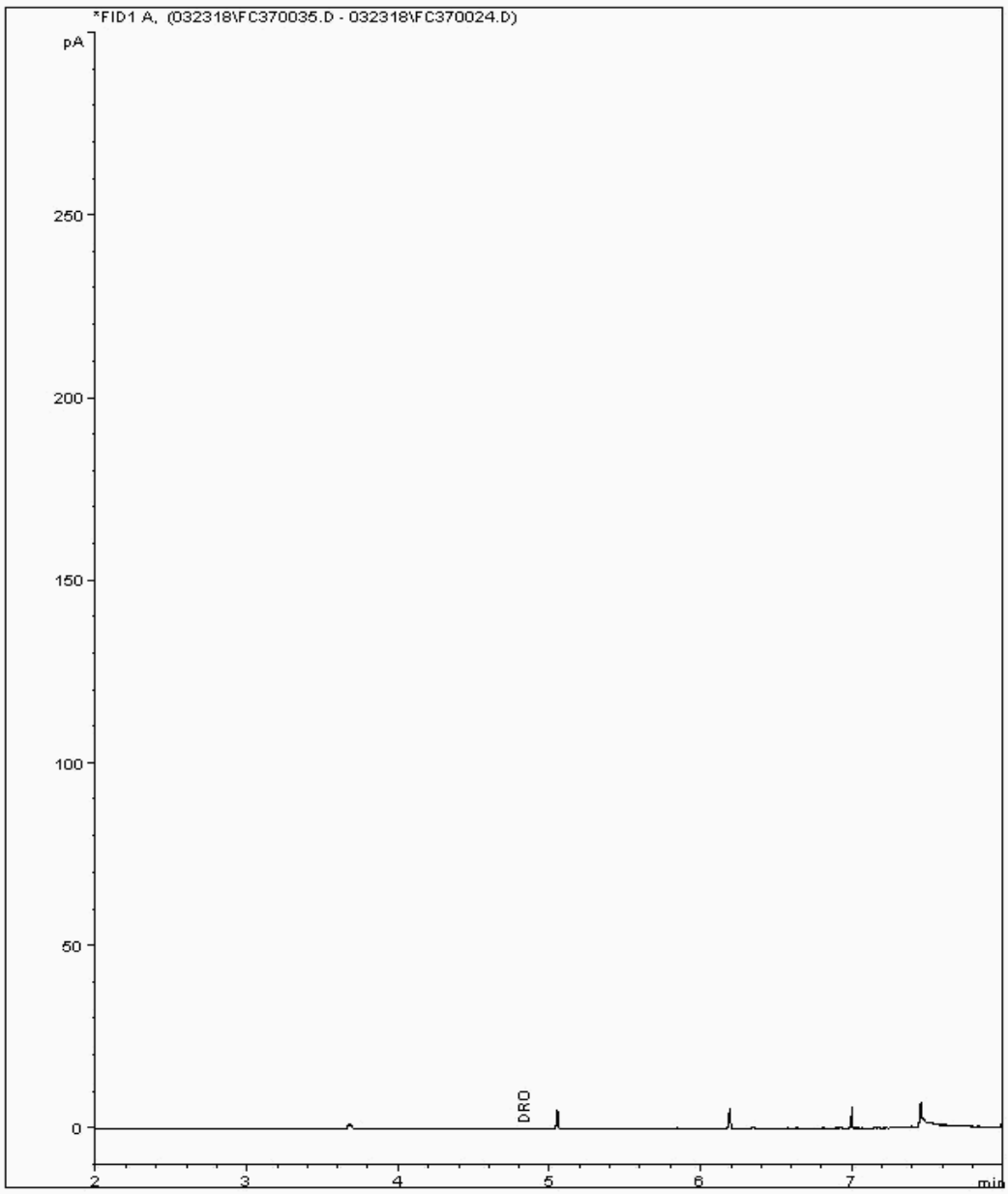
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17245878 **Sample ID :** GW06_34 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185309-
Date Acquired : 24/03/2018 04:44:38 PM
Units : ppb



CERTIFICATE OF ANALYSIS

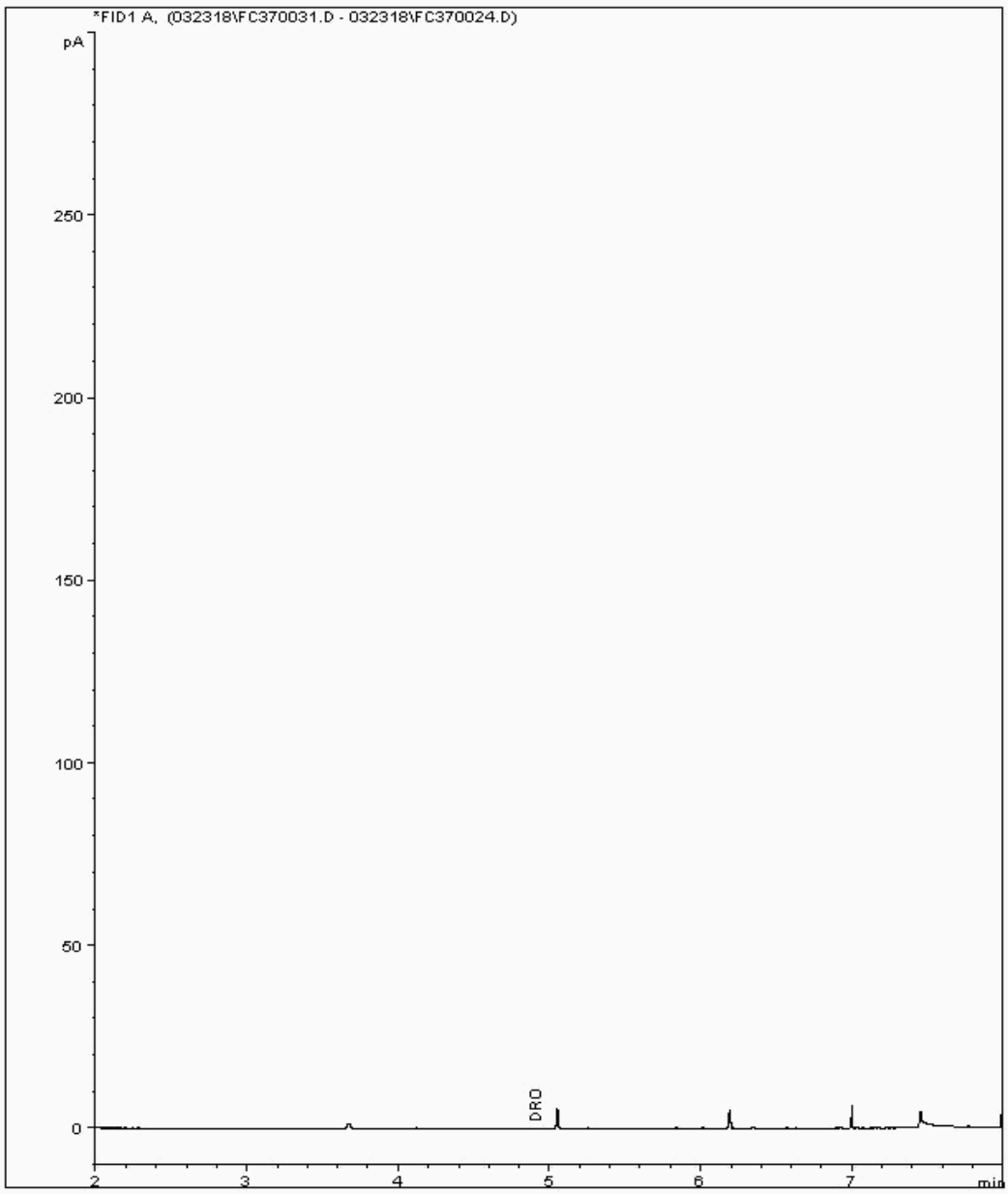
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17245882 **Sample ID :** GW06_37 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185367-
Date Acquired : 24/03/2018 03:12:49 PM
Units : ppb



CERTIFICATE OF ANALYSIS

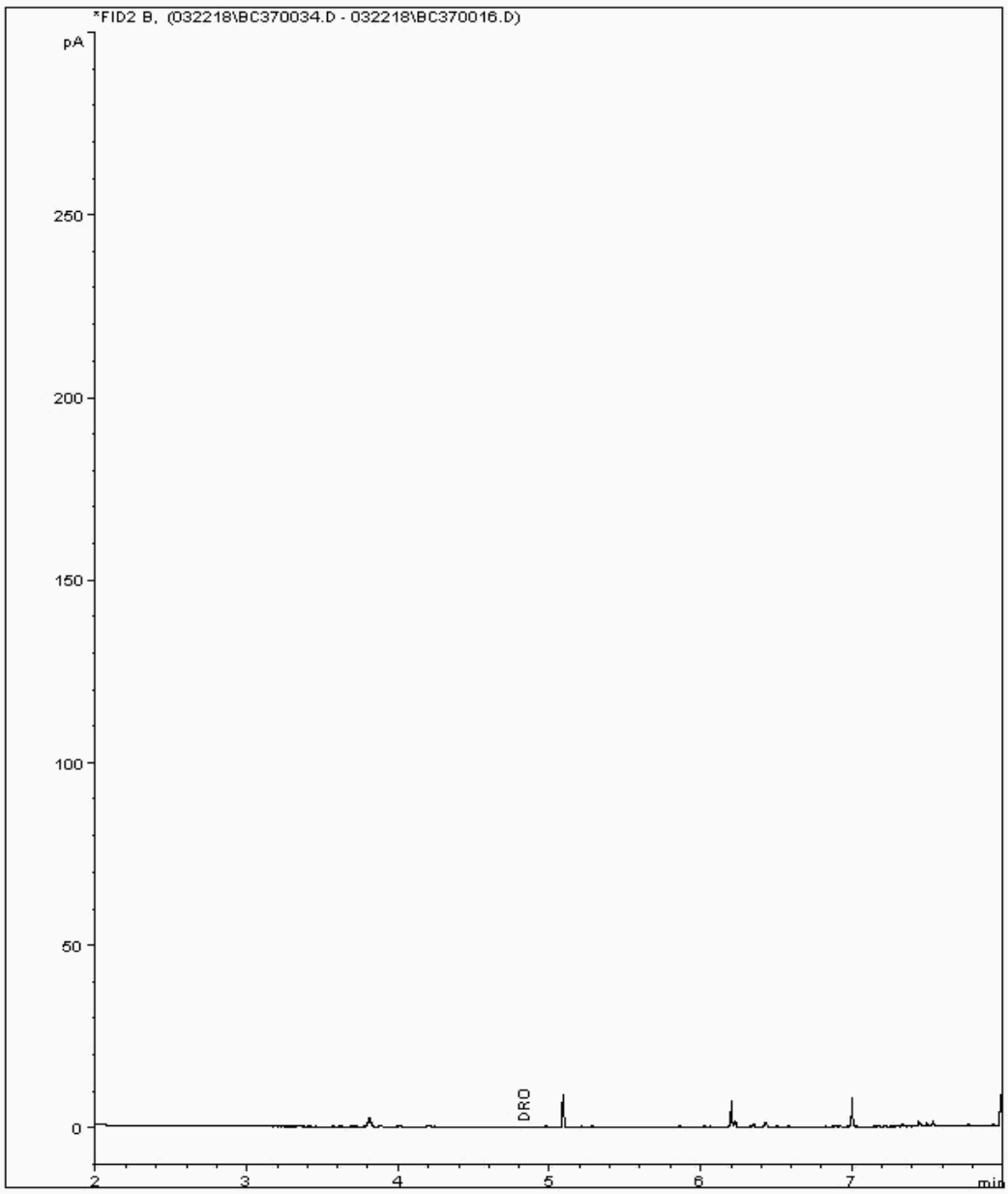
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17245891 **Sample ID :** GW06_13 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185139-
Date Acquired : 23/03/2018 05:22:38 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

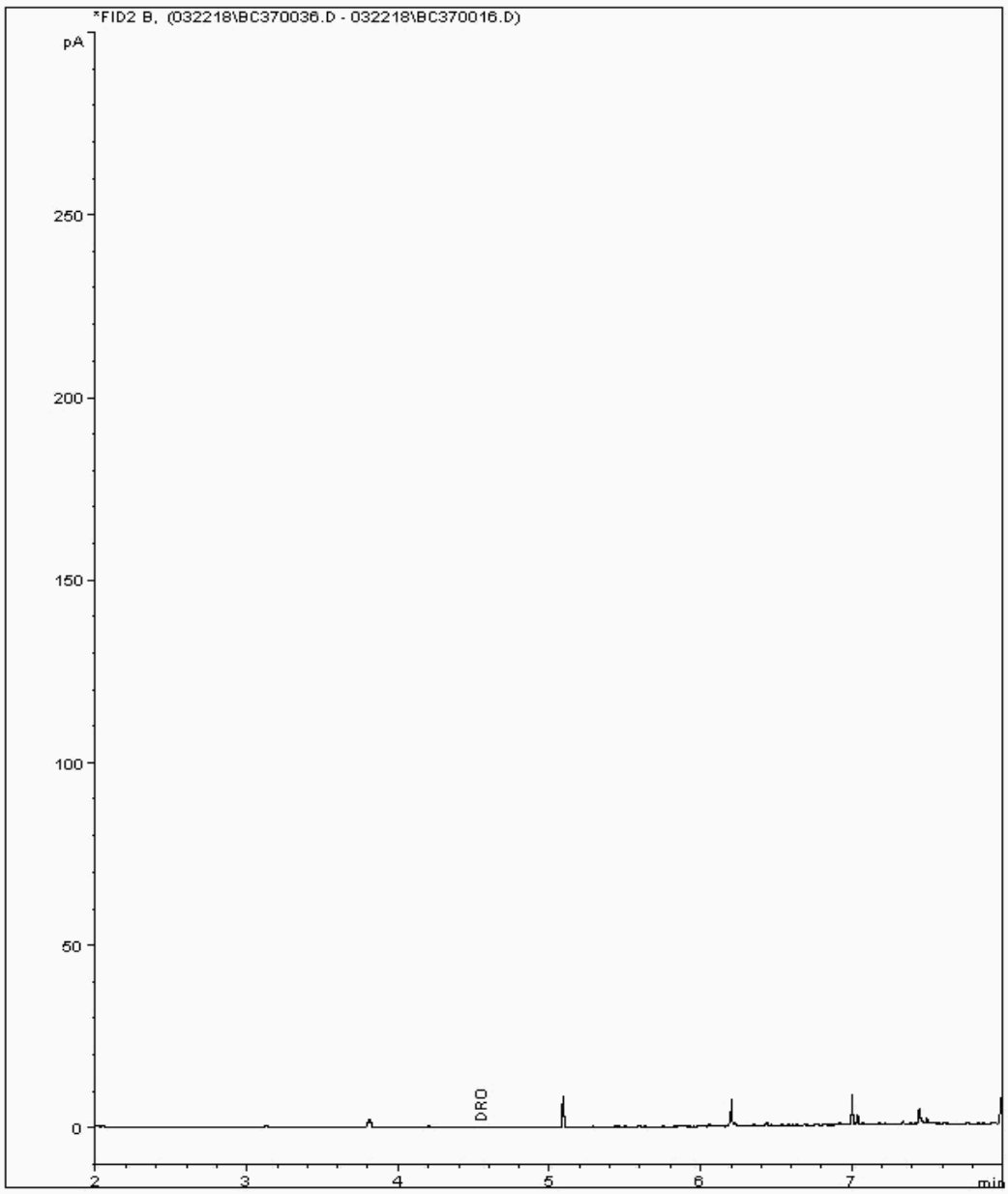
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17246548 **Sample ID :** GW09_32 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185275-
Date Acquired : 23/03/2018 06:08:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

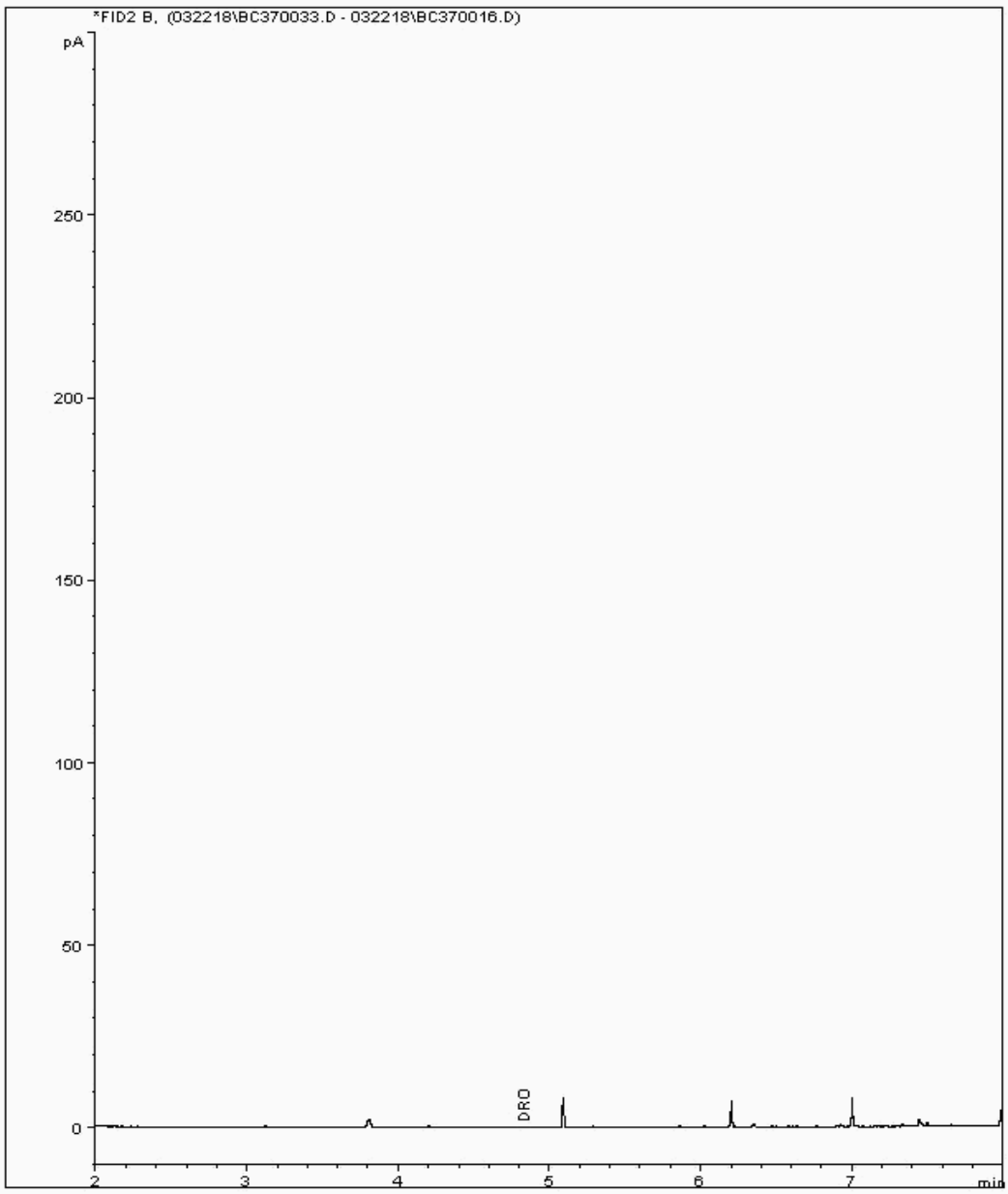
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17246658 **Sample ID :** GW12_33 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185292-
Date Acquired : 23/03/2018 04:59:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

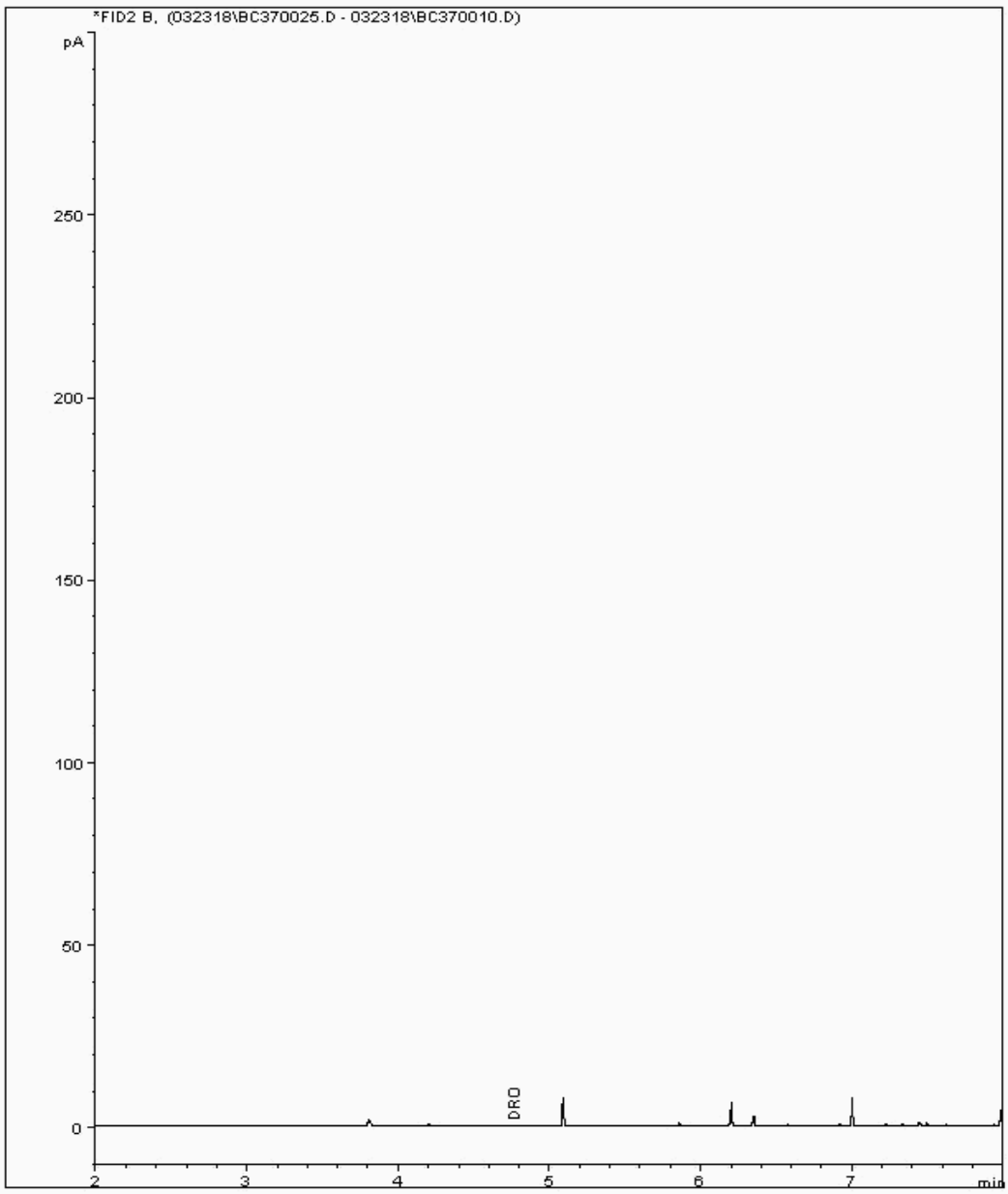
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17247074 **Sample ID :** GW06_39 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185160-
Date Acquired : 24/03/2018 00:53:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

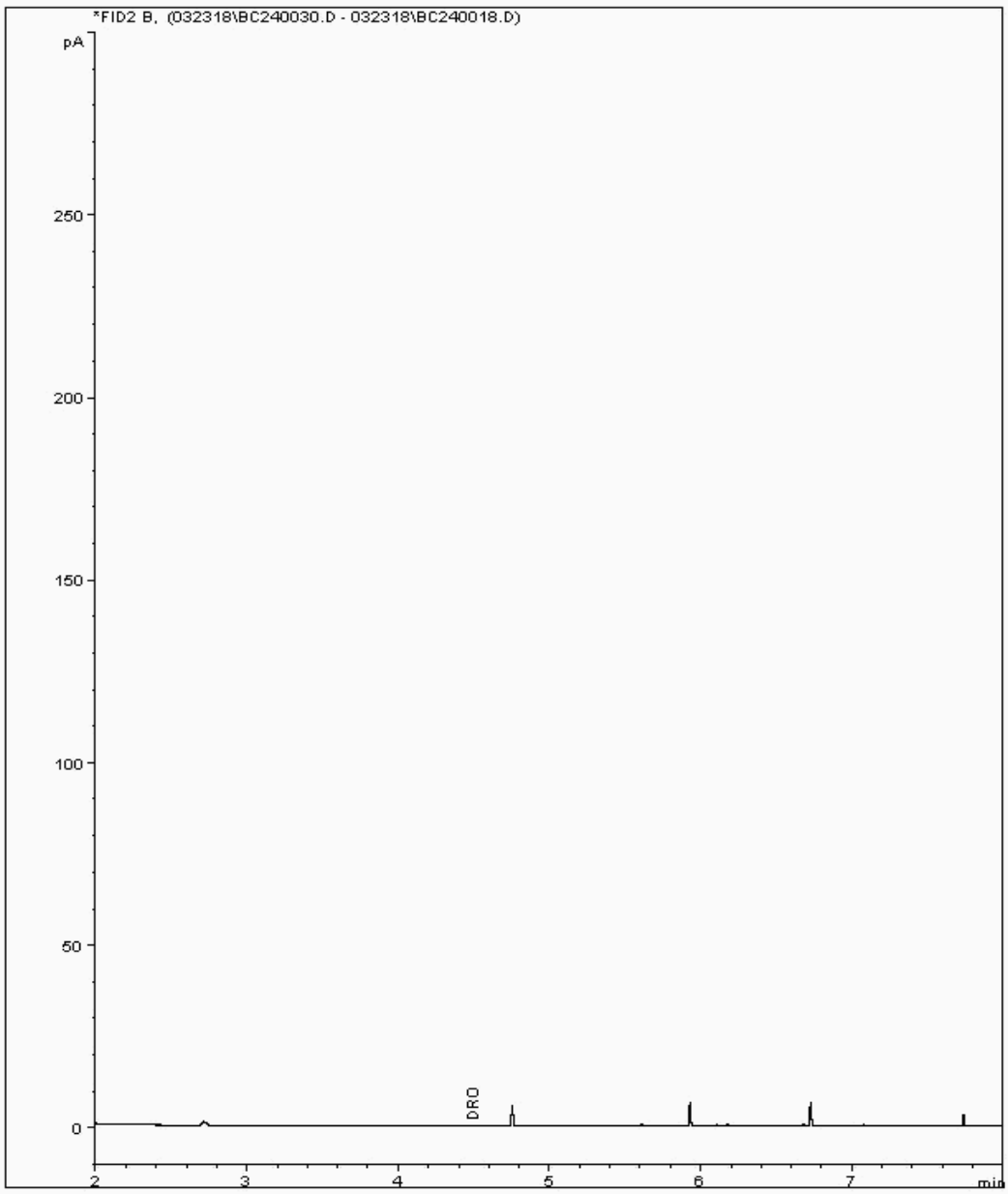
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17247078 **Sample ID :** GW07_40 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185177-
Date Acquired : 24/03/2018 00:35:45 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

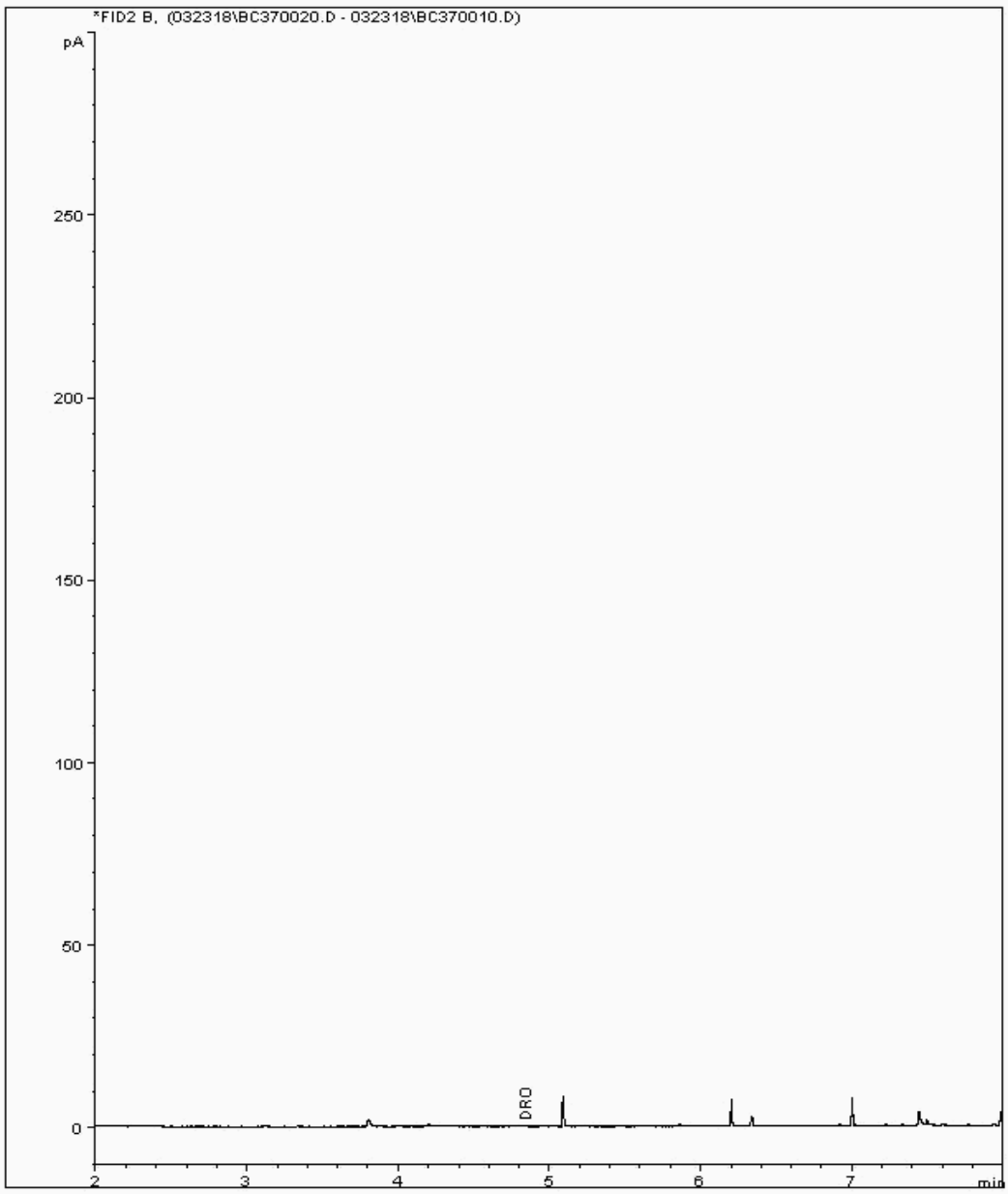
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17247081 **Sample ID :** GW12_30 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185235-
Date Acquired : 23/03/2018 22:57:46 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

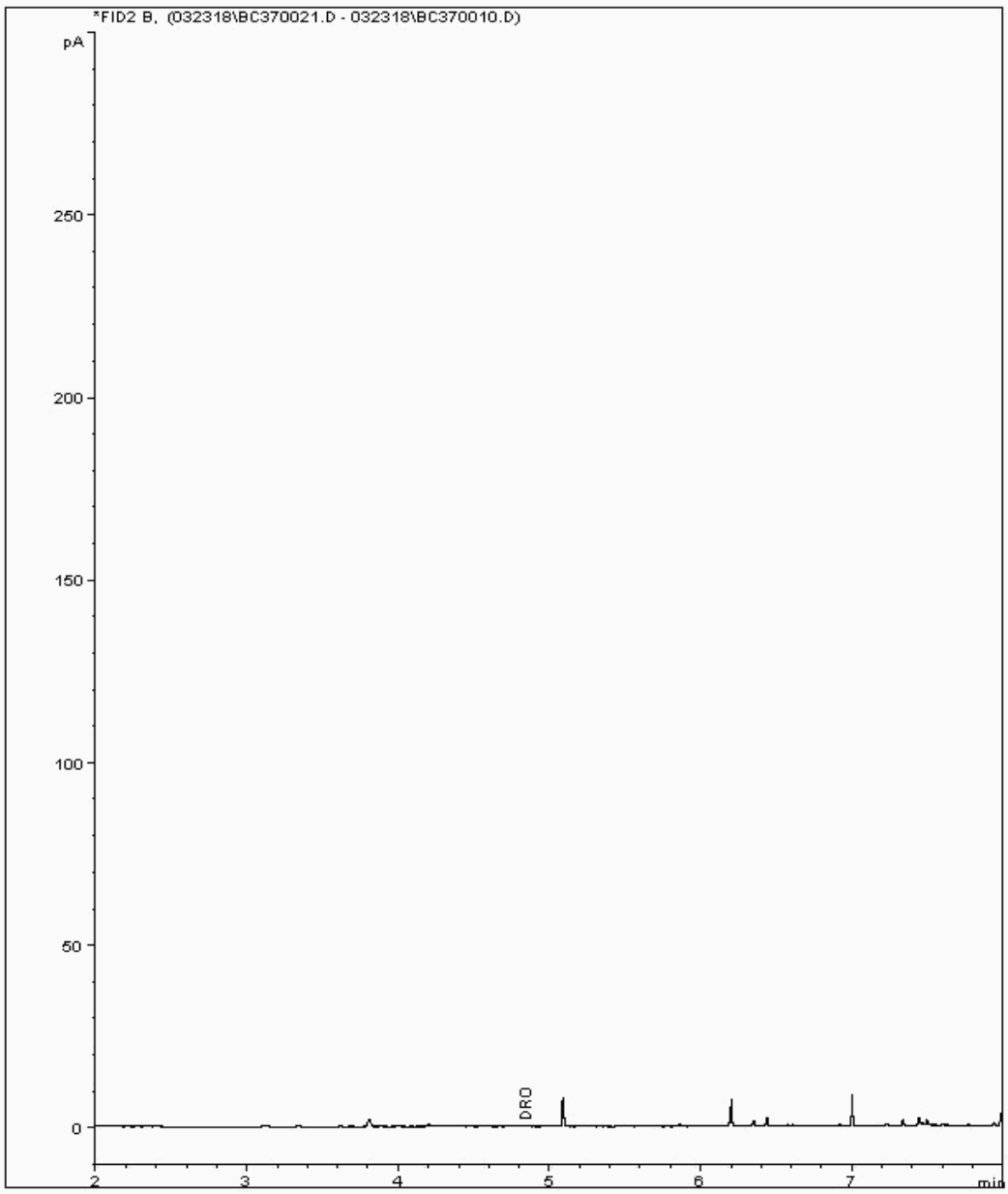
SDG:	180320-61	**Client Reference:**		**Report Number:**	450134
Location:	Docksway Landfill Site	**Order Number:**	700111791	**Superseded Report:**	449872

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 17247085 **Sample ID :** GW09_31 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 16185252-
Date Acquired : 23/03/2018 23:21:09 PM
Units : mg/l



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. 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%, they are generally wider for volatiles analysis, 50-150%. 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.

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.