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

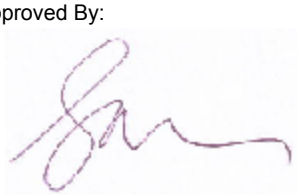
Date:	09 January 2017
Customer:	H_NCC_NPT
Sample Delivery Group (SDG):	161222-106
Your Reference:	
Location:	Docksway Landfill Site
Report No:	393056

We received 19 samples on Thursday December 22, 2016 and 19 of these samples were scheduled for analysis which was completed on Monday January 09, 2017. 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

1291

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
14764973	C2B		0.00 - 0.00	21/12/2016
14765045	GW03_09		0.00 - 0.00	21/12/2016
14764927	GW06_13		0.00 - 0.00	21/12/2016
14765067	GW06_34		0.00 - 0.00	21/12/2016
14764886	GW06_36		0.00 - 0.00	21/12/2016
14764899	GW06_37		0.00 - 0.00	21/12/2016
14764947	GW06_39		0.00 - 0.00	21/12/2016
14764958	GW07_40		0.00 - 0.00	21/12/2016
14765024	GW09_31		0.00 - 0.00	21/12/2016
14765036	GW09_32		0.00 - 0.00	21/12/2016
14764874	GW09_35		0.00 - 0.00	21/12/2016
14765010	GW12_30		0.00 - 0.00	21/12/2016
14765054	GW12_33		0.00 - 0.00	21/12/2016
14764913	GW12_38		0.00 - 0.00	21/12/2016
14764938	GW06_14A		0.00 - 0.00	21/12/2016
14764987	LF08_07		0.00 - 0.00	21/12/2016
14764867	SW_23		0.00 - 0.00	21/12/2016
14764996	SW_24		0.00 - 0.00	21/12/2016
14765006	SW_1A		0.00 - 0.00	21/12/2016

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

LIQUID

Results Legend

- X — Test
- N — No Determination Possible

Lab Sample No(s)			14764973							14765045							14764927							14765067							14764886							14764899				
Customer Sample Reference			C2B							GW03_09							GW06_13							GW06_34							GW06_36							GW06_37				
AGS Reference																																										
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				
Container			1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245
Alkalinity as CaCO3	All	NDPs: 0 Tests: 14									X							X							X							X							X			
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 2		X																																						
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 19				X							X							X							X							X							X	
Anions by Kone (w)	All	NDPs: 0 Tests: 19		X							X							X							X							X							X			
BOD True Total	All	NDPs: 0 Tests: 19			X							X							X							X							X							X		
COD Unfiltered	All	NDPs: 0 Tests: 19			X							X							X							X							X							X		
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 19		X							X							X							X							X							X			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 16					X							X							X							X							X							X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 16		X							X							X							X							X							X			
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 14								X							X							X							X							X				
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 16	X							X							X							X							X							X				
Ionic Balance	All	NDPs: 0 Tests: 16		X							X							X							X							X							X			
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 16		X							X							X							X							X							X			
Nitrite by Kone (w)	All	NDPs: 0 Tests: 16					X							X							X							X							X							X
pH Value	All	NDPs: 0 Tests: 19		X							X							X							X							X							X			
Sulphide	All	NDPs: 0 Tests: 16							X							X							X							X							X					

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

LIQUID

Results Legend

- **X** Test
- **N** No Determination Possible

Lab Sample No(s)			14764973						
Customer Sample Reference			C2B						
AGS Reference									
Depth (m)			0.00 - 0.00						
Container			1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2	X						
VOC MS (W)	All	NDPs: 0 Tests: 16						X	

Lab Sample No(s)			14765045						
Customer Sample Reference			GW03_09						
AGS Reference									
Depth (m)			0.00 - 0.00						
Container			1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2							
VOC MS (W)	All	NDPs: 0 Tests: 16						X	

Lab Sample No(s)			14764927						
Customer Sample Reference			GW06_13						
AGS Reference									
Depth (m)			0.00 - 0.00						
Container			1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2							
VOC MS (W)	All	NDPs: 0 Tests: 16						X	

Lab Sample No(s)			14765067						
Customer Sample Reference			GW06_34						
AGS Reference									
Depth (m)			0.00 - 0.00						
Container			1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2							
VOC MS (W)	All	NDPs: 0 Tests: 16						X	

Lab Sample No(s)			14764886						
Customer Sample Reference			GW06_36						
AGS Reference									
Depth (m)			0.00 - 0.00						
Container			1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2							
VOC MS (W)	All	NDPs: 0 Tests: 16						X	

Lab Sample No(s)			14764899				
Customer Sample Reference			GW06_37				
AGS Reference							
Depth (m)			0.00 - 0.00				
Container			1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2					
VOC MS (W)	All	NDPs: 0 Tests: 16					

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

LIQUID

Results Legend

- X — Test
- N — No Determination Possible

Lab Sample No(s)			14764899		14764947							14764958							14765024							14765036							14764874							14765010		
Customer Sample Reference			GW06_37		GW06_39							GW07_40							GW09_31							GW09_32							GW09_35							GW12_30		
AGS Reference																																										
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							0.00 - 0.00		
Container			Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL
Alkalinity as CaCO3	All	NDPs: 0 Tests: 14				X							X							X							X							X							X	
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 19						X							X							X							X							X						
Anions by Kone (w)	All	NDPs: 0 Tests: 19				X							X							X							X							X							X	
BOD True Total	All	NDPs: 0 Tests: 19					X							X							X							X							X							X
COD Unfiltered	All	NDPs: 0 Tests: 19					X							X							X							X							X							X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 19				X							X							X							X							X							X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 16							X							X							X							X							X					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 16				X							X							X							X							X							X	
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 14			X							X							X							X							X							X		
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 16			X							X							X							X							X							X		
Ionic Balance	All	NDPs: 0 Tests: 16				X							X							X							X							X							X	
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 16				X							X							X							X							X							X	
Nitrite by Kone (w)	All	NDPs: 0 Tests: 16							X							X							X							X							X					
pH Value	All	NDPs: 0 Tests: 19				X							X							X							X							X							X	
Sulphide	All	NDPs: 0 Tests: 16		X							X							X							X							X							X			
VOC MS (W)	All	NDPs: 0 Tests: 16	X							X							X							X							X							X				

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)	14765010	14765054	14764913	14764938	14764987	14764867	14764996	14765006
Customer Sample Reference	GW12_30	GW12_33	GW12_38	GW06_14A	LF08_07	SW_23	SW_24	SW_1A
AGS Reference								
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	0.00 - 0.00	0.00 - 0.00

Container	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	1plastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	1plastic (ALE22	250ml BOD (AL
Alkalinity as CaCO3	All	NDPs: 0 Tests: 14					X						X						X														
Alkalinity Filtered as CaCO3	All	NDPs: 0 Tests: 2																			X												
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 19	X						X						X						X						X		X				
Anions by Kone (w)	All	NDPs: 0 Tests: 19						X						X						X						X			X			X	
BOD True Total	All	NDPs: 0 Tests: 19							X						X						X						X			X			X
COD Unfiltered	All	NDPs: 0 Tests: 19							X						X						X						X			X			X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 19						X						X						X						X			X			X	
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 16		X						X						X						X											
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 16						X						X						X						X							
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 14					X						X						X														
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 16					X						X						X														
Ionic Balance	All	NDPs: 0 Tests: 16						X						X						X						X							
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 16						X						X						X						X							
Nitrite by Kone (w)	All	NDPs: 0 Tests: 16		X						X						X						X											
pH Value	All	NDPs: 0 Tests: 19						X						X						X						X			X			X	
Sulphide	All	NDPs: 0 Tests: 16			X					X						X						X											

Validated

CERTIFICATE OF ANALYSIS

SDG:	161222-106	Client Reference:		Report Number:	393056
Location:	Docksway Landfill Site	Order Number:	700095479	Superseded Report:	

LIQUID

Results Legend

- X Test
- N No Determination Possible

Lab Sample No(s)			14765010				14765054							14764913							14764938							14764987							14764867			14764996			14765006	
Customer Sample Reference			GW12_30				GW12_33							GW12_38							GW06_14A							LF08_07							SW_23			SW_24			SW_1A	
AGS Reference																																											
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			0.00 - 0.00			0.00 - 0.00	
Container			H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1000ml glass b	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	NaOH (ALE245	Vial (ALE297)	ZnAc (ALE246)	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	1lplastic (ALE22	250ml BOD (AL	H2SO4 (ALE24	1lplastic (ALE22	250ml BOD (AL
Total Organic and Inorganic Carbon	All	NDPs: 0 Tests: 2																										X														
VOC MS (W)	All	NDPs: 0 Tests: 16			X							X								X							X							X									

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

Lab Sample No(s)			14765006
Customer Sample Reference			SW_1A
AGS Reference			
Depth (m)			0.00 - 0.00
Container			H2SO4 (ALE24
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 19	X

Validated

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

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	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	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016
			Sampled Time	.	.	.	.	.	.
			Date Received	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016
			SDG Ref	161222-106	161222-106	161222-106	161222-106	161222-106	161222-106
			Lab Sample No.(s)	14764973	14765045	14764927	14765067	14764886	14764899
			AGS Reference						
Ionic balance	% Diff	Calulation		0.81	-4.54	-0.168	0.761	-3.74	-3.97
Alkalinity, Total as CaCO3	<2 mg/l	TM043			410 #	1050 #	565 #	915 #	1060 #
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043		8320					
BOD, unfiltered	<1 mg/l	TM045		115 ♦ #	2.28 ♦ #	2.54 ♦ #	10.5 ♦ #	<1 ♦ #	<5 ♦ #
Carbon, Organic (diss.filt)	<3 mg/l	TM090			5.65 ♦	18.5 ♦	16.7 ♦	12.9 ♦	36.8 ♦
Organic Carbon, Total	<3 mg/l	TM090		659 ♦ #					
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		1400 #	1.47 #	17 #	9.37 #	12.9 #	34 #
Sulphide	<0.01 mg/l	TM101		<0.1 #	<0.01 #	0.236 #	3.06 #	0.158 #	2.68 #
COD, unfiltered	<7 mg/l	TM107		2020 #	66.5 #	89 #	85.7 #	172 #	181 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		14.8 #	1.31 #	7.25 #	1.26 #	7.17 #	9.1 #
Arsenic (diss.filt)	<0.51 µg/l	TM152		50.8 #	1.75 #	5.24 #	11.2 #	4.86 #	46 #
Boron (diss.filt)	<5 µg/l	TM152		1290 #	307 #	1670 #	491 #	1190 #	2160 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1.2 µg/l	TM152		182 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #
Copper (diss.filt)	<0.85 µg/l	TM152		3.42 #	2.26 #	<0.85 #	<0.85 #	<0.85 #	<0.85 #
Lead (diss.filt)	<0.1 µg/l	TM152		2.13 #	<0.1 #	<0.1 #	<0.1 #	0.161 #	<0.1 #
Manganese (diss.filt)	<0.76 µg/l	TM152		513 #	186 #	559 #	1760 #	273 #	369 #
Nickel (diss.filt)	<0.44 µg/l	TM152		143 #	1.8 #	0.68 #	1.63 #	1.27 #	0.792 #
Selenium (diss.filt)	<0.81 µg/l	TM152		1.19 #	<0.81 #	<0.81 #	<0.81 #	<0.81 #	<0.81 #
Zinc (diss.filt)	<1.3 µg/l	TM152		32.5 #	4.56 #	3.14 #	1.85 #	3.39 #	1.49 #
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		3540 #	244 #	<46 #	63.8 #	<46 #	<46 #
Nitrite as NO2	<0.05 mg/l	TM184		<0.25 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184		<10 #	119 #	62.8 #	195 #	73.3 #	<2 #
Chloride	<2 mg/l	TM184		2130 #	243 #	2830 #	107 #	3310 #	4610 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		28.4 ♦ #	0.87 ♦ #	6.55 #	0.153 ♦ #	4.85 ♦ #	5.29 ♦ #
Nitrate as NO3	<0.3 mg/l	TM184		2.03 #	5.16 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.5 #	1.18 #	<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 #
Potassium (diss.filt)	<1 mg/l	TM228		849 #	13.6 #	66.6 #	23.4 #	64.4 #	81.6 #
Iron (diss.filt)	<0.019 mg/l	TM228		11.6 #	<0.019 #	<0.19 #	1.07 #	<0.19 #	<0.19 #
Hardness, Total as CaCO3	<1 mg/l	TM228		1210 #	359 #	1260 #	687 #	1240 #	1370 #
pH	<1 pH Units	TM256		8 #	8.36 #	7.98 #	8.04 #	8.2 #	7.76 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

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.	GW06_39	GW07_40	GW09_31	GW09_32	GW09_35	GW12_30
			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	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016
			Sampled Time	.	.	.	.	.	.
			Date Received	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016
			SDG Ref	161222-106	161222-106	161222-106	161222-106	161222-106	161222-106
			Lab Sample No.(s)	14764947	14764958	14765024	14765036	14764874	14765010
			AGS Reference						
Ionic balance	% Diff	Calulation		-5.32	-6.09	-2.31	-4.5	-0.756	-6.16
Alkalinity, Total as CaCO3	<2 mg/l	TM043		980 #	720 #	650 #	300 #	880 #	575 #
BOD, unfiltered	<1 mg/l	TM045		52.2 ♦ #	<5 ♦ #	<1 #	2.18 ♦ #	3.58 #	3.86 ♦ #
Carbon, Organic (diss.filt)	<3 mg/l	TM090		22.1 ♦	18.8 ♦	19.5 ♦	4.9 ♦	12.6 ♦	15.7 ♦
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099		6.5 #	11.2 #	6.2 #	1.67 #	10.2 #	2.9 #
Sulphide	<0.01 mg/l	TM101		9.2 #	1.67 #	<0.01 #	<0.01 #	0.241 #	0.0607 #
COD, unfiltered	<7 mg/l	TM107		520 #	96.3 #	40.4 #	21.3 #	110 #	122 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		4.65 #	1.88 #	2.03 #	1.1 #	7.84 #	1.77 #
Arsenic (diss.filt)	<0.51 µg/l	TM152		11.8 #	14.6 #	8.42 #	2.41 #	2.68 #	2.63 #
Boron (diss.filt)	<5 µg/l	TM152		1310 #	1570 #	714 #	342 #	1020 #	718 #
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1.2 µg/l	TM152		<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #	<1.2 #
Copper (diss.filt)	<0.85 µg/l	TM152		<0.85 #	<0.85 #	<0.85 #	<0.85 #	<0.85 #	<0.85 #
Lead (diss.filt)	<0.1 µg/l	TM152		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Manganese (diss.filt)	<0.76 µg/l	TM152		1430 #	153 #	629 #	873 #	473 #	1380 #
Nickel (diss.filt)	<0.44 µg/l	TM152		4.87 #	1.41 #	1.69 #	0.747 #	0.534 #	4.02 #
Selenium (diss.filt)	<0.81 µg/l	TM152		<0.81 #	<0.81 #	<0.81 #	<0.81 #	<0.81 #	<0.81 #
Zinc (diss.filt)	<1.3 µg/l	TM152		1.78 #	1.56 #	2.9 #	4.32 #	2.86 #	2.76 #
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		317 #	68.8 #	<46 #	<46 #	<46 #	<46 #
Nitrite as NO2	<0.05 mg/l	TM184		0.053 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Sulphate	<2 mg/l	TM184		103 #	<2 #	266 #	270 #	147 #	200 #
Chloride	<2 mg/l	TM184		1590 #	364 #	358 #	112 #	3850 #	288 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184		0.215 ♦ #	9.65 #	0.998 ♦ #	0.342 ♦ #	8.96 ♦ #	<0.05 ♦ #
Nitrate as NO3	<0.3 mg/l	TM184		<0.3 #	<0.3 #	<0.3 #	<0.3 #	<0.3 #	1.13 #
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	0.258 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
Potassium (diss.filt)	<1 mg/l	TM228		63.5 #	31.7 #	32.3 #	17.1 #	71.2 #	19.2 #
Iron (diss.filt)	<0.019 mg/l	TM228		1.01 #	0.0334 #	0.038 #	0.13 #	<0.19 #	0.0625 #
Hardness, Total as CaCO3	<1 mg/l	TM228		878 #	287 #	588 #	289 #	1800 #	443 #
pH	<1 pH Units	TM256		7.56 #	7.91 #	7.55 #	8.12 #	7.67 #	7.56 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

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_33	GW12_38	GW06_14A	LF08_07	SW_23	SW_24
Customer Sample Ref.								
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			Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
Date Sampled			21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016
Sampled Time			.	.	.	.	.	.
Date Received			22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016
SDG Ref			161222-106	161222-106	161222-106	161222-106	161222-106	161222-106
Lab Sample No.(s)			14765054	14764913	14764938	14764987	14764867	14764996
AGS Reference								
Ionic balance	% Diff	Calulation	-6.35	-0.984	-5.16	-1.09		
Alkalinity, Total as CaCO3	<2 mg/l	TM043	955 #	385 #	755 #			
Alkalinity,Total as CaCO3 (diss.filt)	<2 mg/l	TM043				4160		
BOD, unfiltered	<1 mg/l	TM045	4.44 #	11.9 ♦ #	16.3 ♦ #	120 ♦ #	4.48 ♦ #	10.9 ♦ #
Carbon, Organic (diss.filt)	<3 mg/l	TM090	26.3 ♦	28 ♦	18 ♦			
Organic Carbon, Total	<3 mg/l	TM090				350 ♦ #		
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	11 #	4.66 #	14.2 #	691 #	14.8 #	0.307 #
Sulphide	<0.01 mg/l	TM101	0.0441 #	0.0429 #	0.0116 #	0.0471 #		
COD, unfiltered	<7 mg/l	TM107	50.6 #	130 #	366 #	1050 #	49.8 #	31.2 #
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120	2.53 #	2.18 #	3.77 #	8.43 #	1.11 #	0.481 #
Arsenic (diss.filt)	<0.51 µg/l	TM152	93.5 #	2.87 #	2.78 #	42 #		
Boron (diss.filt)	<5 µg/l	TM152	1170 #	491 #	965 #	4880 #		
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 #	0.103 #	<0.08 #	<0.08 #		
Chromium (diss.filt)	<1.2 µg/l	TM152	<1.2 #	<1.2 #	<1.2 #	86.5 #		
Copper (diss.filt)	<0.85 µg/l	TM152	<0.85 #	5.7 #	1.09 #	1.59 #		
Lead (diss.filt)	<0.1 µg/l	TM152	<0.1 #	0.273 #	0.136 #	0.435 #		
Manganese (diss.filt)	<0.76 µg/l	TM152	609 #	6160 #	4150 #	1400 #		
Nickel (diss.filt)	<0.44 µg/l	TM152	0.444 #	6.96 #	4.96 #	142 #		
Selenium (diss.filt)	<0.81 µg/l	TM152	<0.81 #	<0.81 #	<0.81 #	1.15 #		
Zinc (diss.filt)	<1.3 µg/l	TM152	2.59 #	7.42 #	3.26 #	46.2 #		
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	<46 #	213 #	367 #	12800 #		
Nitrite as NO2	<0.05 mg/l	TM184	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Sulphate	<2 mg/l	TM184	<2 #	865 #	361 #	361 #		
Chloride	<2 mg/l	TM184	524 #	299 #	1230 #	1230 #	114 #	39.3 #
Phosphate (ortho) as PO4	<0.05 mg/l	TM184	<0.05 ♦ #	<0.05 ♦ #	<0.05 #	5.72 #		
Nitrate as NO3	<0.3 mg/l	TM184	<0.3 #	3.38 #	1.47 #	<1.5 #		
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184	<0.1 #	0.77 #	0.343 #	<0.5 #		
Cyanide, Total	<0.05 mg/l	TM227	<0.05 #	<0.05 #	<0.05 #	<0.05 #		
Potassium (diss.filt)	<1 mg/l	TM228	43.7 #	37.1 #	53.4 #	368 #		
Iron (diss.filt)	<0.019 mg/l	TM228	0.433 #	0.0547 #	0.437 #	9.21 #		
Hardness, Total as CaCO3	<1 mg/l	TM228	631 #	1150 #	929 #	840 #		
pH	<1 pH Units	TM256	8.29 #	7.35 #	7.58 #	7.96 #	7.55 #	7.82 #

Validated

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

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.	SW_1A						
Depth (m)	0.00 - 0.00						
Sample Type	Water(GW/SW)						
Date Sampled	21/12/2016						
Sampled Time	.						
Date Received	22/12/2016						
SDG Ref	161222-106						
Lab Sample No.(s)	14765006						
AGS Reference							
Component	**LOD/Units**	**Method**					
BOD, unfiltered	<1 mg/l	TM045	2.34 #				
Ammoniacal Nitrogen as N	<0.2 mg/l	TM099	<0.2 #				
COD, unfiltered	<7 mg/l	TM107	<7 #				
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120	0.331 #				
Chloride	<2 mg/l	TM184	23.5 #				
pH	<1 pH Units	TM256	8.1 #				

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

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	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	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016
			Sampled Time	.	.	.	.	.	.
			Date Received	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016
			SDG Ref	161222-106	161222-106	161222-106	161222-106	161222-106	161222-106
			Lab Sample No.(s)	14764973	14765045	14764927	14765067	14764886	14764899
			AGS Reference						
Benzene	<1 µg/l	TM208		4.72 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208			<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208		6.8 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

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.	GW06_39	GW07_40	GW09_31	GW09_32	GW09_35	GW12_30
			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	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016	21/12/2016
			Sampled Time	.	.	.	.	.	.
			Date Received	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016	22/12/2016
			SDG Ref	161222-106	161222-106	161222-106	161222-106	161222-106	161222-106
			Lab Sample No.(s)	14764947	14764958	14765024	14765036	14764874	14765010
			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:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

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_33	GW12_38	GW06_14A	LF08_07		
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	21/12/2016	21/12/2016	21/12/2016	21/12/2016		
			Sampled Time	.	.	.	.		
			Date Received	22/12/2016	22/12/2016	22/12/2016	22/12/2016		
			SDG Ref	161222-106	161222-106	161222-106	161222-106		
			Lab Sample No.(s)	14765054	14764913	14764938	14764987		
			AGS Reference						
Benzene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #		
m,p-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #			
o-Xylene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #		
Naphthalene	<1 µg/l	TM208		<1 #	<1 #	<1 #	<1 #		

CERTIFICATE OF ANALYSIS

SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
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		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. 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:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	14764973	14765045	14764927	14765067	14764886	14764899	14764947	14764958	14765024	14765036
Customer Sample Ref.	C2B	GW03_09	GW06_13	GW06_34	GW06_36	GW06_37	GW06_39	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	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Alkalinity as CaCO3		03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017
Alkalinity Filtered as CaCO3	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017
Ammoniacal Nitrogen	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017
Anions by Kone (w)	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017
BOD True Total	29-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016	03-Jan-2017	29-Dec-2016	29-Dec-2016	29-Dec-2016	28-Dec-2016	29-Dec-2016
COD Unfiltered	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	31-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016
Conductivity (at 20 deg.C)	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	29-Dec-2016	30-Dec-2016
Cyanide Comp/Free/Total/Thiocyanate	03-Jan-2017	29-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016	03-Jan-2017	29-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016
Dissolved Metals by ICP-MS	04-Jan-2017	03-Jan-2017	04-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	04-Jan-2017	04-Jan-2017	03-Jan-2017	03-Jan-2017
Dissolved Organic/Inorganic Carbon		06-Jan-2017	06-Jan-2017	09-Jan-2017	09-Jan-2017	09-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017
EPH (DRO) (C10-C40) Aqueous (W)	05-Jan-2017	05-Jan-2017	03-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017
Ionic Balance	05-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017
Metals by iCap-OES Dissolved (W)	05-Jan-2017	04-Jan-2017	05-Jan-2017	04-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	04-Jan-2017	04-Jan-2017
Nitrite by Kone (w)	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017
pH Value	03-Jan-2017	04-Jan-2017	03-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	03-Jan-2017	03-Jan-2017	04-Jan-2017	04-Jan-2017
Sulphide	05-Jan-2017	05-Jan-2017	04-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	04-Jan-2017	05-Jan-2017	05-Jan-2017	04-Jan-2017
Total Organic and Inorganic Carbon	06-Jan-2017									
VOC MS (W)	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017

Lab Sample No(s)	14764874	14765010	14765054	14764913	14764938	14764987	14764867	14764996	14765006
Customer Sample Ref.	GW09_35	GW12_30	GW12_33	GW12_38	GW06_14A	LF08_07	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	0.00 - 0.00	0.00 - 0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Alkalinity as CaCO3	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017				
Alkalinity Filtered as CaCO3	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017			
Ammoniacal Nitrogen	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017
Anions by Kone (w)	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017
BOD True Total	28-Dec-2016	29-Dec-2016	28-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016	28-Dec-2016
COD Unfiltered	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	31-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016
Conductivity (at 20 deg.C)	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016	30-Dec-2016
Cyanide Comp/Free/Total/Thiocyanate	03-Jan-2017	29-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016	29-Dec-2016			
Dissolved Metals by ICP-MS	03-Jan-2017	04-Jan-2017	03-Jan-2017	03-Jan-2017	04-Jan-2017	04-Jan-2017			
Dissolved Organic/Inorganic Carbon	09-Jan-2017	06-Jan-2017	09-Jan-2017	09-Jan-2017	09-Jan-2017				
EPH (DRO) (C10-C40) Aqueous (W)	05-Jan-2017	03-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017			
Ionic Balance	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	06-Jan-2017	05-Jan-2017			
Metals by iCap-OES Dissolved (W)	05-Jan-2017	05-Jan-2017	04-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017			
Nitrite by Kone (w)	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	04-Jan-2017	03-Jan-2017			
pH Value	04-Jan-2017	03-Jan-2017	04-Jan-2017	04-Jan-2017	03-Jan-2017	03-Jan-2017	03-Jan-2017	04-Jan-2017	04-Jan-2017
Sulphide	04-Jan-2017	05-Jan-2017	04-Jan-2017	04-Jan-2017	05-Jan-2017	05-Jan-2017			
Total Organic and Inorganic Carbon						06-Jan-2017			
VOC MS (W)	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017	05-Jan-2017			

CERTIFICATE OF ANALYSIS

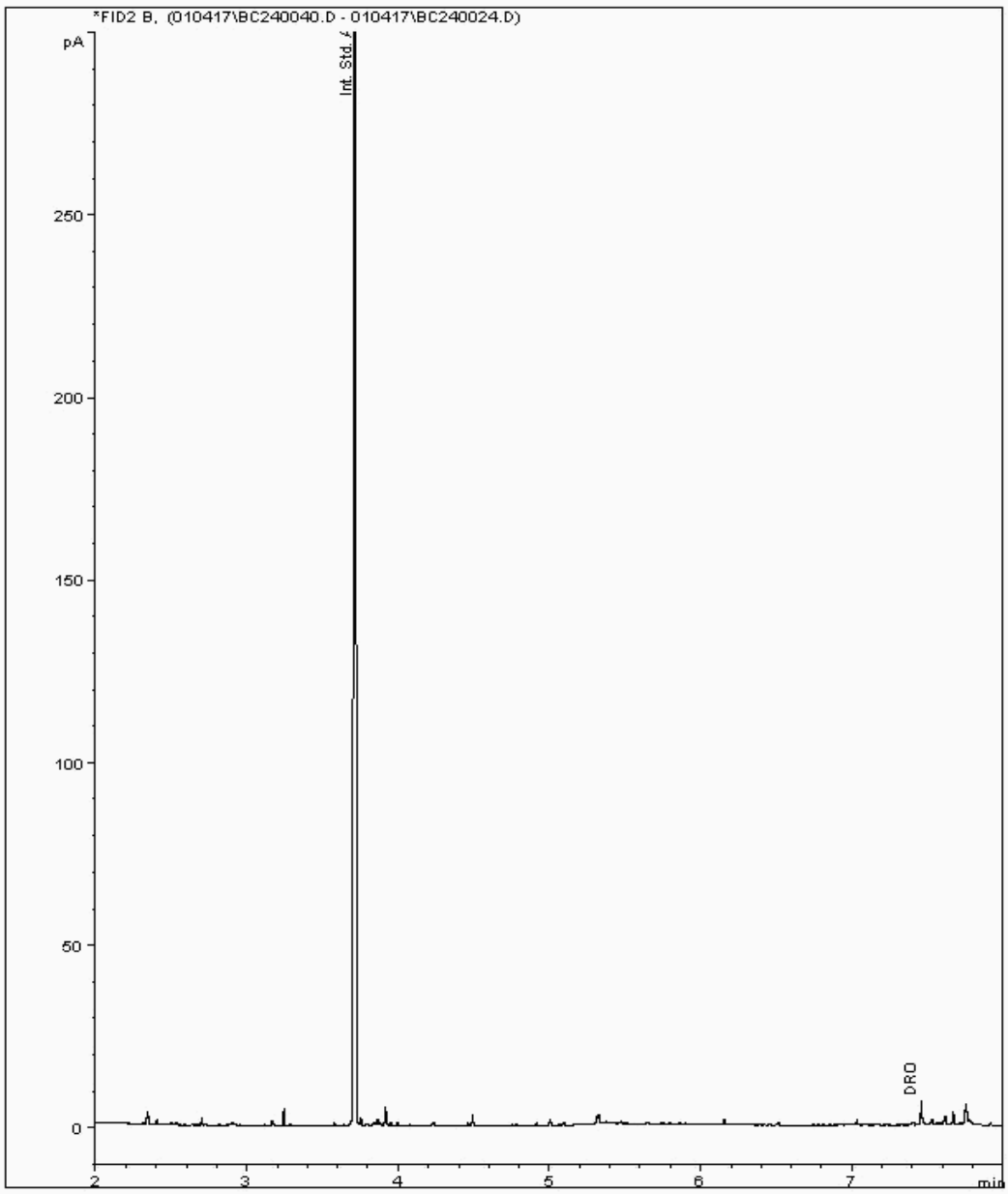
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14767822 **Sample ID :** GW06_34 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13839013-
Date Acquired : 05/01/2017 02:19:04 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

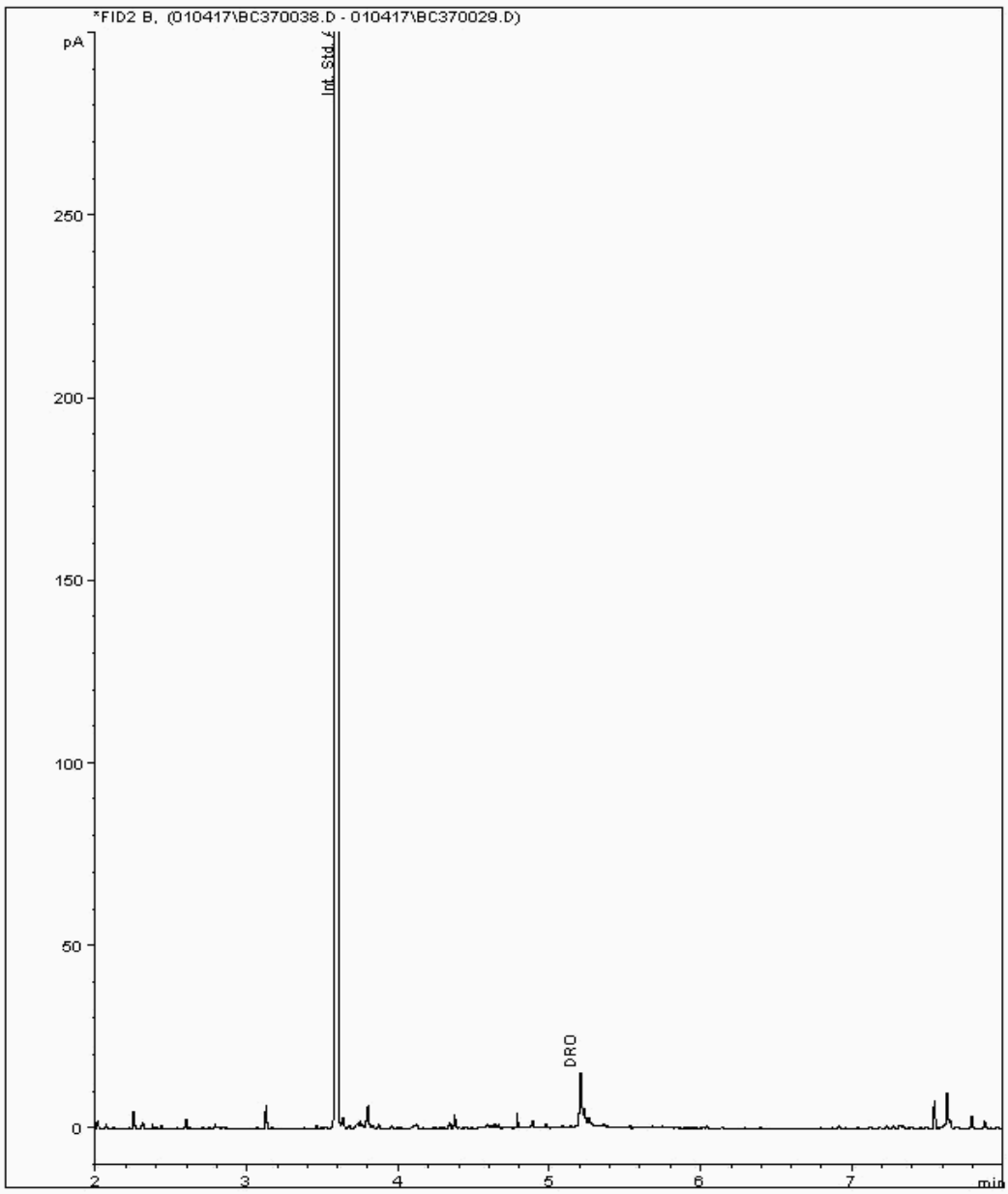
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14767855 **Sample ID :** GW12_33 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838996-
Date Acquired : 05/01/2017 04:18:15 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

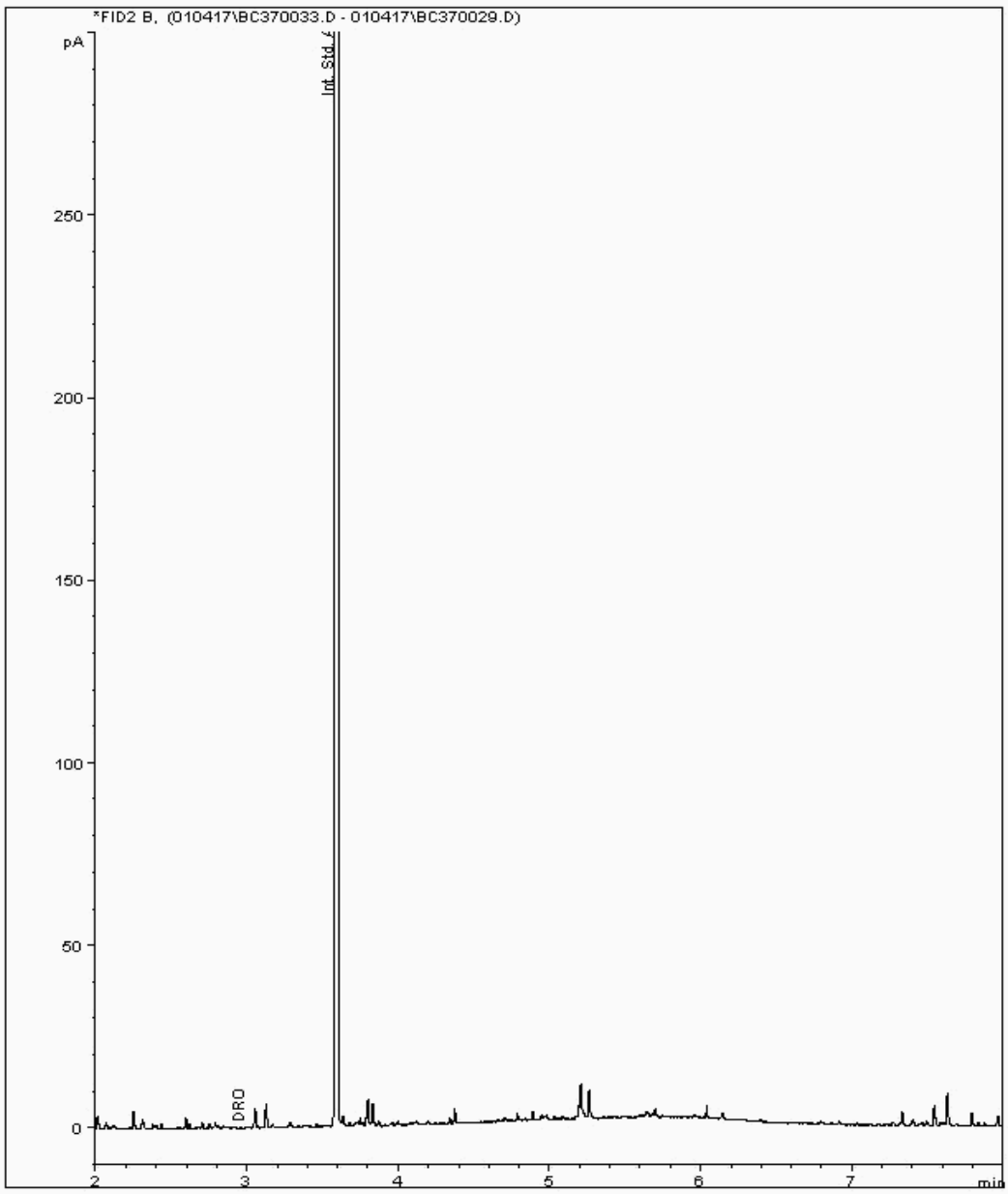
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14767992 **Sample ID :** GW12_38 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838792-
Date Acquired : 05/01/2017 02:30:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

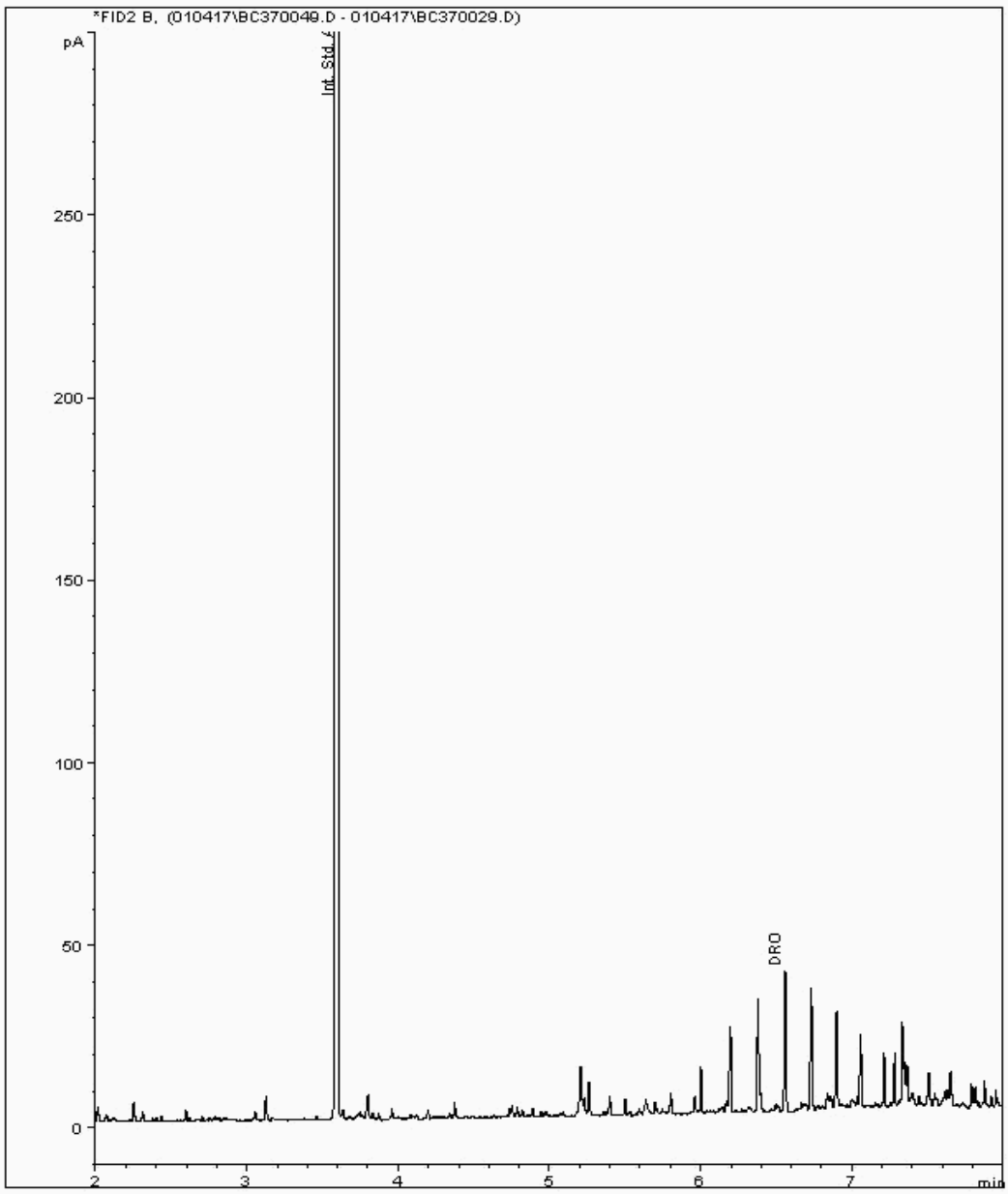
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14768052 **Sample ID :** GW06_14A **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838830-
Date Acquired : 05/01/2017 08:16:33 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

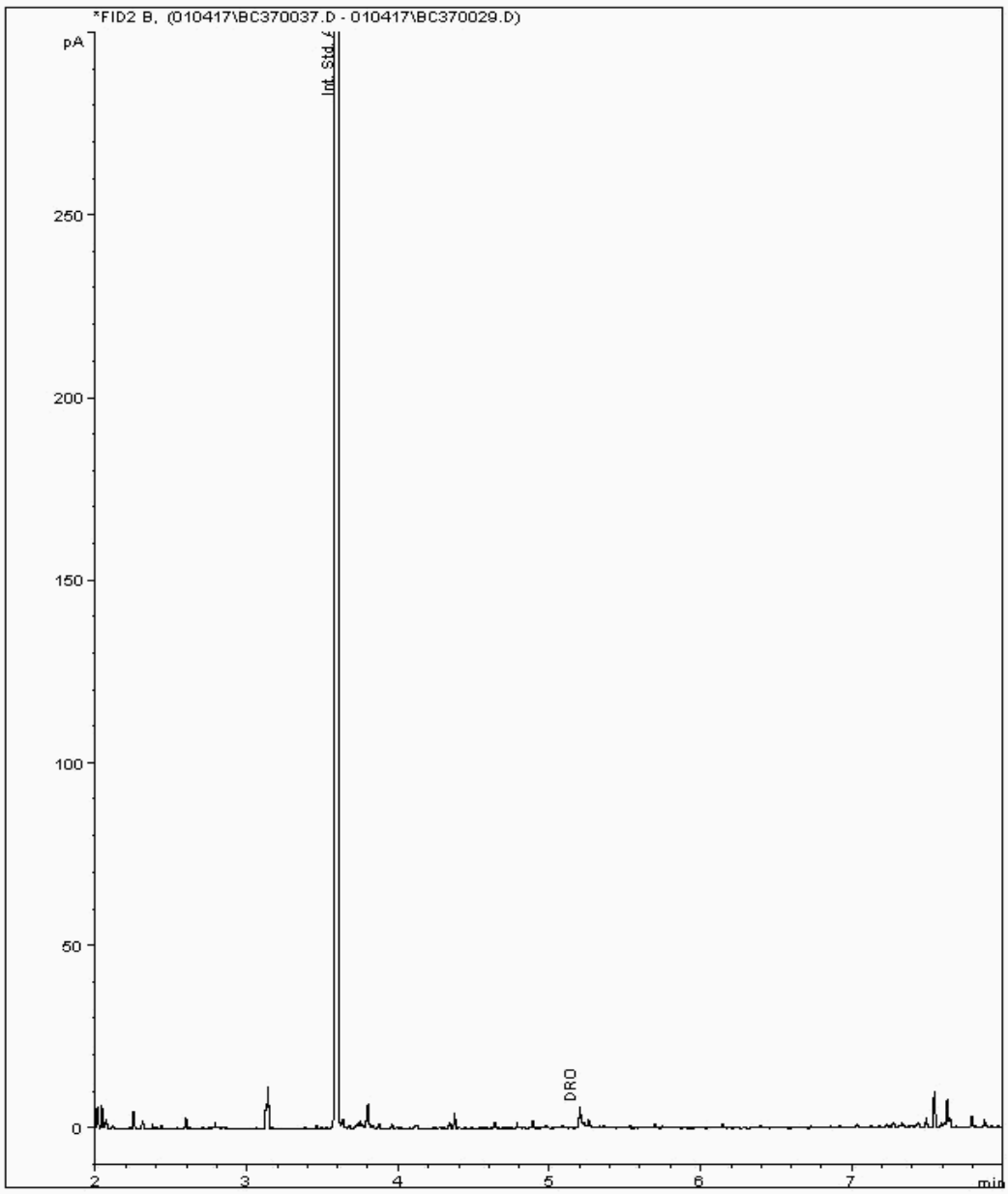
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14768564 **Sample ID :** GW06_37 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838775-
Date Acquired : 05/01/2017 03:56:47 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

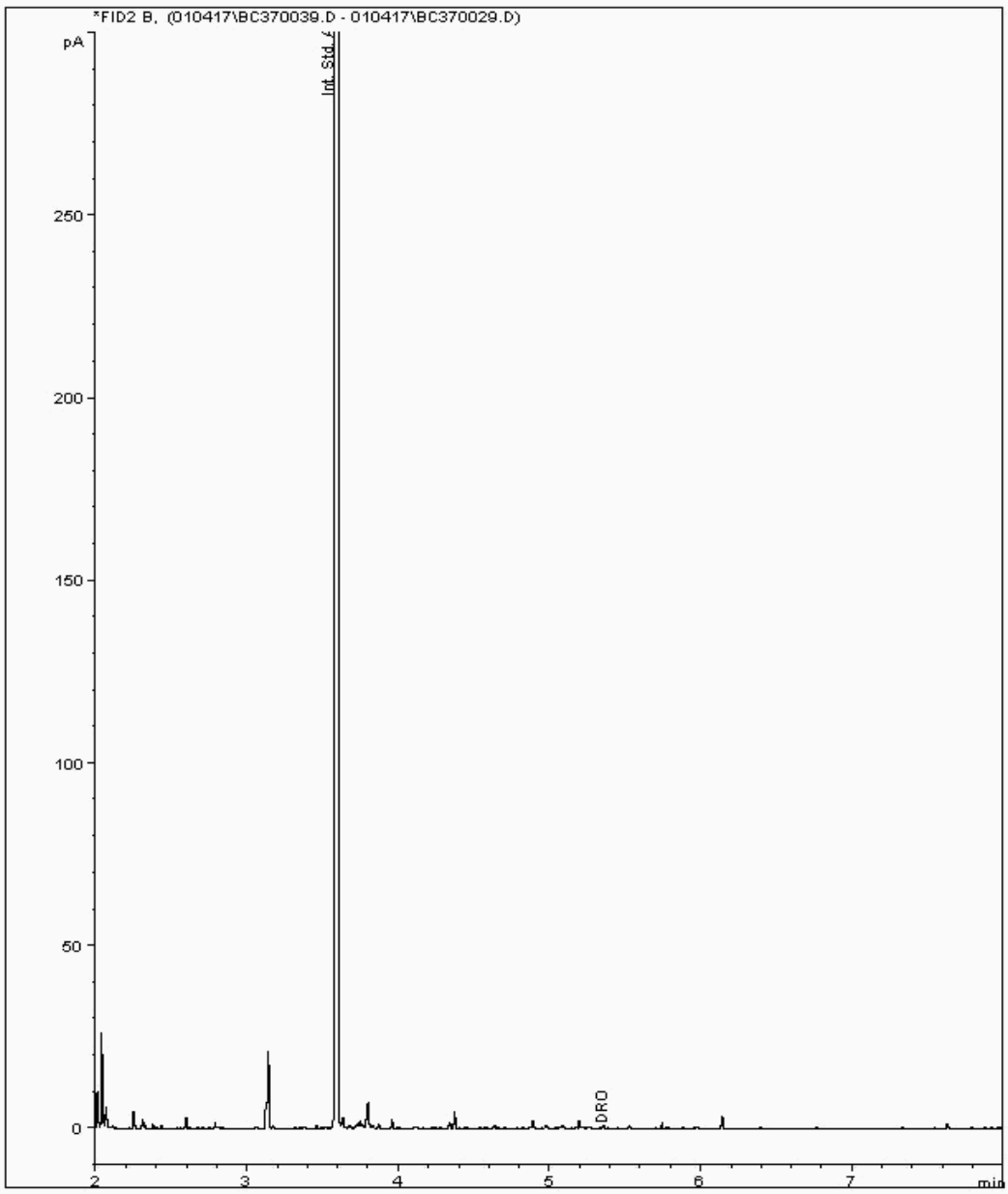
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14768575 **Sample ID :** GW06_36 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838758-
Date Acquired : 05/01/2017 04:39:54 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

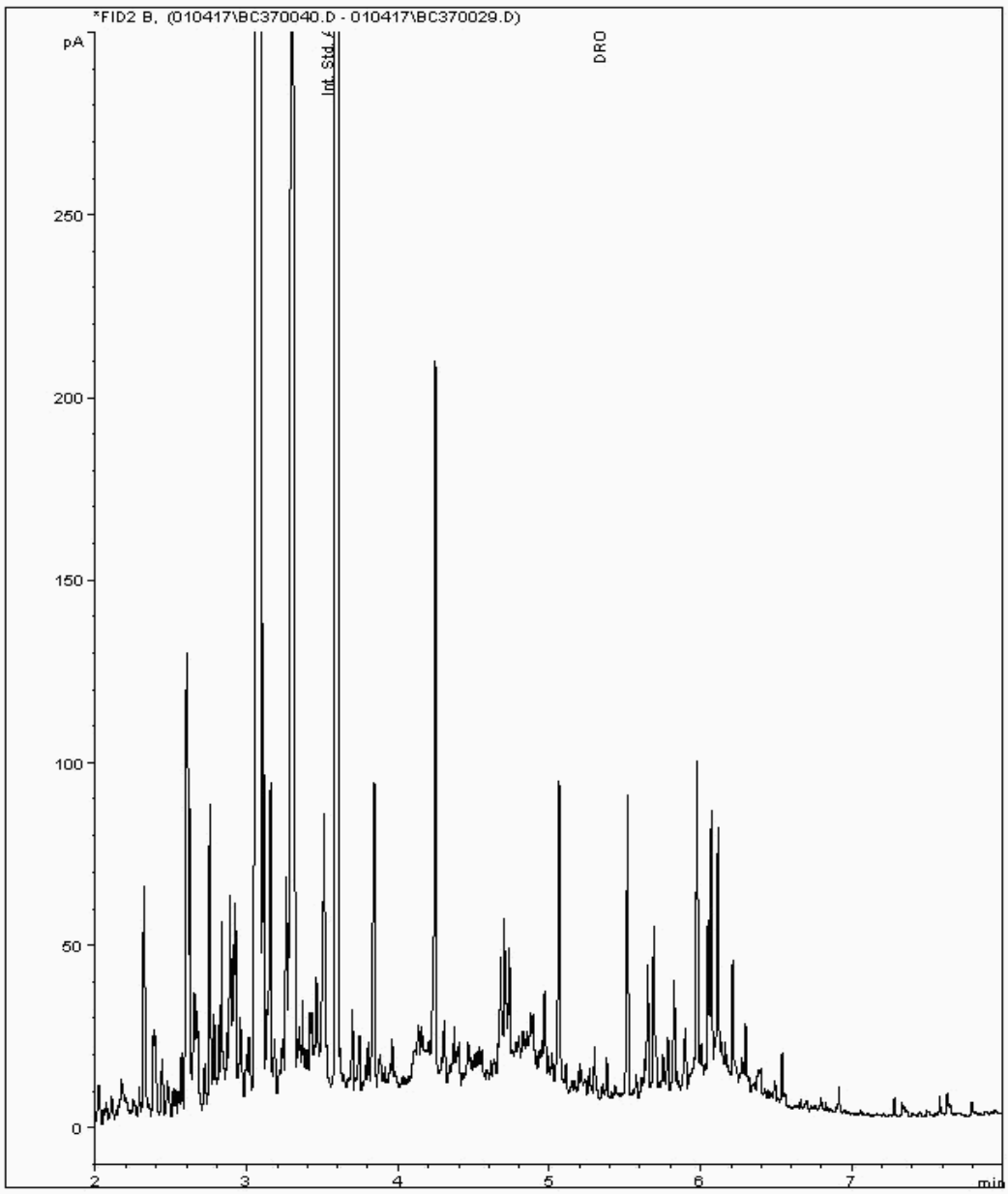
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14768593 **Depth :** 0.00 - 0.00
Sample ID : C2B

EPH Range Organics (C10 - C40)

Sample Identity: 13838882-
Date Acquired : 05/01/2017 05:01:21 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

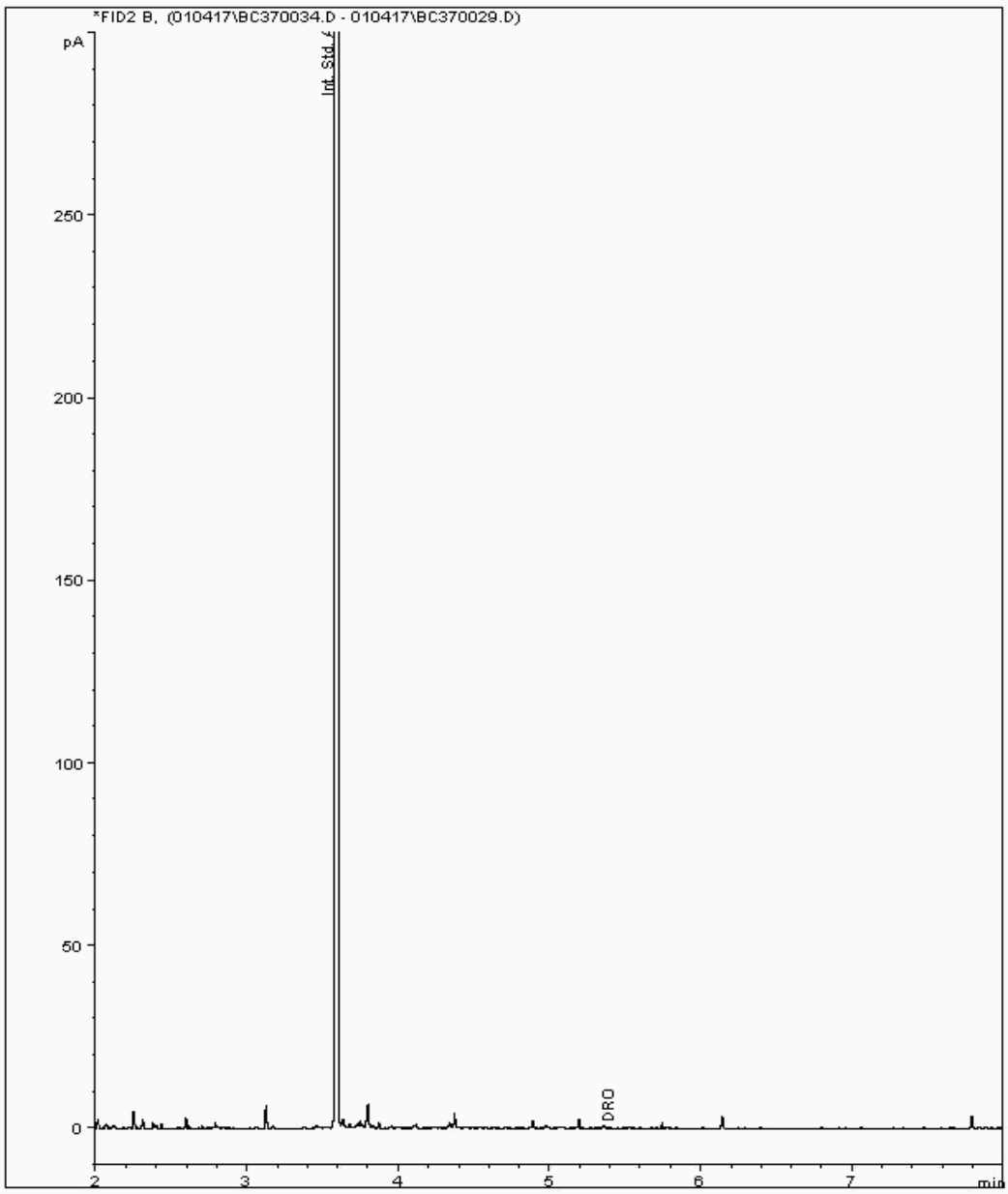
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14768599 **Sample ID :** GW09_35 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838741-
Date Acquired : 05/01/2017 02:52:17 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

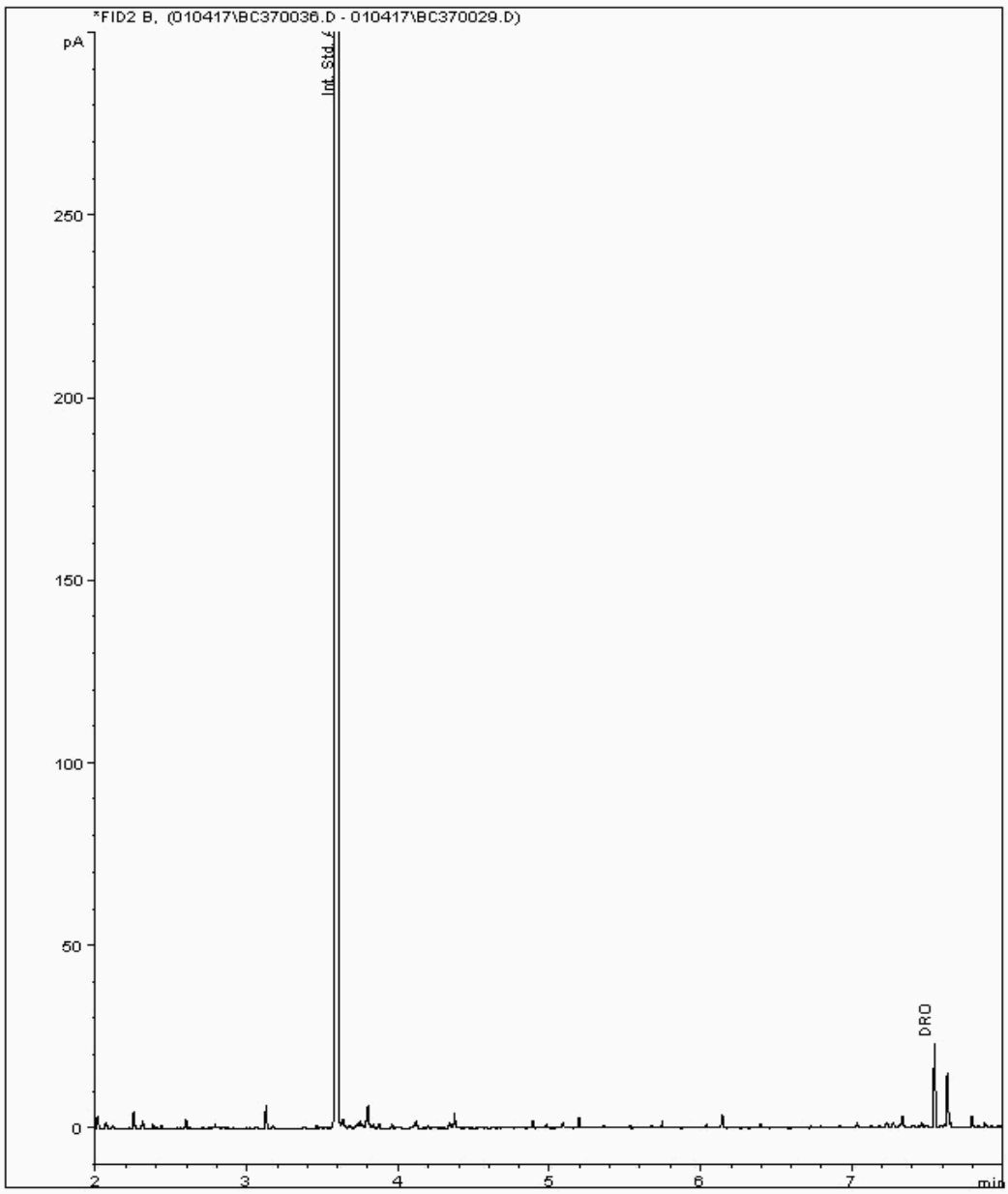
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777322 **Sample ID :** GW09_31 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838945-
Date Acquired : 05/01/2017 03:35:23 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

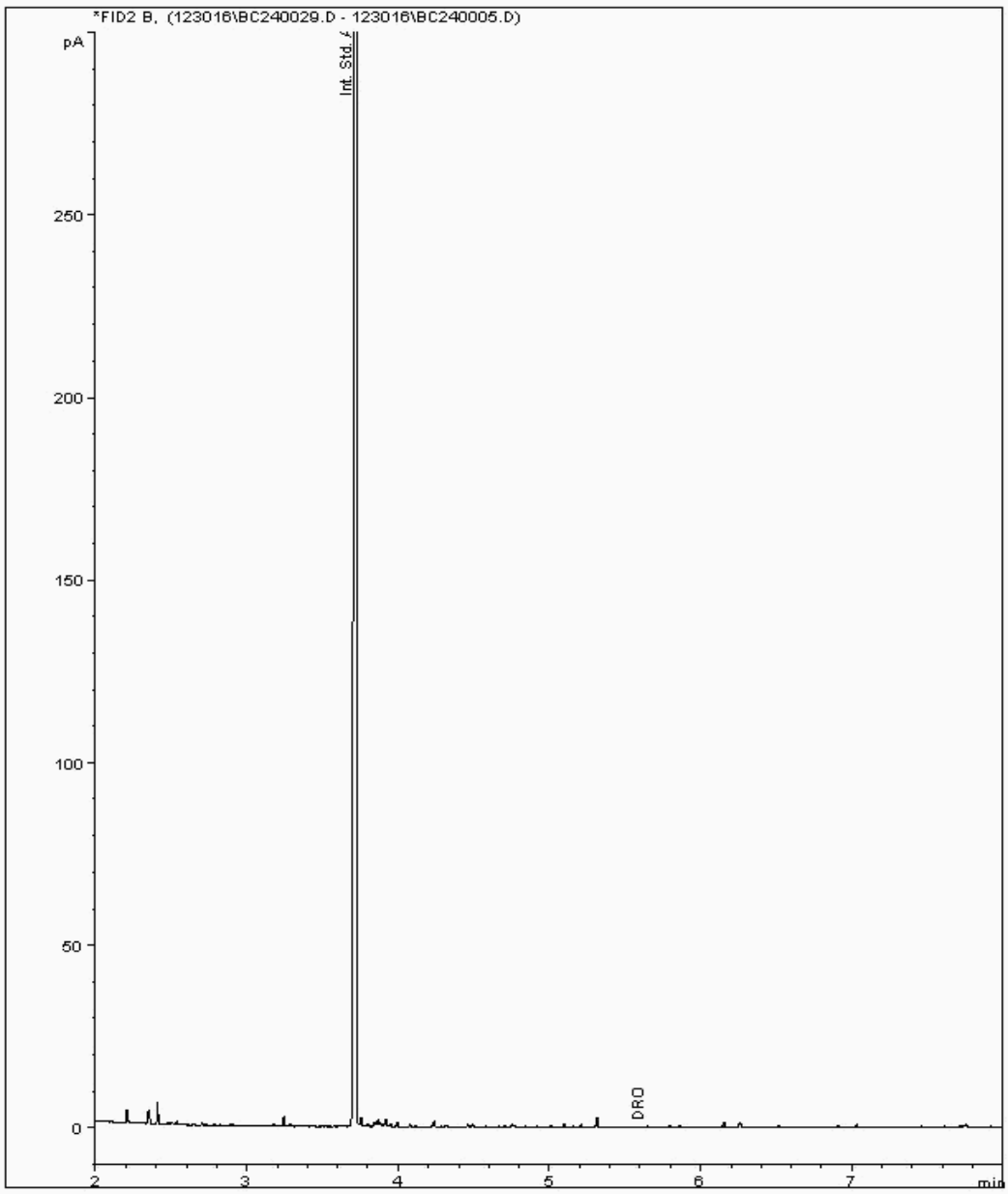
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777349 **Sample ID :** GW12_30 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838928-
Date Acquired : 31/12/2016 01:01:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

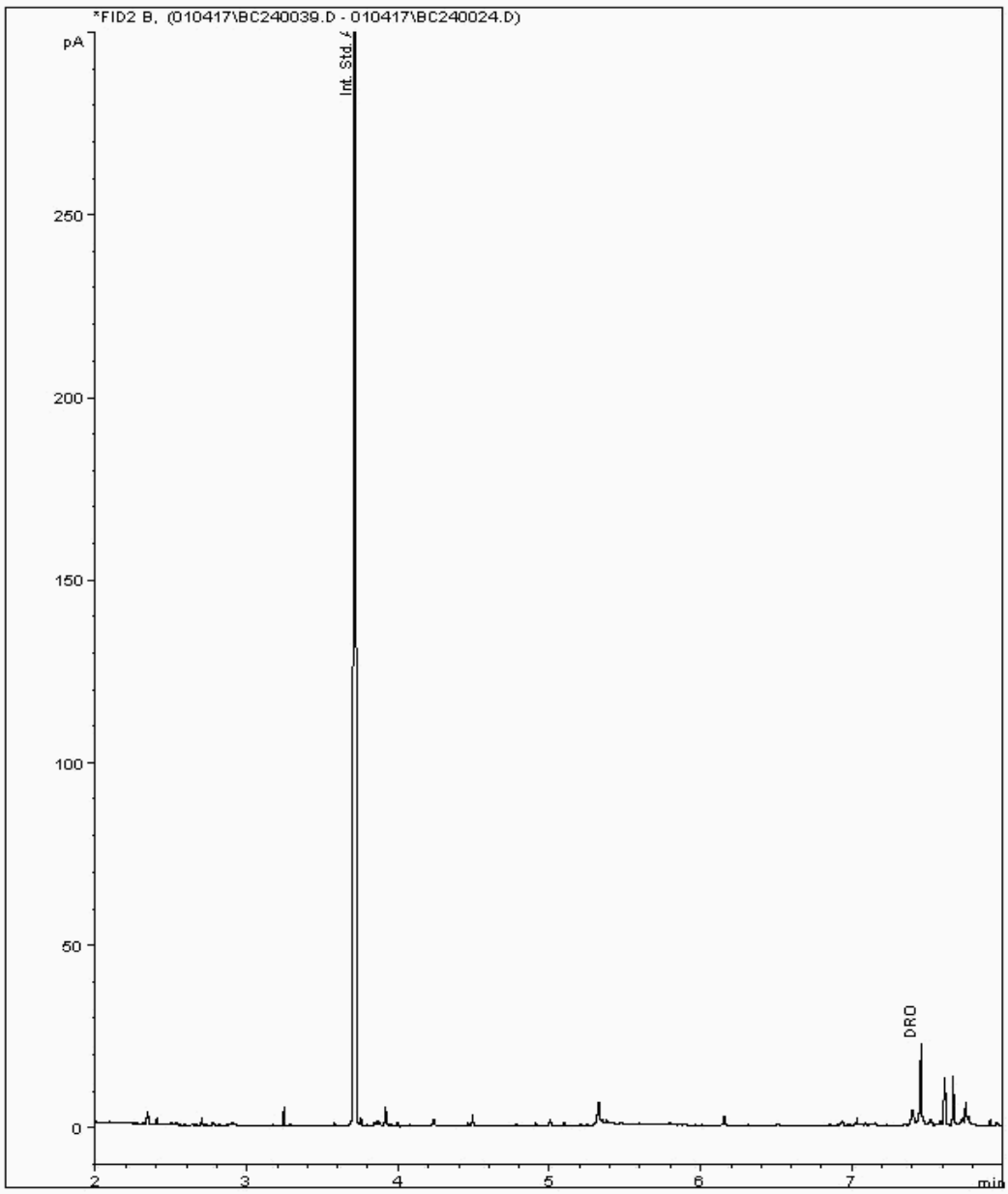
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777356 **Sample ID :** GW07_40 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838864-
Date Acquired : 05/01/2017 01:56:54 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

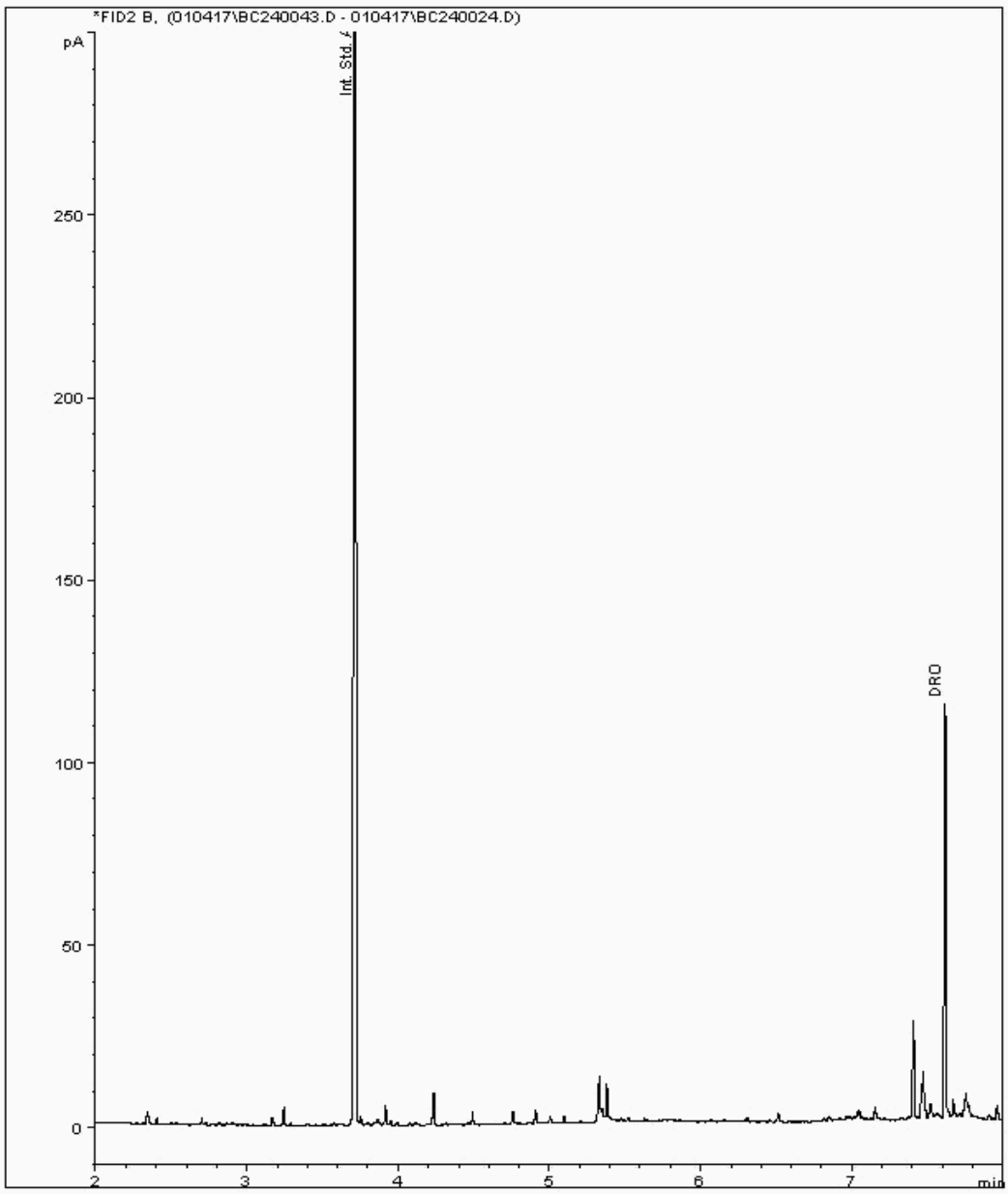
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777372 **Sample ID :** GW06_39 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838847-
Date Acquired : 05/01/2017 03:23:23 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

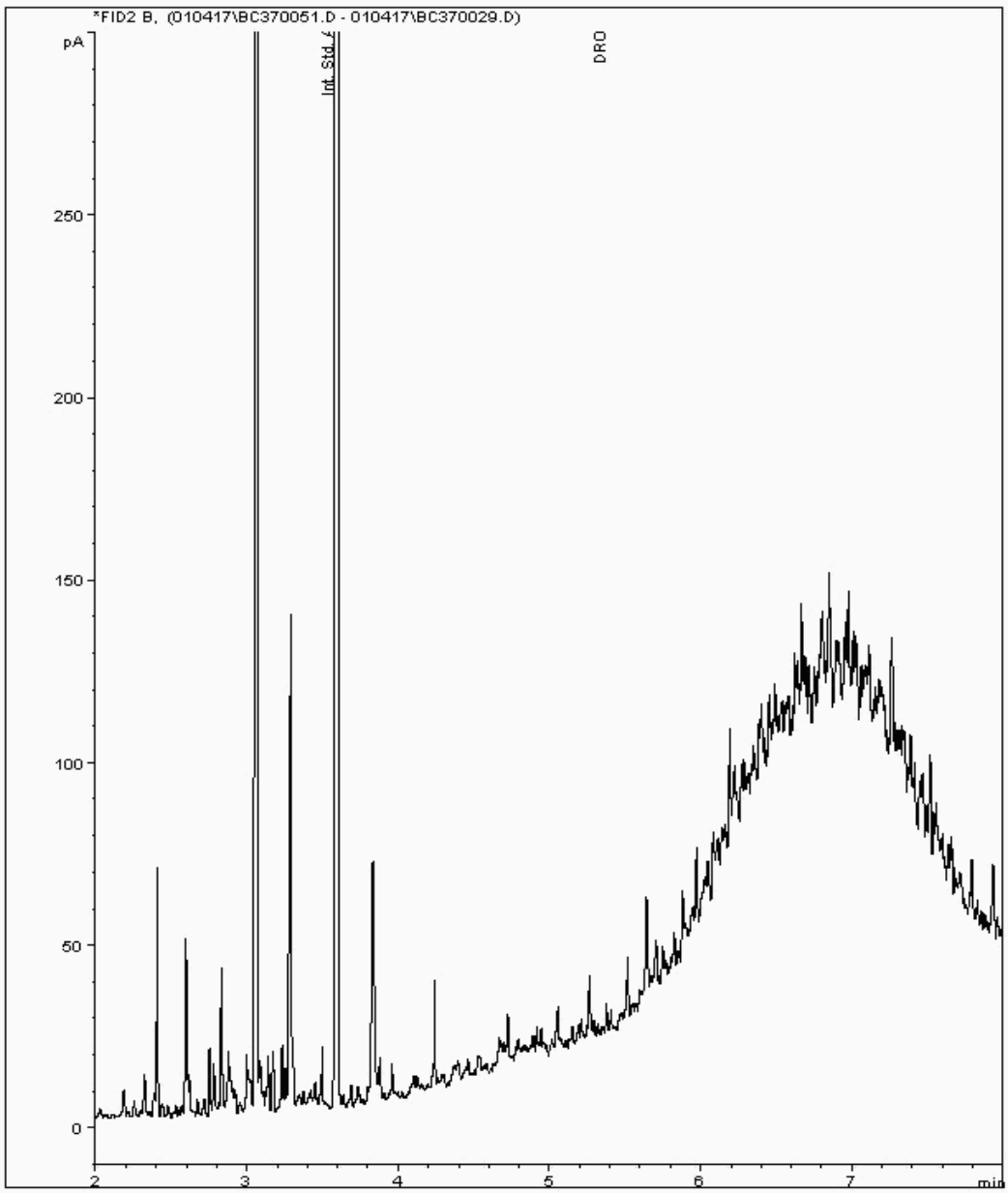
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777655 **Sample ID :** LF08_07 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838899-
Date Acquired : 05/01/2017 08:59:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

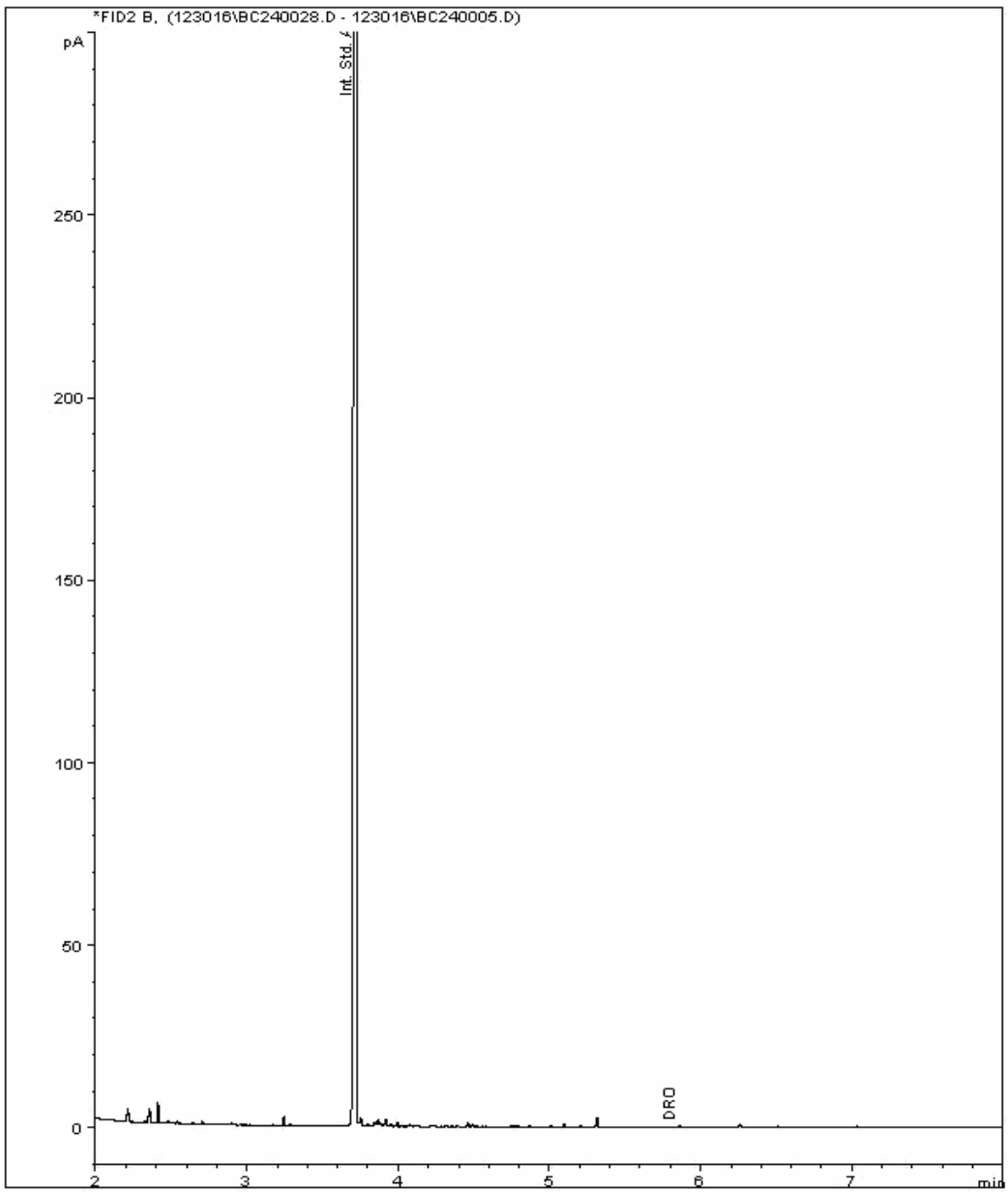
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777687 **Sample ID :** GW06_13 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838813-
Date Acquired : 31/12/2016 00:39:45 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

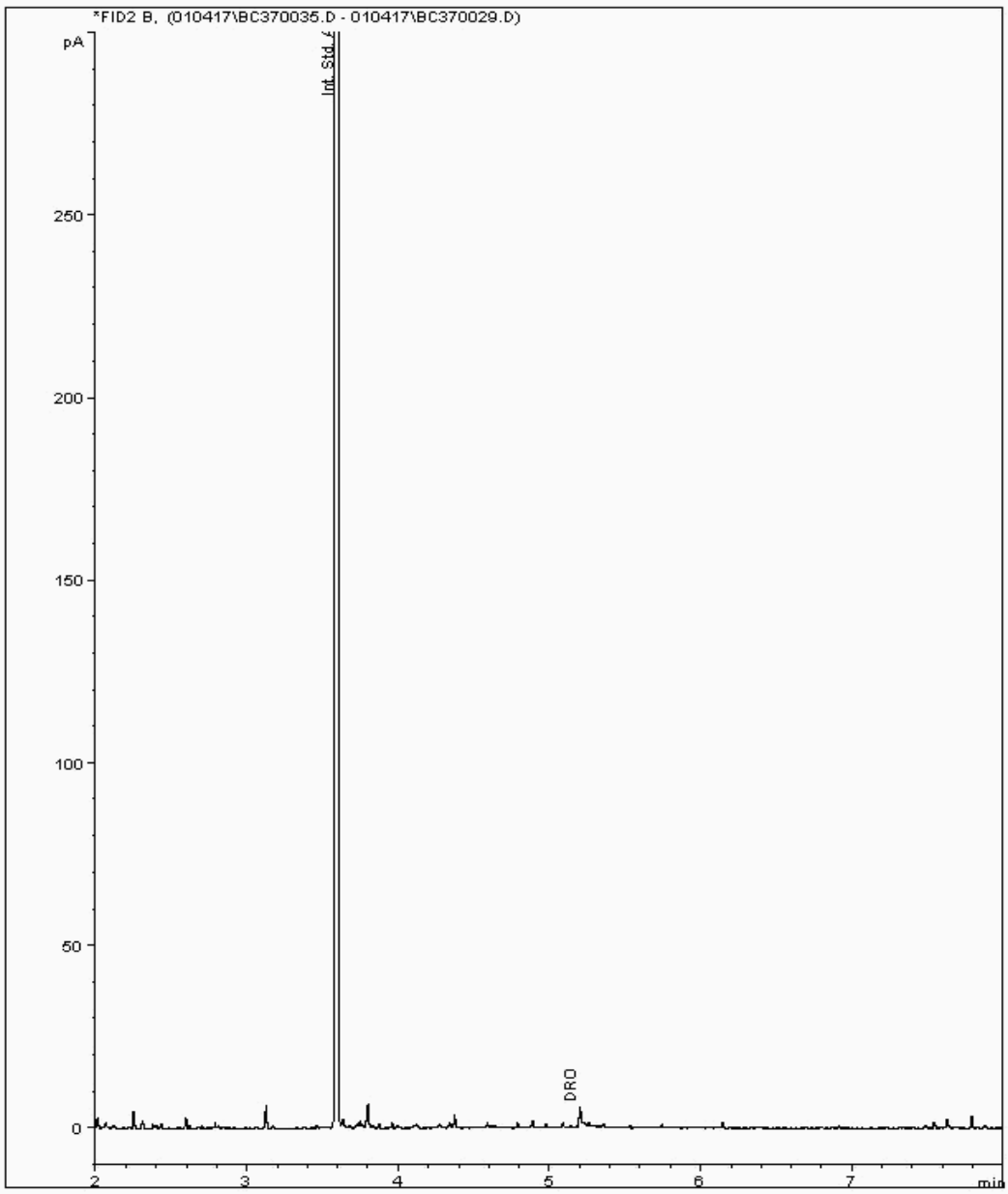
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777714 **Sample ID :** GW09_32 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838962-
Date Acquired : 05/01/2017 03:13:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

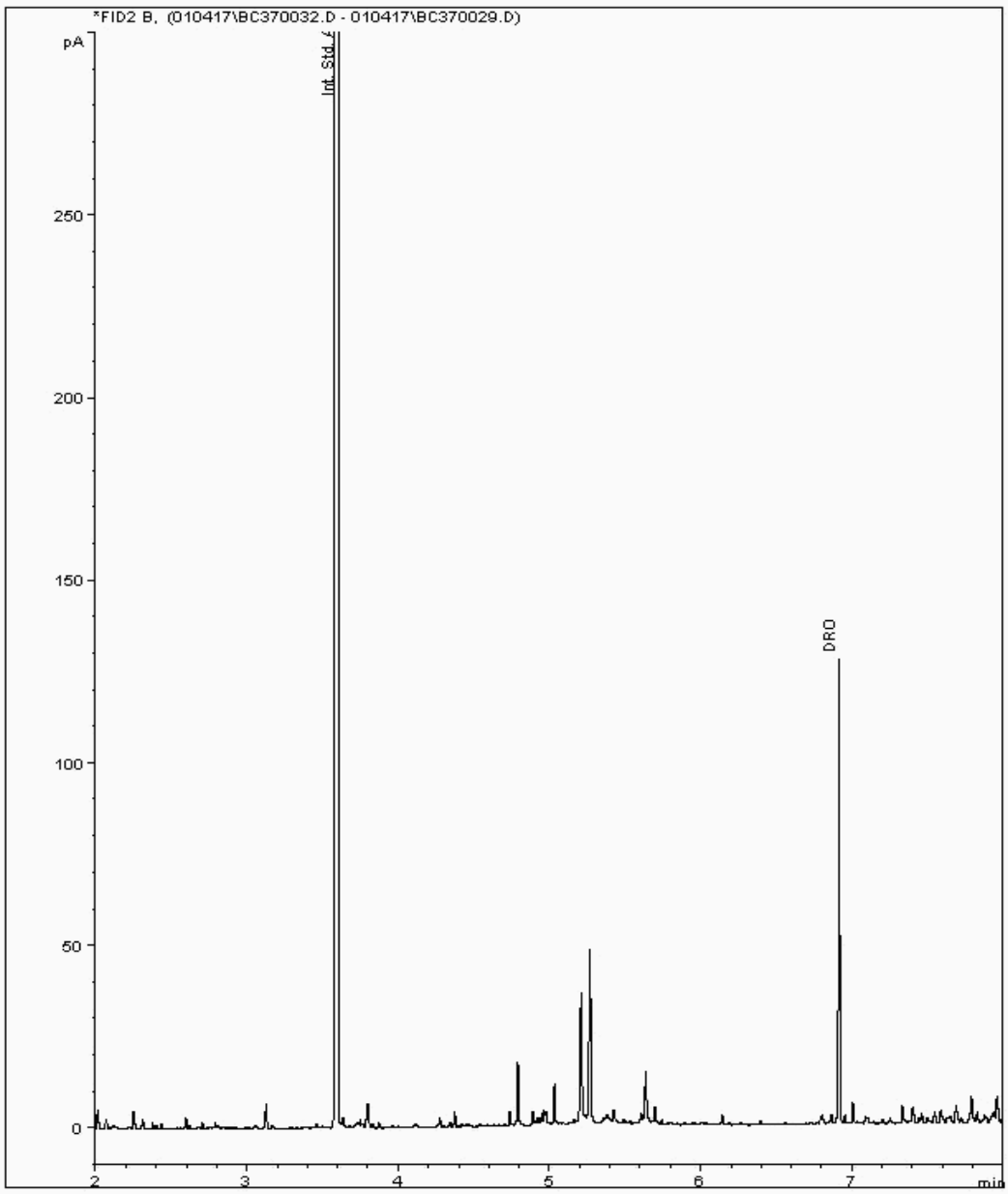
SDG:	161222-106	**Client Reference:**		**Report Number:**	393056
Location:	Docksway Landfill Site	**Order Number:**	700095479	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 14777738 **Sample ID :** GW03_09 **Depth :** 0.00 - 0.00

EPH Range Organics (C10 - C40)

Sample Identity: 13838979-
Date Acquired : 05/01/2017 02:08:59 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 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.

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

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

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.