ALcontrol Laboratories

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Mouchel
Ground Engineering
Rowan House
Lloyd Drive
Cheshire
CH65 9HQ

Attention: Neil Balderstone

CERTIFICATE OF ANALYSIS

Date:	16 December 2011
Customer:	D_MOUCHEL_ELE
Sample Delivery Group (SDG):	111028-44
Your Reference:	
Location:	Limerick Gasworks
Report No:	164061

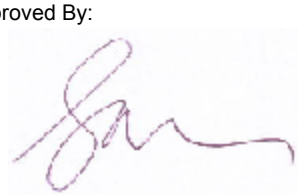
This report has been revised and directly supersedes 159168 in its entirety.

We received 9 samples on Wednesday October 26, 2011 and 9 of these samples were scheduled for analysis which was completed on Friday December 16, 2011. 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.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4595525	A10		0.50 - 0.70	25/10/2011
4595527	A10		2.30 - 2.60	25/10/2011
4595522	A9		0.00 - 0.70	25/10/2011
4595523	A9		0.70 - 0.95	25/10/2011
4595528	B10		0.00 - 0.40	25/10/2011
4595532	B9		0.30 - 0.50	25/10/2011
4595535	B9		1.00 - 1.80	25/10/2011
4595536	B9		2.00 - 2.20	25/10/2011
4595537	B9		2.50 - 2.80	25/10/2011

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

CERTIFICATE OF ANALYSIS

Validated

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

SOLID

Results Legend

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

	Lab Sample No(s)		4595522			4595523			4595532			4595535			4595536			4595537			4595525			4595527			4595528		
	Customer Sample Reference		A9			A9			B9			B9			B9			B9			A10			A10			B10		
	AGS Reference																													
	Depth (m)		0.00 - 0.70			0.70 - 0.95			0.30 - 0.50			1.00 - 1.80			2.00 - 2.20			2.50 - 2.80			0.50 - 0.70			2.30 - 2.60			0.00 - 0.40		
	Container		250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)
Ammonium Soil by Titration	All	NDPs: 3 Tests: 6		N			X			X			N			X			X			X			X			N	
Asbestos Identification (Soil)	All	NDPs: 0 Tests: 4	X									X												X			X		
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 3 Tests: 6		N			X			X			N			X			X			X			X			N	
Easily Liberated Sulphide	All	NDPs: 3 Tests: 6		N			X			X			N			X			X			X			X			N	
EPH CWG (Aliphatic) GC (S)	All	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
EPH CWG (Aromatic) GC (S)	All	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 9			X			X			X			X			X			X			X			X			X
Hexavalent Chromium (s)	All	NDPs: 3 Tests: 6		N			X			X			N			X			X			X			X			N	
Metals by iCap-OES (Soil)	Arsenic	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
	Cadmium	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
	Chromium	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
	Copper	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
	Lead	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
	Mercury	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
	Nickel	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		

ALcontrol Laboratories

CERTIFICATE OF ANALYSIS

Validated

SDG: 111028-44
Job: D_MOUCHEL_ELE-1
Client Reference:
Location: Limerick Gasworks
Customer: Mouchel
Attention: Neil Balderstone
Order Number: 4700000740
Report Number: 164061
Superseded Report: 159168

SOLID

Results Legend

- X — Test
- N — No Determination Possible

Lab Sample No(s)			4595522			4595523			4595532			4595535			4595536			4595537			4595525			4595527			4595528		
Customer Sample Reference			A9			A9			B9			B9			B9			B9			A10			A10			B10		
AGS Reference																														
Depth (m)			0.00 - 0.70			0.70 - 0.95			0.30 - 0.50			1.00 - 1.80			2.00 - 2.20			2.50 - 2.80			0.50 - 0.70			2.30 - 2.60			0.00 - 0.40		
Container			250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar	400g Tub (ALE214)	60g VOC (ALE215)
Metals by iCap-OES (Soil)	Selenium	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
	Zinc	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
PAH by GCMS	All	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
PCBs by GCMS	All	NDPs: 3 Tests: 1	N									N												X			N		
pH	All	NDPs: 3 Tests: 6		N			X			X			N			X			X			X			X			N	
Phenols by HPLC (S)	All	NDPs: 3 Tests: 6		N			X			X			N			X			X			X			X			N	
Sample description	All	NDPs: 3 Tests: 9	N X			X			X			N X			X			X			X			X			N X		
Total Sulphate	All	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
TPH CWG GC (S)	All	NDPs: 3 Tests: 6	N			X			X			N			X			X			X			X			N		
VOC MS (S)	All	NDPs: 0 Tests: 2																		X									X

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
4595522	A9	0.00 - 0.70	Dark Brown	Gravel	2 - 10 mm	None	None
4595523	A9	0.70 - 0.95	Light Brown	Sandy Loam	0.1 - 2 mm	Stones	None
4595525	A10	0.50 - 0.70	Light Brown	Sandy Loam	0.1 - 2 mm	Stones	None
4595527	A10	2.30 - 2.60	Light Brown	Clay	0.063 - 0.1 mm	Stones	None
4595532	B9	0.30 - 0.50	Dark Brown	Sandy Clay	0.063 - 0.1 mm	Stones	N/A
4595535	B9	1.00 - 1.80	Dark Brown	Sand	0.1 - 2 mm	Stones	None
4595536	B9	2.00 - 2.20	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None
4595537	B9	2.50 - 2.80	Light Brown	Sandy Loam	0.1 - 2 mm	Stones	N/A
4595528	B10	0.00 - 0.40	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

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Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A9	A10	A10	B9	B9	B9
			Depth (m)	0.70 - 0.95	0.50 - 0.70	2.30 - 2.60	0.30 - 0.50	2.00 - 2.20	2.50 - 2.80
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011
			Date Received	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			SDG Ref	111028-44	111028-44	111028-44	111028-44	111028-44	111028-44
			Lab Sample No.(s)	4595523	4595525	4595527	4595532	4595536	4595537
			AGS Reference						
Ammoniacal Nitrogen, exchangeable as NH4	<15 mg/kg	TM024		<15 M	<15 M	<15 M	<15 M	<15 M	51.8 M
Ammoniacal Nitrogen as N	<15 mg/kg	TM024		<15	<15	<15	<15	<15	40.3
Catechol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	0.011 M	0.319 M	7.12 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	0.0329 M	0.177 M	8.1 M
Resorcinol	<0.05 mg/kg	TM062 (S)		<0.05	<0.05	<0.05	<0.05	<0.05	<0.25
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	6.16 M
1-Naphthol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.05
2,3,5-Trimethylphenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.05 M
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	1.98 M
Phenols, Total Detected 8 Speciated	<0.12 mg/kg	TM062 (S)		<0.12	<0.12	<0.12	<0.12	0.496	23.4
pH	1 pH Units	TM133		9.74 § M	9.65 § M	7.43 § M	8.5 § M	11.5 § M	10.7 § M
Hexavalent Chromium	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	38.5 M	<1 M	4.69 M	2.39 M
PCB congener 28	<3 µg/kg	TM168				<3 M			
PCB congener 52	<3 µg/kg	TM168				<3 M			
PCB congener 101	<3 µg/kg	TM168				<3 M			
PCB congener 118	<3 µg/kg	TM168				<3 M			
PCB congener 138	<3 µg/kg	TM168				<3 M			
PCB congener 153	<3 µg/kg	TM168				<3 M			
PCB congener 180	<3 µg/kg	TM168				<3 M			
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168				<21			
Easily Liberated Sulphide	<15 mg/kg	TM180		<15 #	<15 #	<15 #	<15 #	<15 #	19.9 #
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 #	<15 #	<15 #	<15 #	<15 #	21.8 #
Arsenic	<0.6 mg/kg	TM181		7.06 M	8.9 M	16.4 M	12.7 M	28.3 M	7.11 M
Cadmium	<0.02 mg/kg	TM181		0.205 M	0.369 M	0.387 M	0.371 M	0.492 M	0.416 M
Chromium	<0.9 mg/kg	TM181		20.5 M	13 M	28 M	13.4 M	25.7 M	9.18 M
Copper	<1.4 mg/kg	TM181		15.1 M	20.4 M	26.9 M	16 M	24.3 M	4.28 M
Lead	<0.7 mg/kg	TM181		24 M	58.7 M	54.6 M	112 M	94 M	5.13 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		24.1 M	16.3 M	41.8 M	18.6 M	31.2 M	10.8 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		49.1 M	81.7 M	61.9 M	95.3 M	234 M	21.6 M
Sulphate, Total	<48 mg/kg	TM221		5890 M	1720 M	236 M	736 M	4210 M	680 M

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

GRO by GC-FID (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A9	B9	B10			
			Depth (m)	0.00 - 0.70	1.00 - 1.80	0.00 - 0.40			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	25/10/2011	25/10/2011	25/10/2011			
			Date Received	26/10/2011	26/10/2011	26/10/2011			
			SDG Ref	111028-44	111028-44	111028-44			
			Lab Sample No.(s)	4595522	4595535	4595528			
			AGS Reference						
GRO >C5-C12	<44 µg/kg	TM089		75	176	468			
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #	<5 #			
Benzene	<10 µg/kg	TM089		<10 #	<10 M	<10 M			
Toluene	<2 µg/kg	TM089		8.96 #	24.6 M	11.2 M			
Ethylbenzene	<3 µg/kg	TM089		<3 #	4.92 M	<3 M			
m,p-Xylene	<6 µg/kg	TM089		6.72 #	16 M	12.3 M			
o-Xylene	<3 µg/kg	TM089		3.36 #	6.15 M	4.48 M			
sum of detected mpo xylene by GC	<9 µg/kg	TM089		10.1	22.2	16.8			
sum of detected BTEX by GC	<24 µg/kg	TM089		<24	51.7	28			
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	18.5	29.1			
Aliphatics >C6-C8	<10 µg/kg	TM089		10.1	43.1	39.2			
Aliphatics >C8-C10	<10 µg/kg	TM089		12.3	17.2	65			
Aliphatics >C10-C12	<10 µg/kg	TM089		10.1	13.5	150			
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	11.1	10.1			
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	24.6	11.2			
Aromatics >EC8-EC10	<10 µg/kg	TM089		20.2	38.1	62.7			
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10	101			
Total Aliphatics >C5-C12	<10 µg/kg	TM089		37	93.5	283			
Total Aromatics >EC5-EC12	<10 µg/kg	TM089		38.1	83.6	185			

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Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A9	A10	A10	B9	B9	B9
			Depth (m)	0.70 - 0.95	0.50 - 0.70	2.30 - 2.60	0.30 - 0.50	2.00 - 2.20	2.50 - 2.80
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011
			Date Received	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			SDG Ref	111028-44	111028-44	111028-44	111028-44	111028-44	111028-44
			Lab Sample No.(s)	4595523	4595525	4595527	4595532	4595536	4595537
			AGS Reference						
Naphthalene	<9 µg/kg	TM218		169 M	740 M	<9 M	1030 M	1170 M	24400 M
Acenaphthylene	<12 µg/kg	TM218		65.9 M	1210 M	<12 M	6140 M	298 M	5190 M
Acenaphthene	<8 µg/kg	TM218		14.8 M	119 M	<8 M	1190 M	348 M	1240 M
Fluorene	<10 µg/kg	TM218		20 M	424 M	<10 M	4300 M	499 M	4930 M
Phenanthrene	<15 µg/kg	TM218		127 M	4590 M	<15 M	13800 M	3820 M	15200 M
Anthracene	<16 µg/kg	TM218		39.3 M	1960 M	<16 M	6690 M	1310 M	5090 M
Fluoranthene	<17 µg/kg	TM218		194 M	10300 M	<17 M	18400 M	4520 M	12400 M
Pyrene	<15 µg/kg	TM218		172 M	8880 M	<15 M	12900 M	3130 M	7960 M
Benz(a)anthracene	<14 µg/kg	TM218		134 M	6510 M	<14 M	7880 M	2100 M	4650 M
Chrysene	<10 µg/kg	TM218		98.6 M	4390 M	<10 M	4930 M	1670 M	3030 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		220 M	9580 M	<15 M	8570 M	2270 M	4160 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		60.6 M	3240 M	<14 M	2680 M	778 M	1620 M
Benzo(a)pyrene	<15 µg/kg	TM218		169 M	7650 M	<15 M	6710 M	1340 M	3400 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		105 M	4330 M	<18 M	3170 M	646 M	1440 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		<23 M	1340 M	<23 M	870 M	227 M	424 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		124 M	4920 M	<24 M	3280 M	781 M	1540 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		1710	70200	<118	103000	24900	96700

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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
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Component	LOD/Units	Method	Customer Sample Ref.	A9	A10	A10	B9	B9	B9
			Depth (m)	0.70 - 0.95	0.50 - 0.70	2.30 - 2.60	0.30 - 0.50	2.00 - 2.20	2.50 - 2.80
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011
			Date Received	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			SDG Ref	111028-44	111028-44	111028-44	111028-44	111028-44	111028-44
			Lab Sample No.(s)	4595523	4595525	4595527	4595532	4595536	4595537
			AGS Reference						
GRO >C5-C12	<44 µg/kg	TM089		164	153	<44	643	620	23000
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
Benzene	<10 µg/kg	TM089		<10 M	<10 M	<10 M	<10 M	62.5 M	189 M
Toluene	<2 µg/kg	TM089		22 M	12.9 M	<2 M	11 M	96.8 M	268 M
Ethylbenzene	<3 µg/kg	TM089		3.3 M	3.51 M	<3 M	<3 M	10.6 M	131 M
m,p-Xylene	<6 µg/kg	TM089		18.7 M	12.9 M	<6 M	12 M	49.6 M	1480 M
o-Xylene	<3 µg/kg	TM089		6.6 M	<3 M	<3 M	8.76 M	27.1 M	701 M
sum of detected mpo xylene by GC	<9 µg/kg	TM089		25.3	12.9	<9	20.8	76.7	2180
sum of detected BTEX by GC	<24 µg/kg	TM089		50.6	29.3	<24	31.8	247	2770
Aliphatics >C5-C6	<10 µg/kg	TM089		19.8	<10	<10	13.1	62.5	39.4
Aliphatics >C6-C8	<10 µg/kg	TM089		39.6	25.7	<10	30.7	179	1010
Aliphatics >C8-C10	<10 µg/kg	TM089		16.5	24.6	<10	74.5	49.6	4160
Aliphatics >C10-C12	<10 µg/kg	TM089		13.2	26.9	<10	261	30.7	7350
Aliphatics >C12-C16	<100 µg/kg	TM173		<100	7840	<100	11800	11100	14700
Aliphatics >C16-C21	<100 µg/kg	TM173		<100	12400	<100	27600	24300	25500
Aliphatics >C21-C35	<100 µg/kg	TM173		<100	27800	<100	457000	82400	41300
Aliphatics >C35-C44	<100 µg/kg	TM173		<100	6820	<100	44100	18600	7660
Total Aliphatics >C12-C44	<100 µg/kg	TM173		<100	54900	<100	540000	136000	89200
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	62.5	189
Aromatics >EC7-EC8	<10 µg/kg	TM089		22	12.9	<10	11	96.8	268
Aromatics >EC8-EC10	<10 µg/kg	TM089		39.6	31.6	<10	71.2	120	5080
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	18.7	<10	174	20.1	4900
Aromatics >EC12-EC16	<100 µg/kg	TM173		3420	14000	<100	26600	21300	35100
Aromatics >EC16-EC21	<100 µg/kg	TM173		5290	65300	<100	104000	58600	104000
Aromatics >EC21-EC35	<100 µg/kg	TM173		23100	228000	<100	336000	147000	178000
Aromatics >EC35-EC44	<100 µg/kg	TM173		10300	70800	<100	72500	25400	38100
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		42100	378000	<100	540000	252000	355000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		42100	433000	<100	1080000	389000	467000
Total Aliphatics >C5-35	<100 µg/kg	TM173		<100	48200	<100	497000	118000	94100
Total Aromatics >C5-35	<100 µg/kg	TM173		31900	308000	<100	468000	227000	327000
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173		31900	356000	<100	964000	345000	421000
Total Aliphatics >C5-C12	<10 µg/kg	TM089		89.1	85.4	<10	380	321	12600
Total Aromatics >EC5-EC12	<10 µg/kg	TM089		74.8	67.9	<10	263	299	10400
Total Aliphatics >C5-C44	<100 µg/kg	TM173		<100	55000	<100	541000	137000	102000
Total Aromatics >C6-C44	<100 µg/kg	TM173		42100	378000	<100	540000	252000	366000

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A9	A10	A10	B9	B9	B9
			Depth (m)	0.70 - 0.95	0.50 - 0.70	2.30 - 2.60	0.30 - 0.50	2.00 - 2.20	2.50 - 2.80
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011	25/10/2011
			Date Received	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			SDG Ref	111028-44	111028-44	111028-44	111028-44	111028-44	111028-44
			Lab Sample No.(s)	4595523	4595525	4595527	4595532	4595536	4595537
			AGS Reference						
Aliphatics >C16-C35	<100 µg/kg	TM173		<100	40200	<100	484000	107000	66800

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B9	B10
			Depth (m)	2.50 - 2.80	0.00 - 0.40
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	25/10/2011	25/10/2011
			Date Received	26/10/2011	26/10/2011
			SDG Ref	111028-44	111028-44
			Lab Sample No.(s)	4595537	4595528
			AGS Reference		
Dibromofluoromethane**	%	TM116		40.3	0.78
Toluene-d8**	%	TM116		98.4	104
4-Bromofluorobenzene**	%	TM116		116	136
Dichlorodifluoromethane	<4 µg/kg	TM116		<4 M	<40 M
Chloromethane	<7 µg/kg	TM116		<7 #	<70 #
Vinyl Chloride	<10 µg/kg	TM116		<10 #	<100 #
Bromomethane	<13 µg/kg	TM116		<13 M	<130 M
Chloroethane	<14 µg/kg	TM116		<14 M	<140 M
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<60 M
1.1-Dichloroethene	<10 µg/kg	TM116		<10 #	<100 #
Carbon Disulphide	<7 µg/kg	TM116		41.3 M	<70 M
Dichloromethane	<10 µg/kg	TM116		<10 #	<100 #
Methyl Tertiary Butyl Ether	<11 µg/kg	TM116		<11 M	<110 M
trans-1-2-Dichloroethene	<11 µg/kg	TM116		<11 M	<110 M
1.1-Dichloroethane	<8 µg/kg	TM116		<8 M	<80 M
cis-1-2-Dichloroethene	<5 µg/kg	TM116		<5 M	<50 M
2.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<120 M
Bromochloromethane	<14 µg/kg	TM116		<14 M	<140 M
Chloroform	<8 µg/kg	TM116		<8 M	<80 M
1.1.1-Trichloroethane	<7 µg/kg	TM116		<7 M	<70 M
1.1-Dichloropropene	<11 µg/kg	TM116		<11 M	<110 M
Carbontetrachloride	<14 µg/kg	TM116		<14 M	<140 M
1.2-Dichloroethane	<5 µg/kg	TM116		<5 M	<50 M
Benzene	<9 µg/kg	TM116		167 M	<90 M
Trichloroethene	<9 µg/kg	TM116		<9 M	<90 M
1.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<120 M
Dibromomethane	<9 µg/kg	TM116		<9 M	<90 M
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<70 M
cis-1-3-Dichloropropene	<14 µg/kg	TM116		<14 M	<140 M
Toluene	<5 µg/kg	TM116		162 M	<50 M
trans-1-3-Dichloropropene	<14 µg/kg	TM116		<14	<140
1.1.2-Trichloroethane	<10 µg/kg	TM116		<10 M	<100 M
1.3-Dichloropropane	<7 µg/kg	TM116		<7 #	<70 #
Tetrachloroethene	<5 µg/kg	TM116		<5 M	<50 M
Dibromochloromethane	<13 µg/kg	TM116		<13 M	<130 M

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

VOC MS (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B9	B10			
			Depth (m)	2.50 - 2.80	0.00 - 0.40			
			Sample Type	Soil/Solid	Soil/Solid			
			Date Sampled	25/10/2011	25/10/2011			
			Date Received	26/10/2011	26/10/2011			
			SDG Ref	111028-44	111028-44			
			Lab Sample No.(s)	4595537	4595528			
			AGS Reference					
1.2-Dibromoethane	<12 µg/kg	TM116		<12 M	<120 M			
Chlorobenzene	<5 µg/kg	TM116		<5 M	<50 M			
1.1.1.2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<100 M			
Ethylbenzene	<4 µg/kg	TM116		48.9 M	<40 M			
p/m-Xylene	<14 µg/kg	TM116		424 #	<140 #			
o-Xylene	<10 µg/kg	TM116		191 M	<100 M			
Styrene	<10 µg/kg	TM116		<10 M	<100 M			
Bromoform	<10 µg/kg	TM116		<10 M	<100 M			
Isopropylbenzene	<5 µg/kg	TM116		<5 M	<50 M			
1.1.2.2-Tetrachloroethane	<10 µg/kg	TM116		<10 #	<100 #			
1.2.3-Trichloropropane	<17 µg/kg	TM116		<17 M	<170 M			
Bromobenzene	<10 µg/kg	TM116		<10 M	<100 M			
Propylbenzene	<11 µg/kg	TM116		38.5 M	<110 M			
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<90 M			
1.3.5-Trimethylbenzene	<8 µg/kg	TM116		246 #	<80 #			
4-Chlorotoluene	<12 µg/kg	TM116		<12 M	<120 M			
tert-Butylbenzene	<12 µg/kg	TM116		<12 #	<120 #			
1.2.4-Trimethylbenzene	<9 µg/kg	TM116		1020 #	<90 #			
sec-Butylbenzene	<10 µg/kg	TM116		<10 M	<100 M			
4-Isopropyltoluene	<11 µg/kg	TM116		<11 M	<110 M			
1.3-Dichlorobenzene	<6 µg/kg	TM116		<6 M	<60 M			
1.4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<50 M			
n-Butylbenzene	<10 µg/kg	TM116		87 M	<100 M			
1.2-Dichlorobenzene	<12 µg/kg	TM116		<12 M	<120 M			
1.2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<140 M			
Tert-amyl methyl ether	<15 µg/kg	TM116		<15	<150			
1.2.4-Trichlorobenzene	<6 µg/kg	TM116		<6 #	<60 #			
Hexachlorobutadiene	<12 µg/kg	TM116		<12	<120			
Naphthalene	<13 µg/kg	TM116		42400 M	1710 M			
1.2.3-Trichlorobenzene	<6 µg/kg	TM116		<6 M	<60 M			

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Asbestos Identification - Bulk

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	A10 NS Z 2.30 - 2.60 SOLID 25/10/2011 00:00:00 111028-44 4,595,527 TM048	03/11/11	Lauren Sargeant	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	A9 NS Z 0.00 - 0.70 SOLID 25/10/2011 00:00:00 111028-44 4,595,522 TM048	03/11/11	Lauren Sargeant	Loose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	B10 NS Z 0.00 - 0.40 SOLID 25/10/2011 00:00:00 111028-44 4,595,528 TM048	03/11/11	Lauren Sargeant	Loose fibres in soil	Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	B9 NS Z 1.00 - 1.80 SOLID 25/10/2011 00:00:00 111028-44 4,595,535 TM048	03/11/11	Lauren Sargeant	Loose fibres in soil	Detected (#)	Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4627882	A10	0.50 - 0.70	SOLID	pH	pH	Sample holding time exceeded
4628008	B9	2.50 - 2.80	SOLID	pH	pH	Sample holding time exceeded
4631922	A9	0.70 - 0.95	SOLID	pH	pH	Sample holding time exceeded
4632212	B9	0.30 - 0.50	SOLID	pH	pH	Sample holding time exceeded
4632289	B9	2.00 - 2.20	SOLID	pH	pH	Sample holding time exceeded
4634801	A10	2.30 - 2.60	SOLID	pH	pH	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Notification of NDPs (No determination possible)

Date Received : 28/10/2011 13:08:44

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
4595522	A9	0.00 - 0.70	Metals by iCap-OES (Soil)	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	Cyanide Comp/Free/Total/Thiocyanate	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	Ammonium Soil by Titration	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	Total Sulphate	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	Easily Liberated Sulphide	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	pH	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	PAH by GCMS	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	Phenols by HPLC (S)	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	TPH CWG GC (S)	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	Hexavalent Chromium (s)	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	EPH CWG (Aromatic) GC (S)	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	EPH CWG (Aliphatic) GC (S)	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	PCBs by GCMS	Asbestos Fibres Detected
4595522	A9	0.00 - 0.70	Sample description	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Metals by iCap-OES (Soil)	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Cyanide Comp/Free/Total/Thiocyanate	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Ammonium Soil by Titration	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Total Sulphate	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Easily Liberated Sulphide	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	pH	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	PAH by GCMS	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Phenols by HPLC (S)	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	TPH CWG GC (S)	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Hexavalent Chromium (s)	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	EPH CWG (Aromatic) GC (S)	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	EPH CWG (Aliphatic) GC (S)	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	PCBs by GCMS	Asbestos Fibres Detected
4595528	B10	0.00 - 0.40	Sample description	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Metals by iCap-OES (Soil)	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Cyanide Comp/Free/Total/Thiocyanate	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Ammonium Soil by Titration	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Total Sulphate	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Easily Liberated Sulphide	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	pH	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	PAH by GCMS	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Phenols by HPLC (S)	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	TPH CWG GC (S)	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Hexavalent Chromium (s)	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	EPH CWG (Aromatic) GC (S)	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	EPH CWG (Aliphatic) GC (S)	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	PCBs by GCMS	Asbestos Fibres Detected
4595535	B9	1.00 - 1.80	Sample description	Asbestos Fibres Detected

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	**#**	ISO 17025 Accredited	*	Subcontracted Test	**M**	MCERTS Accredited
NFD	No Fibres Detected	**PFD**	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	**EC**	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Test Completion Dates

Lab Sample No(s)	4595522	4595523	4595525	4595527	4595532	4595535	4595536	4595537	4595528
Customer Sample Ref.	A9	A9	A10	A10	B9	B9	B9	B9	B10
AGS Ref.									
Depth	0.00 - 0.70	0.70 - 0.95	0.50 - 0.70	2.30 - 2.60	0.30 - 0.50	1.00 - 1.80	2.00 - 2.20	2.50 - 2.80	0.00 - 0.40
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Ammonium Soil by Titration		07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011		07-Nov-2011	07-Nov-2011	
Asbestos Identification (Soil)	03-Nov-2011			03-Nov-2011		03-Nov-2011			03-Nov-2011
Cyanide Comp/Free/Total/Thiocyanate		04-Nov-2011	04-Nov-2011	08-Nov-2011	04-Nov-2011		04-Nov-2011	04-Nov-2011	
Easily Liberated Sulphide		04-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011		08-Nov-2011	08-Nov-2011	
EPH CWG (Aliphatic) GC (S)		07-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011		07-Nov-2011	07-Nov-2011	
EPH CWG (Aromatic) GC (S)		07-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011		07-Nov-2011	07-Nov-2011	
GRO by GC-FID (S)	08-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011
Hexavalent Chromium (s)		05-Nov-2011	05-Nov-2011	05-Nov-2011	05-Nov-2011		05-Nov-2011	05-Nov-2011	
Metals by iCap-OES (Soil)		08-Nov-2011	07-Nov-2011	08-Nov-2011	07-Nov-2011		07-Nov-2011	07-Nov-2011	
PAH by GCMS		06-Nov-2011	06-Nov-2011	08-Nov-2011	06-Nov-2011		06-Nov-2011	06-Nov-2011	
PCBs by GCMS				07-Nov-2011					
pH		04-Nov-2011	03-Nov-2011	07-Nov-2011	04-Nov-2011		07-Nov-2011	03-Nov-2011	
Phenols by HPLC (S)		07-Nov-2011	04-Nov-2011	08-Nov-2011	07-Nov-2011		07-Nov-2011	04-Nov-2011	
Sample description	09-Nov-2011	03-Nov-2011	03-Nov-2011	04-Nov-2011	03-Nov-2011	09-Nov-2011	03-Nov-2011	03-Nov-2011	09-Nov-2011
Total Sulphate		07-Nov-2011	07-Nov-2011	04-Nov-2011	07-Nov-2011		07-Nov-2011	07-Nov-2011	
TPH CWG GC (S)		07-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011		07-Nov-2011	07-Nov-2011	
VOC MS (S)								10-Nov-2011	11-Nov-2011

CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

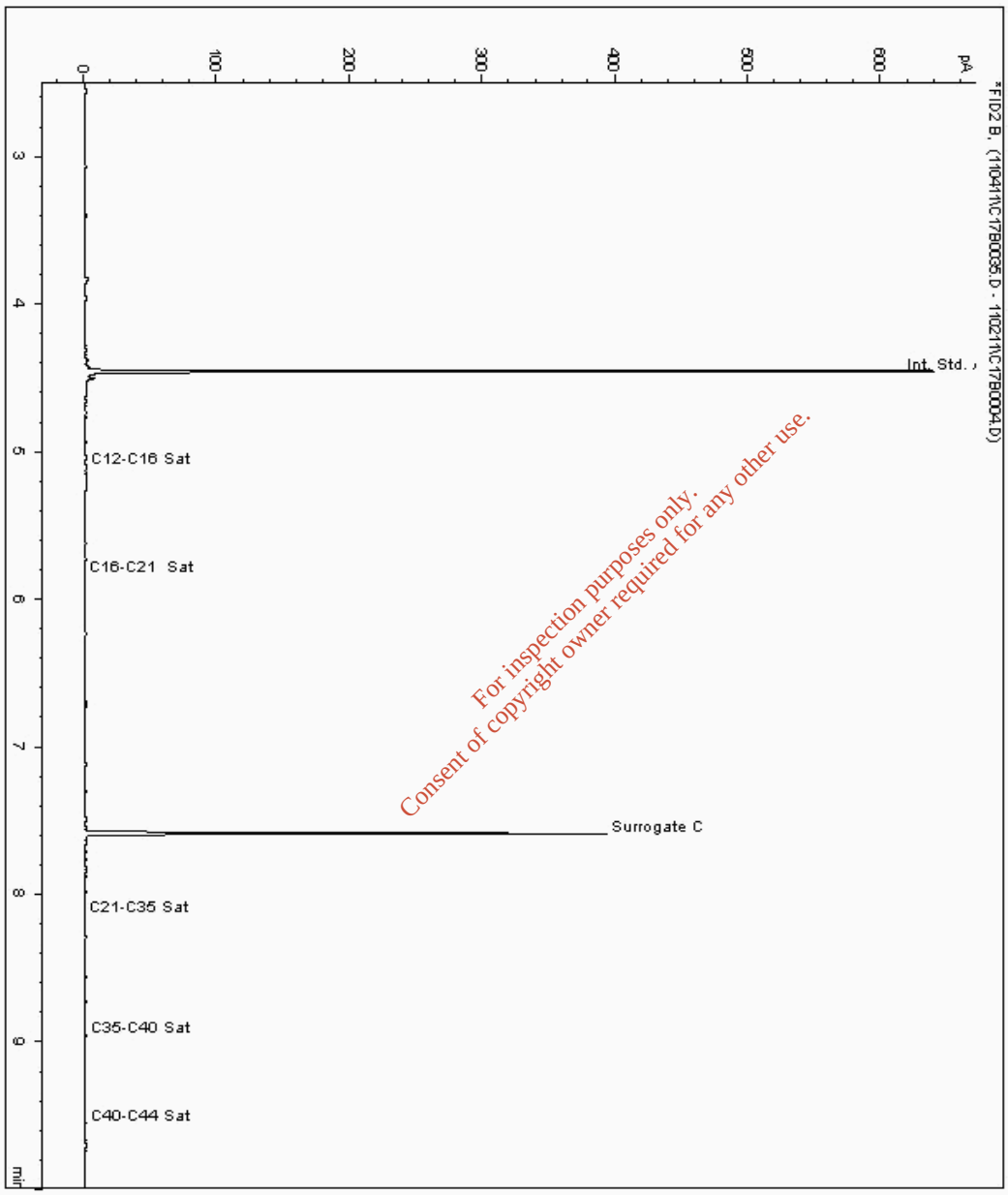
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4635280
Sample ID : A10

Depth : 2.30 - 2.60

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 4566362-4635280
Date Acquired : 07/11/11 08:40:05 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.035



CERTIFICATE OF ANALYSIS

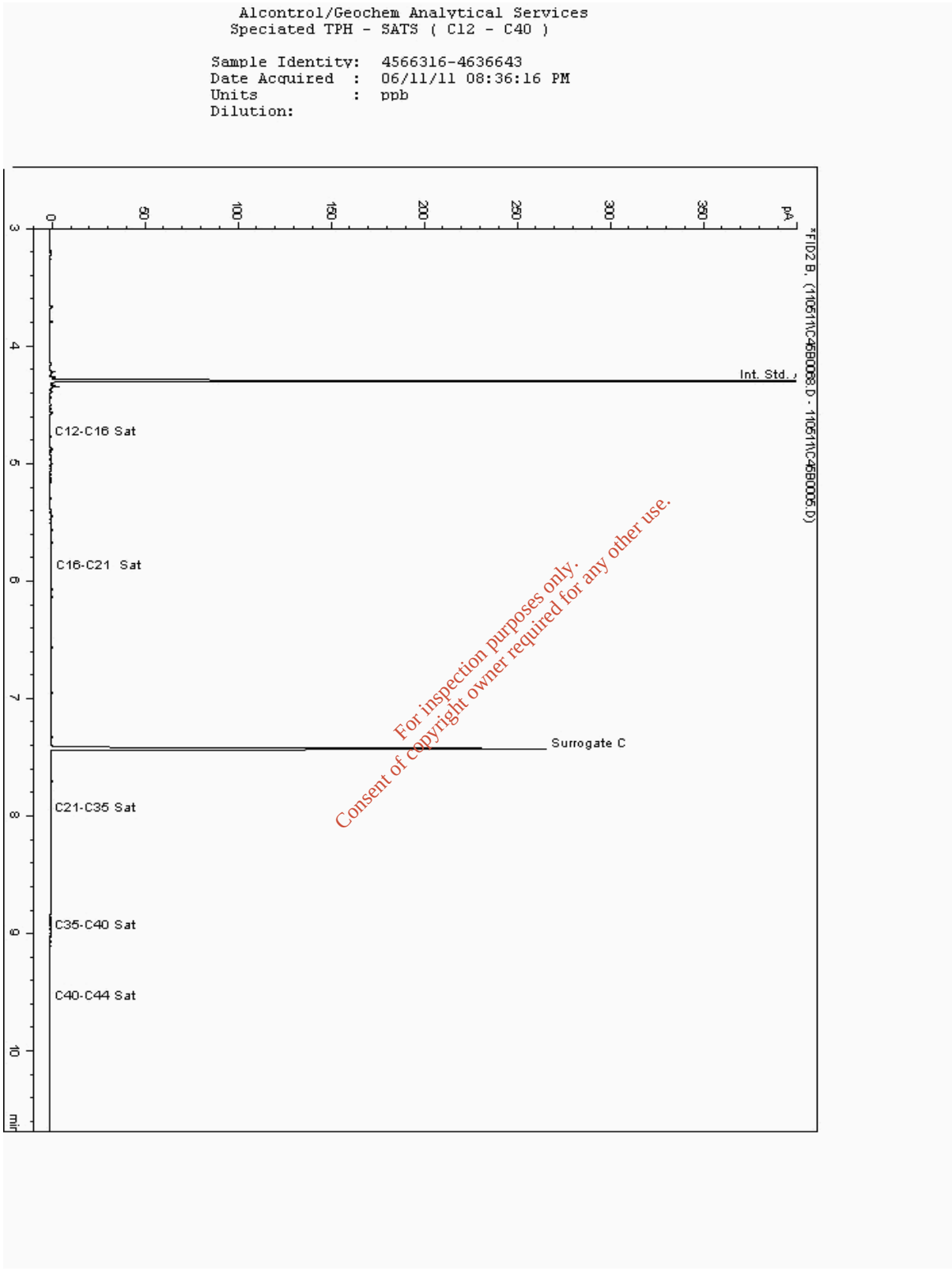
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4636643
Sample ID : A9

Depth : 0.70 - 0.95



CERTIFICATE OF ANALYSIS

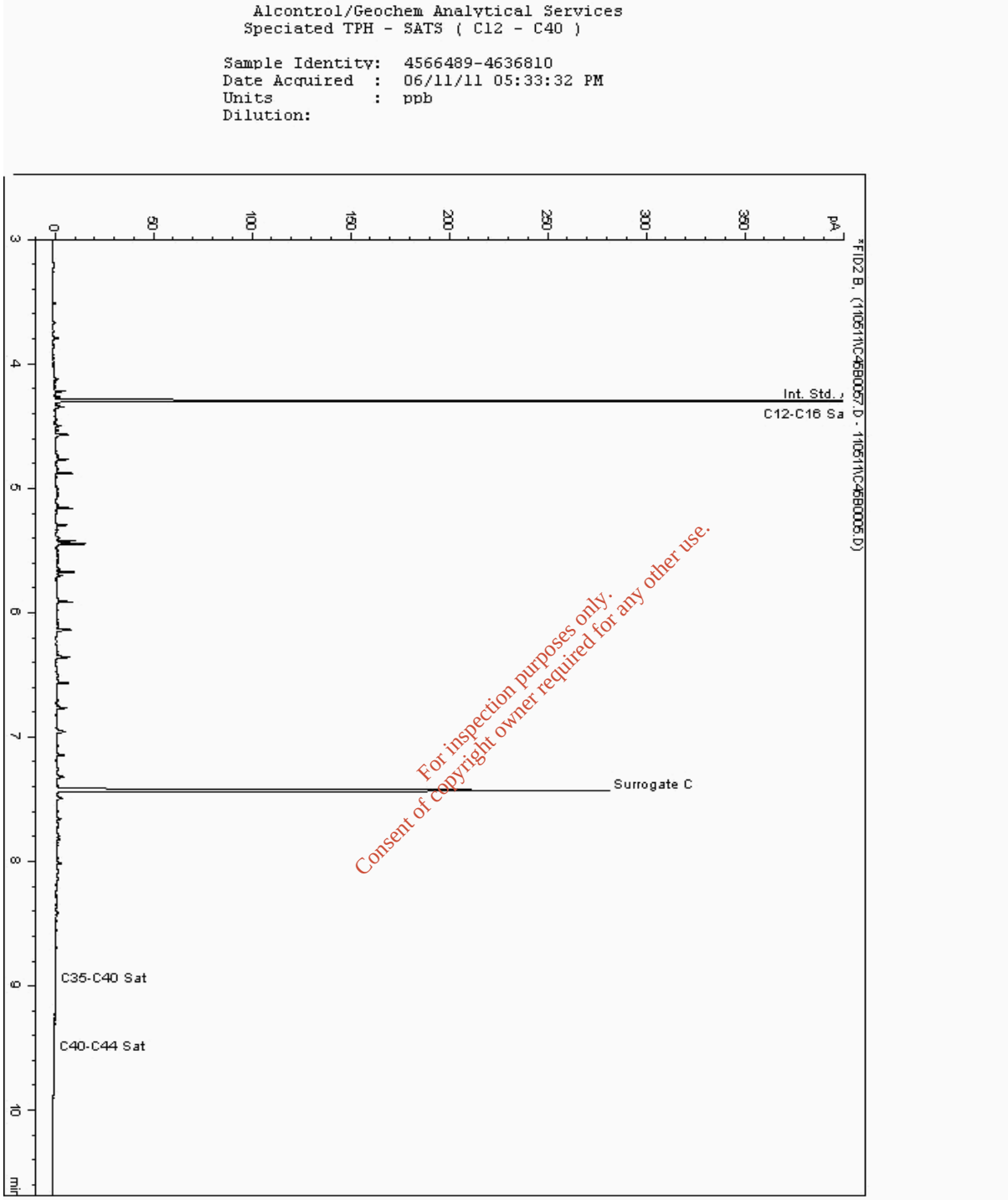
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4636810
Sample ID : B9

Depth : 2.50 - 2.80



CERTIFICATE OF ANALYSIS

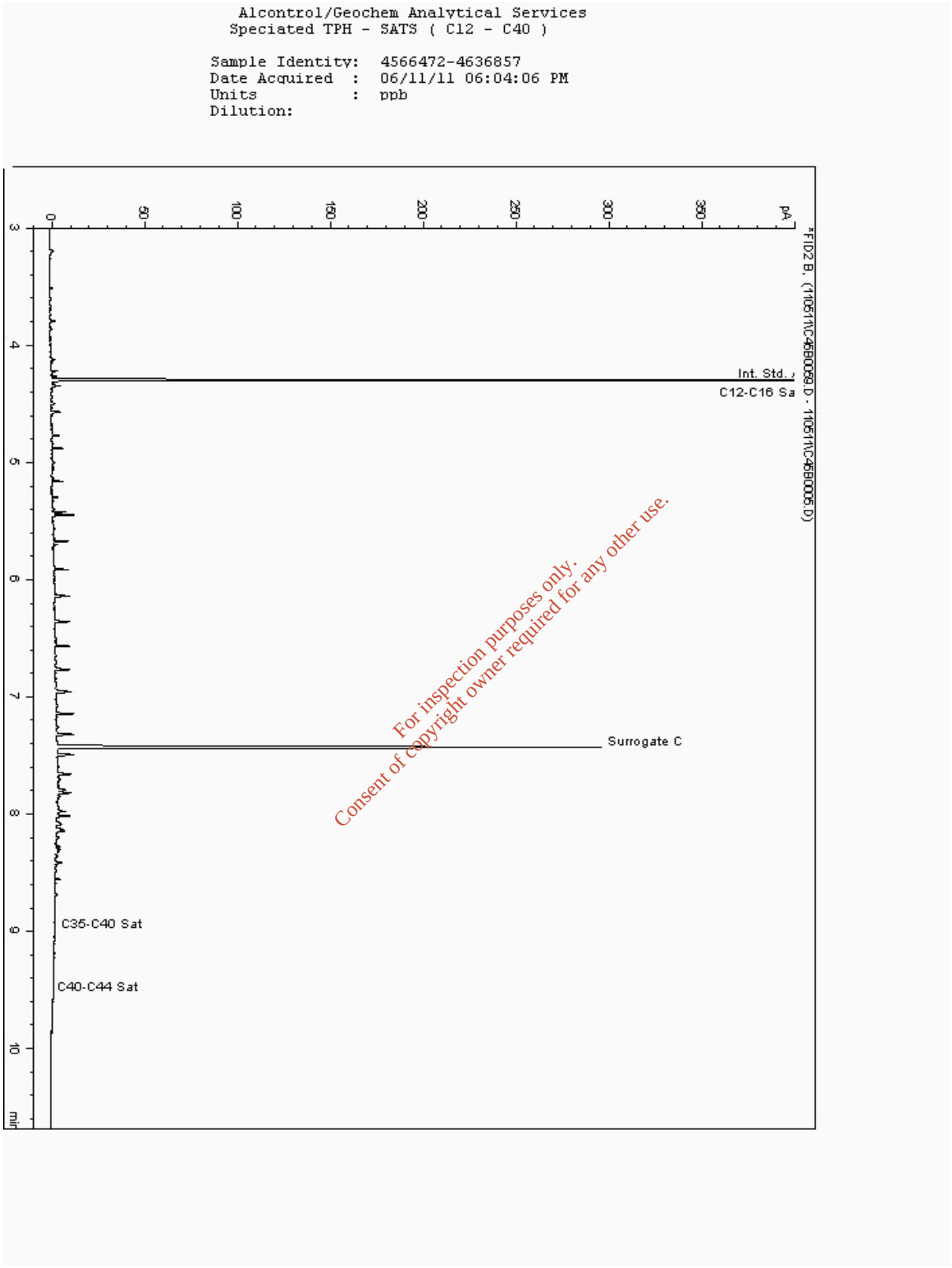
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4636857
Sample ID : B9

Depth : 2.00 - 2.20



CERTIFICATE OF ANALYSIS

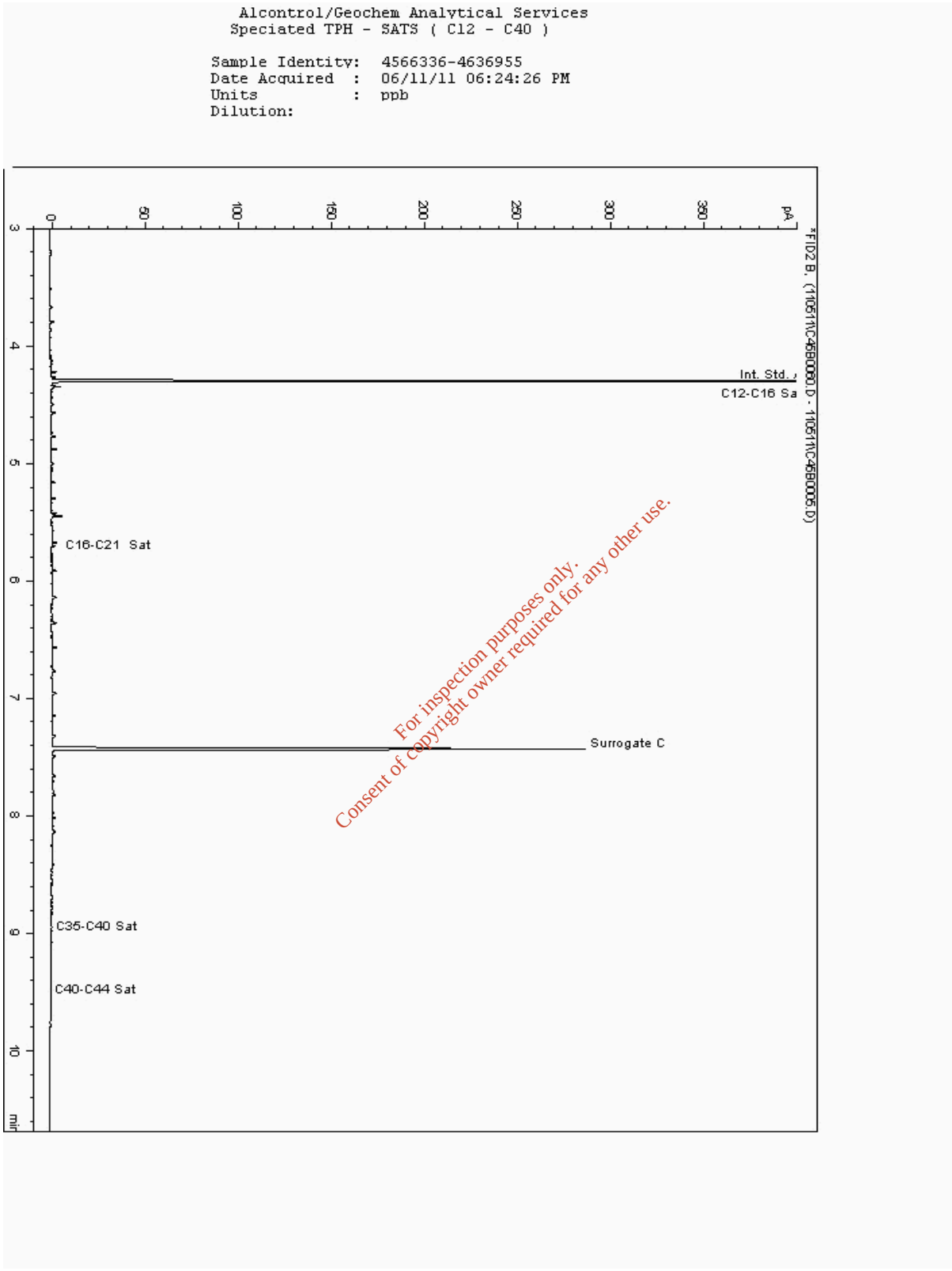
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4636955
Sample ID : A10

Depth : 0.50 - 0.70



CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

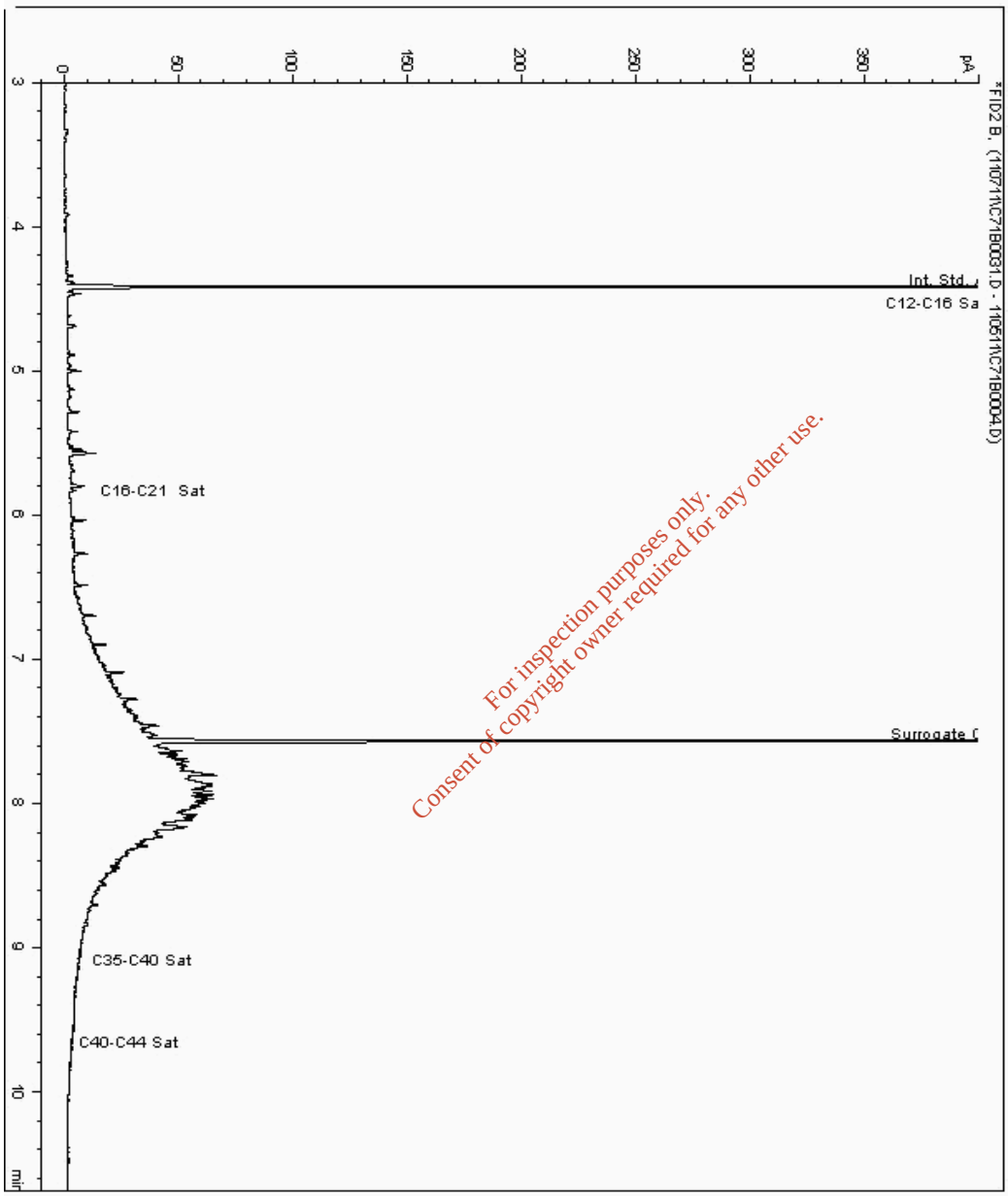
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4639704
Sample ID : B9

Depth : 0.30 - 0.50

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 4566436-4639704
Date Acquired : 07/11/2011 18:17:02 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

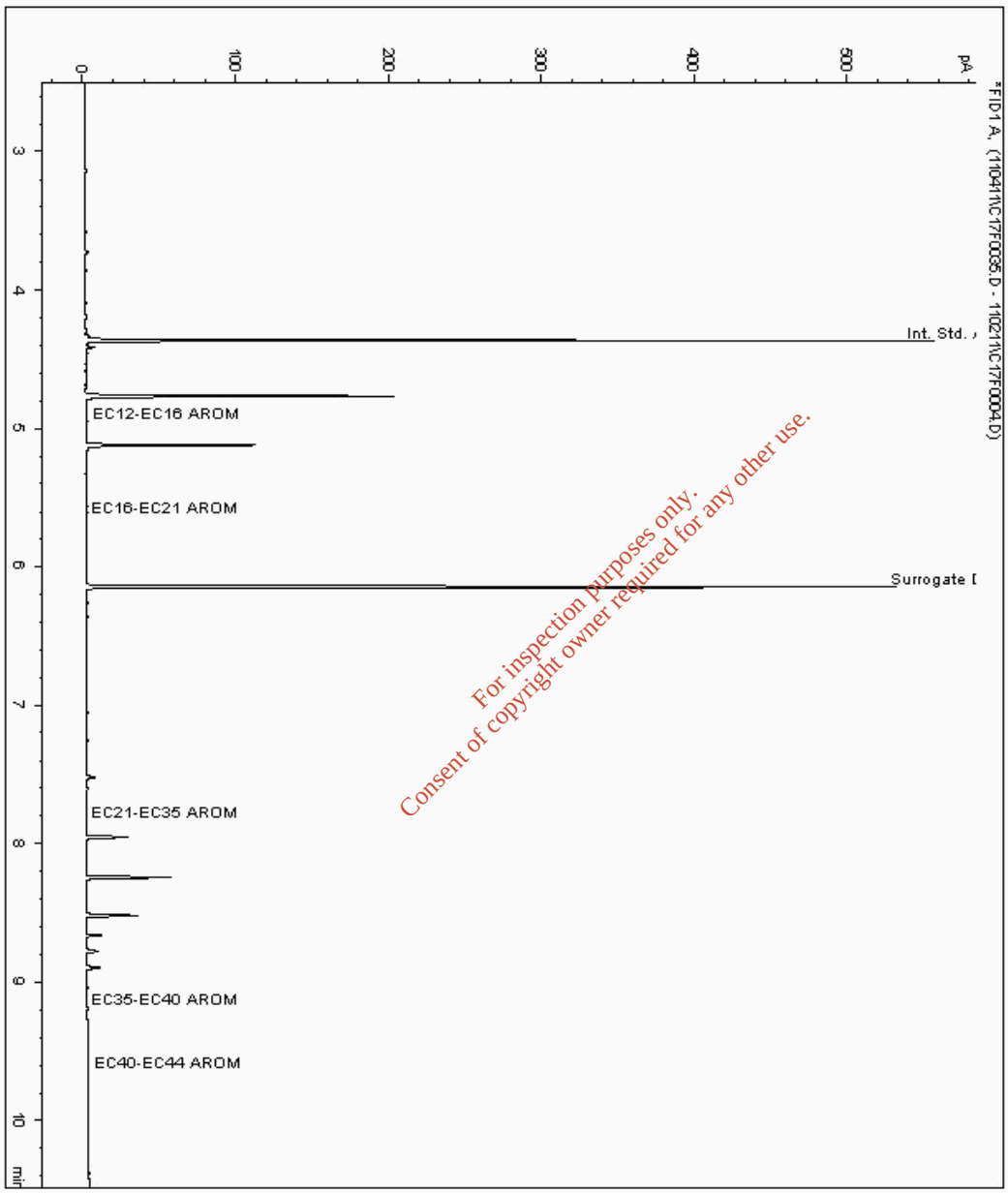
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4635280
Sample ID : A10

Depth : 2.30 - 2.60

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4566361-4635280
Date Acquired : 07/11/11 08:40:04 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.035



CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

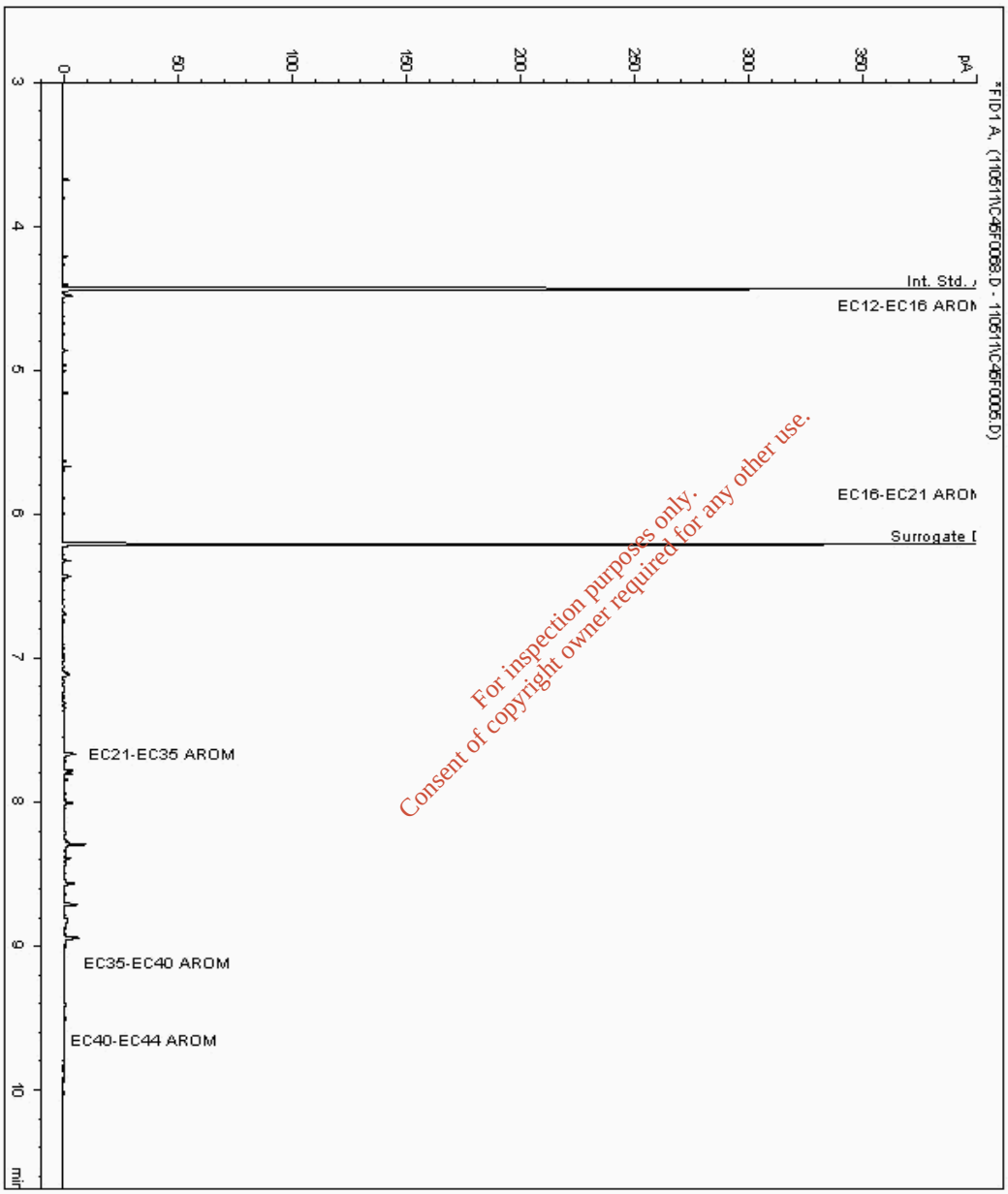
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4636643
Sample ID : A9

Depth : 0.70 - 0.95

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4566315-4636643
Date Acquired : 06/11/11 08:36:16 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

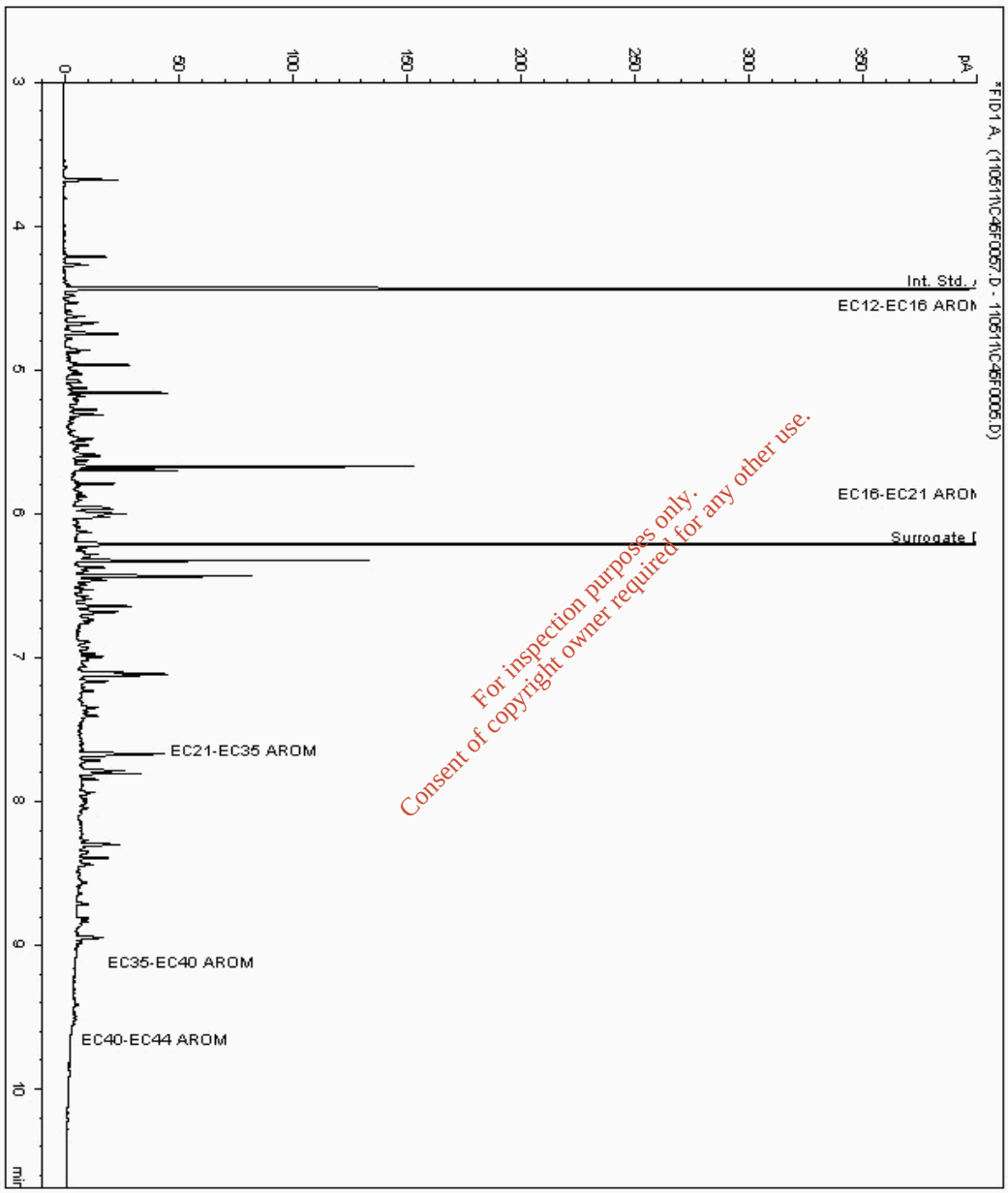
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4636810
Sample ID : B9

Depth : 2.50 - 2.80

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4566488-4636810
Date Acquired : 06/11/11 05:33:32 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

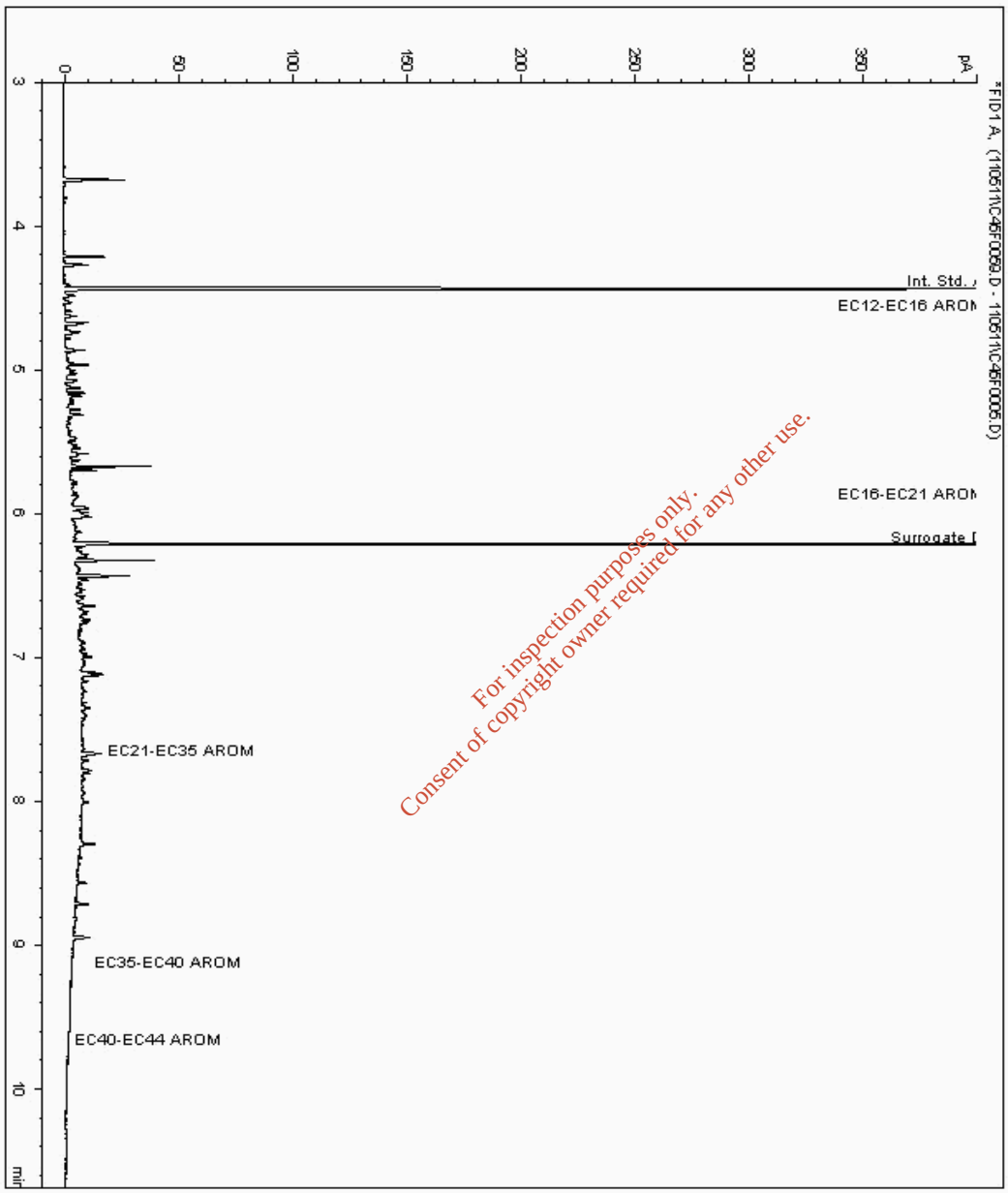
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4636857
Sample ID : B9

Depth : 2.00 - 2.20

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4566471-4636857
Date Acquired : 06/11/11 06:04:06 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

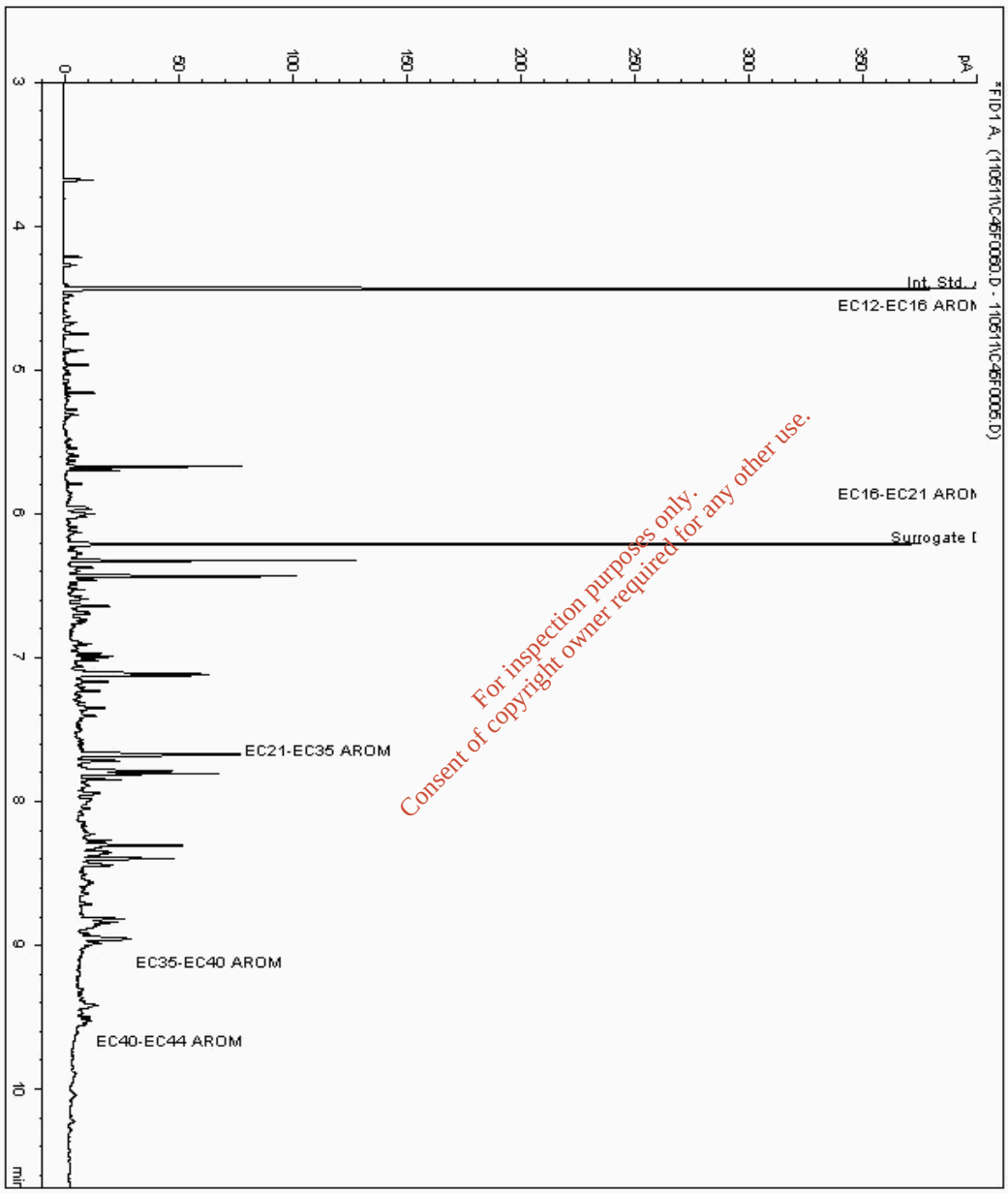
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4636955
Sample ID : A10

Depth : 0.50 - 0.70

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4566335-4636955
Date Acquired : 06/11/11 06:24:26 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

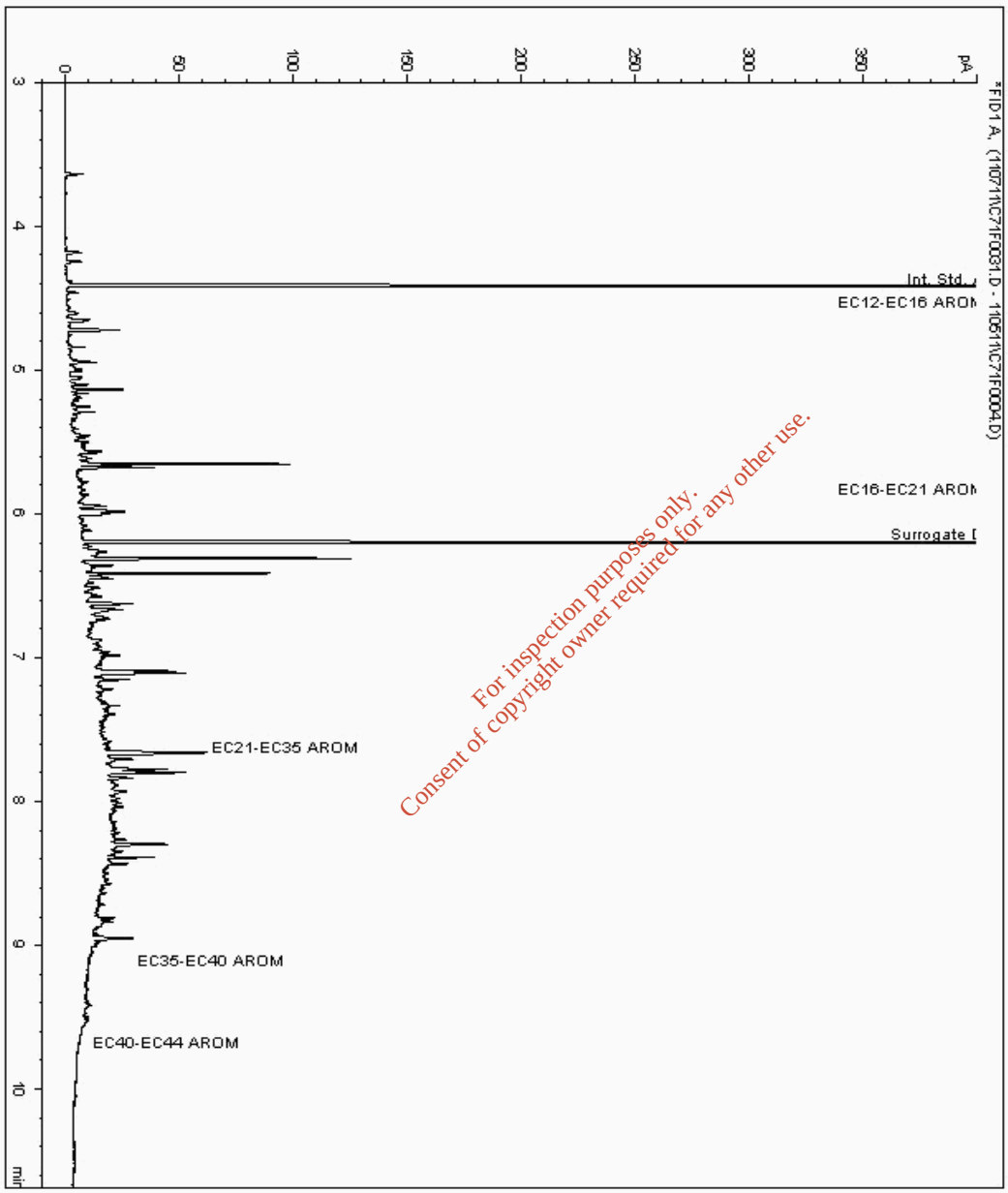
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4639704
Sample ID : B9

Depth : 0.30 - 0.50

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4566435-4639704
Date Acquired : 07/11/2011 18:17:02 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

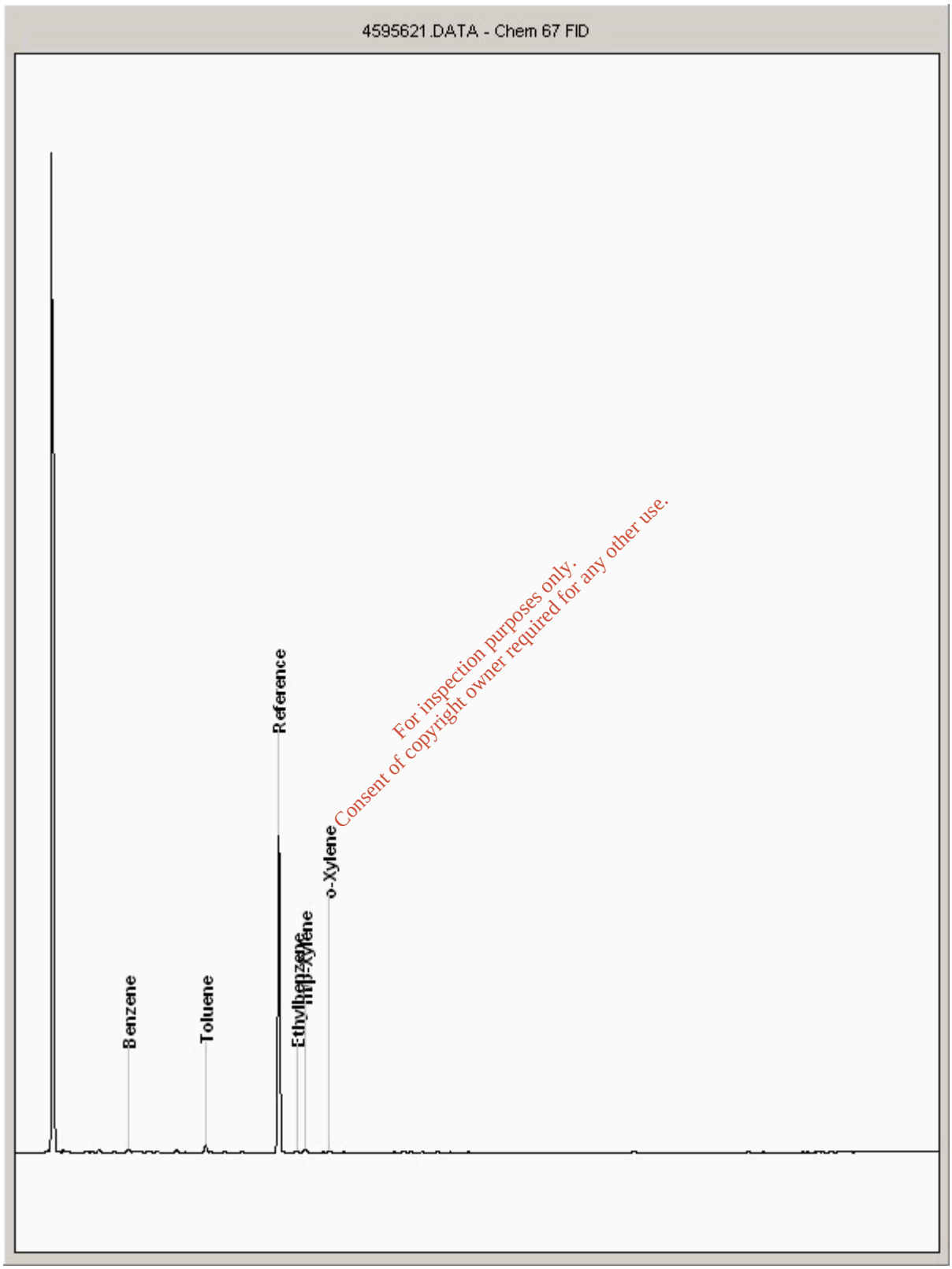
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4595621
Sample ID : B9

Depth : 1.00 - 1.80



CERTIFICATE OF ANALYSIS

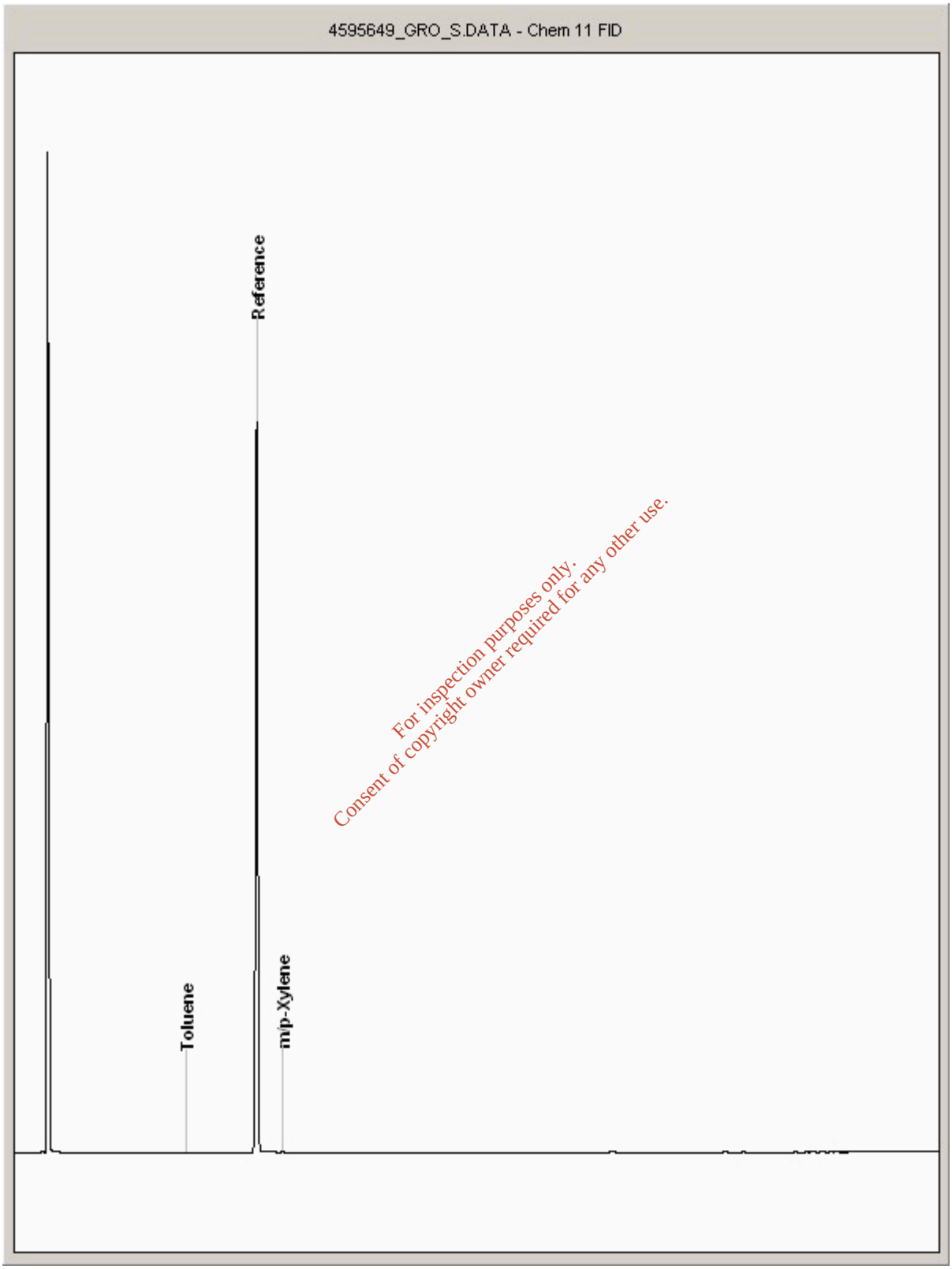
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4595649
Sample ID : A10

Depth : 2.30 - 2.60



CERTIFICATE OF ANALYSIS

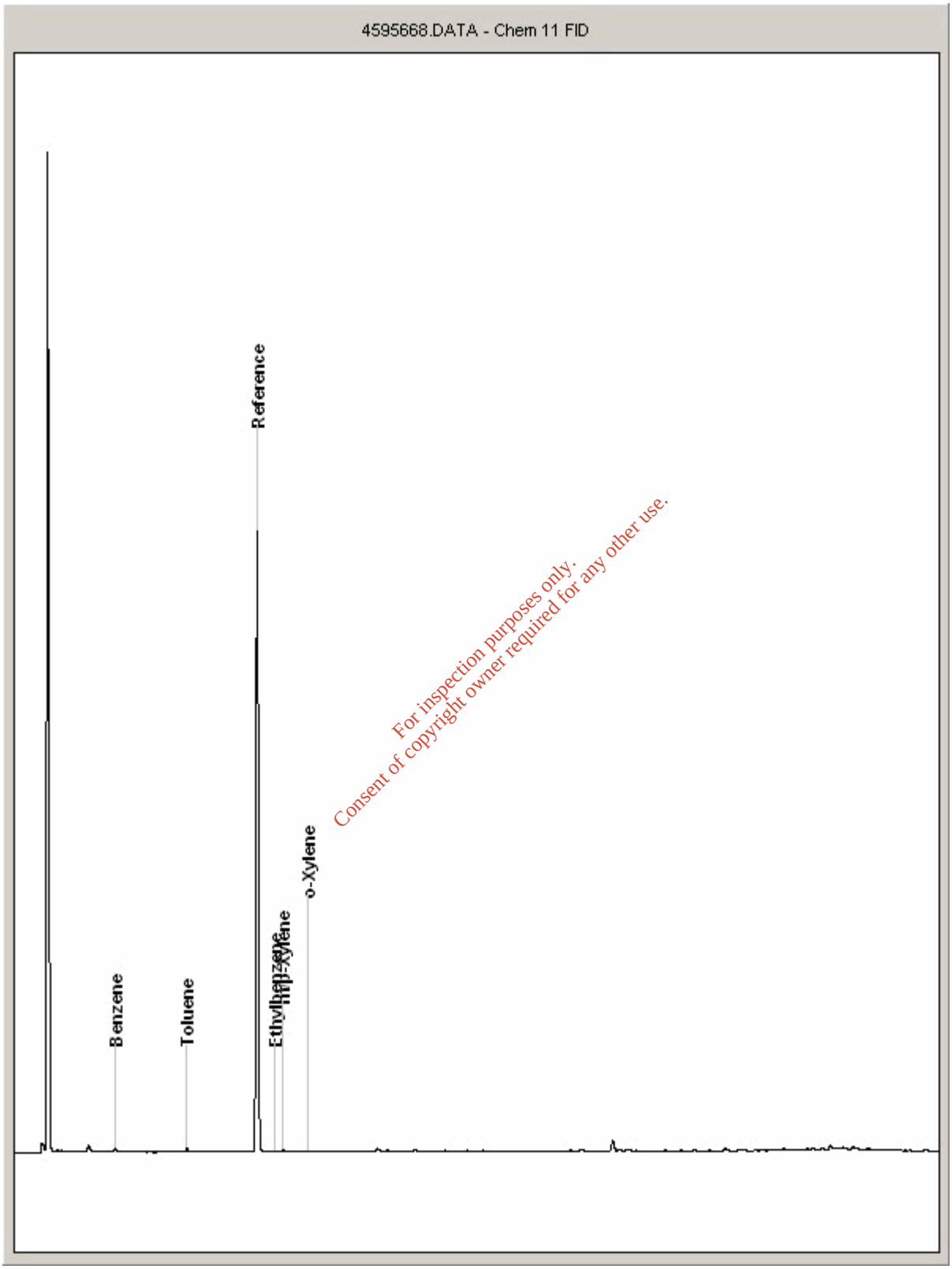
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4595668
Sample ID : B10

Depth : 0.00 - 0.40



CERTIFICATE OF ANALYSIS

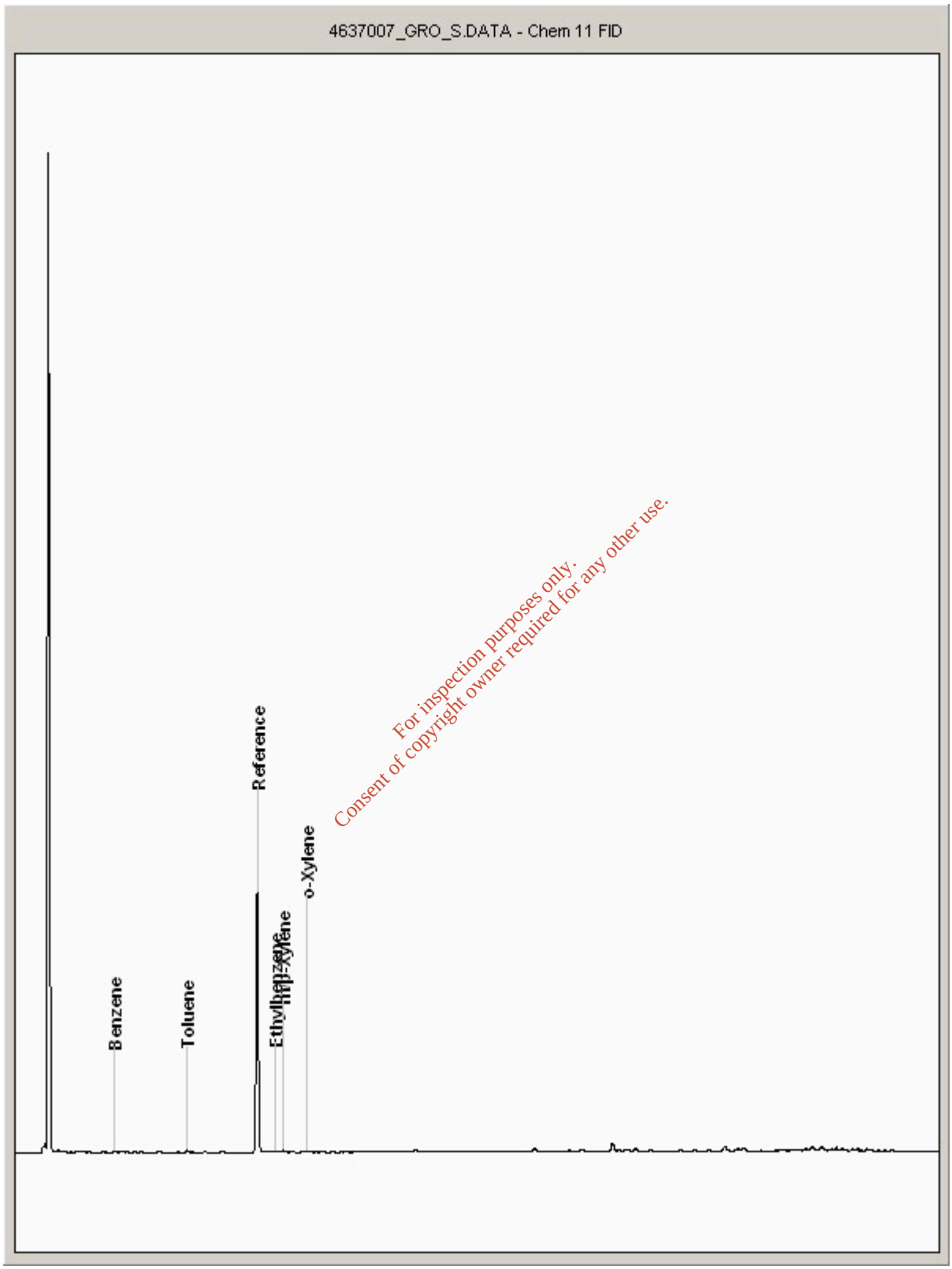
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4637007
Sample ID : B9

Depth : 0.30 - 0.50



CERTIFICATE OF ANALYSIS

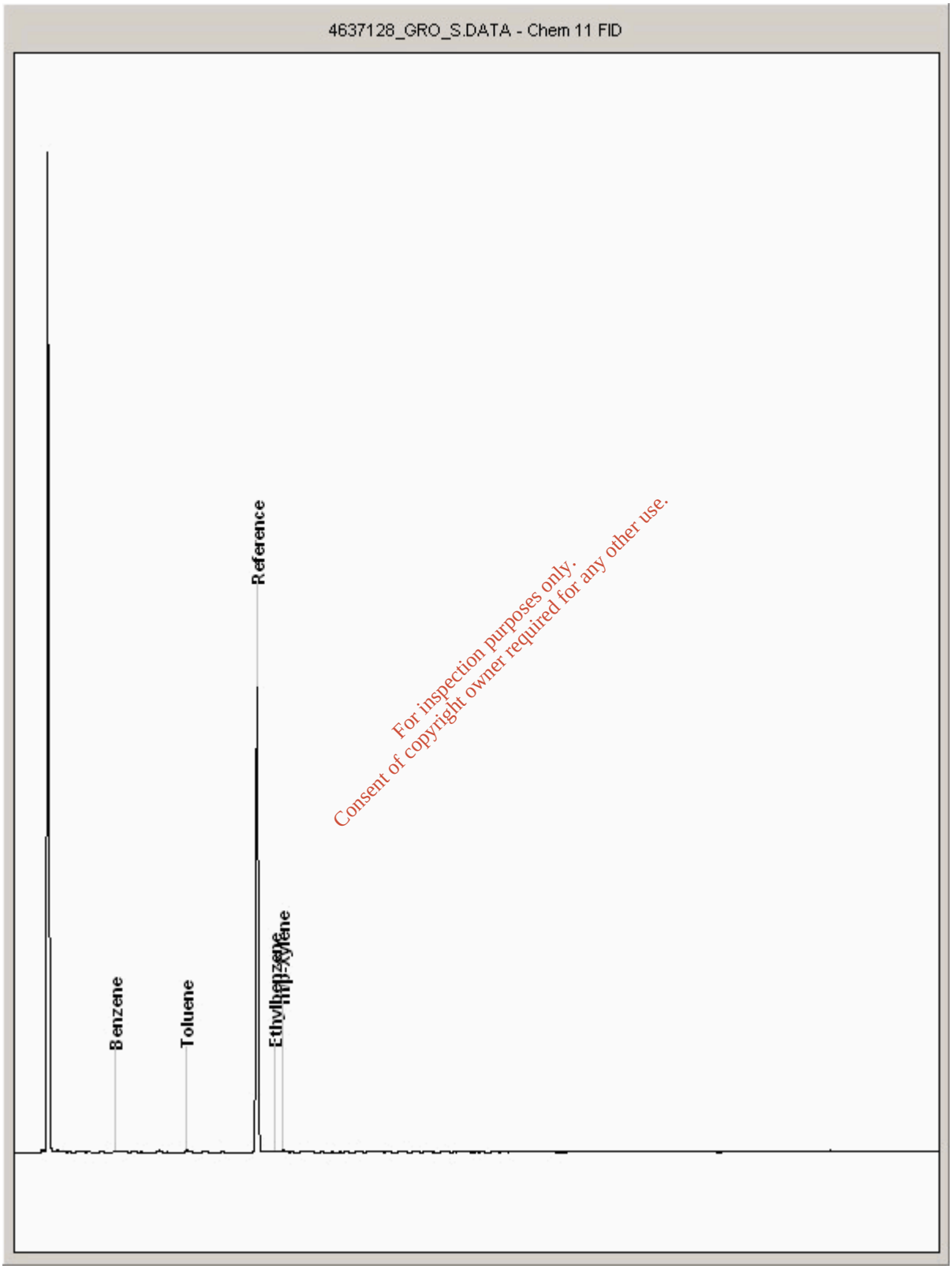
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4637128
Sample ID : A10

Depth : 0.50 - 0.70



CERTIFICATE OF ANALYSIS

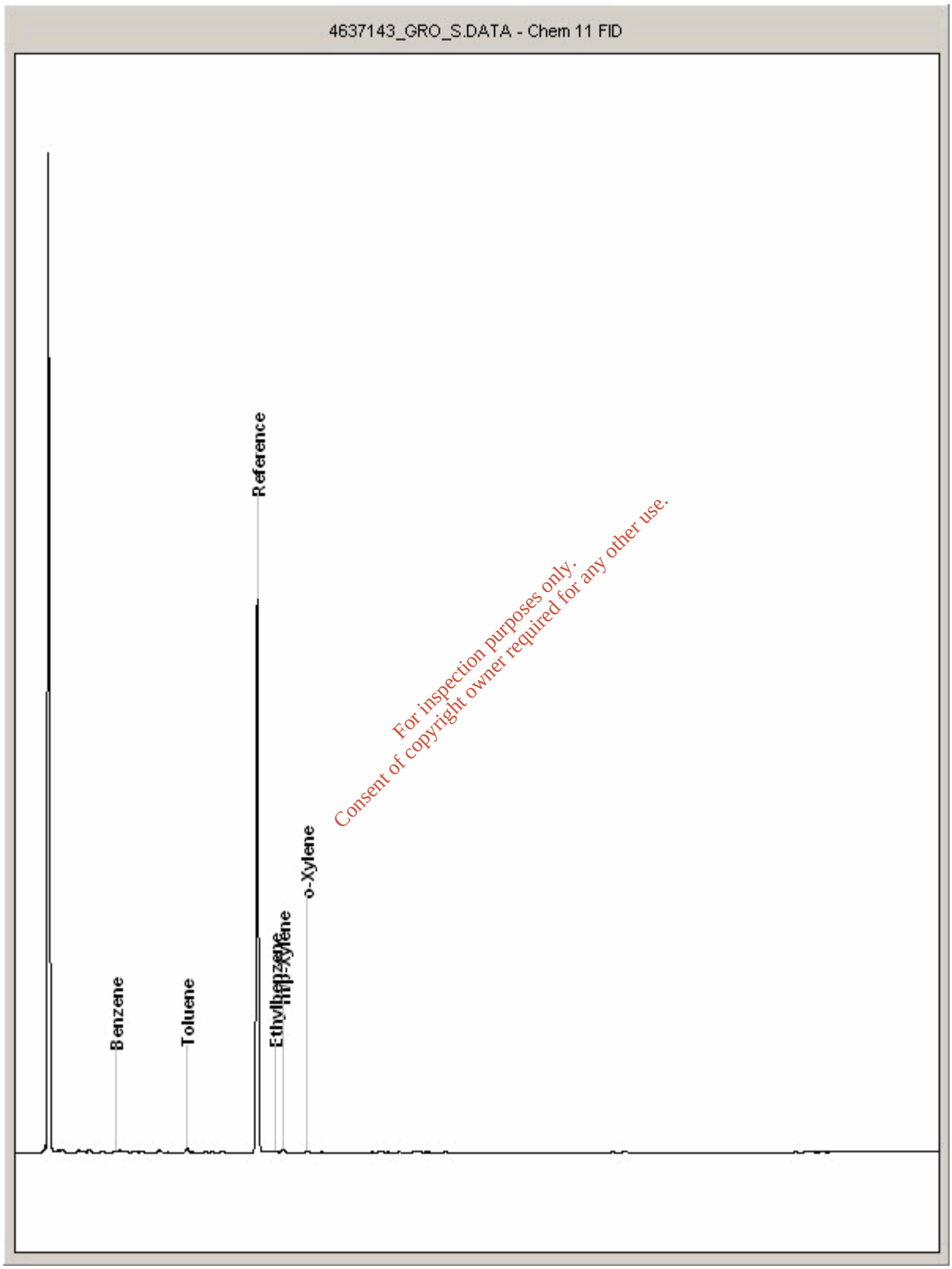
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4637143
Sample ID : A9

Depth : 0.70 - 0.95



CERTIFICATE OF ANALYSIS

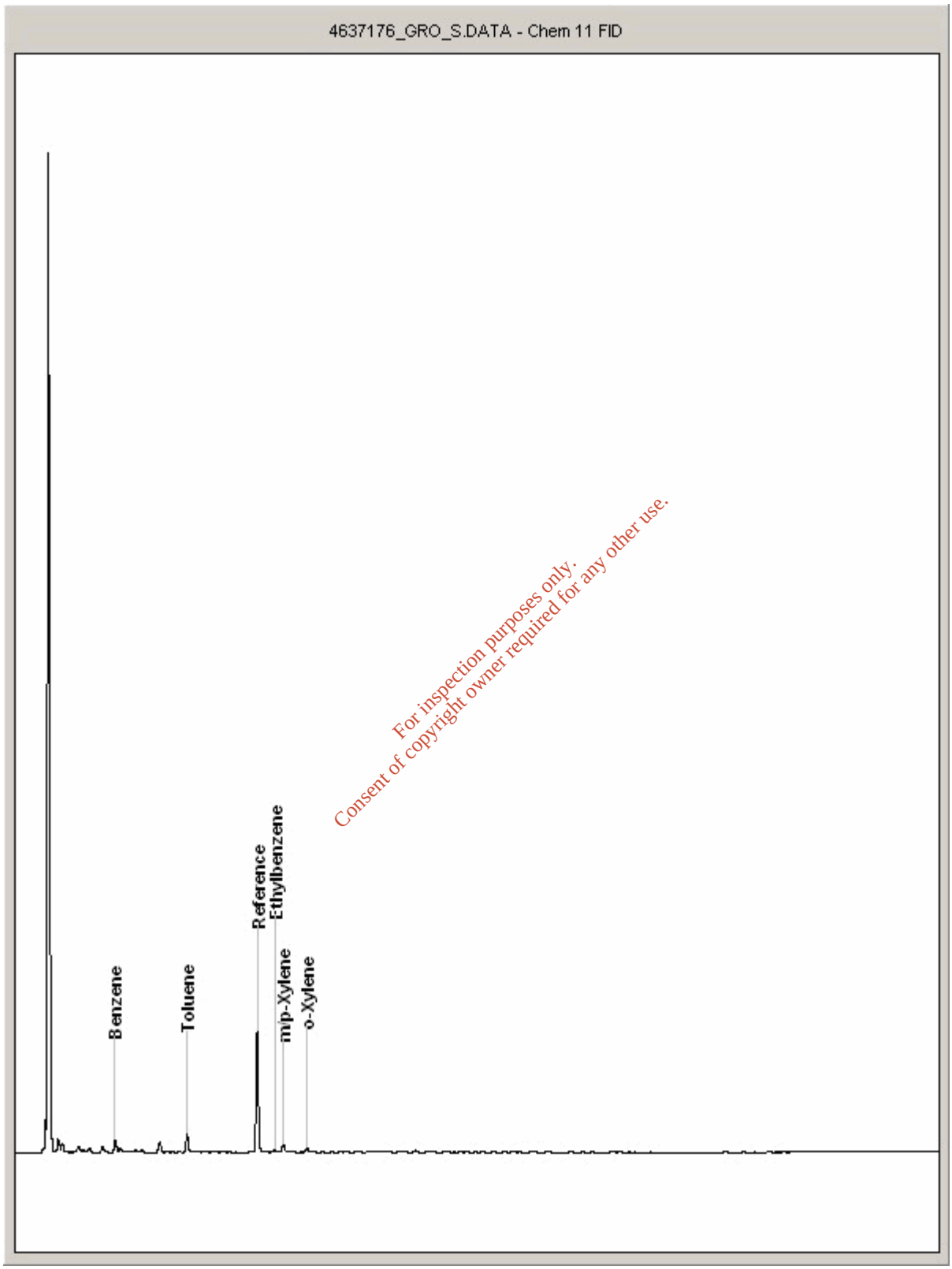
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4637176
Sample ID : B9

Depth : 2.00 - 2.20



CERTIFICATE OF ANALYSIS

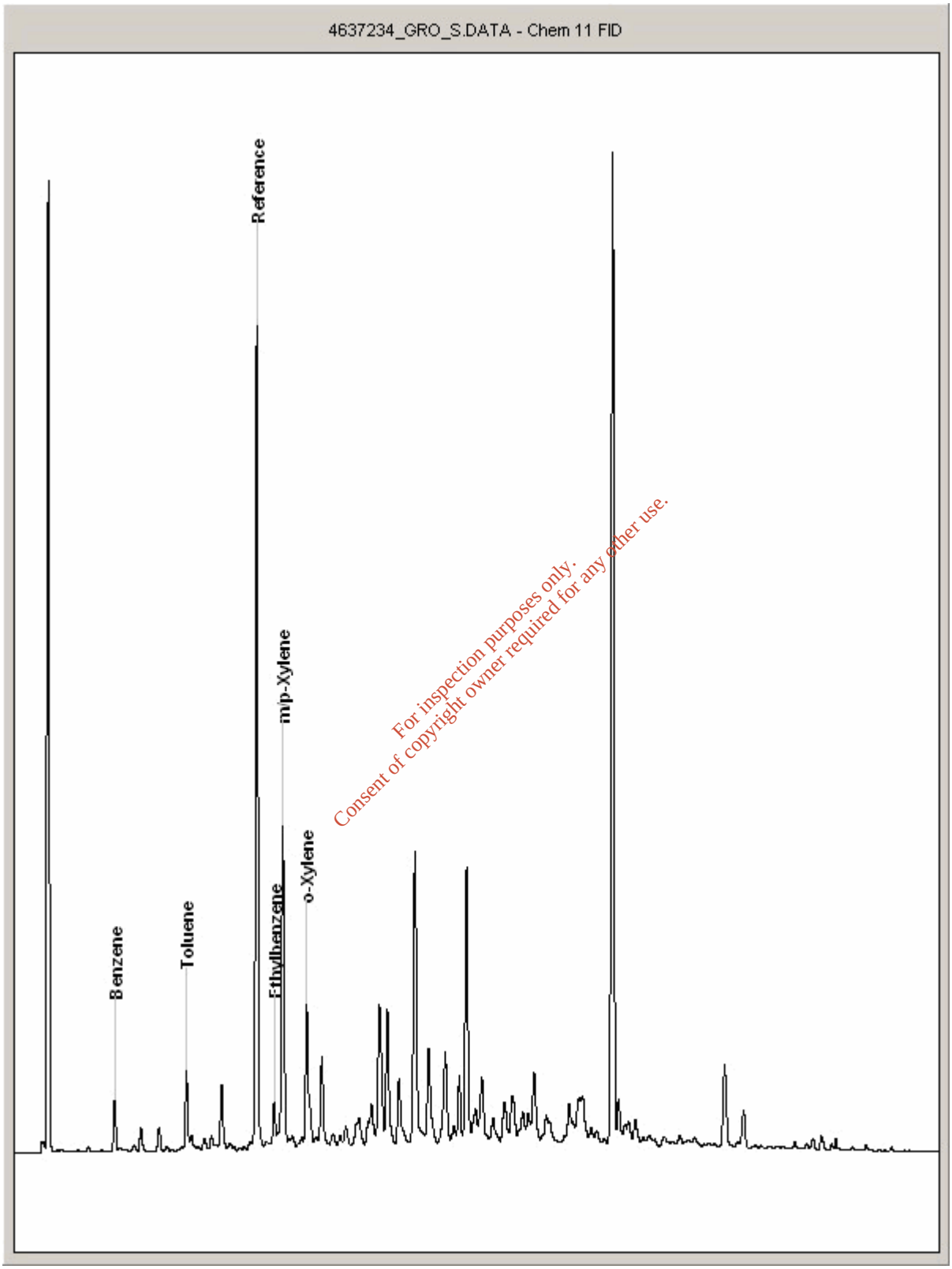
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4637234
Sample ID : B9

Depth : 2.50 - 2.80



CERTIFICATE OF ANALYSIS

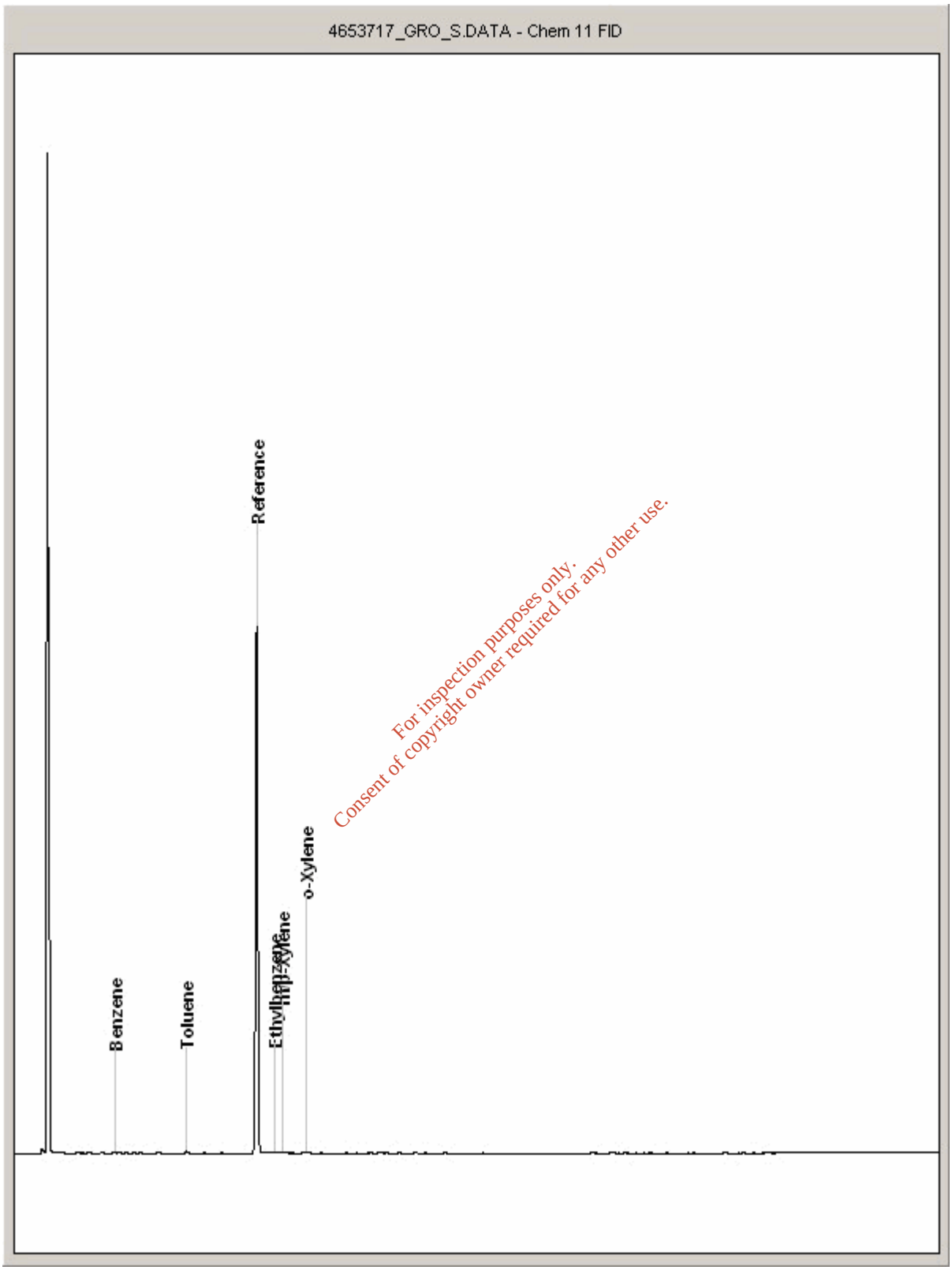
SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4653717
Sample ID : A9

Depth : 0.00 - 0.70



SDG:	111028-44	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164061
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159168

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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. ALcontrol Laboratories 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 screened 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. Is an asbestos fibre type is found it will be reported as detected (for each fibre type found). If asbestos is present either as asbestos containing material or loose fibres no further analysis will be undertaken. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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 for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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 all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

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 themajor 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 C4 -C10 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.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE: ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE: ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE: ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE: ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE: ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6 -C40) EZ FLASH	WET	HEXANE: ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE: ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (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 Alcontrol Laboratories (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.

ALcontrol Laboratories

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Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Mouchel
Ground Engineering
Rowan House
Lloyd Drive
Cheshire
CH65 9HQ

Attention: Neil Balderstone

CERTIFICATE OF ANALYSIS

Date:	16 December 2011
Customer:	D_MOUCHEL_ELE
Sample Delivery Group (SDG):	111028-105
Your Reference:	
Location:	Limerick Gasworks
Report No:	164065

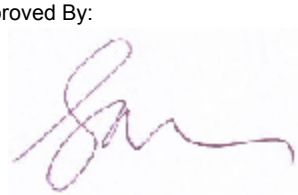
This report has been revised and directly supersedes 159074 in its entirety.

We received 7 samples on Thursday October 27, 2011 and 7 of these samples were scheduled for analysis which was completed on Friday December 16, 2011. 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.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4599207	B2		0.20 - 0.80	27/10/2011
4599208	B2		0.80 - 1.30	27/10/2011
4599209	B2		1.30 - 2.00	27/10/2011
4599206	C2		1.50 - 2.00	26/10/2011
4599201	D2		0.50 - 1.00	26/10/2011
4599202	D2		1.00 - 1.50	26/10/2011
4599204	D2		2.00 - 2.50	26/10/2011

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

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

SOLID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	4599207			4599208			4599209			4599206			4599201			4599202			4599204		
			Customer Sample Reference	B2			B2			B2			C2			D2			D2			D2		
			AGS Reference																					
			Depth (m)	0.20 - 0.80			0.80 - 1.30			1.30 - 2.00			1.50 - 2.00			0.50 - 1.00			1.00 - 1.50			2.00 - 2.50		
			Container	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)
Ammonium Soil by Titration	All	NDPs: 0 Tests: 7				X			X			X			X			X			X			X
Asbestos Identification (Soil)	All	NDPs: 0 Tests: 2			X												X							
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7				X			X			X			X			X			X			X
Easily Liberated Sulphide	All	NDPs: 0 Tests: 7				X			X			X			X			X			X			X
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
GRO by GC-FID (S)	All	NDPs: 0 Tests: 7		X			X			X			X			X			X			X		
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 7				X			X			X			X			X			X			X
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
	Cadmium	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
	Chromium	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
	Copper	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
	Lead	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
	Mercury	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
	Nickel	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

SOLID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	4599207			4599208			4599209			4599206			4599201			4599202			4599204		
			Customer Sample Reference	B2			B2			B2			C2			D2			D2			D2		
			AGS Reference																					
			Depth (m)	0.20 - 0.80			0.80 - 1.30			1.30 - 2.00			1.50 - 2.00			0.50 - 1.00			1.00 - 1.50			2.00 - 2.50		
			Container	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)
Metals by iCap-OES (Soil)	Selenium	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
	Zinc	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
PAH by GCMS	All	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
PCBs by GCMS	All	NDPs: 0 Tests: 2						X												X				
pH	All	NDPs: 0 Tests: 7				X			X			X			X			X			X			X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
Sample description	All	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
Total Sulphate	All	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 7			X			X			X			X			X			X			X	
VOC MS (S)	All	NDPs: 0 Tests: 4				X			X											X			X		

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
4599207	B2	0.20 - 0.80	Grey	Silty Sand	0.1 - 2 mm	Stones	None
4599208	B2	0.80 - 1.30	Light Brown	Silty Sand	0.1 - 2 mm	Brick	Vegetation
4599209	B2	1.30 - 2.00	Grey	Silty Sand	0.1 - 2 mm	Stones	Fibres
4599206	C2	1.50 - 2.00	Light Brown	Silty Sand	0.1 - 2 mm	Stones	None
4599201	D2	0.50 - 1.00	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	None
4599202	D2	1.00 - 1.50	Light Brown	Silty Sand	0.1 - 2 mm	Ash/Soot	Stones
4599204	D2	2.00 - 2.50	Grey	Gravel	> 10 mm	Tar	None

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B2	B2	B2	C2	D2	D2
			Depth (m)	0.20 - 0.80	0.80 - 1.30	1.30 - 2.00	1.50 - 2.00	0.50 - 1.00	1.00 - 1.50
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	27/10/2011	27/10/2011	27/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-105	111028-105	111028-105	111028-105	111028-105	111028-105
			Lab Sample No.(s)	4599207	4599208	4599209	4599206	4599201	4599202
			AGS Reference						
Ammoniacal Nitrogen, exchangeable as NH4	<15 mg/kg	TM024		<15 M	<15 M	<15 M	<15 M	<15 M	<15 M
Ammoniacal Nitrogen as N	<15 mg/kg	TM024		<15	<15	<15	<15	<15	<15
Catechol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenol	<0.01 mg/kg	TM062 (S)		0.0238 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		0.0595 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Resorcinol	<0.05 mg/kg	TM062 (S)		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	0.0351 M	<0.015 M	<0.015 M	<0.015 M
1-Naphthol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2,3,5-Trimethylphenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected 8 Speciated	<0.12 mg/kg	TM062 (S)		<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
pH	1 pH Units	TM133		8.46 § M	7.95 § M	8.27 § M	8.26 § M	8.75 § M	8.49 § M
Hexavalent Chromium	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		<1 M	7.82 M	<1 M	19.3 M	<1 M	2.72 M
PCB congener 28	<3 µg/kg	TM168			<3 M				<3 M
PCB congener 52	<3 µg/kg	TM168			<3 M				<3 M
PCB congener 101	<3 µg/kg	TM168			<3 M				<3 M
PCB congener 118	<3 µg/kg	TM168			<3 M				<3 M
PCB congener 138	<3 µg/kg	TM168			<3 M				<3 M
PCB congener 153	<3 µg/kg	TM168			<3 M				<3 M
PCB congener 180	<3 µg/kg	TM168			<3 M				<3 M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168			<21				<21
Easily Liberated Sulphide	<15 mg/kg	TM180		<15 #	<15 #	17 #	<15 #	<15 #	<15 #
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 #	<15 #	19.9 #	<15 #	<15 #	<15 #
Arsenic	<0.6 mg/kg	TM181		31.2 M	7.89 M	25.6 M	21.9 M	25.9 M	14.6 M
Cadmium	<0.02 mg/kg	TM181		0.351 M	0.401 M	0.612 M	0.51 M	0.463 M	0.496 M
Chromium	<0.9 mg/kg	TM181		14.1 M	11.8 M	10 M	11 M	23.7 M	20.1 M
Copper	<1.4 mg/kg	TM181		21.9 M	119 M	626 M	37.5 M	48.7 M	23.8 M
Lead	<0.7 mg/kg	TM181		76.9 M	47.2 M	59.8 M	102 M	292 M	245 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M	0.962 M	<0.14 M	<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		22.7 M	15.1 M	12.4 M	14.7 M	29.6 M	24.9 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		90.4 M	82.2 M	192 M	75.7 M	147 M	51 M
Sulphate, Total	<48 mg/kg	TM221		759 M	317 M	357 M	849 M	1240 M	826 M

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Customer Sample Ref.	D2
Depth (m)	2.00 - 2.50
Sample Type	Soil/Solid
Date Sampled	26/10/2011
Date Received	27/10/2011
SDG Ref	111028-105
Lab Sample No.(s)	4599204
AGS Reference	

Component	LOD/Units	Method	
Ammoniacal Nitrogen, exchangeable as NH4	<15 mg/kg	TM024	35.2 #
Ammoniacal Nitrogen as N	<15 mg/kg	TM024	27.3
Catechol	<0.01 mg/kg	TM062 (S)	<0.01
Phenol	<0.01 mg/kg	TM062 (S)	0.0109 #
Cresols	<0.01 mg/kg	TM062 (S)	0.0435 #
Resorcinol	<0.05 mg/kg	TM062 (S)	<0.05
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015 #
1-Naphthol	<0.01 mg/kg	TM062 (S)	<0.01
2,3,5-Trimethylphenol	<0.01 mg/kg	TM062 (S)	<0.01 #
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)	<0.015 #
Phenols, Total Detected 8 Speciated	<0.12 mg/kg	TM062 (S)	<0.12
pH	1 pH Units	TM133	8.18 § #
Hexavalent Chromium	<0.6 mg/kg	TM151	<1.2 #
Chromium, Hexavalent	<0.6 mg/kg	TM151	<1.2 #
Cyanide, Total	<1 mg/kg	TM153	217 #
Easily Liberated Sulphide	<15 mg/kg	TM180	879 #
Sulphide, Easily liberated	<15 mg/kg	TM180	956 #
Arsenic	<0.6 mg/kg	TM181	12.2 #
Cadmium	<0.02 mg/kg	TM181	0.627 #
Chromium	<0.9 mg/kg	TM181	9.23 #
Copper	<1.4 mg/kg	TM181	16.9 #
Lead	<0.7 mg/kg	TM181	24.6 #
Mercury	<0.14 mg/kg	TM181	<0.14 #
Nickel	<0.2 mg/kg	TM181	23.2 #
Selenium	<1 mg/kg	TM181	<1 #
Zinc	<1.9 mg/kg	TM181	84.5 #
Sulphate, Total	<48 mg/kg	TM221	1260 #

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B2	B2	B2	C2	D2	D2
			Depth (m)	0.20 - 0.80	0.80 - 1.30	1.30 - 2.00	1.50 - 2.00	0.50 - 1.00	1.00 - 1.50
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	27/10/2011	27/10/2011	27/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-105	111028-105	111028-105	111028-105	111028-105	111028-105
			Lab Sample No.(s)	4599207	4599208	4599209	4599206	4599201	4599202
			AGS Reference						
Naphthalene	<9 µg/kg	TM218		70500 M	268 M	12700 M	5910 M	312 M	1330 M
Acenaphthylene	<12 µg/kg	TM218		2480 M	166 M	1100 M	501 M	207 M	3480 M
Acenaphthene	<8 µg/kg	TM218		7870 M	111 M	5470 M	673 M	43.7 M	2070 M
Fluorene	<10 µg/kg	TM218		6860 M	102 M	3280 M	584 M	159 M	11500 M
Phenanthrene	<15 µg/kg	TM218		70400 M	2530 M	5480 M	6860 M	3510 M	116000 M
Anthracene	<16 µg/kg	TM218		14500 M	590 M	2530 M	1750 M	743 M	32100 M
Fluoranthene	<17 µg/kg	TM218		90500 M	5380 M	45800 M	13700 M	7180 M	147000 M
Pyrene	<15 µg/kg	TM218		71200 M	4620 M	48800 M	11400 M	6370 M	117000 M
Benz(a)anthracene	<14 µg/kg	TM218		51000 M	2660 M	27500 M	9990 M	5700 M	67200 M
Chrysene	<10 µg/kg	TM218		42100 M	2230 M	21400 M	7810 M	4650 M	48800 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		62900 M	3040 M	21100 M	14700 M	11700 M	82500 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		19800 M	1210 M	6250 M	4650 M	3940 M	29500 M
Benzo(a)pyrene	<15 µg/kg	TM218		49400 M	2550 M	15500 M	11100 M	6940 M	64600 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		23700 M	1190 M	4880 M	5930 M	6060 M	35400 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		7980 M	417 M	1870 M	2140 M	1790 M	10200 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		25700 M	1450 M	5610 M	6060 M	6540 M	37500 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		617000	28500	229000	104000	65800	807000

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

PAH by GCMS

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Customer Sample Ref.			D2						
Depth (m)			2.00 - 2.50						
Sample Type			Soil/Solid						
Date Sampled			26/10/2011						
Date Received			27/10/2011						
SDG Ref			111028-105						
Lab Sample No.(s)			4599204						
AGS Reference									
Component	**LOD/Units**	**Method**							
Naphthalene	<9 µg/kg	TM218	24900 #						
Acenaphthylene	<12 µg/kg	TM218	8640 #						
Acenaphthene	<8 µg/kg	TM218	4180 #						
Fluorene	<10 µg/kg	TM218	7970 #						
Phenanthrene	<15 µg/kg	TM218	23600 #						
Anthracene	<16 µg/kg	TM218	7570 #						
Fluoranthene	<17 µg/kg	TM218	22500 #						
Pyrene	<15 µg/kg	TM218	17000 #						
Benz(a)anthracene	<14 µg/kg	TM218	11700 #						
Chrysene	<10 µg/kg	TM218	7590 #						
Benzo(b)fluoranthene	<15 µg/kg	TM218	13600 #						
Benzo(k)fluoranthene	<14 µg/kg	TM218	5340 #						
Benzo(a)pyrene	<15 µg/kg	TM218	11000 #						
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	6310 #						
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	1860 #						
Benzo(g,h,i)perylene	<24 µg/kg	TM218	6460 #						
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	180000						

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B2	B2	B2	C2	D2	D2
			Depth (m)	0.20 - 0.80	0.80 - 1.30	1.30 - 2.00	1.50 - 2.00	0.50 - 1.00	1.00 - 1.50
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	27/10/2011	27/10/2011	27/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-105	111028-105	111028-105	111028-105	111028-105	111028-105
			Lab Sample No.(s)	4599207	4599208	4599209	4599206	4599201	4599202
			AGS Reference						
GRO >C5-C12	<44 µg/kg	TM089		2190	432	44100	379	75	505
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
Benzene	<10 µg/kg	TM089		<10 M	<10 M	19.9 M	16.2 M	<10 M	13.9 M
Toluene	<2 µg/kg	TM089		4.76 M	5.8 M	<2 M	8.12 M	3.63 M	2.32 M
Ethylbenzene	<3 µg/kg	TM089		9.52 M	<3 M	92.4 M	4.64 M	<3 M	<3 M
m,p-Xylene	<6 µg/kg	TM089		20.2 M	9.28 M	1160 M	15.1 M	<6 M	<6 M
o-Xylene	<3 µg/kg	TM089		17.9 M	4.64 M	<3 M	10.4 M	<3 M	<3 M
sum of detected mpo xylene by GC	<9 µg/kg	TM089		38.1	13.9	1160	25.5	<9	<9
sum of detected BTEX by GC	<24 µg/kg	TM089		52.4	<24	1270	54.5	<24	<24
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	36.3	27.8	19.4	22
Aliphatics >C6-C8	<10 µg/kg	TM089		27.4	11.6	1830	26.7	14.5	46.4
Aliphatics >C8-C10	<10 µg/kg	TM089		119	49.9	9320	39.4	<10	59.2
Aliphatics >C10-C12	<10 µg/kg	TM089		1140	183	15200	123	<10	188
Aliphatics >C12-C16	<100 µg/kg	TM173		4130	1650	103000	6000	9190	15000
Aliphatics >C16-C21	<100 µg/kg	TM173		7600	9620	138000	8330	24600	22300
Aliphatics >C21-C35	<100 µg/kg	TM173		10800	17000	75600	12700	42400	23900
Aliphatics >C35-C44	<100 µg/kg	TM173		3460	<100	<100	2600	9820	2210
Total Aliphatics >C12-C44	<100 µg/kg	TM173		26000	28200	317000	29600	86000	63400
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	19.9	16.2	<10	13.9
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		127	48.7	7470	56.8	12.1	47.6
Aromatics >EC10-EC12	<10 µg/kg	TM089		760	122	10200	82.4	<10	125
Aromatics >EC12-EC16	<100 µg/kg	TM173		200000	8530	92900	9210	4390	229000
Aromatics >EC16-EC21	<100 µg/kg	TM173		270000	72200	291000	47700	30100	1580000
Aromatics >EC21-EC35	<100 µg/kg	TM173		731000	192000	529000	216000	142000	2750000
Aromatics >EC35-EC44	<100 µg/kg	TM173		177000	54800	89100	61000	61100	723000
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		1380000	328000	1000000	334000	238000	5290000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		1410000	356000	1360000	364000	324000	5350000
Total Aliphatics >C5-35	<100 µg/kg	TM173		23800	28500	343000	27200	76200	61500
Total Aromatics >C5-35	<100 µg/kg	TM173		1200000	273000	931000	273000	176000	4560000
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173		1230000	302000	1270000	300000	253000	4630000
Total Aliphatics >C5-C12	<10 µg/kg	TM089		1290	253	26400	217	49.6	314
Total Aromatics >EC5-EC12	<10 µg/kg	TM089		894	179	17700	162	25.4	188
Total Aliphatics >C5-C44	<100 µg/kg	TM173		27300	28500	343000	29800	86100	63800
Total Aromatics >C6-C44	<100 µg/kg	TM173		1380000	328000	1020000	334000	238000	5290000

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B2	B2	B2	C2	D2	D2
			Depth (m)	0.20 - 0.80	0.80 - 1.30	1.30 - 2.00	1.50 - 2.00	0.50 - 1.00	1.00 - 1.50
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	27/10/2011	27/10/2011	27/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-105	111028-105	111028-105	111028-105	111028-105	111028-105
			Lab Sample No.(s)	4599207	4599208	4599209	4599206	4599201	4599202
			AGS Reference						
Aliphatics >C16-C35	<100 µg/kg	TM173		18400	26600	214000	21000	67000	46200

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Customer Sample Ref.	D2
Depth (m)	2.00 - 2.50
Sample Type	Soil/Solid
Date Sampled	26/10/2011
Date Received	27/10/2011
SDG Ref	111028-105
Lab Sample No.(s)	4599204
AGS Reference	

Component	LOD/Units	Method	
GRO >C5-C12	<44 µg/kg	TM089	29300
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089	<5 #
Benzene	<10 µg/kg	TM089	100 #
Toluene	<2 µg/kg	TM089	60.9 #
Ethylbenzene	<3 µg/kg	TM089	152 #
m,p-Xylene	<6 µg/kg	TM089	802 #
o-Xylene	<3 µg/kg	TM089	498 #
sum of detected mpo xylene by GC	<9 µg/kg	TM089	1300
sum of detected BTEX by GC	<24 µg/kg	TM089	1610
Aliphatics >C5-C6	<10 µg/kg	TM089	135
Aliphatics >C6-C8	<10 µg/kg	TM089	2350
Aliphatics >C8-C10	<10 µg/kg	TM089	6160
Aliphatics >C10-C12	<10 µg/kg	TM089	8990
Aliphatics >C12-C16	<100 µg/kg	TM173	9700
Aliphatics >C16-C21	<100 µg/kg	TM173	32700
Aliphatics >C21-C35	<100 µg/kg	TM173	37800
Aliphatics >C35-C44	<100 µg/kg	TM173	21400
Total Aliphatics >C12-C44	<100 µg/kg	TM173	102000
Aromatics >EC5-EC7	<10 µg/kg	TM089	100
Aromatics >EC7-EC8	<10 µg/kg	TM089	60.9
Aromatics >EC8-EC10	<10 µg/kg	TM089	5560
Aromatics >EC10-EC12	<10 µg/kg	TM089	5990
Aromatics >EC12-EC16	<100 µg/kg	TM173	18400
Aromatics >EC16-EC21	<100 µg/kg	TM173	65800
Aromatics >EC21-EC35	<100 µg/kg	TM173	110000
Aromatics >EC35-EC44	<100 µg/kg	TM173	32800
Total Aromatics >EC12-EC44	<100 µg/kg	TM173	226000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173	357000
Total Aliphatics >C5-35	<100 µg/kg	TM173	97800
Total Aromatics >C5-35	<100 µg/kg	TM173	205000
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173	303000
Total Aliphatics >C5-C12	<10 µg/kg	TM089	17600
Total Aromatics >EC5-EC12	<10 µg/kg	TM089	11700
Total Aliphatics >C5-C44	<100 µg/kg	TM173	119000
Total Aromatics >C6-C44	<100 µg/kg	TM173	238000

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

TPH CWG (S)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	
				D2
			Depth (m)	2.00 - 2.50
			Sample Type	Soil/Solid
			Date Sampled	26/10/2011
			Date Received	27/10/2011
			SDG Ref	111028-105
			Lab Sample No.(s)	4599204
			AGS Reference	
Aliphatics >C16-C35	<100 µg/kg	TM173		70500

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B2	B2	D2	D2		
			Depth (m)	0.80 - 1.30	1.30 - 2.00	1.00 - 1.50	2.00 - 2.50		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/10/2011	27/10/2011	26/10/2011	26/10/2011		
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011		
			SDG Ref	111028-105	111028-105	111028-105	111028-105		
			Lab Sample No.(s)	4599208	4599209	4599202	4599204		
			AGS Reference						
Dibromofluoromethane**	%	TM116		34.8	75.3	41.5	58.5		
Toluene-d8**	%	TM116		99.5	92.1	95.5	101		
4-Bromofluorobenzene**	%	TM116		137	131	150	120		
Dichlorodifluoromethane	<4 µg/kg	TM116		<4 M	<4 M	<4 M	<4 #		
Chloromethane	<7 µg/kg	TM116		<7 #	<7 #	<7 #	<7 #		
Vinyl Chloride	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Bromomethane	<13 µg/kg	TM116		<13 M	<13 M	<13 M	<13 #		
Chloroethane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 #		
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 #		
1.1-Dichloroethene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Carbon Disulphide	<7 µg/kg	TM116		<7 M	73.8 M	<7 M	95.4 #		
Dichloromethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
Methyl Tertiary Butyl Ether	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 #		
trans-1-2-Dichloroethene	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 #		
1.1-Dichloroethane	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 #		
cis-1-2-Dichloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 #		
2.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 #		
Bromochloromethane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 #		
Chloroform	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 #		
1.1.1-Trichloroethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 #		
1.1-Dichloropropene	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 #		
Carbontetrachloride	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 #		
1.2-Dichloroethane	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 #		
Benzene	<9 µg/kg	TM116		<9 M	55.1 M	51 M	253 #		
Trichloroethene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 #		
1.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 #		
Dibromomethane	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 #		
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 #		
cis-1-3-Dichloropropene	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 #		
Toluene	<5 µg/kg	TM116		12.8 M	36.4 M	12.8 M	73.6 #		
trans-1-3-Dichloropropene	<14 µg/kg	TM116		<14	<14	<14	<14		
1.1.2-Trichloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 #		
1.3-Dichloropropane	<7 µg/kg	TM116		<7 #	<7 #	<7 #	<7 #		
Tetrachloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 #		
Dibromochloromethane	<13 µg/kg	TM116		<13 M	<13 M	<13 M	<13 #		

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	B2	B2	D2	D2		
			Depth (m)	0.80 - 1.30	1.30 - 2.00	1.00 - 1.50	2.00 - 2.50		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	27/10/2011	27/10/2011	26/10/2011	26/10/2011		
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011		
			SDG Ref	111028-105	111028-105	111028-105	111028-105		
			Lab Sample No.(s)	4599208	4599209	4599202	4599204		
			AGS Reference						
1.2-Dibromoethane	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 #		
Chlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 #		
1.1.1.2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 #		
Ethylbenzene	<4 µg/kg	TM116		7.71 M	470 M	5.83 M	208 #		
p/m-Xylene	<14 µg/kg	TM116		20.1 #	2830 #	<14 #	732 #		
o-Xylene	<10 µg/kg	TM116		<10 M	110 M	<10 M	334 #		
Styrene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 #		
Bromoform	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 #		
Isopropylbenzene	<5 µg/kg	TM116		<5 M	463 M	<5 M	74.7 #		
1.1.2.2-Tetrachloroethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #		
1.2.3-Trichloropropane	<17 µg/kg	TM116		<17 M	<17 M	<17 M	<17 #		
Bromobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 #		
Propylbenzene	<11 µg/kg	TM116		<11 M	671 M	<11 M	124 #		
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 #		
1.3.5-Trimethylbenzene	<8 µg/kg	TM116		<8 #	2780 #	<8 #	440 #		
4-Chlorotoluene	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 #		
tert-Butylbenzene	<12 µg/kg	TM116		<12 #	<12 #	<12 #	<12 #		
1.2.4-Trimethylbenzene	<9 µg/kg	TM116		<9 #	6320 #	<9 #	1720 #		
sec-Butylbenzene	<10 µg/kg	TM116		<10 M	326 M	<10 M	57.5 #		
4-Isopropyltoluene	<11 µg/kg	TM116		<11 M	972 M	<11 M	171 #		
1.3-Dichlorobenzene	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 #		
1.4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 #		
n-Butylbenzene	<10 µg/kg	TM116		<10 M	1100 M	<10 M	181 #		
1.2-Dichlorobenzene	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 #		
1.2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 #		
Tert-amyl methyl ether	<15 µg/kg	TM116		<15	<15	<15	<15		
1.2.4-Trichlorobenzene	<6 µg/kg	TM116		<6 #	<6 #	<6 #	<6 #		
Hexachlorobutadiene	<12 µg/kg	TM116		<12	<12	<12	<12		
Naphthalene	<13 µg/kg	TM116		<13 M	32100 M	2450 M	30400 #		
1.2.3-Trichlorobenzene	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 #		

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Asbestos Identification - Bulk

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	B2 NS Z 0.20 - 0.80 SOLID 27/10/2011 00:00:00 111028-105 4,599,207 TM048	03/11/2011	Kevin Bowron	No Asbestos Detected	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	D2 NS Z 0.50 - 1.00 SOLID 26/10/2011 00:00:00 111028-105 4,599,201 TM048	03/11/2011	Kevin Bowron	No Asbestos Detected	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4632701	D2	0.50 - 1.00	SOLID	pH	pH	Sample holding time exceeded
4632718	D2	1.00 - 1.50	SOLID	pH	pH	Sample holding time exceeded
4632732	D2	2.00 - 2.50	SOLID	pH	pH	Sample holding time exceeded
4632772	C2	1.50 - 2.00	SOLID	pH	pH	Sample holding time exceeded
4632799	B2	0.20 - 0.80	SOLID	pH	pH	Sample holding time exceeded
4633679	B2	0.80 - 1.30	SOLID	pH	pH	Sample holding time exceeded
4633835	B2	1.30 - 2.00	SOLID	pH	pH	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	**No Determination Possible**	**#**	**ISO 17025 Accredited**	*****	**Subcontracted Test**	**M**	**MCERTS Accredited**
NFD	**No Fibres Detected**	**PFD**	**Possible Fibres Detected**	**»**	**Result previously reported (Incremental reports only)**	**EC**	**Equivalent Carbon (Aromatics C8-C35)**

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM001	In - house Method	Determination of asbestos containing material by screening on solids		
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Test Completion Dates

Lab Sample No(s)	4599207	4599208	4599209	4599206	4599201	4599202	4599204
Customer Sample Ref.	B2	B2	B2	C2	D2	D2	D2
AGS Ref.							
Depth	0.20 - 0.80	0.80 - 1.30	1.30 - 2.00	1.50 - 2.00	0.50 - 1.00	1.00 - 1.50	2.00 - 2.50
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Ammonium Soil by Titration	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011
Asbestos Containing Material Screen		04-Nov-2011	04-Nov-2011				
Asbestos Identification (Soil)	03-Nov-2011				03-Nov-2011		
Cyanide Comp/Free/Total/Thiocyanate	04-Nov-2011	06-Nov-2011	06-Nov-2011	04-Nov-2011	04-Nov-2011	04-Nov-2011	04-Nov-2011
Easily Liberated Sulphide	08-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011
EPH CWG (Aliphatic) GC (S)	07-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011
EPH CWG (Aromatic) GC (S)	07-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011
GRO by GC-FID (S)	08-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011
Hexavalent Chromium (s)	05-Nov-2011	07-Nov-2011	07-Nov-2011	05-Nov-2011	05-Nov-2011	05-Nov-2011	05-Nov-2011
Metals by iCap-OES (Soil)	04-Nov-2011	10-Nov-2011	10-Nov-2011	08-Nov-2011	04-Nov-2011	08-Nov-2011	08-Nov-2011
PAH by GCMS	07-Nov-2011	06-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011
PCBs by GCMS		07-Nov-2011				07-Nov-2011	
pH	04-Nov-2011	07-Nov-2011	07-Nov-2011	04-Nov-2011	07-Nov-2011	04-Nov-2011	04-Nov-2011
Phenols by HPLC (S)	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011
Sample description	03-Nov-2011	03-Nov-2011	03-Nov-2011	03-Nov-2011	03-Nov-2011	03-Nov-2011	03-Nov-2011
Total Sulphate	04-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	04-Nov-2011	07-Nov-2011	07-Nov-2011
TPH CWG GC (S)	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011
VOC MS (S)		10-Nov-2011	11-Nov-2011			08-Nov-2011	10-Nov-2011

CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

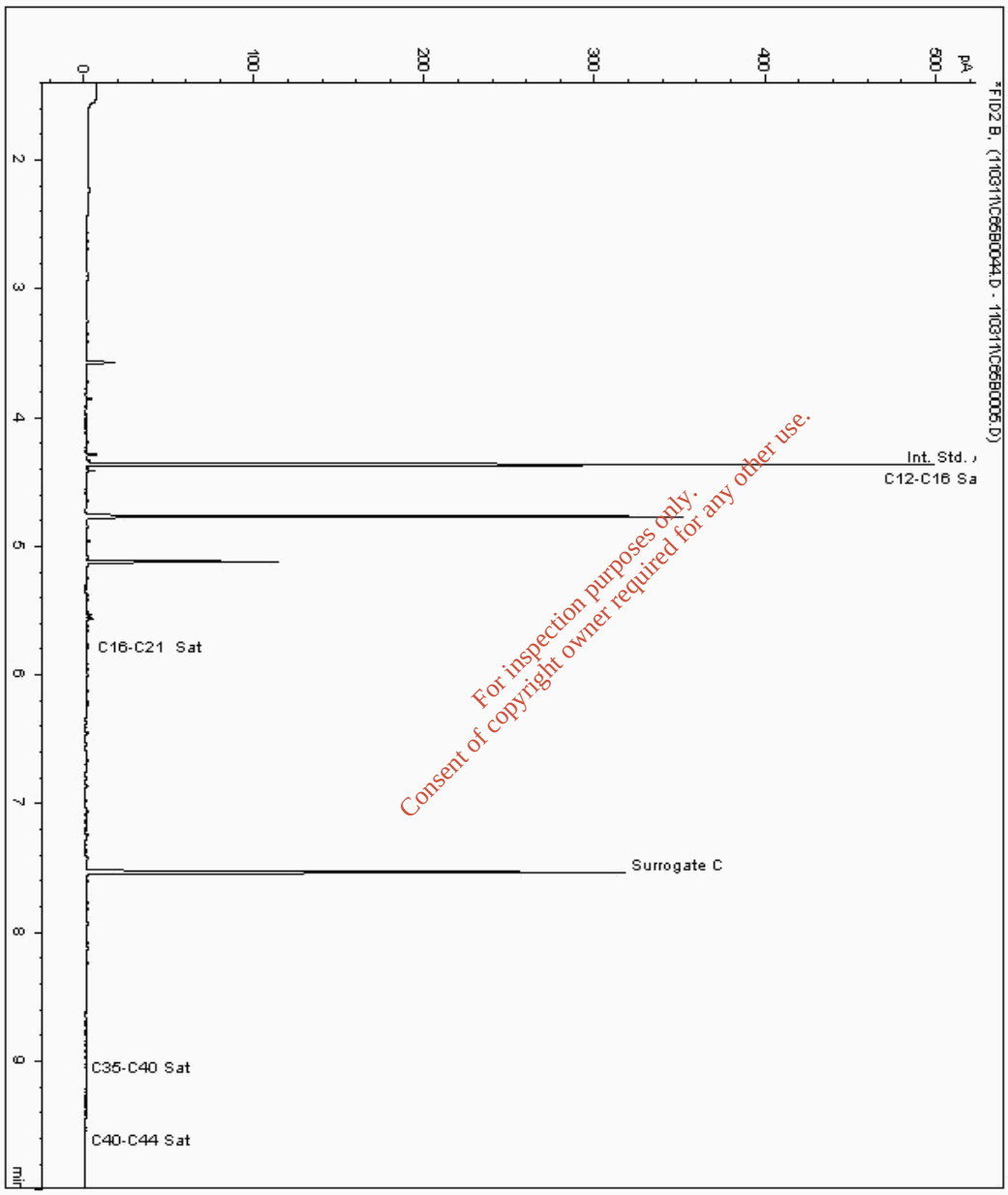
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4630547
Sample ID : B2

Depth : 0.20 - 0.80

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 4567400-4630547
Date Acquired : 05/11/11 19:42:55 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.000



CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

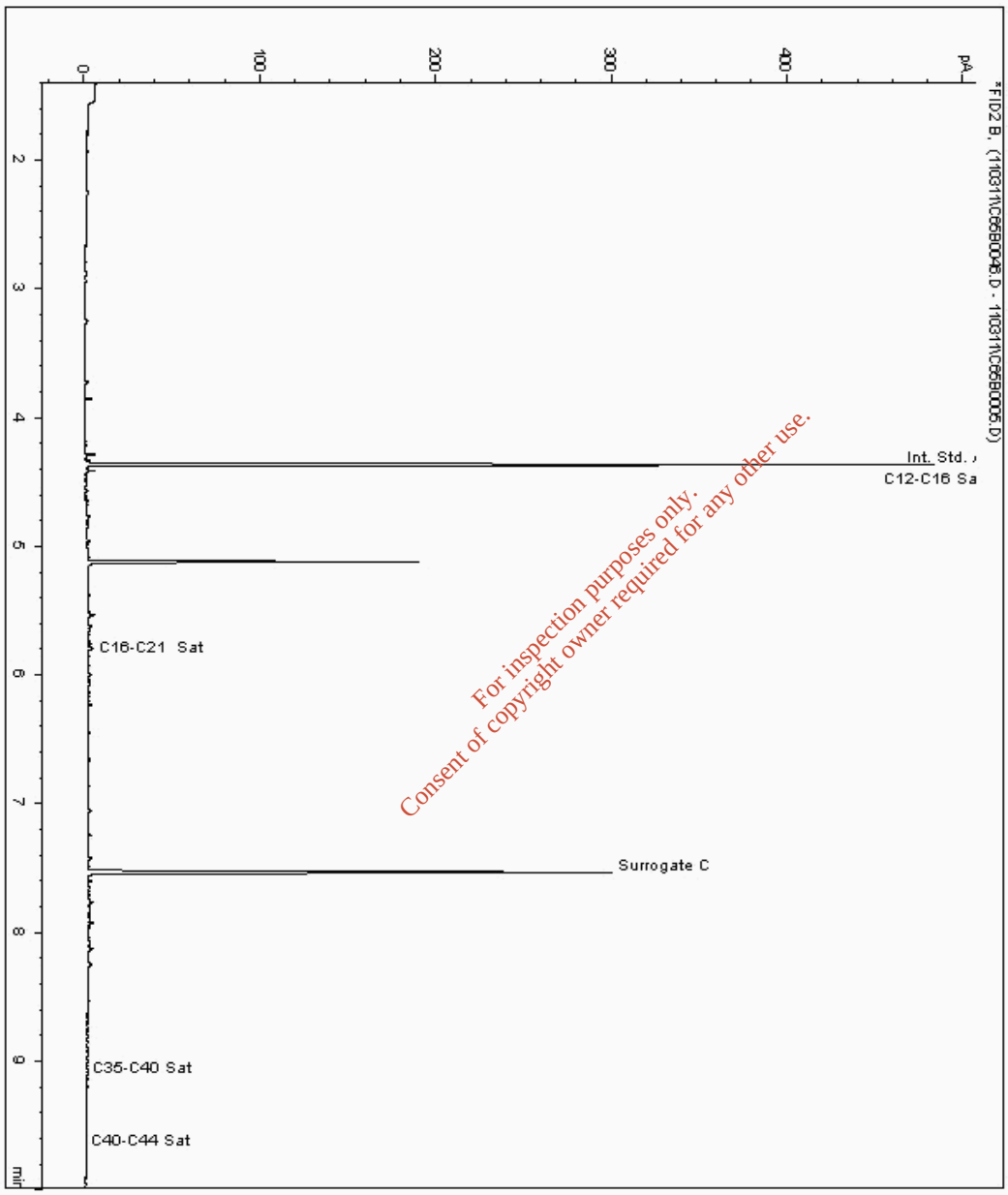
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4630576
Sample ID : D2

Depth : 0.50 - 1.00

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 4567317-4630576
Date Acquired : 05/11/11 20:15:39 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.000



CERTIFICATE OF ANALYSIS

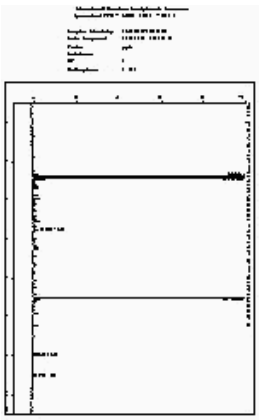
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4642438
Sample ID : C2

Depth : 1.50 - 2.00



CERTIFICATE OF ANALYSIS

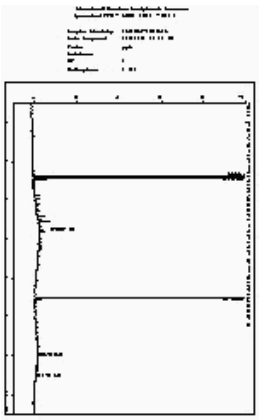
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4642519
Sample ID : D2

Depth : 2.00 - 2.50



CERTIFICATE OF ANALYSIS

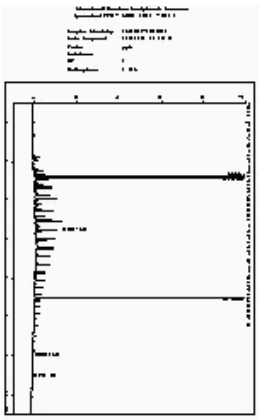
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4642608
Sample ID : D2

Depth : 1.00 - 1.50



CERTIFICATE OF ANALYSIS

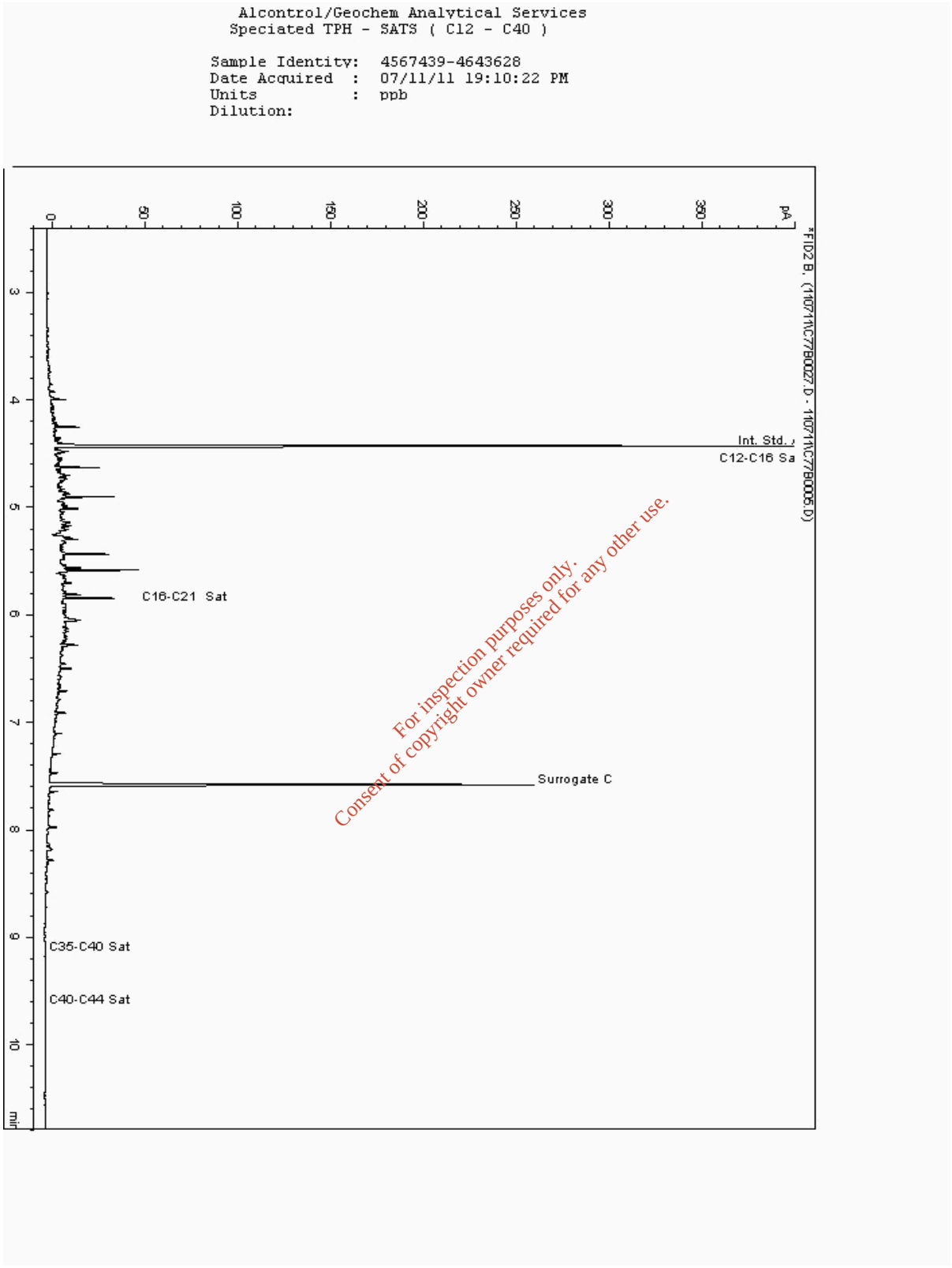
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4643628
Sample ID : B2

Depth : 1.30 - 2.00



CERTIFICATE OF ANALYSIS

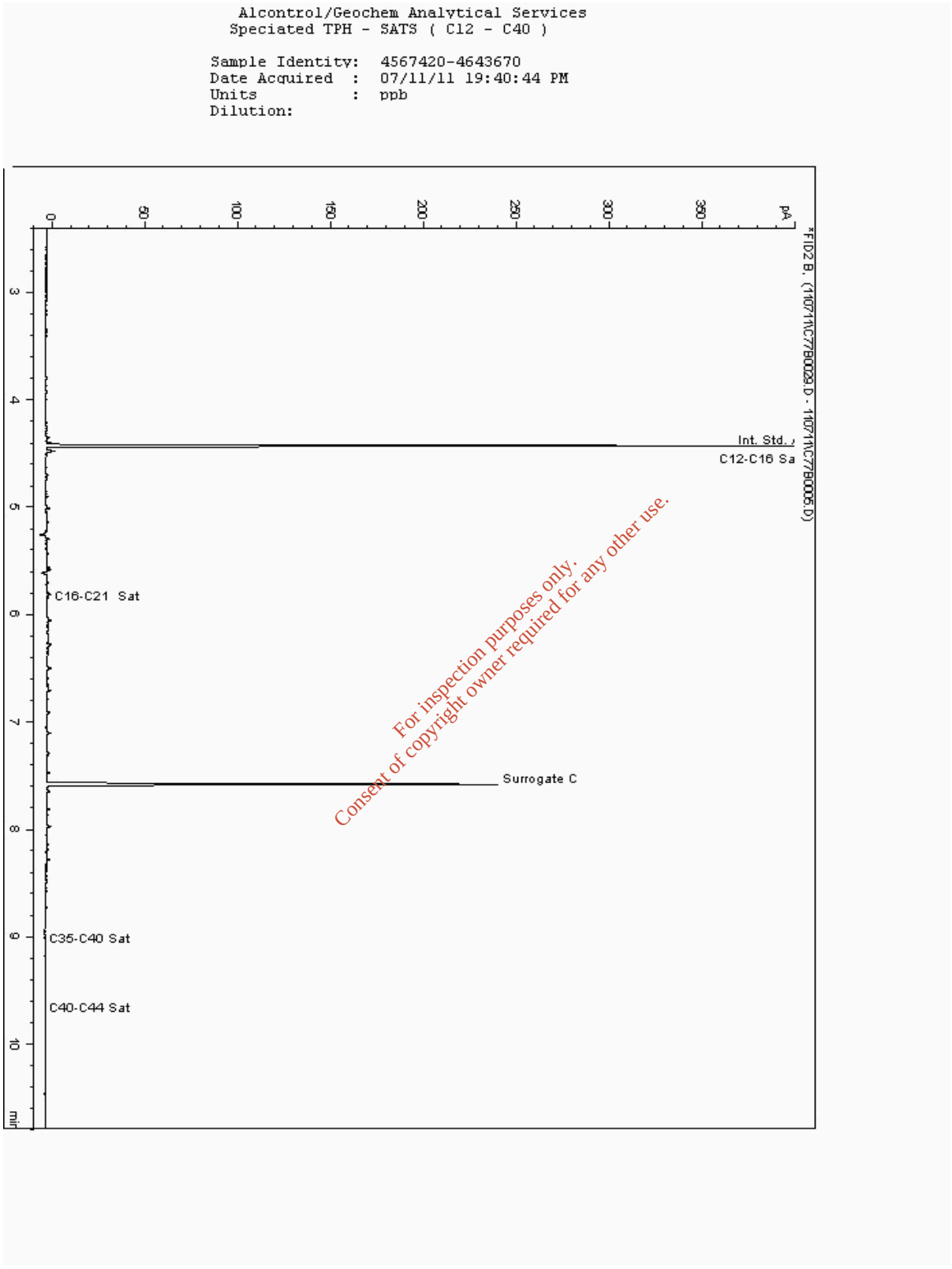
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4643670
Sample ID : B2

Depth : 0.80 - 1.30



CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

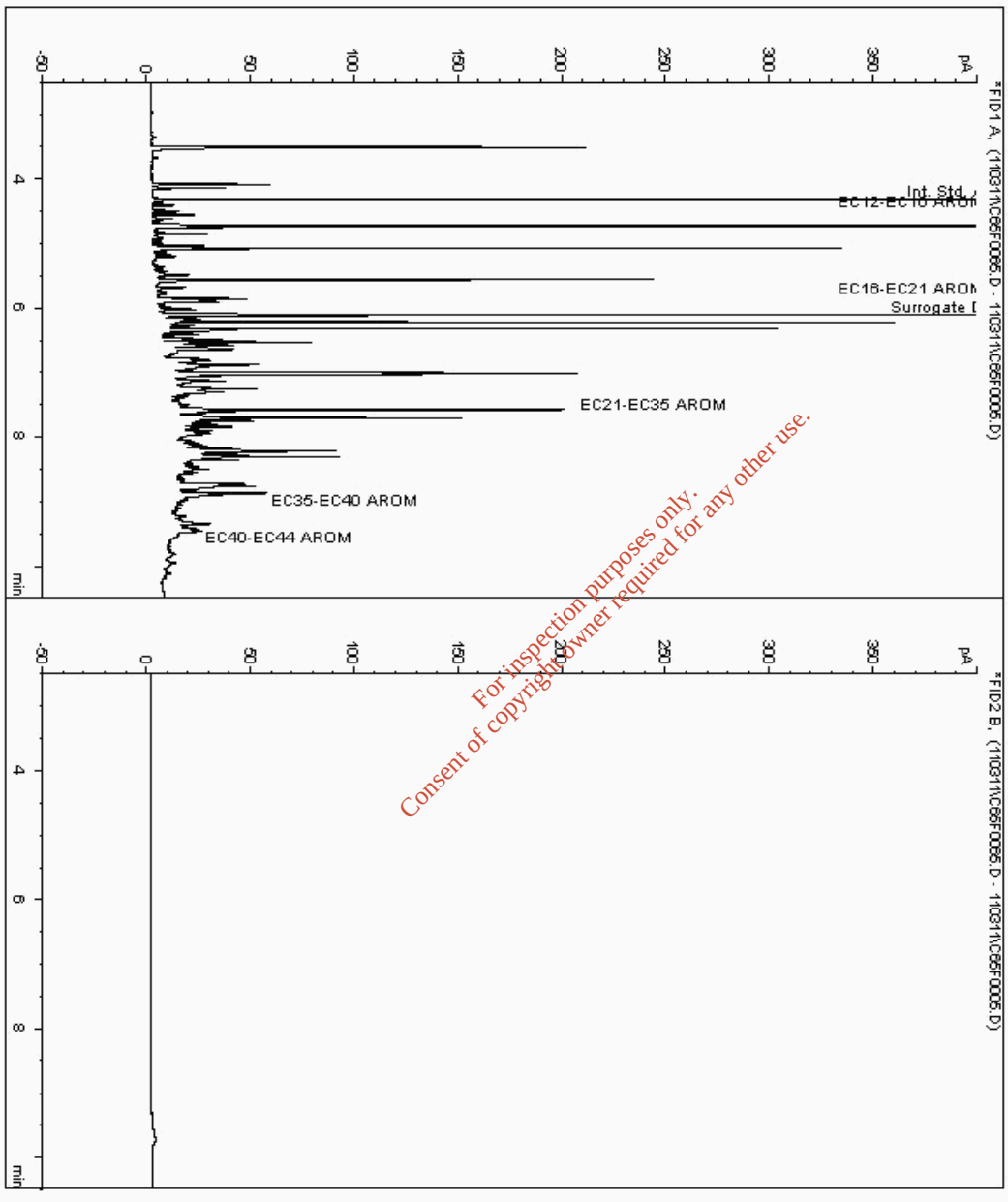
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4630547
Sample ID : B2

Depth : 0.20 - 0.80

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4567399-4630547
Date Acquired : 07/11/11 11:59:22 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.967



CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

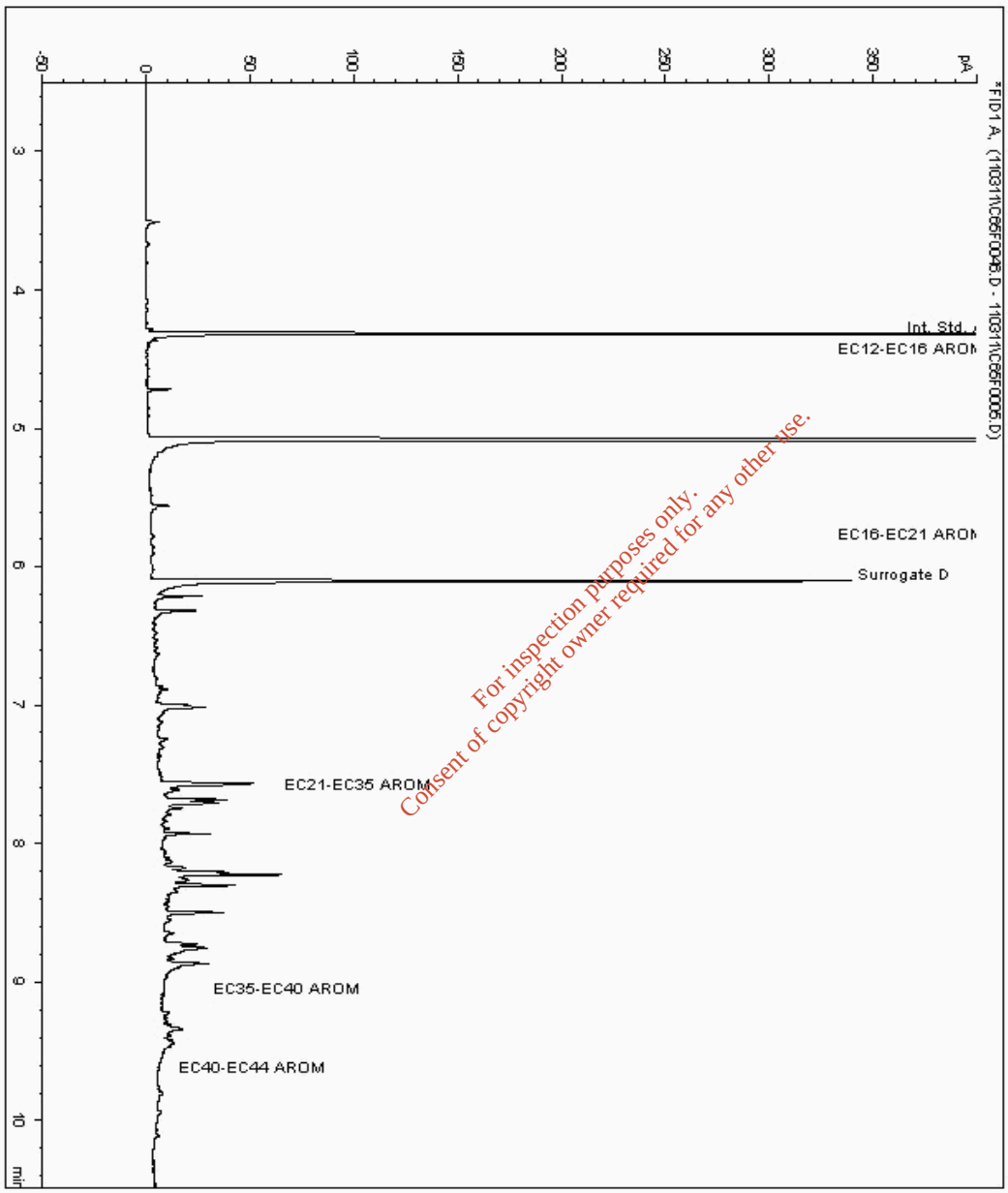
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4630576
Sample ID : D2

Depth : 0.50 - 1.00

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4567316-4630576
Date Acquired : 05/11/11 20:15:39 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.000



CERTIFICATE OF ANALYSIS

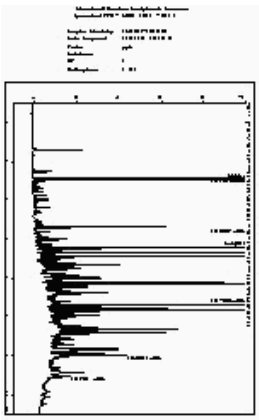
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4642438
Sample ID : C2

Depth : 1.50 - 2.00



CERTIFICATE OF ANALYSIS

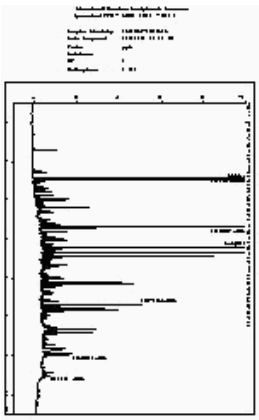
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4642519
Sample ID : D2

Depth : 2.00 - 2.50



CERTIFICATE OF ANALYSIS

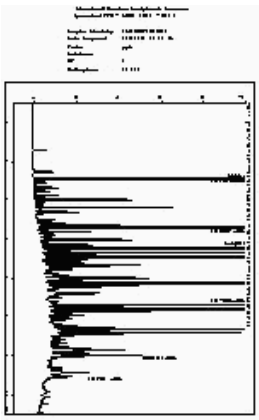
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4642608
Sample ID : D2

Depth : 1.00 - 1.50



CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

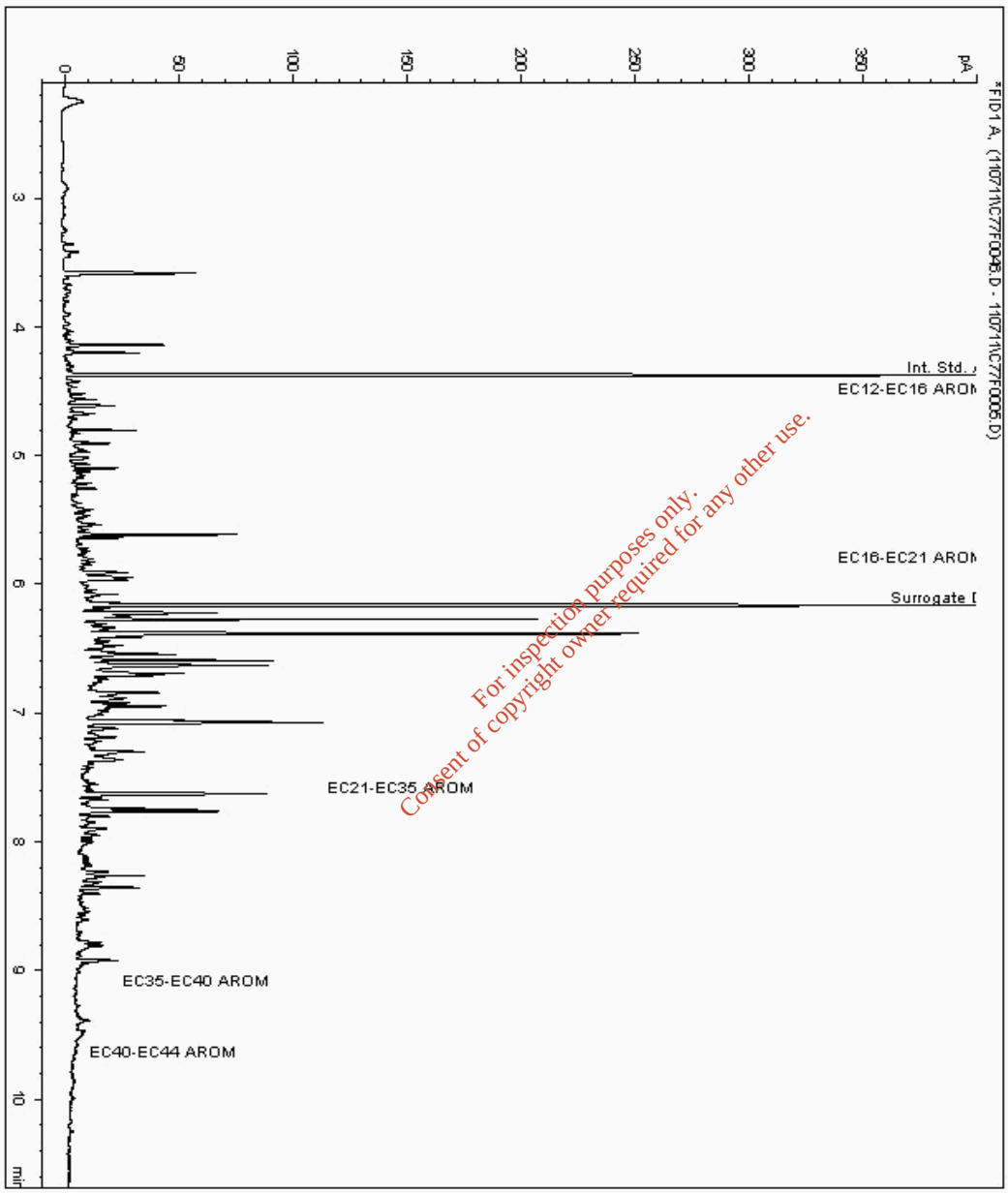
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4643628
Sample ID : B2

Depth : 1.30 - 2.00

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4567438-4643628
Date Acquired : 08/11/11 09:06:19 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

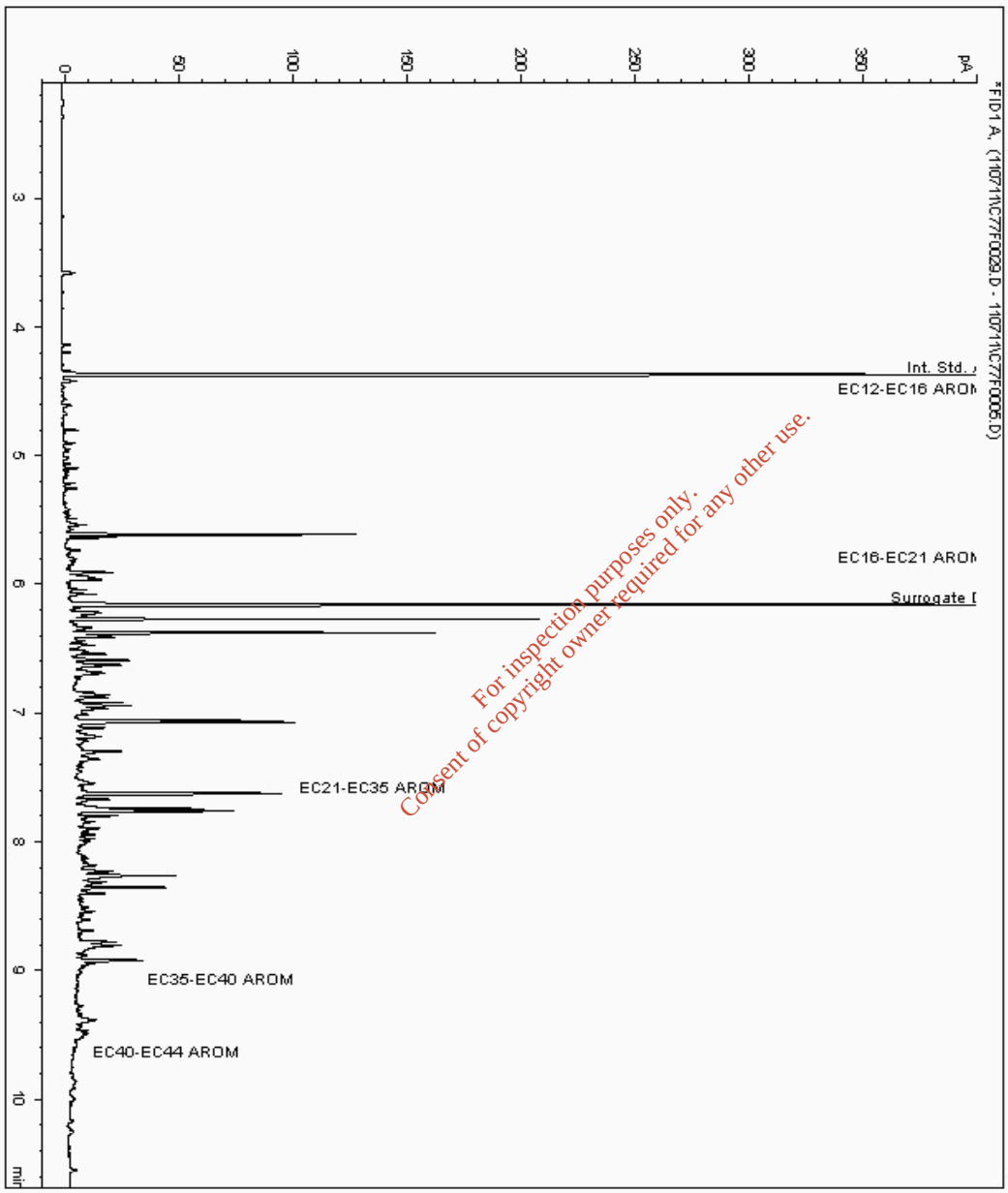
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4643670
Sample ID : B2

Depth : 0.80 - 1.30

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4567419-4643670
Date Acquired : 07/11/11 19:40:44 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

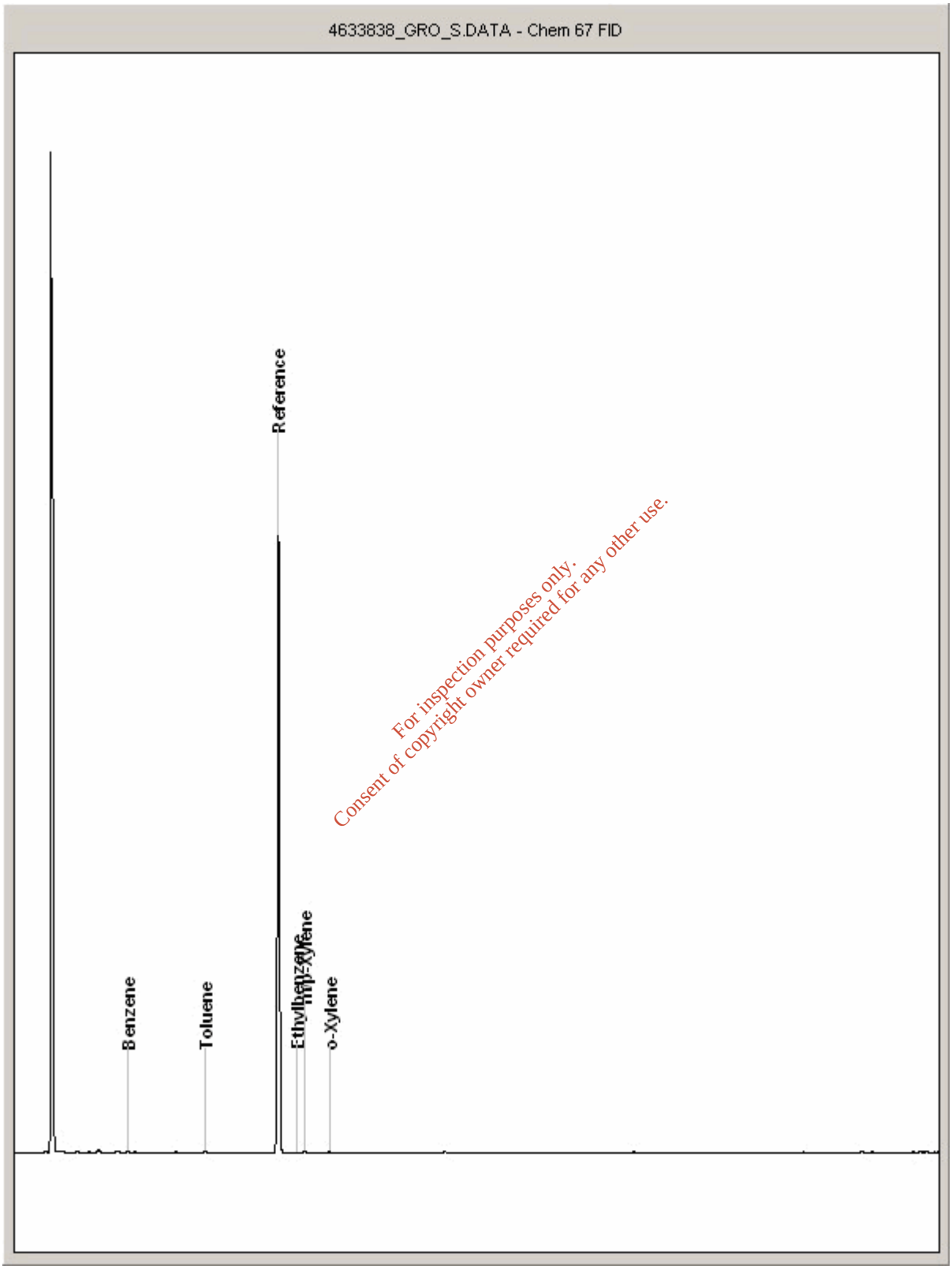
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4633838
Sample ID : D2

Depth : 0.50 - 1.00



CERTIFICATE OF ANALYSIS

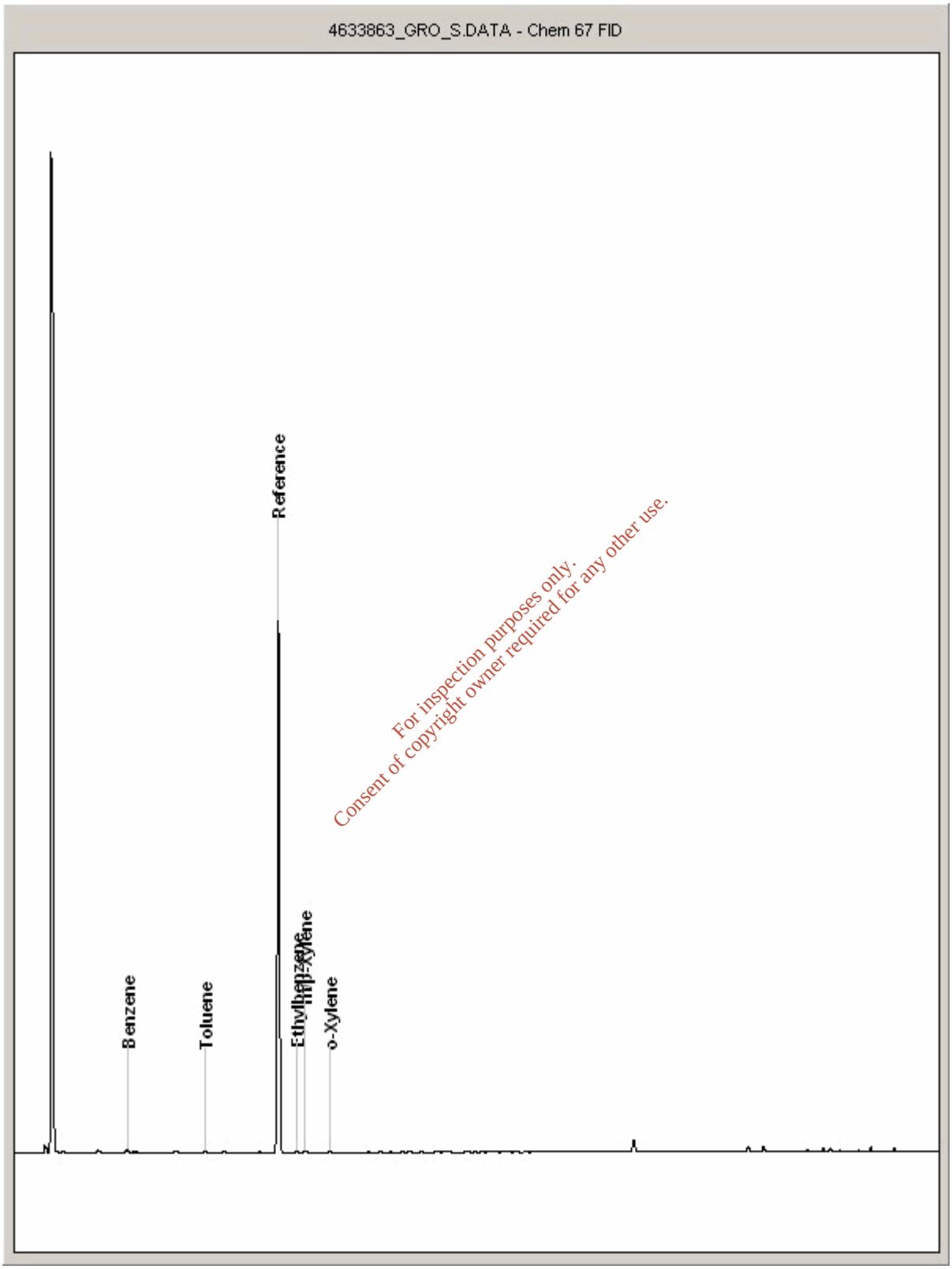
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4633863
Sample ID : D2

Depth : 1.00 - 1.50



CERTIFICATE OF ANALYSIS

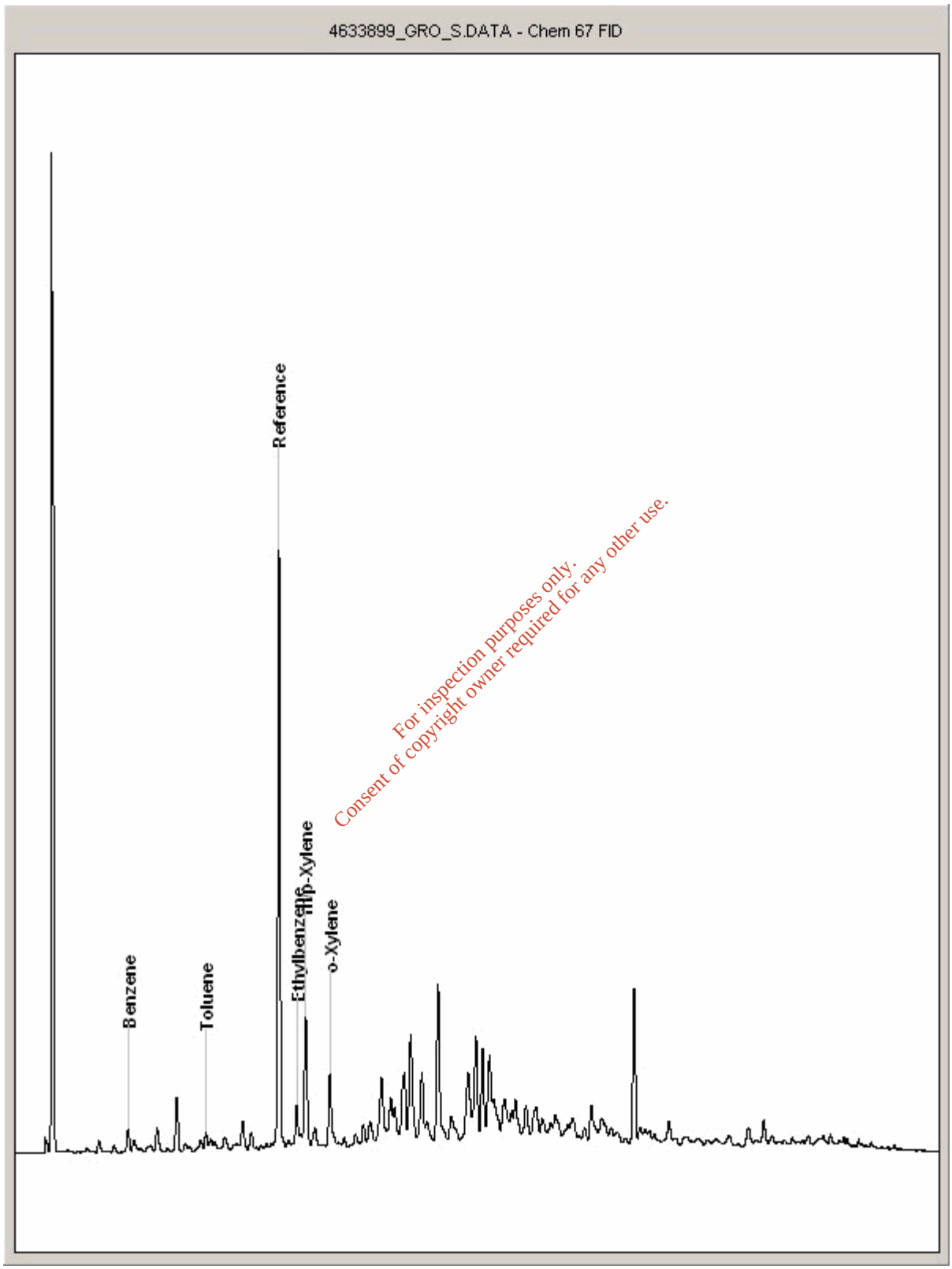
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4633899
Sample ID : D2

Depth : 2.00 - 2.50



CERTIFICATE OF ANALYSIS

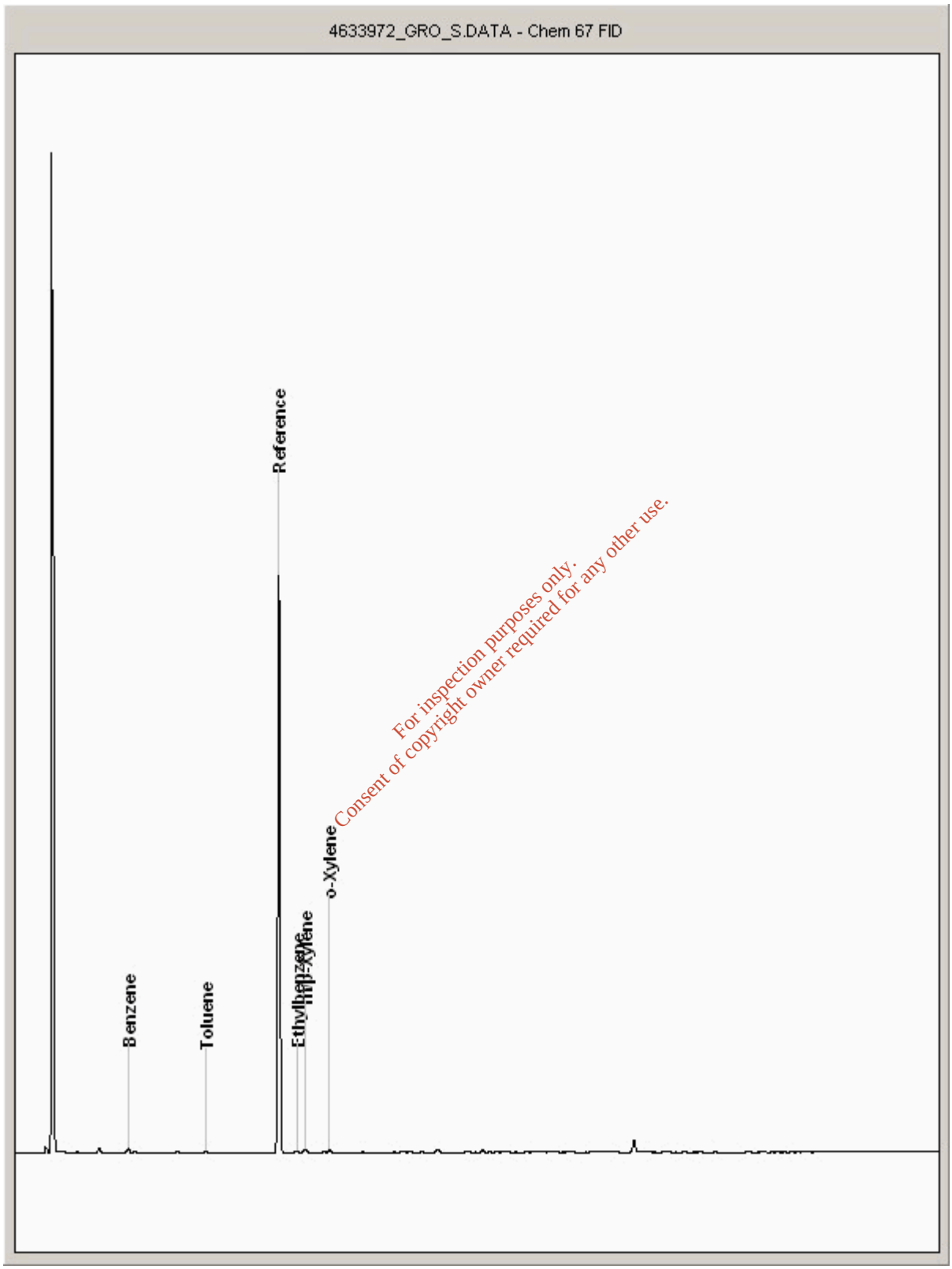
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4633972
Sample ID : C2

Depth : 1.50 - 2.00



CERTIFICATE OF ANALYSIS

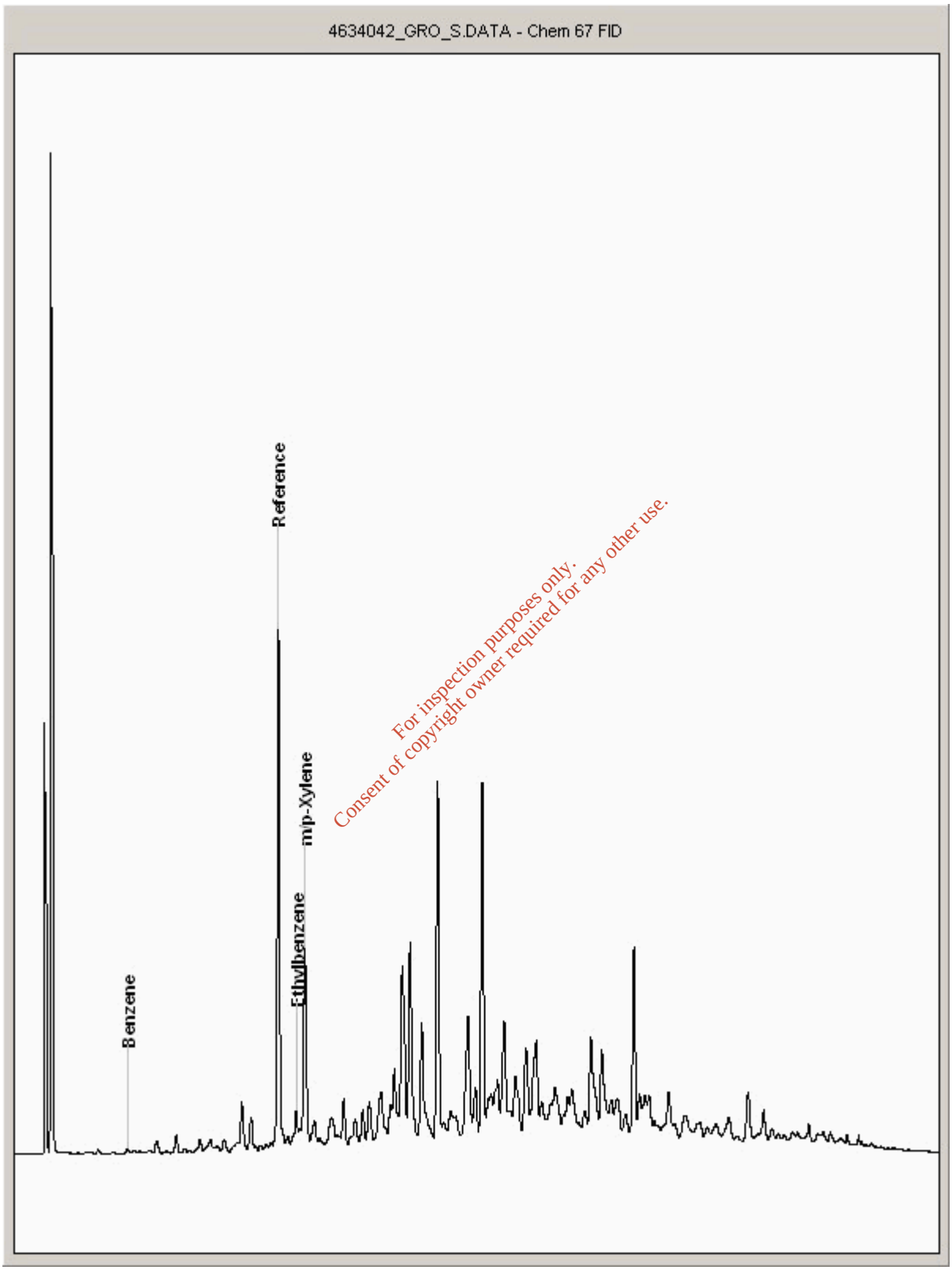
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4634042
Sample ID : B2

Depth : 1.30 - 2.00



CERTIFICATE OF ANALYSIS

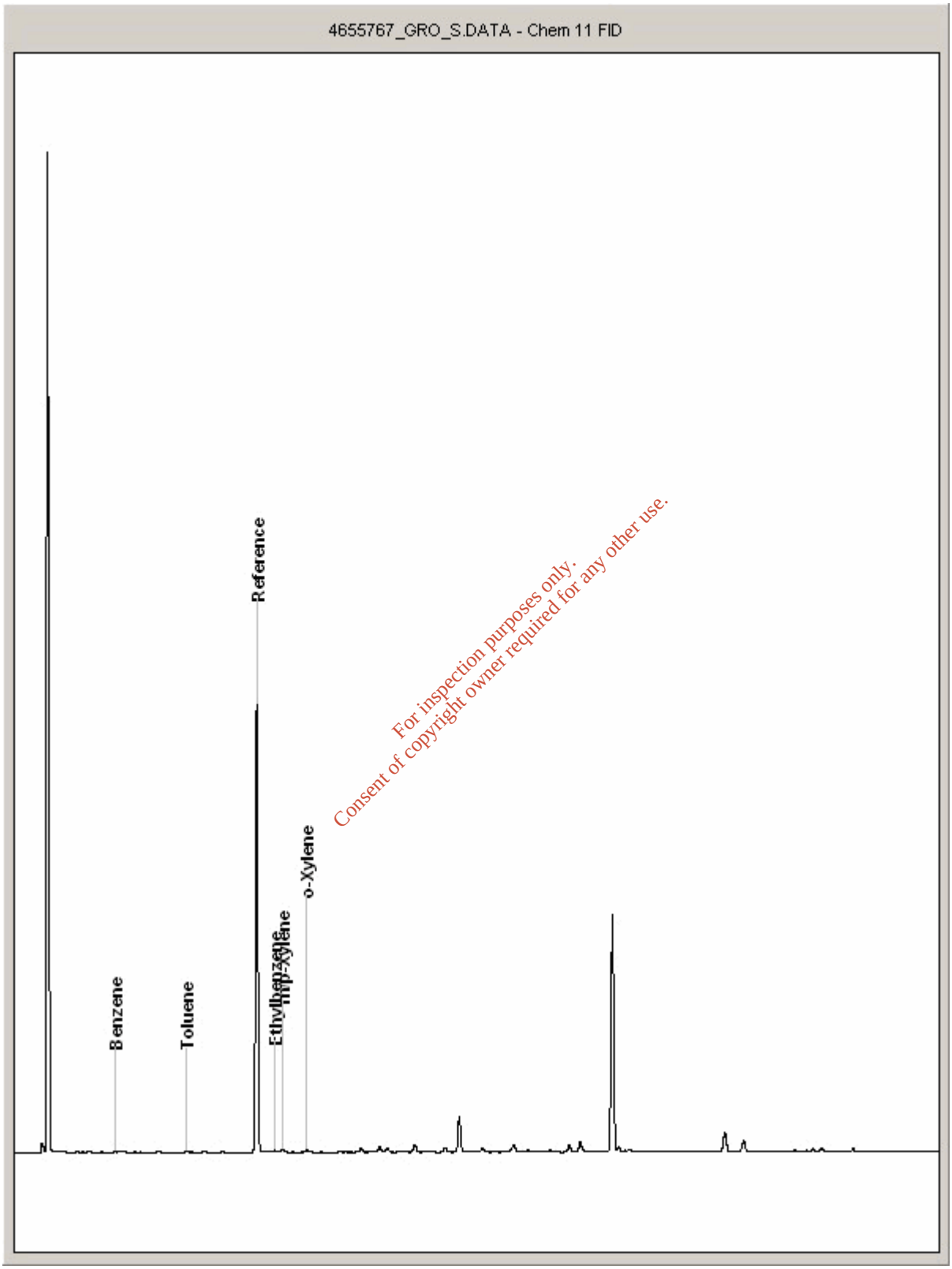
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4655775
Sample ID : B2

Depth : 0.20 - 0.80



CERTIFICATE OF ANALYSIS

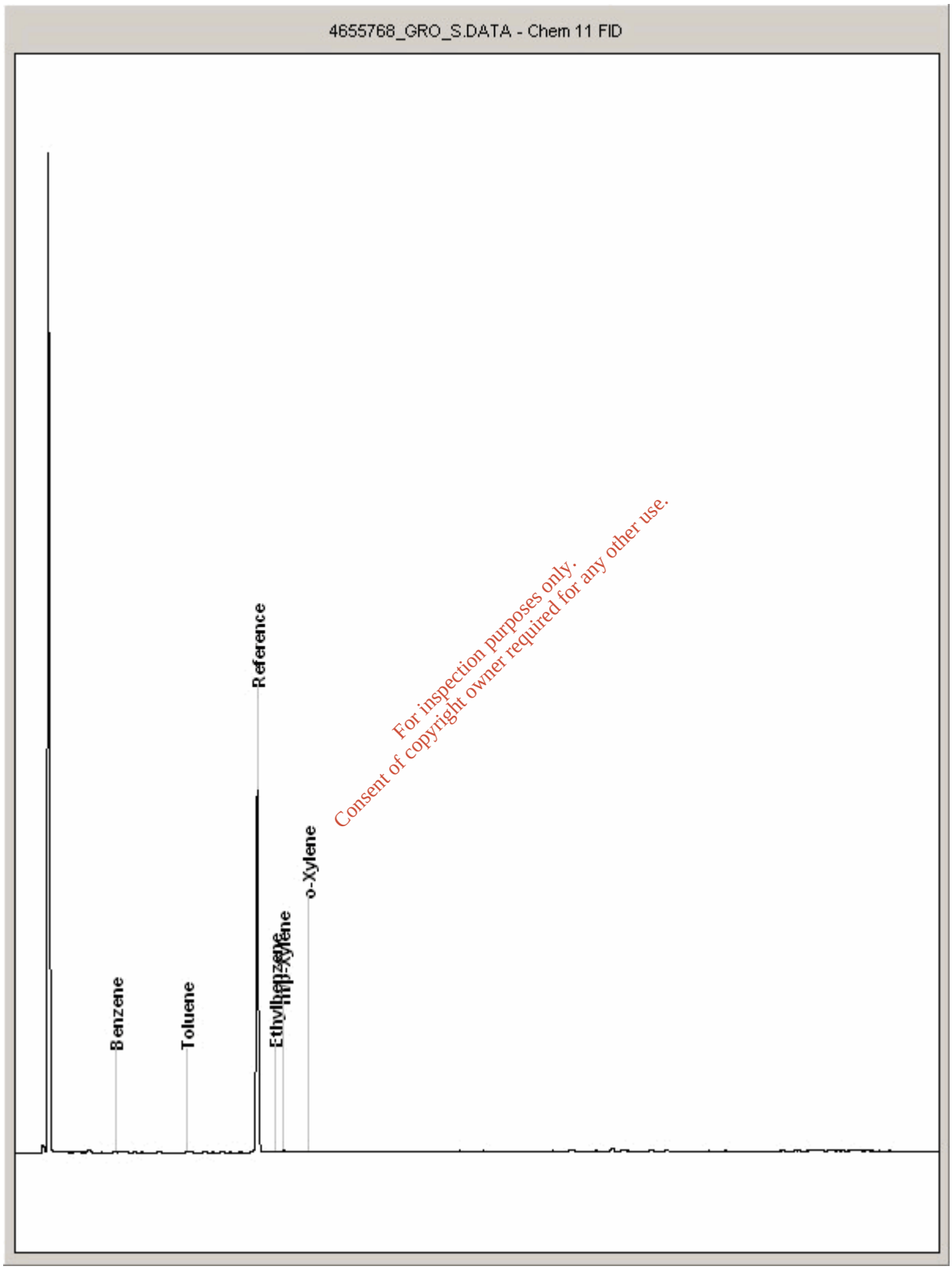
SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4655785
Sample ID : B2

Depth : 0.80 - 1.30



SDG:	111028-105	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164065
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159074

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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. ALcontrol Laboratories 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 screened 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. Is an asbestos fibre type is found it will be reported as detected (for each fibre type found). If asbestos is present either as asbestos containing material or loose fibres no further analysis will be undertaken. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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 for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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 all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

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 themajor 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 C4 -C10 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.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE: ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE: ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE: ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE: ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE: ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6 -C40) EZ FLASH	WET	HEXANE: ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE: ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (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 Alcontrol Laboratories (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.

ALcontrol Laboratories

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Rosemount Business Park
Ballycoolin
Dublin 11
Tel : (0035) 3188 29893

Mouchel
Ground Engineering
Rowan House
Lloyd Drive
Cheshire
CH65 9HQ

Attention: Neil Balderstone

CERTIFICATE OF ANALYSIS

Date:	16 December 2011
Customer:	D_MOUCHEL_ELE
Sample Delivery Group (SDG):	111028-110
Your Reference:	
Location:	Limerick Gasworks
Report No:	164063

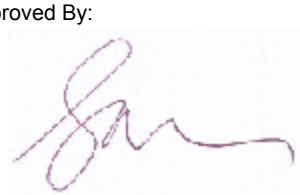
This report has been revised and directly supersedes 159093 in its entirety.

We received 13 samples on Thursday October 27, 2011 and 9 of these samples were scheduled for analysis which was completed on Friday December 16, 2011. 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.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
4599760	A1		0.30 - 1.00	26/10/2011
4599761	A1		1.00 - 2.00	26/10/2011
4599755	A2		0.00 - 1.00	26/10/2011
4599756	A2		1.00 - 2.00	26/10/2011
4599757	A2		2.00 - 2.50	26/10/2011
4599758	A2		3.80 - 4.00	26/10/2011
4599759	A2		5.44 - 5.47	26/10/2011
4599762	B1		0.20 - 1.00	26/10/2011
4599763	B1		2.10 - 2.30	26/10/2011
4599764	B1		3.90 - 3.95	26/10/2011
4599765	C1		0.20 - 1.00	26/10/2011
4599766	C1		2.80 - 3.00	26/10/2011
4599767	C1		3.00 - 3.50	26/10/2011

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

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
Ammonium Soil by Titration	All	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	TUB (D)
			4599761	A1		1.00 - 2.00	TUB (D)
			4599762	B1		0.20 - 1.00	TUB (D)
			4599763	B1		2.10 - 2.30	TUB (D)
			4599765	C1		0.20 - 1.00	TUB (D)
			4599766	C1		2.80 - 3.00	TUB (D)
			4599767	C1		3.00 - 3.50	TUB (D)
			4599755	A2		0.00 - 1.00	TUB (D)
			4599756	A2		1.00 - 2.00	TUB (D)
Asbestos Identification (Soil)	All	NDPs: 0 Tests: 4	4599760	A1		0.30 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	TUB (D)
			4599761	A1		1.00 - 2.00	TUB (D)
			4599762	B1		0.20 - 1.00	TUB (D)
			4599763	B1		2.10 - 2.30	TUB (D)
			4599765	C1		0.20 - 1.00	TUB (D)
			4599766	C1		2.80 - 3.00	TUB (D)
			4599767	C1		3.00 - 3.50	TUB (D)
			4599755	A2		0.00 - 1.00	TUB (D)
			4599756	A2		1.00 - 2.00	TUB (D)
Easily Liberated Sulphide	All	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	TUB (D)
			4599761	A1		1.00 - 2.00	TUB (D)
			4599762	B1		0.20 - 1.00	TUB (D)
			4599763	B1		2.10 - 2.30	TUB (D)
			4599765	C1		0.20 - 1.00	TUB (D)
			4599766	C1		2.80 - 3.00	TUB (D)
			4599767	C1		3.00 - 3.50	TUB (D)
			4599755	A2		0.00 - 1.00	TUB (D)
			4599756	A2		1.00 - 2.00	TUB (D)
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	60g VOC (ALE215)
			4599761	A1		1.00 - 2.00	60g VOC (ALE215)
			4599762	B1		0.20 - 1.00	60g VOC (ALE215)
			4599763	B1		2.10 - 2.30	60g VOC (ALE215)
			4599765	C1		0.20 - 1.00	60g VOC (ALE215)
			4599766	C1		2.80 - 3.00	60g VOC (ALE215)
			4599767	C1		3.00 - 3.50	60g VOC (ALE215)
			4599755	A2		0.00 - 1.00	60g VOC (ALE215)
			4599756	A2		1.00 - 2.00	60g VOC (ALE215)
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)
GRO by GC-FID (S)	All	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	60g VOC (ALE215)
			4599761	A1		1.00 - 2.00	60g VOC (ALE215)
			4599762	B1		0.20 - 1.00	60g VOC (ALE215)
			4599763	B1		2.10 - 2.30	60g VOC (ALE215)
			4599765	C1		0.20 - 1.00	60g VOC (ALE215)
			4599766	C1		2.80 - 3.00	60g VOC (ALE215)
			4599767	C1		3.00 - 3.50	60g VOC (ALE215)
			4599755	A2		0.00 - 1.00	60g VOC (ALE215)
			4599756	A2		1.00 - 2.00	60g VOC (ALE215)
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	TUB (D)
			4599761	A1		1.00 - 2.00	TUB (D)
			4599762	B1		0.20 - 1.00	TUB (D)
			4599763	B1		2.10 - 2.30	TUB (D)
			4599765	C1		0.20 - 1.00	TUB (D)
			4599766	C1		2.80 - 3.00	TUB (D)
			4599767	C1		3.00 - 3.50	TUB (D)
			4599755	A2		0.00 - 1.00	TUB (D)
			4599756	A2		1.00 - 2.00	TUB (D)
Metals by iCap-OES (Soil)	Arsenic	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)
	Cadmium	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)
	Chromium	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)
	Copper	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)
	Lead	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)
	Mercury	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)
	Nickel	NDPs: 0 Tests: 9	4599760	A1		0.30 - 1.00	JAR (D)
			4599761	A1		1.00 - 2.00	JAR (D)
			4599762	B1		0.20 - 1.00	JAR (D)
			4599763	B1		2.10 - 2.30	JAR (D)
			4599765	C1		0.20 - 1.00	JAR (D)
			4599766	C1		2.80 - 3.00	JAR (D)
			4599767	C1		3.00 - 3.50	JAR (D)
			4599755	A2		0.00 - 1.00	JAR (D)
			4599756	A2		1.00 - 2.00	JAR (D)

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

SOLID

Results Legend

- X — Test
- N — No Determination Possible

	Lab Sample No(s)		4599760			4599761			4599762			4599763			4599765			4599766			4599767			4599755			4599756		
	Customer Sample Reference		A1			A1			B1			B1			C1			C1			C1			A2			A2		
	AGS Reference																													
	Depth (m)		0.30 - 1.00			1.00 - 2.00			0.20 - 1.00			2.10 - 2.30			0.20 - 1.00			2.80 - 3.00			3.00 - 3.50			0.00 - 1.00			1.00 - 2.00		
	Container		60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)	60g VOC (ALE215)	JAR (D)	TUB (D)
Metals by iCap-OES (Soil)	Selenium	NDPs: 0 Tests: 9		X			X			X			X			X			X			X			X			X	
	Zinc	NDPs: 0 Tests: 9		X			X			X			X			X			X			X			X			X	
PAH by GCMS	All	NDPs: 0 Tests: 9		X			X			X			X			X			X			X			X			X	
PCBs by GCMS	All	NDPs: 0 Tests: 4		X									X									X						X	
pH	All	NDPs: 0 Tests: 9			X			X			X			X			X			X			X			X			X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 9			X			X			X			X			X			X			X			X			X
Sample description	All	NDPs: 0 Tests: 9		X			X			X			X			X			X			X			X			X	
Total Sulphate	All	NDPs: 0 Tests: 9		X			X			X			X			X			X			X			X			X	
TPH CWG GC (S)	All	NDPs: 0 Tests: 9		X			X			X			X			X			X			X			X			X	
VOC MS (S)	All	NDPs: 0 Tests: 3				X															X						X		

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Grain size	Inclusions	Inclusions 2
4599760	A1	0.30 - 1.00	Light Brown	Sand	0.1 - 2 mm	Crushed Brick	Concrete/Aggregate
4599761	A1	1.00 - 2.00	Light Brown	Silty Sand	0.1 - 2 mm	Stones	None
4599755	A2	0.00 - 1.00	Light Brown	Loamy Sand	0.1 - 2 mm	Stones	None
4599756	A2	1.00 - 2.00	Light Brown	Silty Sand	0.1 - 2 mm	Stones	None
4599762	B1	0.20 - 1.00	Light Brown	Silty Clay	0.063 - 0.1 mm	Stones	None
4599763	B1	2.10 - 2.30	Red	Sandy Clay	0.1 - 2 mm	Stones	Crushed Brick
4599765	C1	0.20 - 1.00	Light Brown	Silty Sand	0.1 - 2 mm	Stones	None
4599766	C1	2.80 - 3.00	Grey	Silty Sand	0.1 - 2 mm	Stones	None
4599767	C1	3.00 - 3.50	Dark Brown	Sandy Loam	0.1 - 2 mm	Stones	N/A

These descriptions are only intended to act as a cross check if sample identities are questioned, and to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions.

We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally ocurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

Other coarse granular materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A1	A1	A2	A2	B1	B1
			Depth (m)	0.30 - 1.00	1.00 - 2.00	0.00 - 1.00	1.00 - 2.00	0.20 - 1.00	2.10 - 2.30
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-110	111028-110	111028-110	111028-110	111028-110	111028-110
			Lab Sample No.(s)	4599760	4599761	4599755	4599756	4599762	4599763
			AGS Reference						
Ammoniacal Nitrogen, exchangeable as NH4	<15 mg/kg	TM024		<15 M	<15 M	<15 M	20.7 M	<15 M	<15 M
Ammoniacal Nitrogen as N	<15 mg/kg	TM024		<15	<15	<15	<15	<15	<15
Catechol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Resorcinol	<0.05 mg/kg	TM062 (S)		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
1-Naphthol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
2,3,5-Trimethylphenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)		<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M	<0.015 M
Phenols, Total Detected 8 Speciated	<0.12 mg/kg	TM062 (S)		<0.12	<0.12	<0.12	<0.12	<0.12	<0.12
pH	1 pH Units	TM133		6.69 § M	8.25 M	9.58 § M	8.12 M	8.37 § M	8.19 § M
Hexavalent Chromium	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		<1 M	1.7 M	<1 M	2.37 M	<1 M	<1 M
PCB congener 28	<3 µg/kg	TM168		<3 M			<3 M		<3 M
PCB congener 52	<3 µg/kg	TM168		<3 M			<3 M		<3 M
PCB congener 101	<3 µg/kg	TM168		<3 M			<3 M		<3 M
PCB congener 118	<3 µg/kg	TM168		<3 M			<3 M		<3 M
PCB congener 138	<3 µg/kg	TM168		<3 M			<3 M		<3 M
PCB congener 153	<3 µg/kg	TM168		<3 M			<3 M		<3 M
PCB congener 180	<3 µg/kg	TM168		<3 M			<3 M		<3 M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168		<21			<21		<21
Easily Liberated Sulphide	<15 mg/kg	TM180		<15 #	<15 #	<15 #	<15 #	17.1 #	<15 #
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 #	<15 #	<15 #	<15 #	19.7 #	<15 #
Arsenic	<0.6 mg/kg	TM181		16.9 M	7.04 M	8.45 M	5.03 M	8.87 M	11.2 M
Cadmium	<0.02 mg/kg	TM181		0.168 M	0.43 M	0.297 M	0.227 M	0.408 M	0.393 M
Chromium	<0.9 mg/kg	TM181		22.5 M	10.7 M	9.06 M	11.4 M	11.6 M	15.2 M
Copper	<1.4 mg/kg	TM181		63.1 M	10.7 M	9.47 M	26.2 M	18.4 M	16.7 M
Lead	<0.7 mg/kg	TM181		42.6 M	32.4 M	13 M	75.5 M	32.2 M	46.6 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		19.5 M	12.9 M	8.86 M	11.2 M	19.1 M	16.3 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		67.7 M	33.4 M	28.3 M	30.3 M	33 M	39.5 M
Sulphate, Total	<48 mg/kg	TM221		863 M	415 M	734 M	241 M	393 M	644 M

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	C1	C1	C1
			Depth (m)	0.20 - 1.00	2.80 - 3.00	3.00 - 3.50
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-110	111028-110	111028-110
			Lab Sample No.(s)	4599765	4599766	4599767
			AGS Reference			
Ammoniacal Nitrogen, exchangeable as NH4	<15 mg/kg	TM024		<15 M	<15 M	58.3 M
Ammoniacal Nitrogen as N	<15 mg/kg	TM024		<15	<15	45.3
Catechol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	<0.05
Phenol	<0.01 mg/kg	TM062 (S)		<0.01 M	0.0456 M	0.298 M
Cresols	<0.01 mg/kg	TM062 (S)		<0.01 M	0.228 M	5.88 M
Resorcinol	<0.05 mg/kg	TM062 (S)		<0.05	<0.05	<0.25
Xylenols	<0.015 mg/kg	TM062 (S)		<0.015 M	1.73 M	49.9 M
1-Naphthol	<0.01 mg/kg	TM062 (S)		<0.01	<0.01	3.33
2,3,5-Trimethylphenol	<0.01 mg/kg	TM062 (S)		<0.01 M	<0.01 M	16.7 M
2-Isopropylphenol	<0.015 mg/kg	TM062 (S)		<0.015 M	4.12 M	<0.075 M
Phenols, Total Detected 8 Speciated	<0.12 mg/kg	TM062 (S)		<0.12	6.12	76.1
pH	1 pH Units	TM133		8.4 M	9.93 M	8.01 M
Hexavalent Chromium	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153		7.16 M	1.93 M	18.9 M
PCB congener 28	<3 µg/kg	TM168				<3 M
PCB congener 52	<3 µg/kg	TM168				<3 M
PCB congener 101	<3 µg/kg	TM168				<3 M
PCB congener 118	<3 µg/kg	TM168				<3 M
PCB congener 138	<3 µg/kg	TM168				<3 M
PCB congener 153	<3 µg/kg	TM168				<3 M
PCB congener 180	<3 µg/kg	TM168				<3 M
Sum of detected PCB 7 Congeners	<21 µg/kg	TM168				<21
Easily Liberated Sulphide	<15 mg/kg	TM180		<15 #	38 #	82.2 #
Sulphide, Easily liberated	<15 mg/kg	TM180		<15 #	43.3 #	97.8 #
Arsenic	<0.6 mg/kg	TM181		6.31 M	6.38 M	8.19 M
Cadmium	<0.02 mg/kg	TM181		0.244 M	0.302 M	0.376 M
Chromium	<0.9 mg/kg	TM181		7.41 M	8.72 M	10.7 M
Copper	<1.4 mg/kg	TM181		9.29 M	7.96 M	17.9 M
Lead	<0.7 mg/kg	TM181		21.6 M	24.5 M	33.2 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		8.77 M	9.58 M	13.8 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		17.8 M	27.1 M	55.5 M
Sulphate, Total	<48 mg/kg	TM221		633 M	635 M	686 M

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A1	A1	A2	A2	B1	B1
			Depth (m)	0.30 - 1.00	1.00 - 2.00	0.00 - 1.00	1.00 - 2.00	0.20 - 1.00	2.10 - 2.30
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-110	111028-110	111028-110	111028-110	111028-110	111028-110
			Lab Sample No.(s)	4599760	4599761	4599755	4599756	4599762	4599763
			AGS Reference						
Naphthalene	<9 µg/kg	TM218		909 M	480 M	13.9 M	60.5 M	149 M	40.8 M
Acenaphthylene	<12 µg/kg	TM218		212 M	205 M	<12 M	58.8 M	74.7 M	19.9 M
Acenaphthene	<8 µg/kg	TM218		140 M	277 M	<8 M	63.5 M	33.8 M	<8 M
Fluorene	<10 µg/kg	TM218		167 M	493 M	<10 M	66.4 M	47.7 M	14.4 M
Phenanthrene	<15 µg/kg	TM218		3230 M	2640 M	27.8 M	99.1 M	595 M	133 M
Anthracene	<16 µg/kg	TM218		875 M	568 M	<16 M	27.3 M	256 M	39.6 M
Fluoranthene	<17 µg/kg	TM218		7260 M	2280 M	48.4 M	34.3 M	1850 M	225 M
Pyrene	<15 µg/kg	TM218		5600 M	1660 M	43 M	21.5 M	1550 M	176 M
Benz(a)anthracene	<14 µg/kg	TM218		4180 M	1200 M	53.4 M	<14 M	1720 M	216 M
Chrysene	<10 µg/kg	TM218		3520 M	968 M	47.2 M	<10 M	1310 M	178 M
Benzo(b)fluoranthene	<15 µg/kg	TM218		5770 M	1400 M	85.9 M	<15 M	2470 M	326 M
Benzo(k)fluoranthene	<14 µg/kg	TM218		2020 M	547 M	35.4 M	<14 M	943 M	134 M
Benzo(a)pyrene	<15 µg/kg	TM218		4250 M	1060 M	54.5 M	<15 M	2000 M	248 M
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		2430 M	497 M	31 M	<18 M	1060 M	154 M
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		753 M	210 M	<23 M	<23 M	413 M	63.9 M
Benzo(g,h,i)perylene	<24 µg/kg	TM218		2740 M	520 M	36.8 M	<24 M	1100 M	182 M
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		44100	15000	477	431	15600	2150

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	C1	C1	C1			
			Depth (m)	0.20 - 1.00	2.80 - 3.00	3.00 - 3.50			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	26/10/2011	26/10/2011	26/10/2011			
			Date Received	27/10/2011	27/10/2011	27/10/2011			
			SDG Ref	111028-110	111028-110	111028-110			
			Lab Sample No.(s)	4599765	4599766	4599767			
			AGS Reference						
Naphthalene	<9 µg/kg	TM218		115 M	137000 M	112000 M			
Acenaphthylene	<12 µg/kg	TM218		29.6 M	19600 M	13300 M			
Acenaphthene	<8 µg/kg	TM218		36.6 M	8990 M	4870 M			
Fluorene	<10 µg/kg	TM218		27.2 M	20500 M	12700 M			
Phenanthrene	<15 µg/kg	TM218		471 M	55200 M	33400 M			
Anthracene	<16 µg/kg	TM218		104 M	17100 M	9460 M			
Fluoranthene	<17 µg/kg	TM218		901 M	37600 M	21900 M			
Pyrene	<15 µg/kg	TM218		731 M	24800 M	14100 M			
Benz(a)anthracene	<14 µg/kg	TM218		886 M	12600 M	6150 M			
Chrysene	<10 µg/kg	TM218		829 M	9040 M	4830 M			
Benzo(b)fluoranthene	<15 µg/kg	TM218		1840 M	13500 M	6290 M			
Benzo(k)fluoranthene	<14 µg/kg	TM218		754 M	4890 M	2580 M			
Benzo(a)pyrene	<15 µg/kg	TM218		1490 M	10400 M	4810 M			
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218		973 M	4650 M	2280 M			
Dibenzo(a,h)anthracene	<23 µg/kg	TM218		368 M	1330 M	667 M			
Benzo(g,h,i)perylene	<24 µg/kg	TM218		1070 M	5180 M	2640 M			
PAH, Total Detected USEPA 16	<118 µg/kg	TM218		10600	382000	252000			

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A1	A1	A2	A2	B1	B1
			Depth (m)	0.30 - 1.00	1.00 - 2.00	0.00 - 1.00	1.00 - 2.00	0.20 - 1.00	2.10 - 2.30
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-110	111028-110	111028-110	111028-110	111028-110	111028-110
			Lab Sample No.(s)	4599760	4599761	4599755	4599756	4599762	4599763
			AGS Reference						
GRO >C5-C12	<44 µg/kg	TM089		142	578	<44	522	187	132
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
Benzene	<10 µg/kg	TM089		<10 M	18.9 M	<10 M	27.8 M	<10 M	<10 M
Toluene	<2 µg/kg	TM089		<2 M	<2 M	<2 M	<2 M	12.7 M	3.66 M
Ethylbenzene	<3 µg/kg	TM089		<3 M	27.1 M	<3 M	19.7 M	<3 M	3.66 M
m,p-Xylene	<6 µg/kg	TM089		<6 M	<6 M	<6 M	<6 M	9.2 M	<6 M
o-Xylene	<3 µg/kg	TM089		<3 M	3.54 M	<3 M	<3 M	<3 M	<3 M
sum of detected mpo xylene by GC	<9 µg/kg	TM089		<9	<9	<9	<9	9.2	<9
sum of detected BTEX by GC	<24 µg/kg	TM089		<24	46	<24	47.5	<24	<24
Aliphatics >C5-C6	<10 µg/kg	TM089		10.7	15.3	<10	16.2	18.4	12.2
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	42.5	<10	41.8	39.1	17.1
Aliphatics >C8-C10	<10 µg/kg	TM089		14.3	95.6	10.3	106	28.8	24.4
Aliphatics >C10-C12	<10 µg/kg	TM089		55.9	182	<10	142	27.6	24.4
Aliphatics >C12-C16	<100 µg/kg	TM173		<100	3960	<100	3870	4890	<100
Aliphatics >C16-C21	<100 µg/kg	TM173		<100	4220	<100	4530	4860	<100
Aliphatics >C21-C35	<100 µg/kg	TM173		<100	8580	<100	8380	9270	4740
Aliphatics >C35-C44	<100 µg/kg	TM173		<100	1490	<100	969	1220	<100
Total Aliphatics >C12-C44	<100 µg/kg	TM173		<100	18200	<100	17800	20200	4740
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	18.9	<10	27.8	10.4	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	12.7	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		14.3	100	10.3	95.1	32.2	29.3
Aromatics >EC10-EC12	<10 µg/kg	TM089		36.9	122	<10	94	18.4	15.9
Aromatics >EC12-EC16	<100 µg/kg	TM173		6700	6510	<100	5330	4510	<100
Aromatics >EC16-EC21	<100 µg/kg	TM173		68800	17700	<100	21500	10400	2950
Aromatics >EC21-EC35	<100 µg/kg	TM173		224000	44400	12400	46000	46400	36000
Aromatics >EC35-EC44	<100 µg/kg	TM173		68100	12700	3860	10300	12900	13200
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		368000	81300	16300	83200	74300	52100
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		368000	100000	16300	101000	94700	57000
Total Aliphatics >C5-35	<100 µg/kg	TM173		<100	17100	<100	17100	19100	4810
Total Aromatics >C5-35	<100 µg/kg	TM173		300000	68900	12500	73100	61500	39000
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173		300000	86000	12500	90200	80600	43800
Total Aliphatics >C5-C12	<10 µg/kg	TM089		88.1	336	33.1	304	114	78.1
Total Aromatics >EC5-EC12	<10 µg/kg	TM089		53.6	242	14.8	217	73.6	53.7
Total Aliphatics >C5-C44	<100 µg/kg	TM173		<100	18600	<100	18100	20400	4810
Total Aromatics >C6-C44	<100 µg/kg	TM173		368000	81500	16300	83400	74400	52200

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A1	A1	A2	A2	B1	B1
			Depth (m)	0.30 - 1.00	1.00 - 2.00	0.00 - 1.00	1.00 - 2.00	0.20 - 1.00	2.10 - 2.30
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011	26/10/2011
			Date Received	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011	27/10/2011
			SDG Ref	111028-110	111028-110	111028-110	111028-110	111028-110	111028-110
			Lab Sample No.(s)	4599760	4599761	4599755	4599756	4599762	4599763
			AGS Reference						
Aliphatics >C16-C35	<100 µg/kg	TM173		<100	12800	<100	12900	14100	4740

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	C1	C1	C1			
			Depth (m)	0.20 - 1.00	2.80 - 3.00	3.00 - 3.50			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	26/10/2011	26/10/2011	26/10/2011			
			Date Received	27/10/2011	27/10/2011	27/10/2011			
			SDG Ref	111028-110	111028-110	111028-110			
			Lab Sample No.(s)	4599765	4599766	4599767			
			AGS Reference						
GRO >C5-C12	<44 µg/kg	TM089		69.9	26600	295000			
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #	<50 #			
Benzene	<10 µg/kg	TM089		<10 M	485 M	3850 M			
Toluene	<2 µg/kg	TM089		2.22 M	1150 M	14800 M			
Ethylbenzene	<3 µg/kg	TM089		<3 M	400 M	4710 M			
m,p-Xylene	<6 µg/kg	TM089		<6 M	2240 M	33900 M			
o-Xylene	<3 µg/kg	TM089		<3 M	1290 M	12700 M			
sum of detected mpo xylene by GC	<9 µg/kg	TM089		<9	3530	46600			
sum of detected BTEX by GC	<24 µg/kg	TM089		<24	5570	70000			
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	75.2	882			
Aliphatics >C6-C8	<10 µg/kg	TM089		12.2	1720	20000			
Aliphatics >C8-C10	<10 µg/kg	TM089		14.4	5160	51700			
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	6400	70600			
Aliphatics >C12-C16	<100 µg/kg	TM173		<100	30400	58700			
Aliphatics >C16-C21	<100 µg/kg	TM173		<100	36700	55500			
Aliphatics >C21-C35	<100 µg/kg	TM173		<100	32500	72000			
Aliphatics >C35-C44	<100 µg/kg	TM173		<100	3260	23800			
Total Aliphatics >C12-C44	<100 µg/kg	TM173		<100	103000	210000			
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	485	3850			
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	1150	14800			
Aromatics >EC8-EC10	<10 µg/kg	TM089		14.4	7370	85800			
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	4270	47100			
Aromatics >EC12-EC16	<100 µg/kg	TM173		696	82000	173000			
Aromatics >EC16-EC21	<100 µg/kg	TM173		10200	142000	284000			
Aromatics >EC21-EC35	<100 µg/kg	TM173		51400	218000	446000			
Aromatics >EC35-EC44	<100 µg/kg	TM173		19700	46400	107000			
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		82000	488000	1010000			
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		82000	617000	1510000			
Total Aliphatics >C5-35	<100 µg/kg	TM173		<100	113000	329000			
Total Aromatics >C5-35	<100 µg/kg	TM173		62400	454000	1050000			
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173		62400	567000	1380000			
Total Aliphatics >C5-C12	<10 µg/kg	TM089		45.5	13400	143000			
Total Aromatics >EC5-EC12	<10 µg/kg	TM089		24.4	13300	152000			
Total Aliphatics >C5-C44	<100 µg/kg	TM173		<100	116000	353000			
Total Aromatics >C6-C44	<100 µg/kg	TM173		82000	501000	1160000			

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	C1	C1	C1			
			Depth (m)	0.20 - 1.00	2.80 - 3.00	3.00 - 3.50			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	26/10/2011	26/10/2011	26/10/2011			
			Date Received	27/10/2011	27/10/2011	27/10/2011			
			SDG Ref	111028-110	111028-110	111028-110			
			Lab Sample No.(s)	4599765	4599766	4599767			
			AGS Reference						
Aliphatics >C16-C35	<100 µg/kg	TM173		<100	69200	128000			

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A1	A2	C1			
			Depth (m)	1.00 - 2.00	1.00 - 2.00	3.00 - 3.50			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	26/10/2011	26/10/2011	26/10/2011			
			Date Received	27/10/2011	27/10/2011	27/10/2011			
			SDG Ref	111028-110	111028-110	111028-110			
			Lab Sample No.(s)	4599761	4599756	4599767			
			AGS Reference						
Dibromofluoromethane**	%	TM116		47.3	68.5	76.2			
Toluene-d8**	%	TM116		95.7	99.7	88.4			
4-Bromofluorobenzene**	%	TM116		123	116	128			
Dichlorodifluoromethane	<4 µg/kg	TM116		<4 M	<4 M	<4 M			
Chloromethane	<7 µg/kg	TM116		<7 #	<7 #	<7 #			
Vinyl Chloride	<10 µg/kg	TM116		<10 #	<10 #	<10 #			
Bromomethane	<13 µg/kg	TM116		<13 M	<13 M	<13 M			
Chloroethane	<14 µg/kg	TM116		<14 M	<14 M	<14 M			
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M			
1.1-Dichloroethene	<10 µg/kg	TM116		<10 #	<10 #	<10 #			
Carbon Disulphide	<7 µg/kg	TM116		<7 M	<7 M	61.1 M			
Dichloromethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #			
Methyl Tertiary Butyl Ether	<11 µg/kg	TM116		<11 M	<11 M	<11 M			
trans-1-2-Dichloroethene	<11 µg/kg	TM116		<11 M	<11 M	<11 M			
1.1-Dichloroethane	<8 µg/kg	TM116		<8 M	<8 M	<8 M			
cis-1-2-Dichloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M			
2.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<12 M	<12 M			
Bromochloromethane	<14 µg/kg	TM116		<14 M	<14 M	<14 M			
Chloroform	<8 µg/kg	TM116		<8 M	<8 M	<8 M			
1.1.1-Trichloroethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M			
1.1-Dichloropropene	<11 µg/kg	TM116		<11 M	<11 M	<11 M			
Carbontetrachloride	<14 µg/kg	TM116		<14 M	<14 M	<14 M			
1.2-Dichloroethane	<5 µg/kg	TM116		<5 M	<5 M	<5 M			
Benzene	<9 µg/kg	TM116		19.9 M	63.3 M	<9000 M			
Trichloroethene	<9 µg/kg	TM116		<9 M	<9 M	<9 M			
1.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<12 M	<12 M			
Dibromomethane	<9 µg/kg	TM116		<9 M	<9 M	<9 M			
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M			
cis-1-3-Dichloropropene	<14 µg/kg	TM116		<14 M	<14 M	<14 M			
Toluene	<5 µg/kg	TM116		20.3 M	<5 M	13200 M			
trans-1-3-Dichloropropene	<14 µg/kg	TM116		<14	<14	<14			
1.1.2-Trichloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
1.3-Dichloropropane	<7 µg/kg	TM116		<7 #	<7 #	<7 #			
Tetrachloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M			
Dibromochloromethane	<13 µg/kg	TM116		<13 M	<13 M	<13 M			

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Deviating sample.
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

Component	LOD/Units	Method	Customer Sample Ref.	A1	A2	C1			
			Depth (m)	1.00 - 2.00	1.00 - 2.00	3.00 - 3.50			
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid			
			Date Sampled	26/10/2011	26/10/2011	26/10/2011			
			Date Received	27/10/2011	27/10/2011	27/10/2011			
			SDG Ref	111028-110	111028-110	111028-110			
			Lab Sample No.(s)	4599761	4599756	4599767			
			AGS Reference						
1.2-Dibromoethane	<12 µg/kg	TM116		<12 M	<12 M	<12 M			
Chlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M			
1.1.1.2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Ethylbenzene	<4 µg/kg	TM116		8.33 M	28.5 M	5520 M			
p/m-Xylene	<14 µg/kg	TM116		48.4 #	<14 #	36600 #			
o-Xylene	<10 µg/kg	TM116		30 M	<10 M	13500 M			
Styrene	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Bromoform	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Isopropylbenzene	<5 µg/kg	TM116		<5 M	<5 M	639 M			
1.1.2.2-Tetrachloroethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #			
1.2.3-Trichloropropane	<17 µg/kg	TM116		<17 M	<17 M	<17 M			
Bromobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M			
Propylbenzene	<11 µg/kg	TM116		<11 M	<11 M	1040 M			
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<9 M	<9 M			
1.3.5-Trimethylbenzene	<8 µg/kg	TM116		53.2 #	<8 #	15700 #			
4-Chlorotoluene	<12 µg/kg	TM116		<12 M	<12 M	<12 M			
tert-Butylbenzene	<12 µg/kg	TM116		<12 #	<12 #	<12 #			
1.2.4-Trimethylbenzene	<9 µg/kg	TM116		86.7 #	<9 #	45400 #			
sec-Butylbenzene	<10 µg/kg	TM116		<10 M	<10 M	309 M			
4-Isopropyltoluene	<11 µg/kg	TM116		<11 M	<11 M	1290 M			
1.3-Dichlorobenzene	<6 µg/kg	TM116		<6 M	<6 M	<6 M			
1.4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M			
n-Butylbenzene	<10 µg/kg	TM116		<10 M	<10 M	1240 M			
1.2-Dichlorobenzene	<12 µg/kg	TM116		<12 M	<12 M	<12 M			
1.2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<14 M	<14 M			
Tert-amyl methyl ether	<15 µg/kg	TM116		<15	<15	<15			
1.2.4-Trichlorobenzene	<6 µg/kg	TM116		<6 #	<6 #	<6 #			
Hexachlorobutadiene	<12 µg/kg	TM116		<12	<12	<12			
Naphthalene	<13 µg/kg	TM116		6070 M	<13 M	938000 M			
1.2.3-Trichlorobenzene	<6 µg/kg	TM116		<6 M	<6 M	<6 M			

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Asbestos Identification - Bulk

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	A1 NS Z 0.30 - 1.00 SOLID 26/10/2011 00:00:00 111028-110 4,599,760 TM048	03/11/11	Martin Cotterell	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	A2 NS Z 0.00 - 1.00 SOLID 26/10/2011 00:00:00 111028-110 4,599,755 TM048	03/11/11	Lauren Sargeant	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	B1 NS Z 2.10 - 2.30 SOLID 26/10/2011 00:00:00 111028-110 4,599,763 TM048	03/11/11	Lauren Sargeant	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	C1 NS Z 0.20 - 1.00 SOLID 26/10/2011 00:00:00 111028-110 4,599,765 TM048	03/11/11	Lauren Sargeant	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
4632180	B1	0.20 - 1.00	SOLID	pH	pH	Sample holding time exceeded
4633599	B1	2.10 - 2.30	SOLID	pH	pH	Sample holding time exceeded
4637993	A1	0.30 - 1.00	SOLID	pH	pH	Sample holding time exceeded
4638079	A2	0.00 - 1.00	SOLID	pH	pH	Sample holding time exceeded

Note : Test results may be compromised

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	**#**	ISO 17025 Accredited	*	Subcontracted Test	**M**	MCERTS Accredited
NFD	No Fibres Detected	**PFD**	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	**EC**	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM024	Method 4500A & B, AWWA/APHA, 20th Ed., 1999	Determination of Exchangeable Ammonium and Ammoniacal Nitrogen as N by titration on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Test Completion Dates

Lab Sample No(s)	4599760	4599761	4599755	4599756	4599762	4599763	4599765	4599766	4599767
Customer Sample Ref.	A1	A1	A2	A2	B1	B1	C1	C1	C1
AGS Ref.									
Depth	0.30 - 1.00	1.00 - 2.00	0.00 - 1.00	1.00 - 2.00	0.20 - 1.00	2.10 - 2.30	0.20 - 1.00	2.80 - 3.00	3.00 - 3.50
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Ammonium Soil by Titration	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011
Asbestos Identification (Soil)	03-Nov-2011		03-Nov-2011			03-Nov-2011	03-Nov-2011		
Cyanide Comp/Free/Total/Thiocyanate	08-Nov-2011	04-Nov-2011	08-Nov-2011	04-Nov-2011	04-Nov-2011	07-Nov-2011	07-Nov-2011	04-Nov-2011	04-Nov-2011
Easily Liberated Sulphide	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011
EPH CWG (Aliphatic) GC (S)	07-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011	07-Nov-2011
EPH CWG (Aromatic) GC (S)	07-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011	07-Nov-2011
GRO by GC-FID (S)	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011
Hexavalent Chromium (s)	07-Nov-2011	05-Nov-2011	07-Nov-2011	05-Nov-2011	05-Nov-2011	05-Nov-2011	05-Nov-2011	05-Nov-2011	05-Nov-2011
Metals by iCap-OES (Soil)	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011	08-Nov-2011
PAH by GCMS	08-Nov-2011	07-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011
PCBs by GCMS	07-Nov-2011			07-Nov-2011		07-Nov-2011			07-Nov-2011
pH	07-Nov-2011	03-Nov-2011	07-Nov-2011	03-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	03-Nov-2011	03-Nov-2011
Phenols by HPLC (S)	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	04-Nov-2011
Sample description	04-Nov-2011	03-Nov-2011	04-Nov-2011	03-Nov-2011	03-Nov-2011	04-Nov-2011	04-Nov-2011	03-Nov-2011	03-Nov-2011
Total Sulphate	04-Nov-2011	07-Nov-2011	04-Nov-2011	07-Nov-2011	07-Nov-2011	04-Nov-2011	04-Nov-2011	07-Nov-2011	07-Nov-2011
TPH CWG GC (S)	07-Nov-2011	08-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011	07-Nov-2011	07-Nov-2011	08-Nov-2011	08-Nov-2011
VOC MS (S)		10-Nov-2011		08-Nov-2011					11-Nov-2011

CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

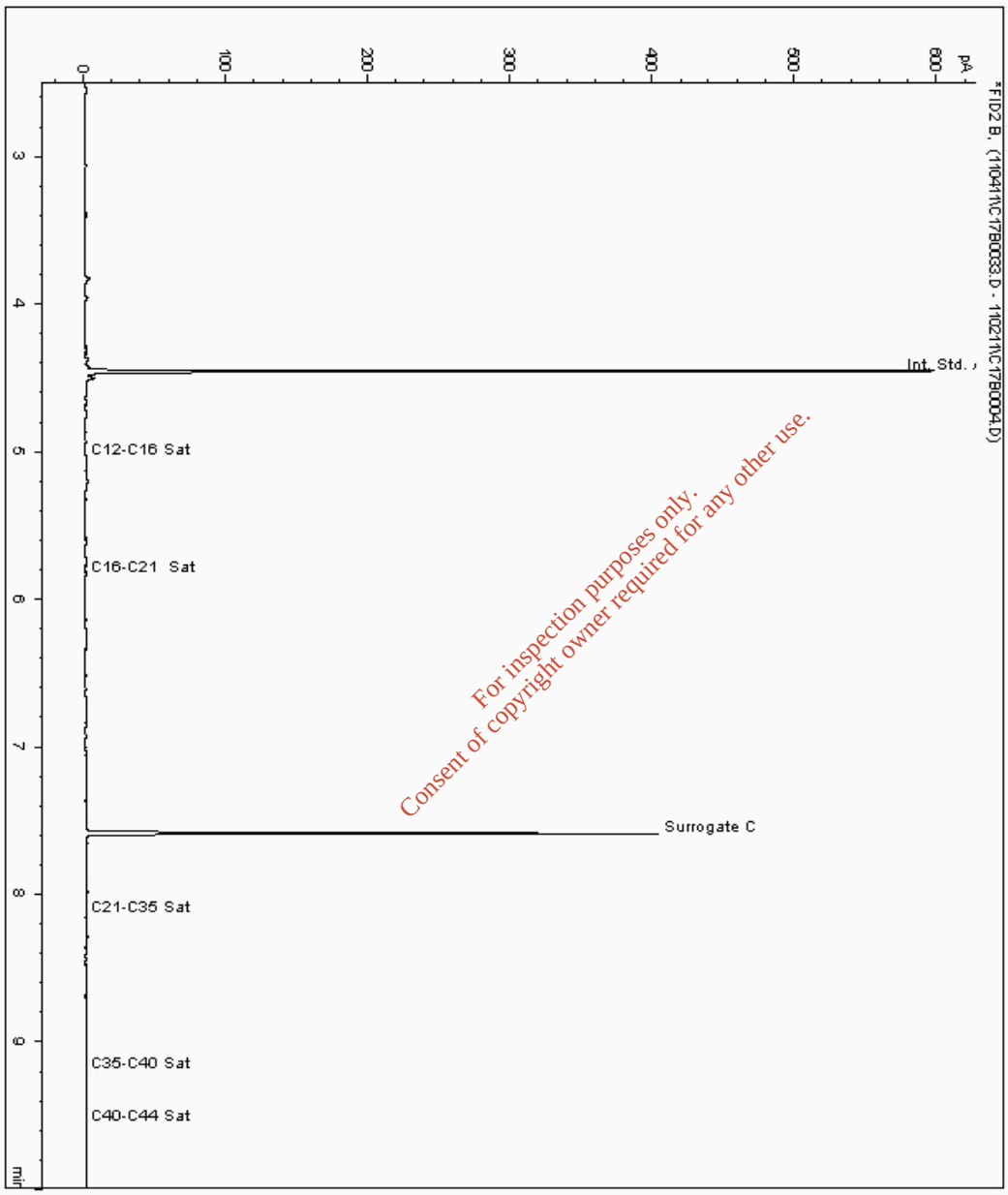
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4635220
Sample ID : A1

Depth : 0.30 - 1.00

Alcontrol/Geochem Analytical Services
Speciated TPH - SATS (C12 - C40)

Sample Identity: 4566885-4635220
Date Acquired : 07/11/11 08:09:44 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.050



CERTIFICATE OF ANALYSIS

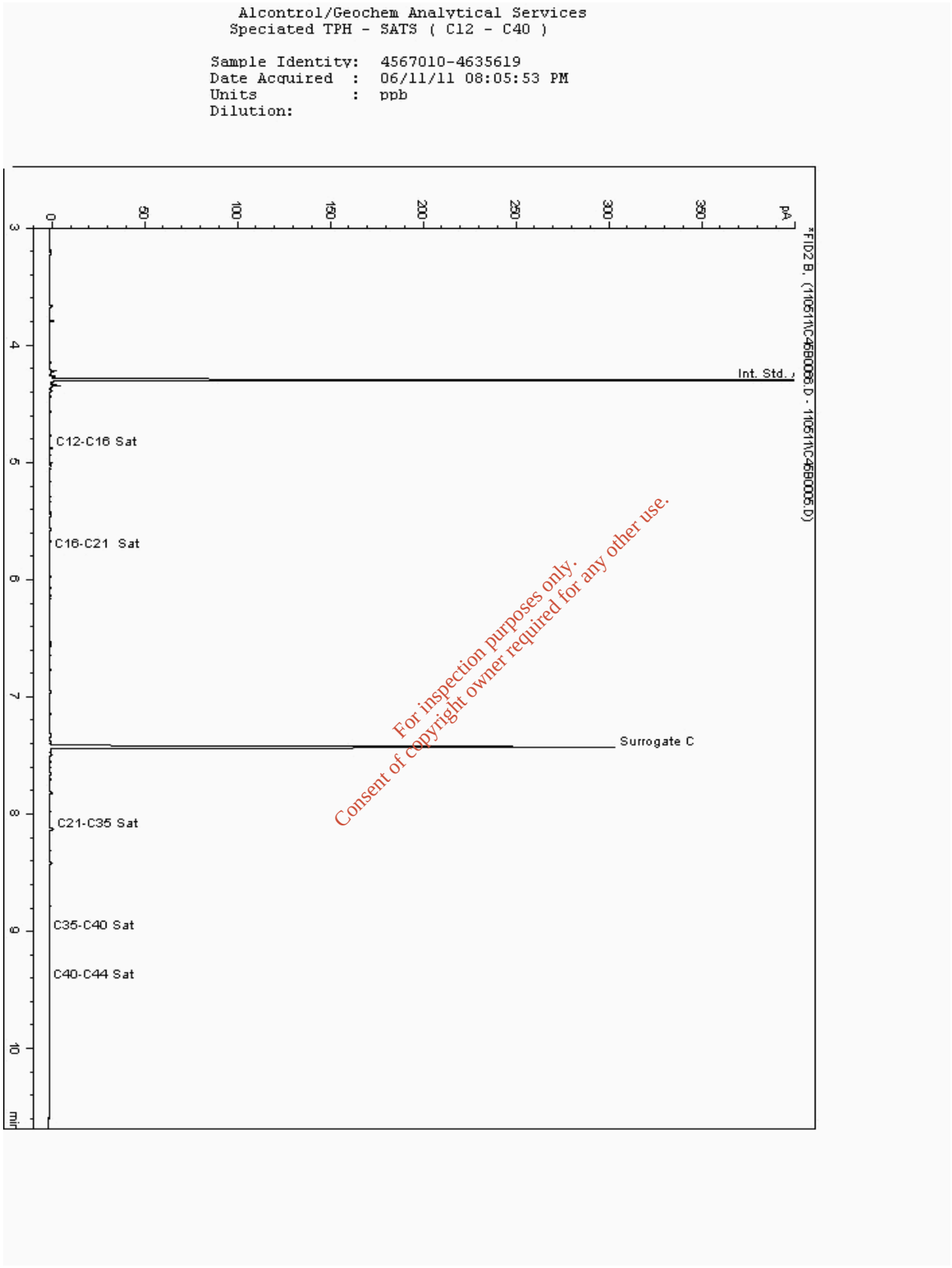
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4635619
Sample ID : B1

Depth : 2.10 - 2.30



CERTIFICATE OF ANALYSIS

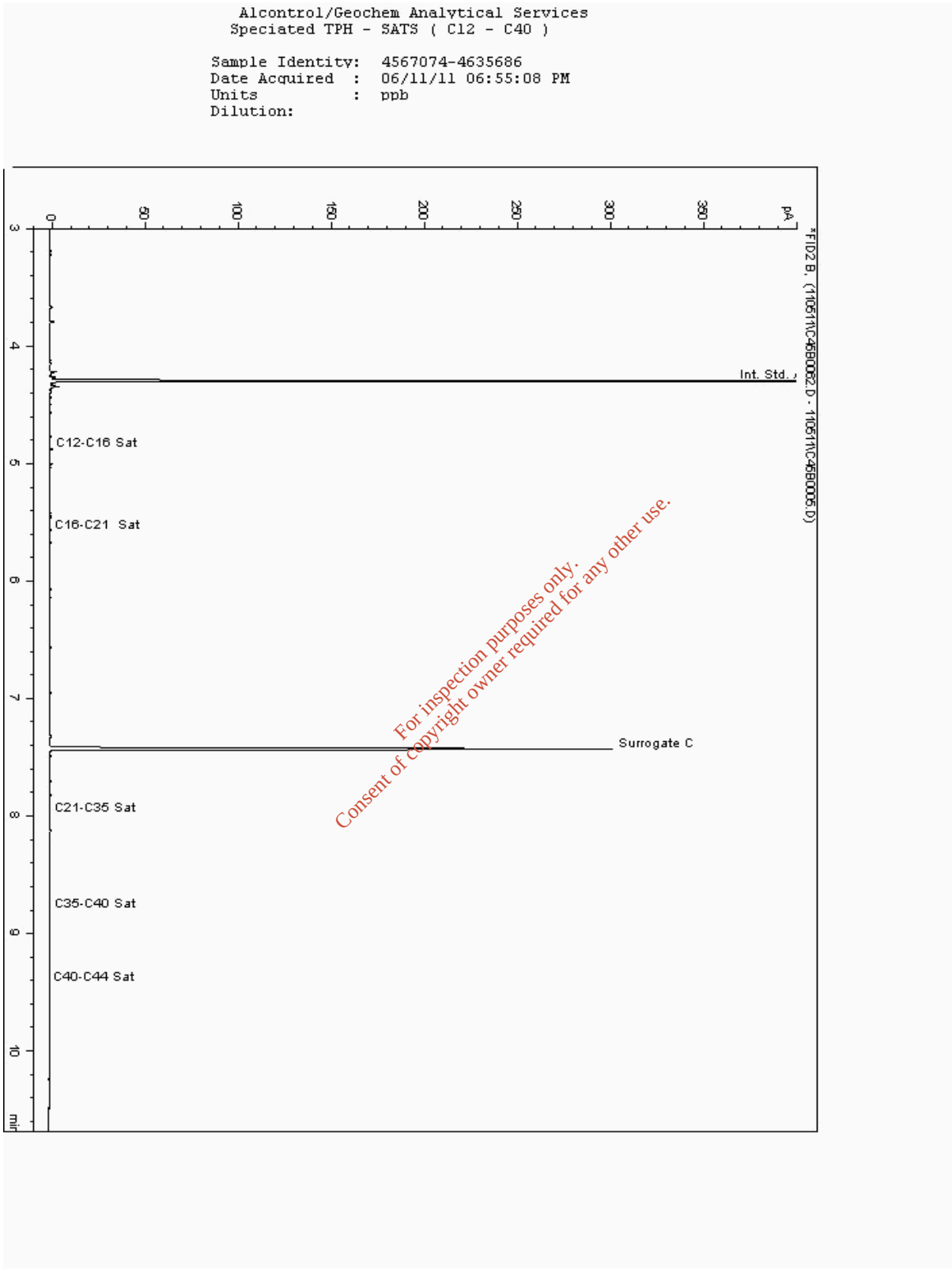
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4635686
Sample ID : C1

Depth : 0.20 - 1.00



CERTIFICATE OF ANALYSIS

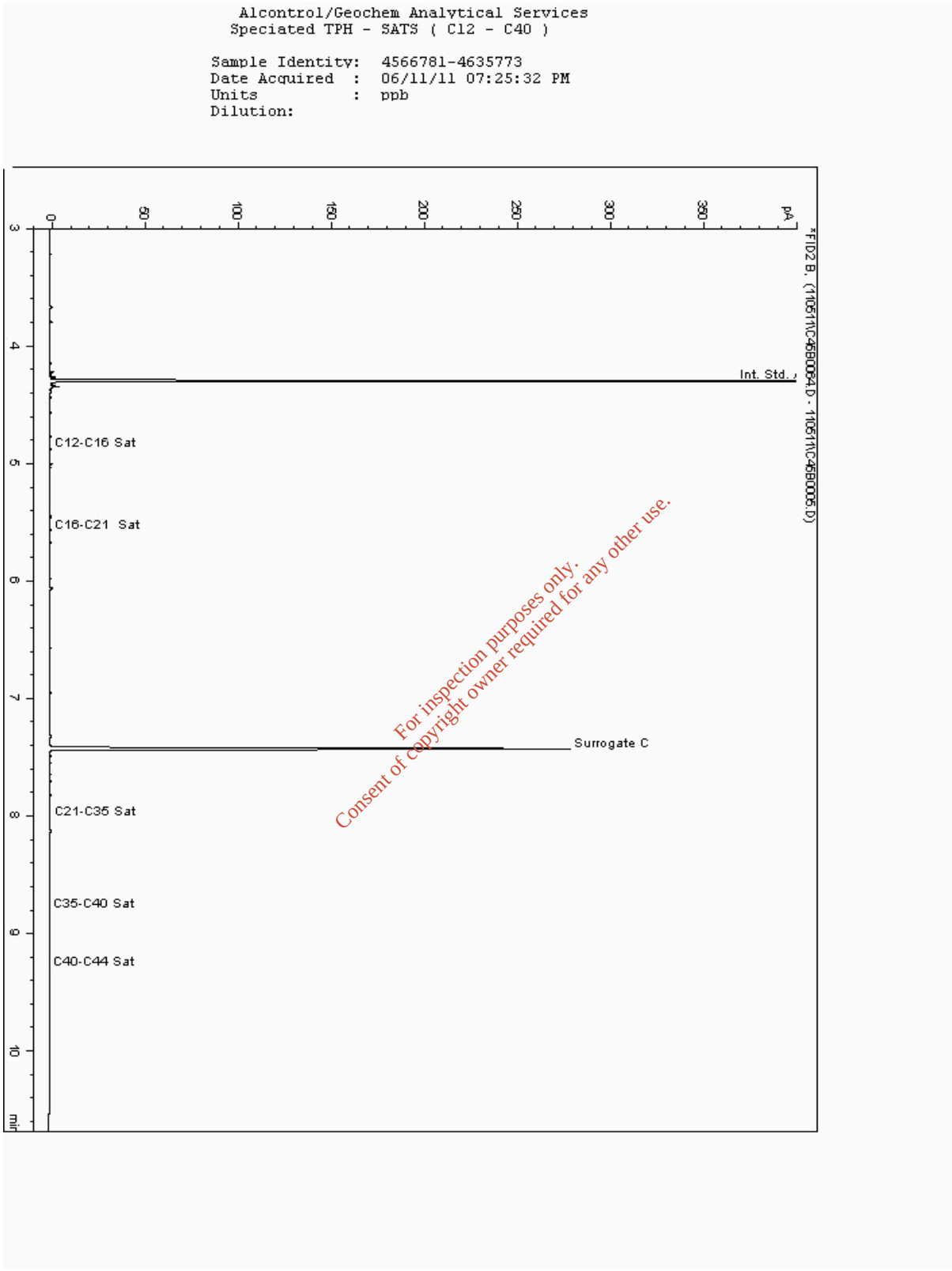
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4635773
Sample ID : A2

Depth : 0.00 - 1.00



CERTIFICATE OF ANALYSIS

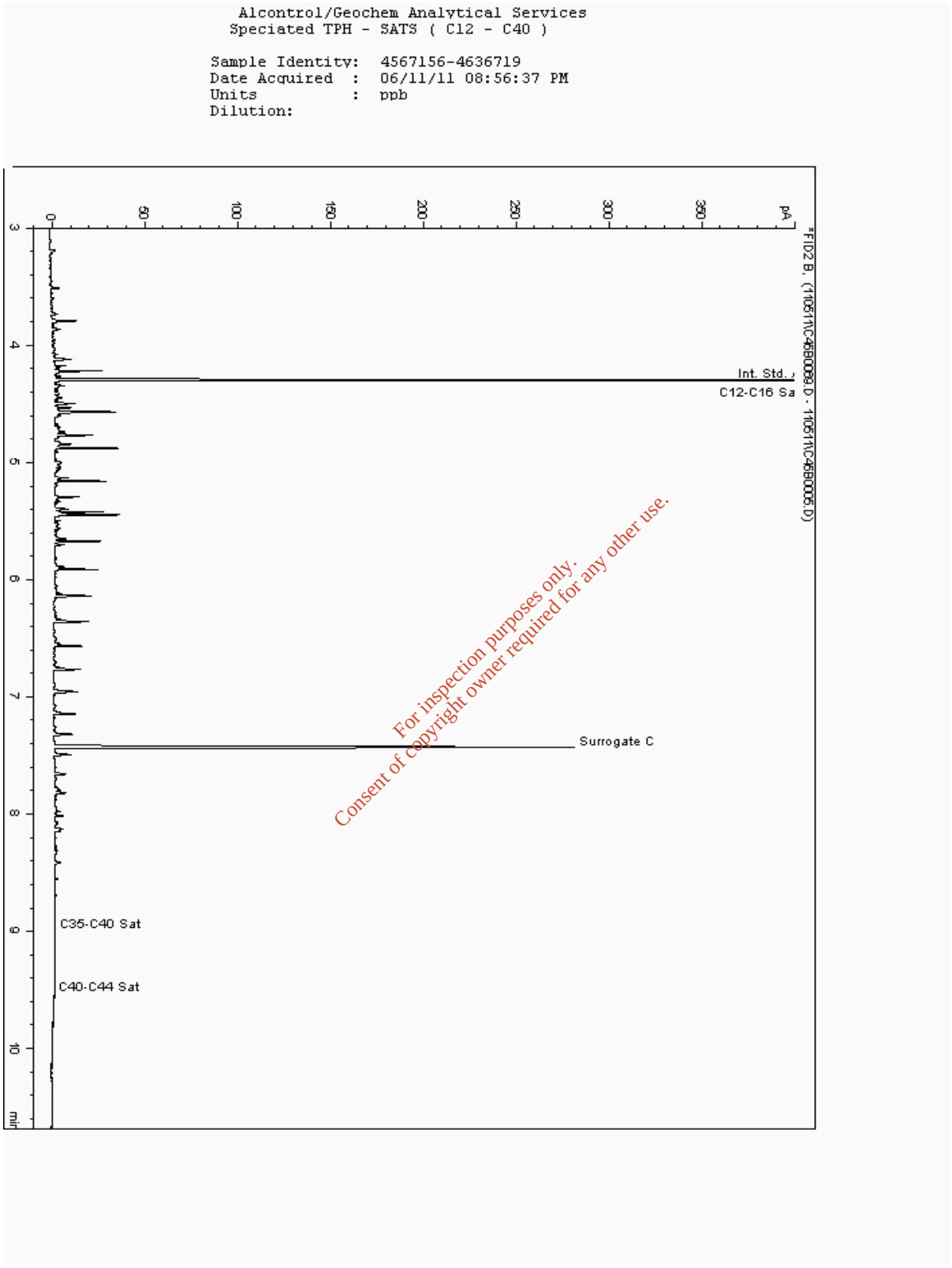
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4636719
Sample ID : C1

Depth : 3.00 - 3.50



CERTIFICATE OF ANALYSIS

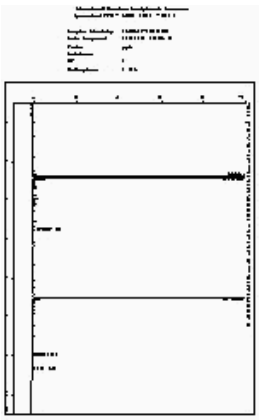
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4642466
Sample ID : B1

Depth : 0.20 - 1.00



CERTIFICATE OF ANALYSIS

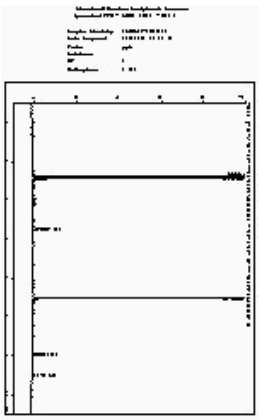
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4642488
Sample ID : A1

Depth : 1.00 - 2.00



CERTIFICATE OF ANALYSIS

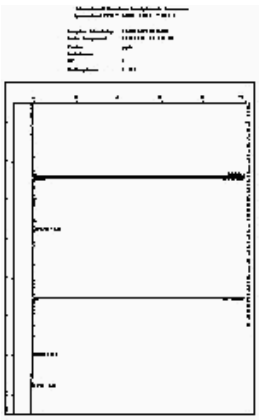
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4642566
Sample ID : A2

Depth : 1.00 - 2.00



CERTIFICATE OF ANALYSIS

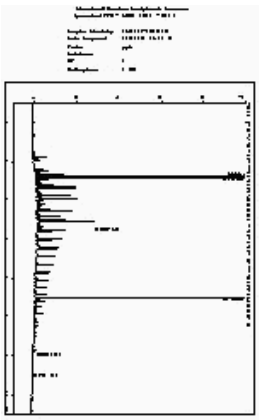
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 4642706
Sample ID : C1

Depth : 2.80 - 3.00



CERTIFICATE OF ANALYSIS

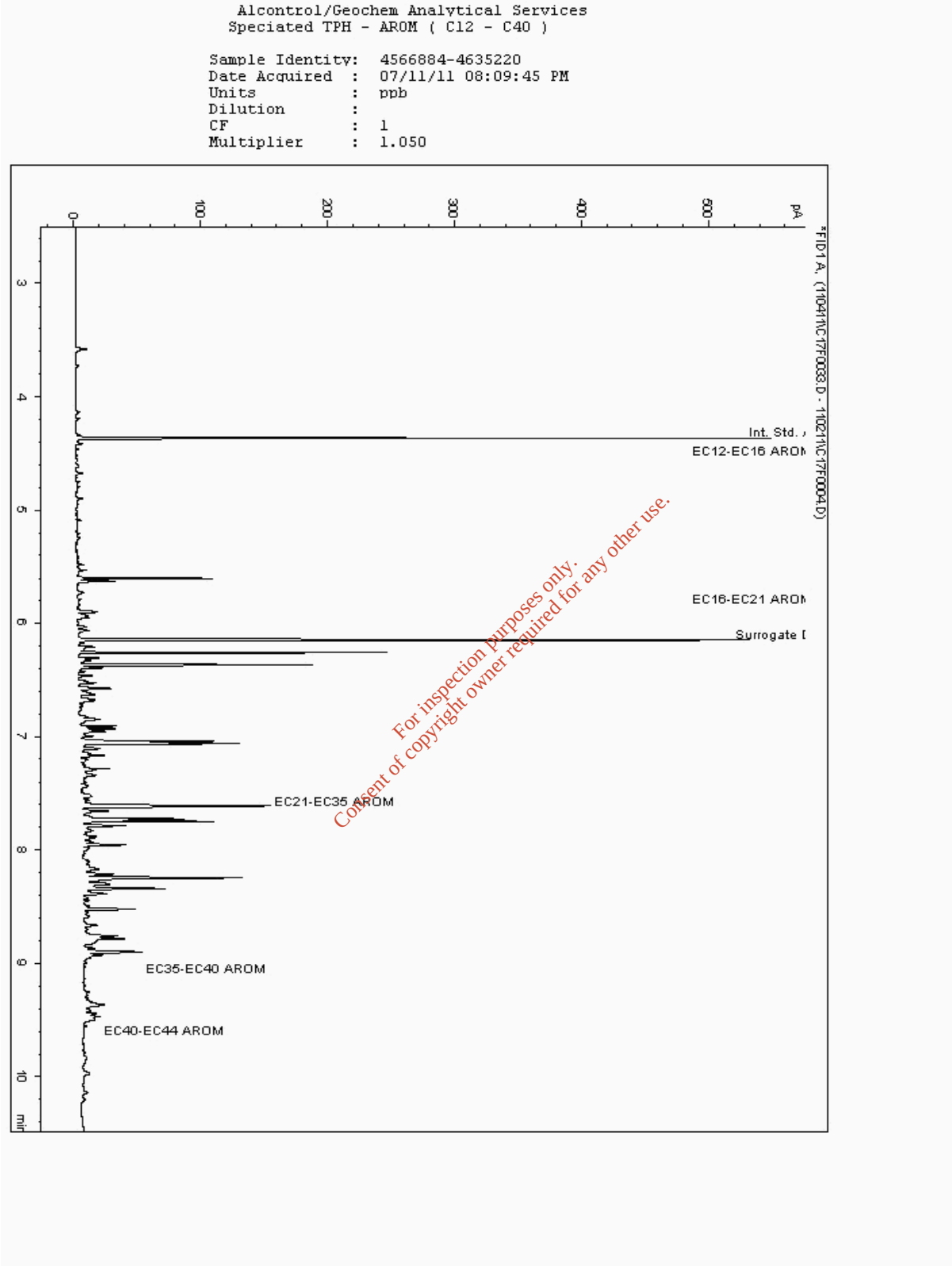
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4635220
Sample ID : A1

Depth : 0.30 - 1.00



CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

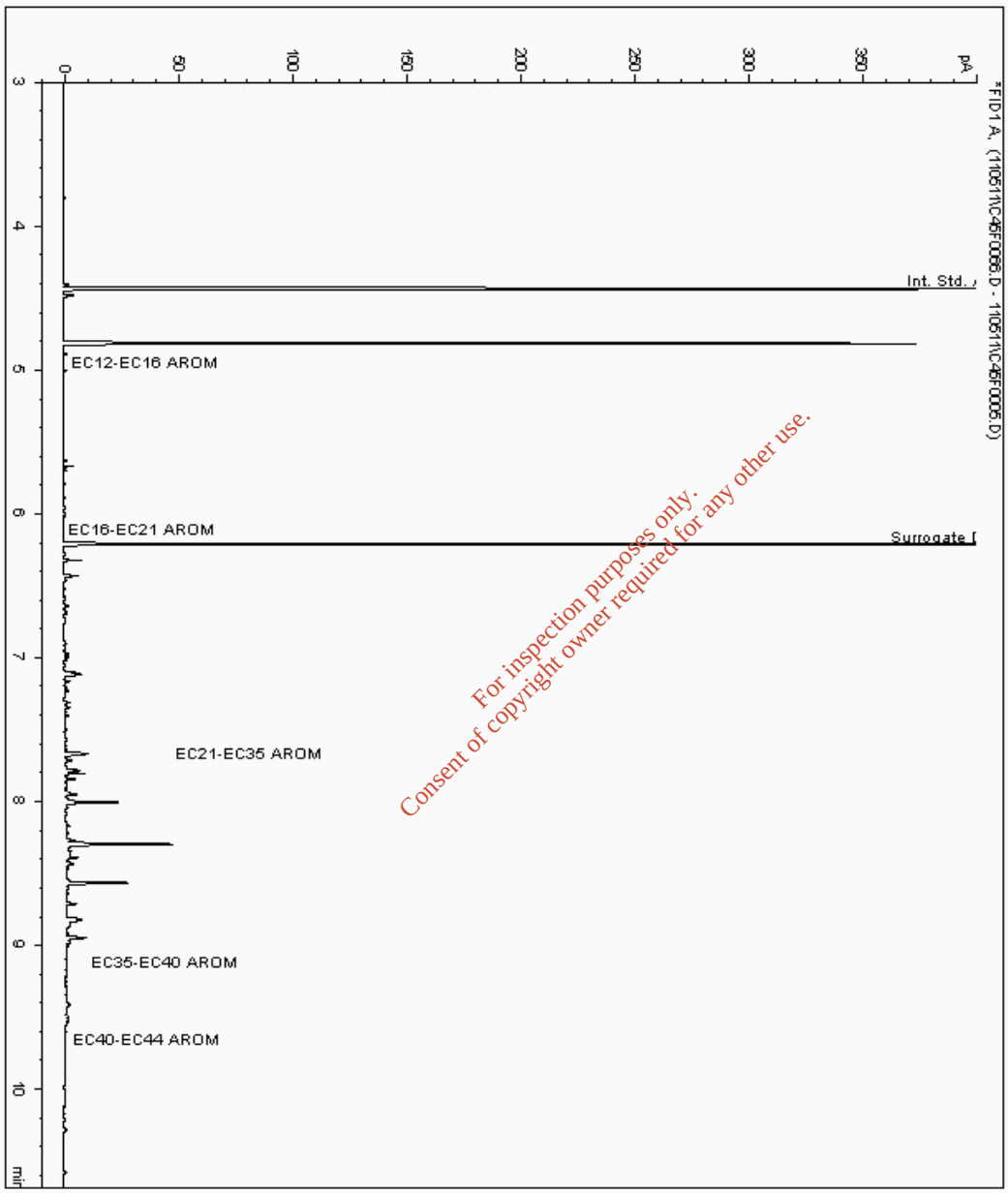
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4635619
Sample ID : B1

Depth : 2.10 - 2.30

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4567009-4635619
Date Acquired : 06/11/11 08:05:53 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

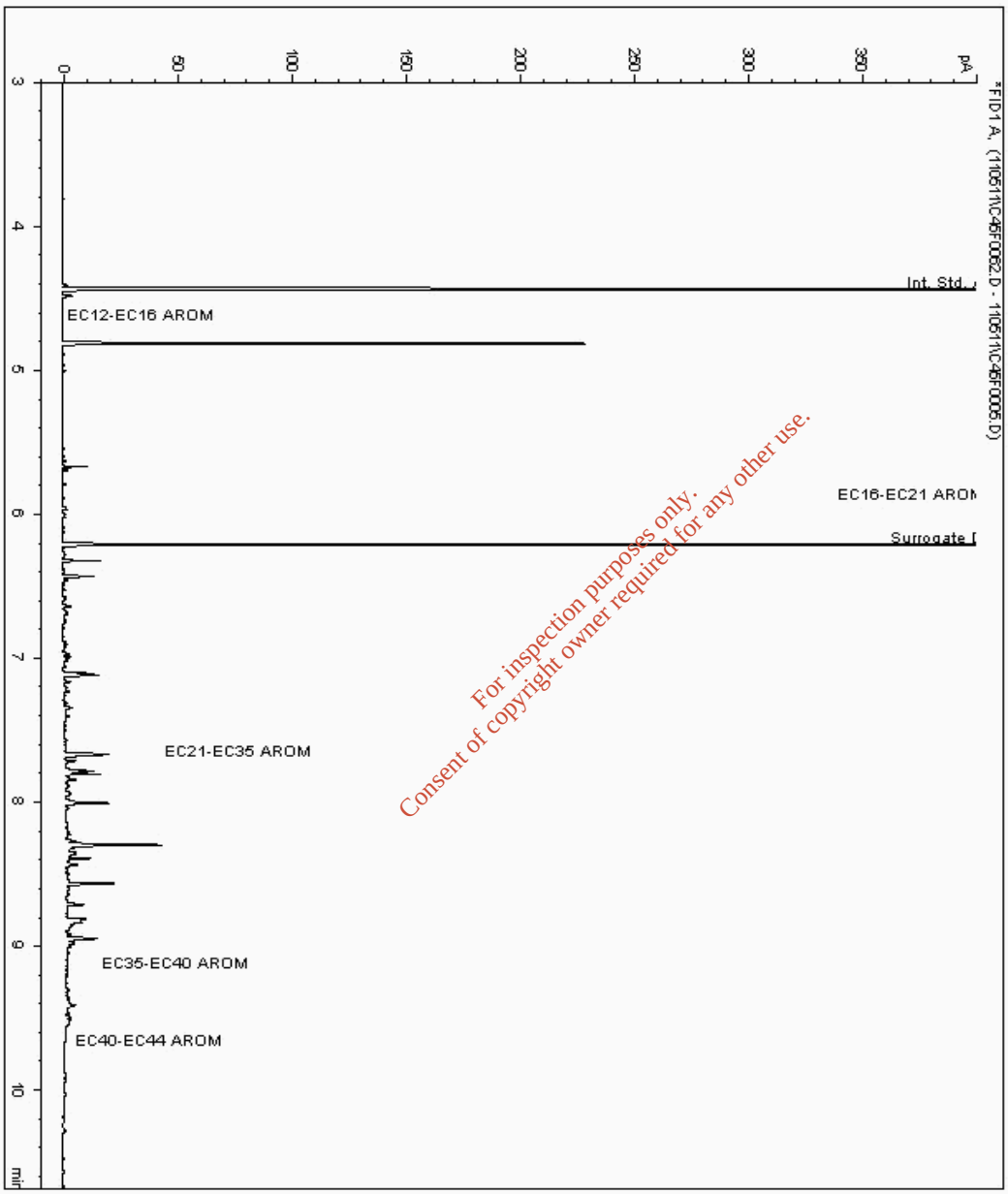
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4635686
Sample ID : C1

Depth : 0.20 - 1.00

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4567073-4635686
Date Acquired : 06/11/11 06:55:08 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

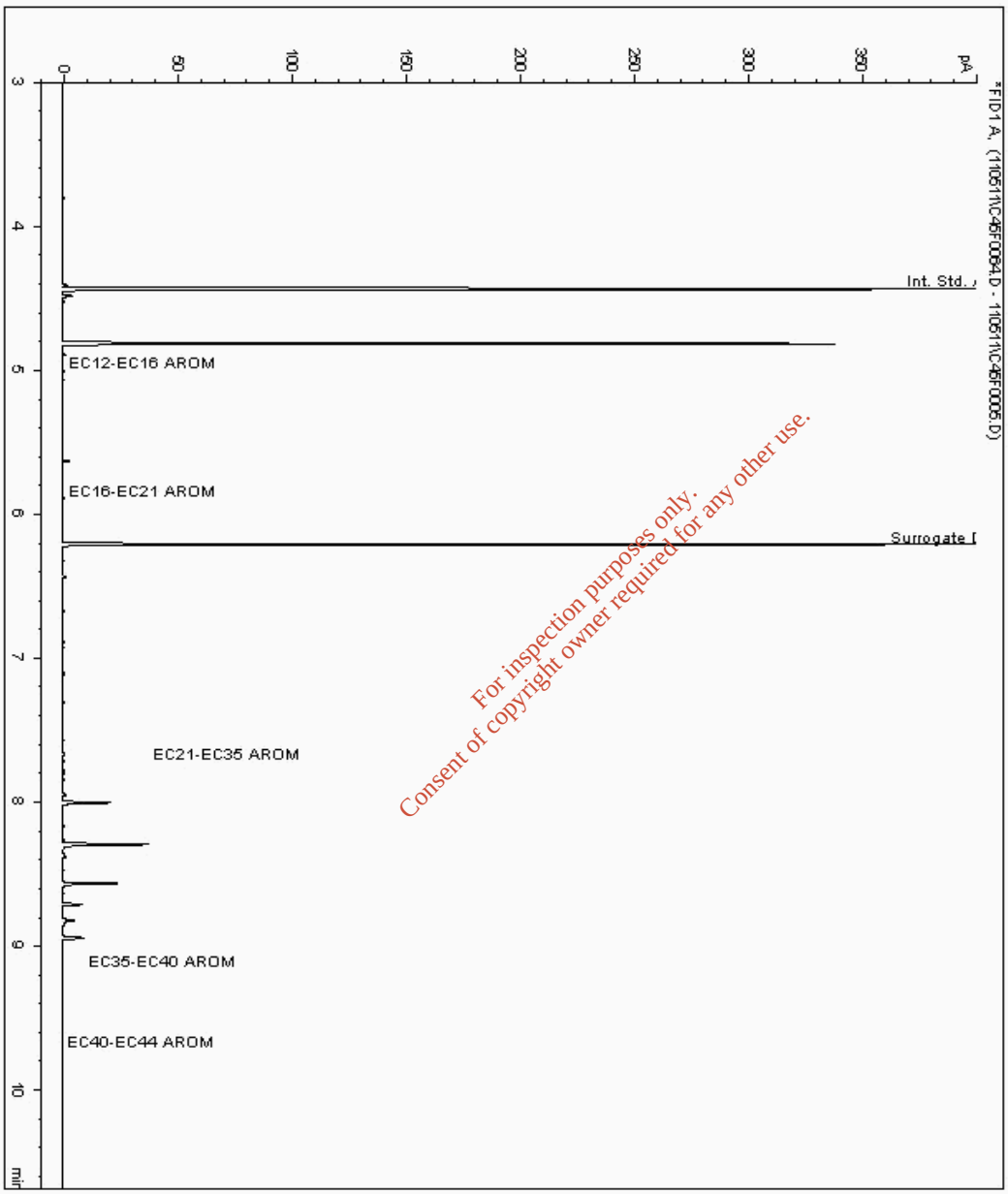
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4635773
Sample ID : A2

Depth : 0.00 - 1.00

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4566780-4635773
Date Acquired : 06/11/11 07:25:32 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

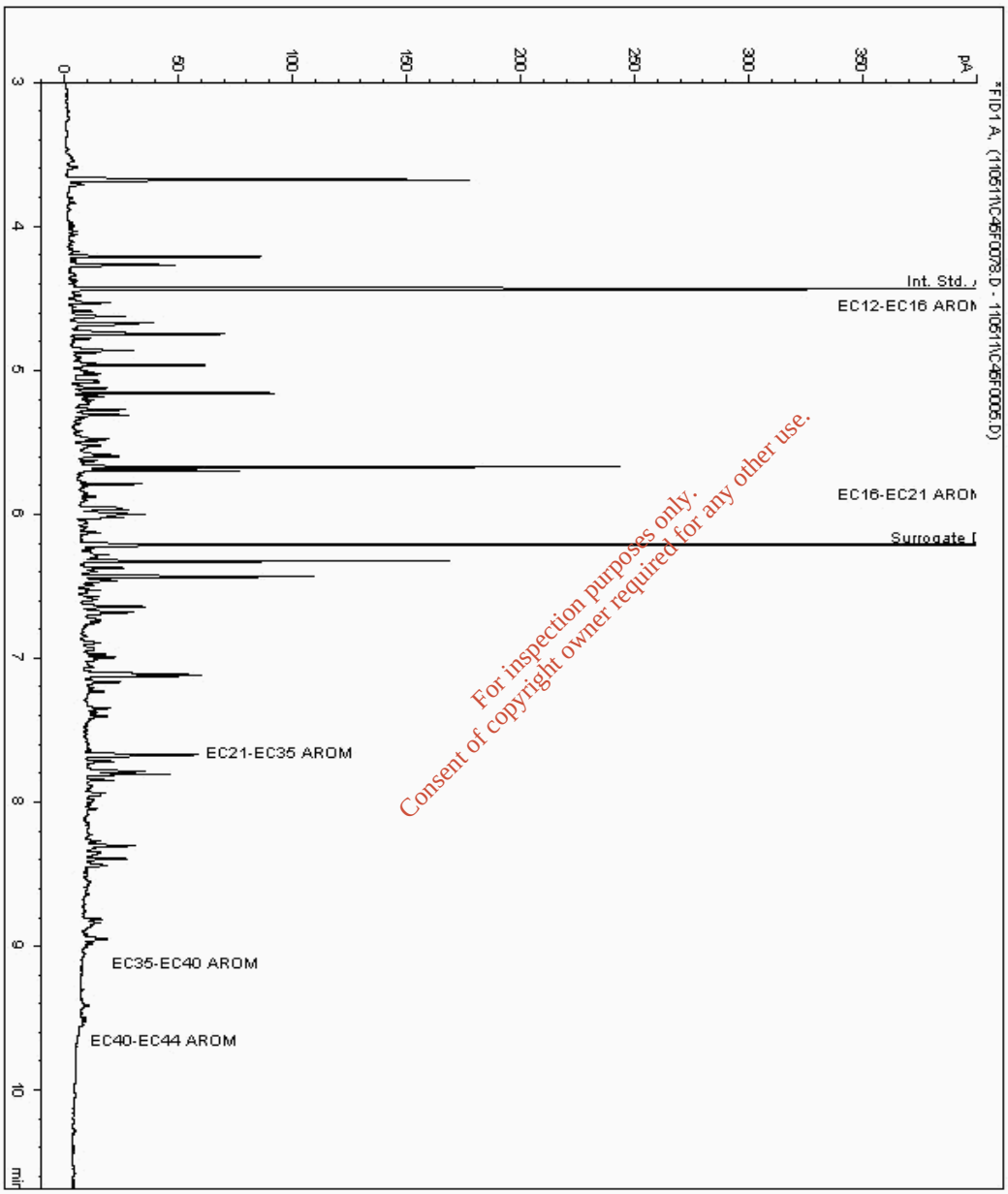
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4636719
Sample ID : C1

Depth : 3.00 - 3.50

Alcontrol/Geochem Analytical Services
Speciated TPH - AROM (C12 - C40)

Sample Identity: 4567155-4636719
Date Acquired : 07/11/11 11:04:47 PM
Units : ppb
Dilution:



CERTIFICATE OF ANALYSIS

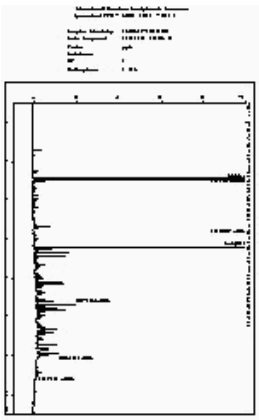
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4642466
Sample ID : B1

Depth : 0.20 - 1.00



CERTIFICATE OF ANALYSIS

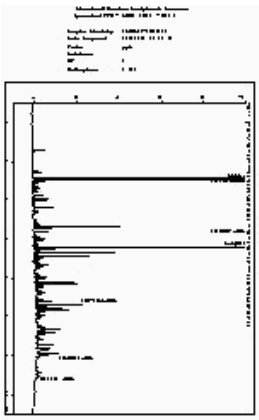
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4642488
Sample ID : A1

Depth : 1.00 - 2.00



CERTIFICATE OF ANALYSIS

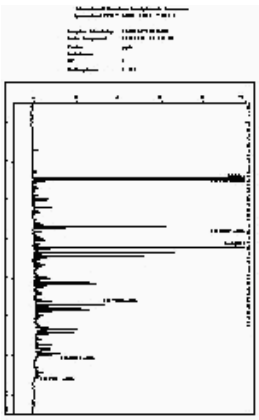
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4642566
Sample ID : A2

Depth : 1.00 - 2.00



CERTIFICATE OF ANALYSIS

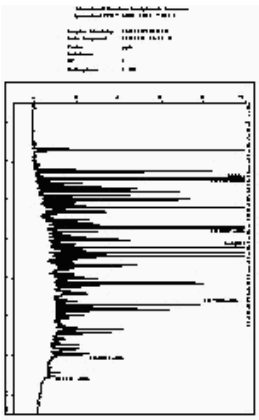
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 4642706
Sample ID : C1

Depth : 2.80 - 3.00



CERTIFICATE OF ANALYSIS

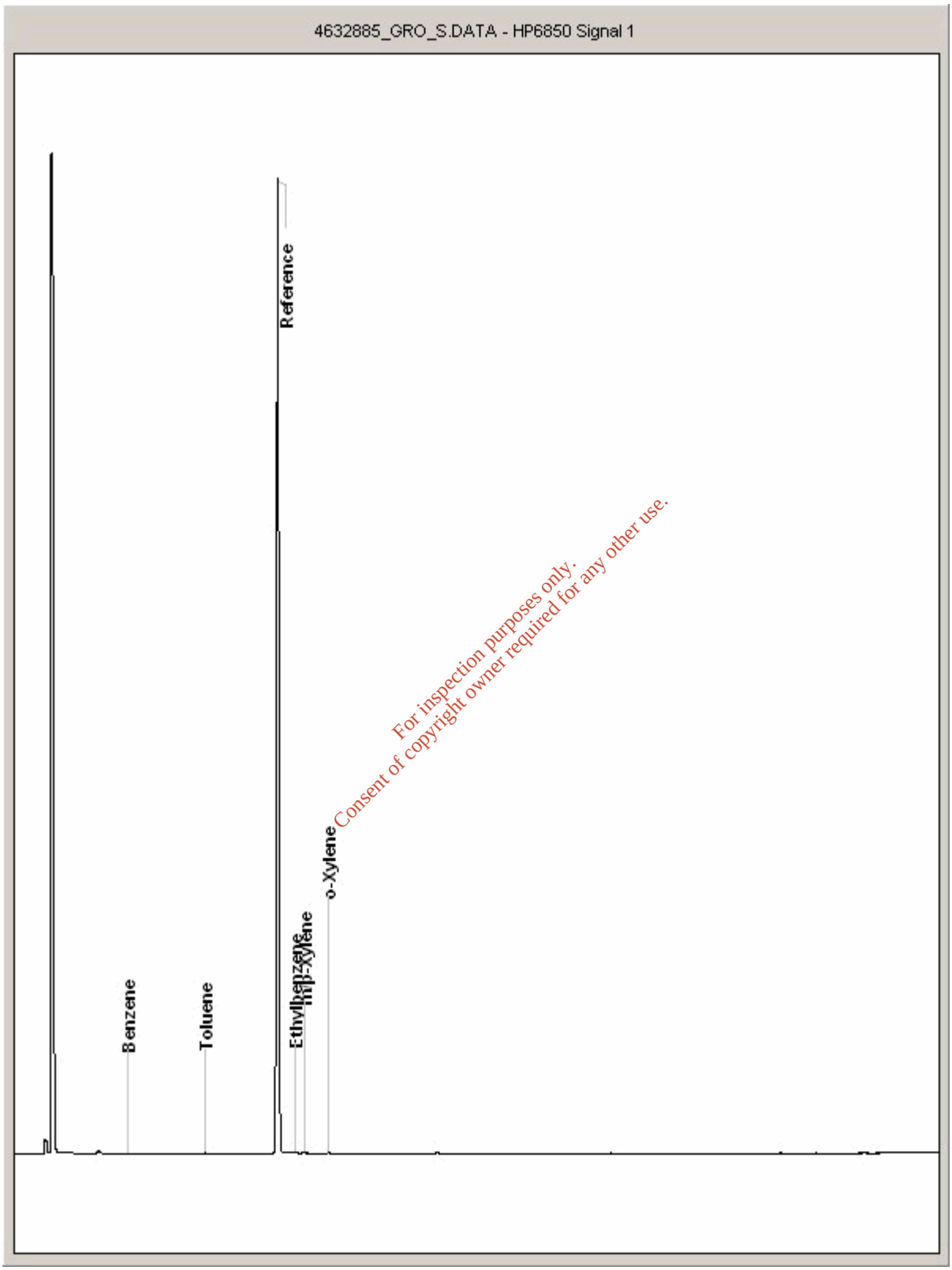
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632885
Sample ID : A2

Depth : 0.00 - 1.00



CERTIFICATE OF ANALYSIS

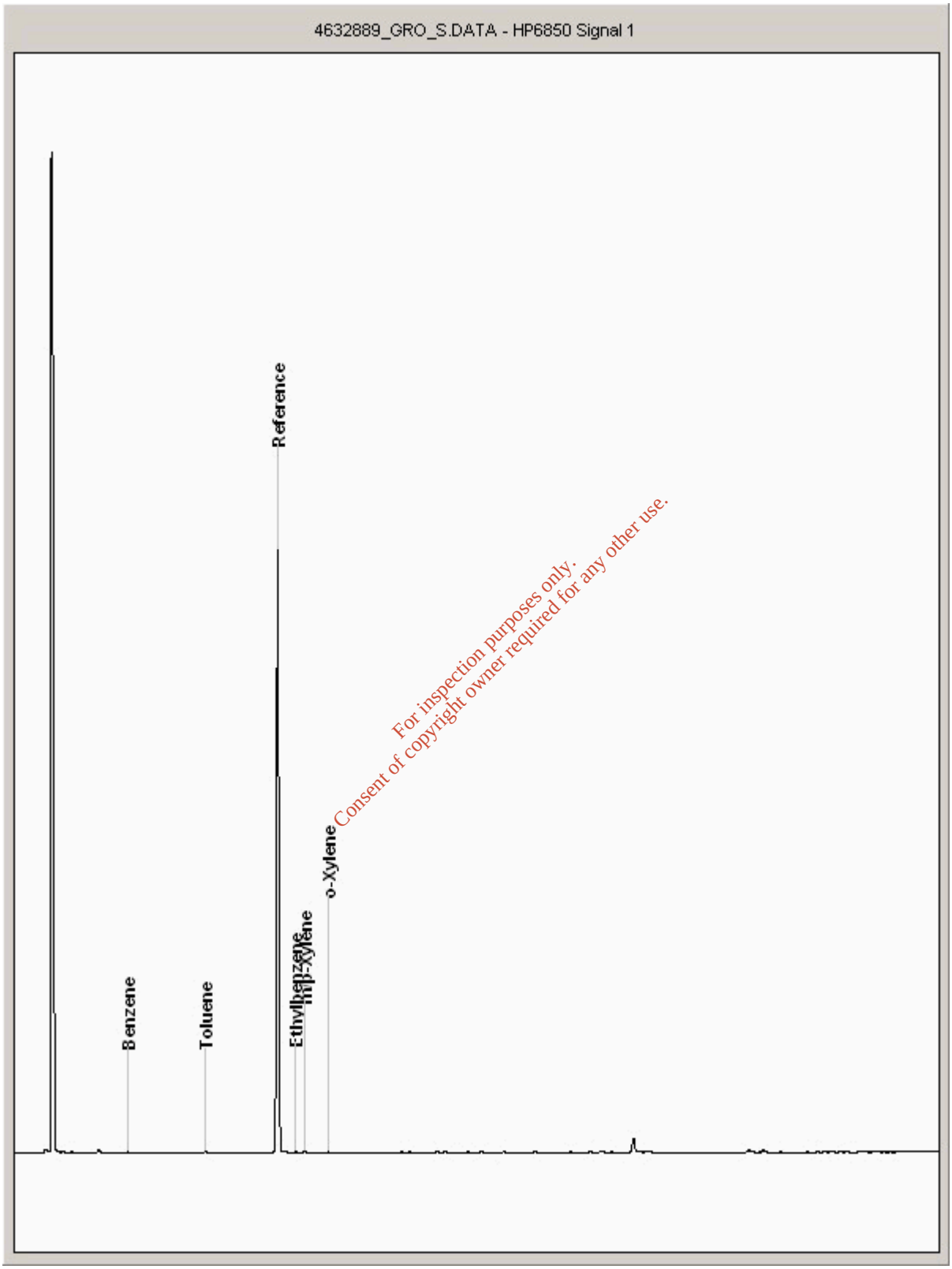
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632889
Sample ID : A1

Depth : 0.30 - 1.00



CERTIFICATE OF ANALYSIS

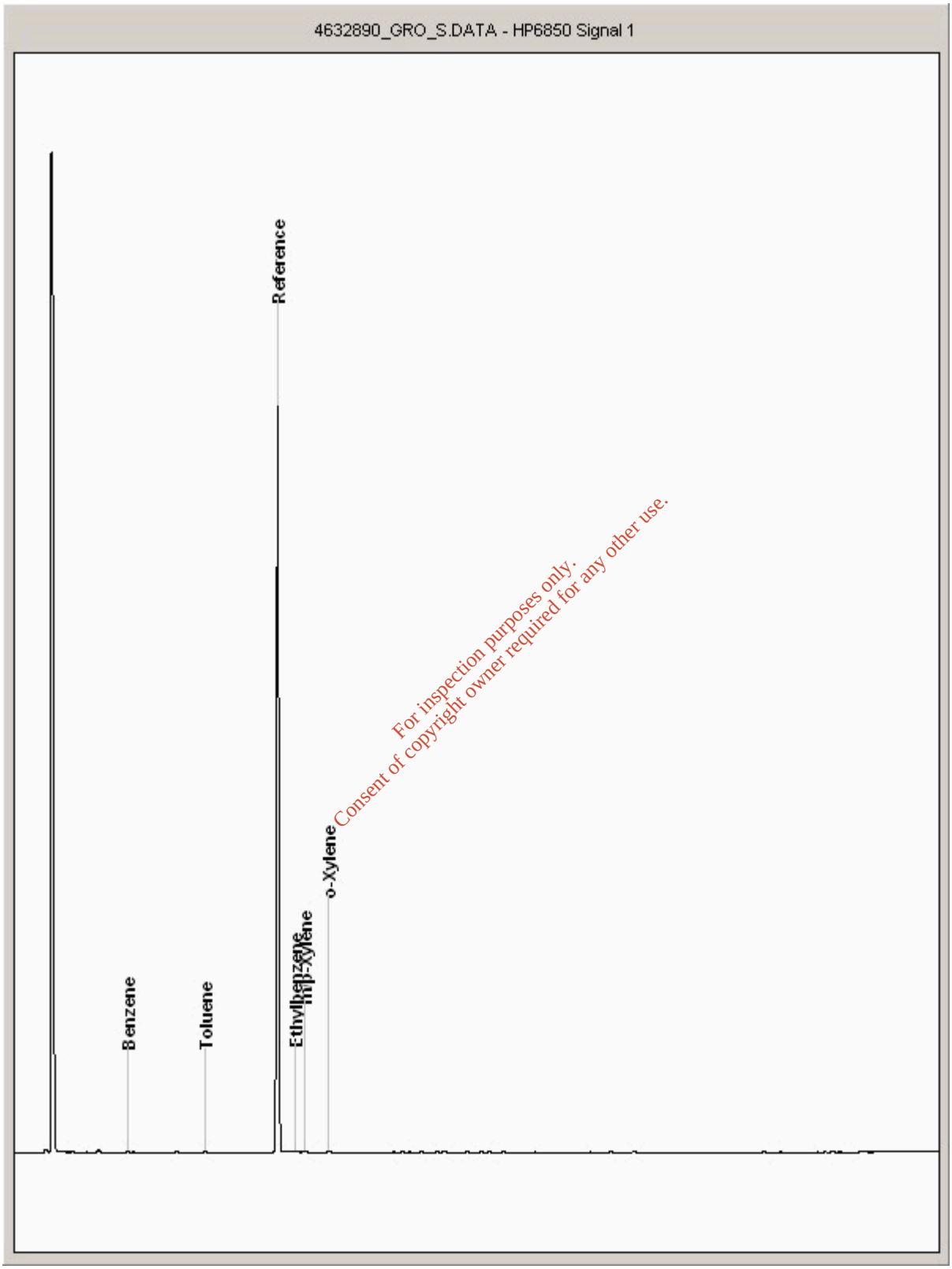
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632890
Sample ID : B1

Depth : 2.10 - 2.30



CERTIFICATE OF ANALYSIS

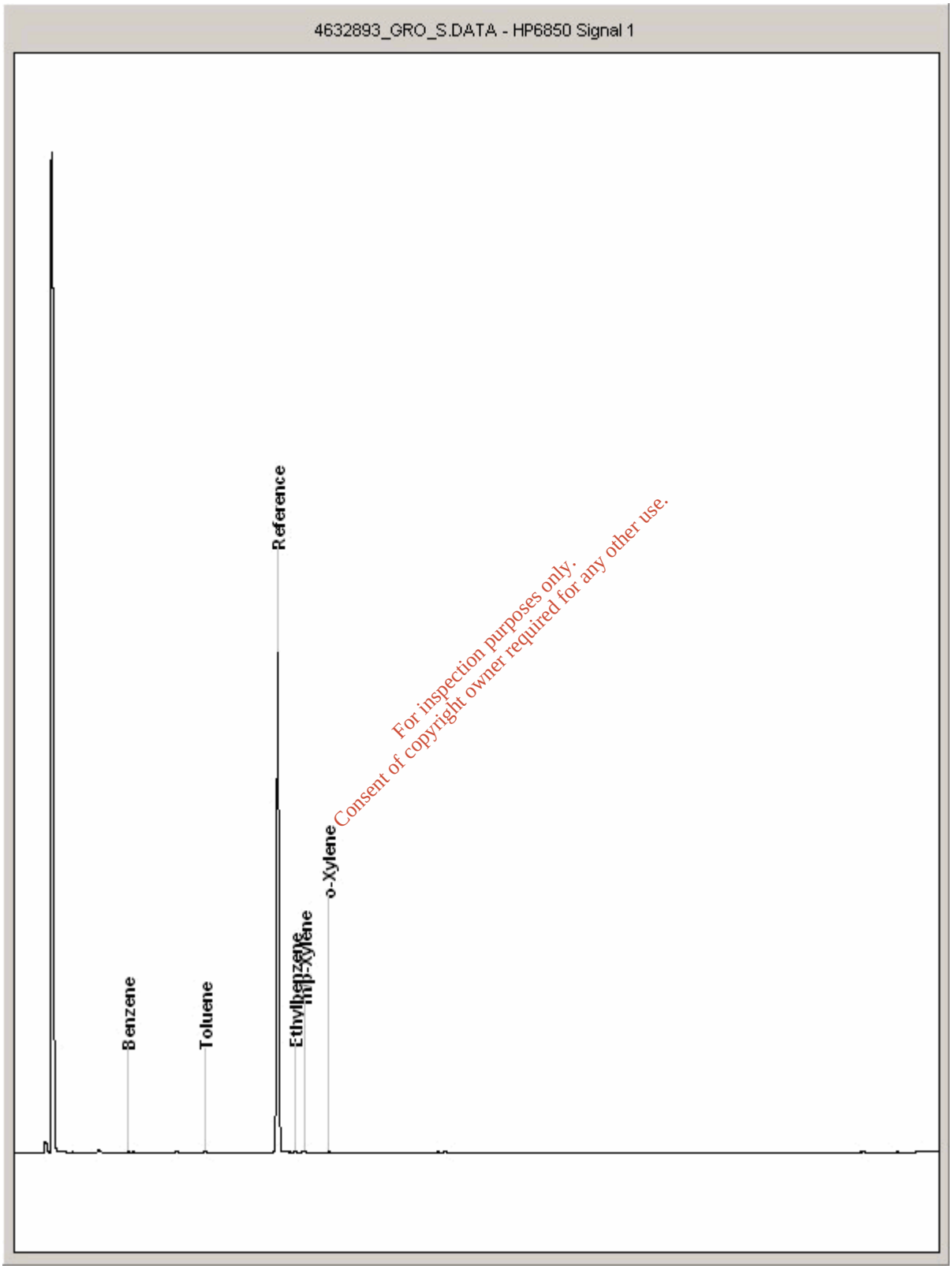
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632893
Sample ID : C1

Depth : 0.20 - 1.00



CERTIFICATE OF ANALYSIS

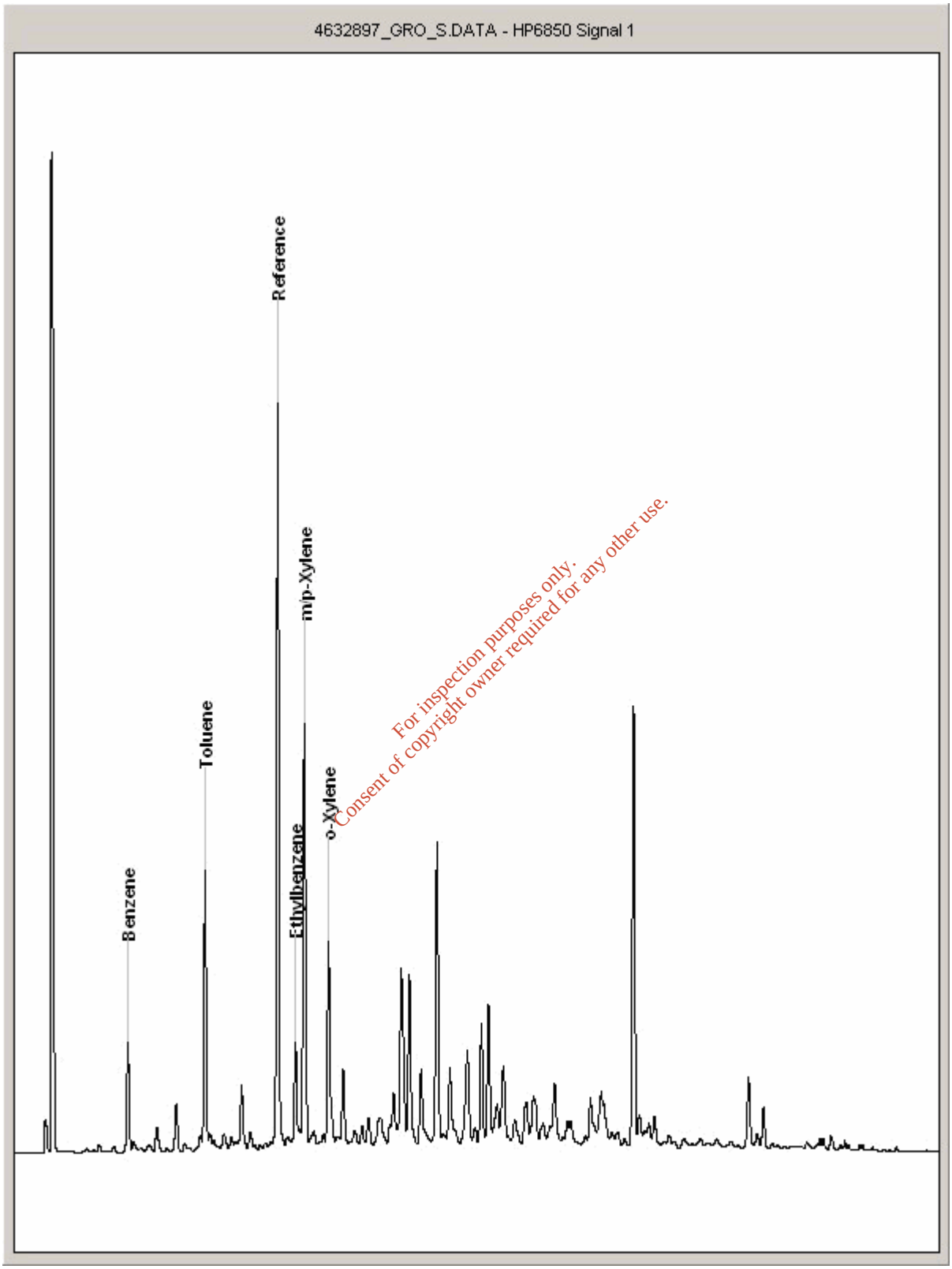
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632897
Sample ID : C1

Depth : 2.80 - 3.00



CERTIFICATE OF ANALYSIS

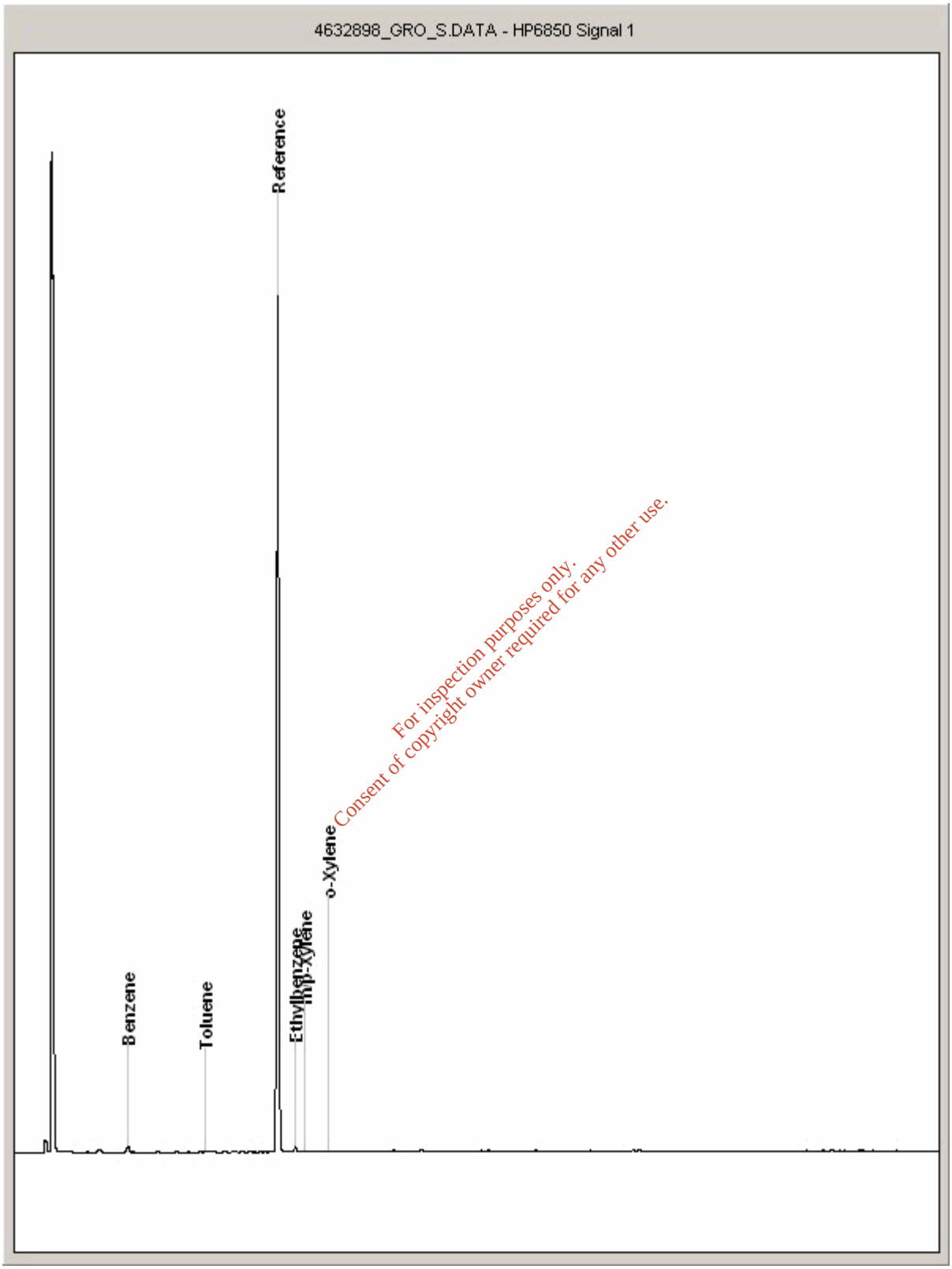
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632898
Sample ID : A2

Depth : 1.00 - 2.00



CERTIFICATE OF ANALYSIS

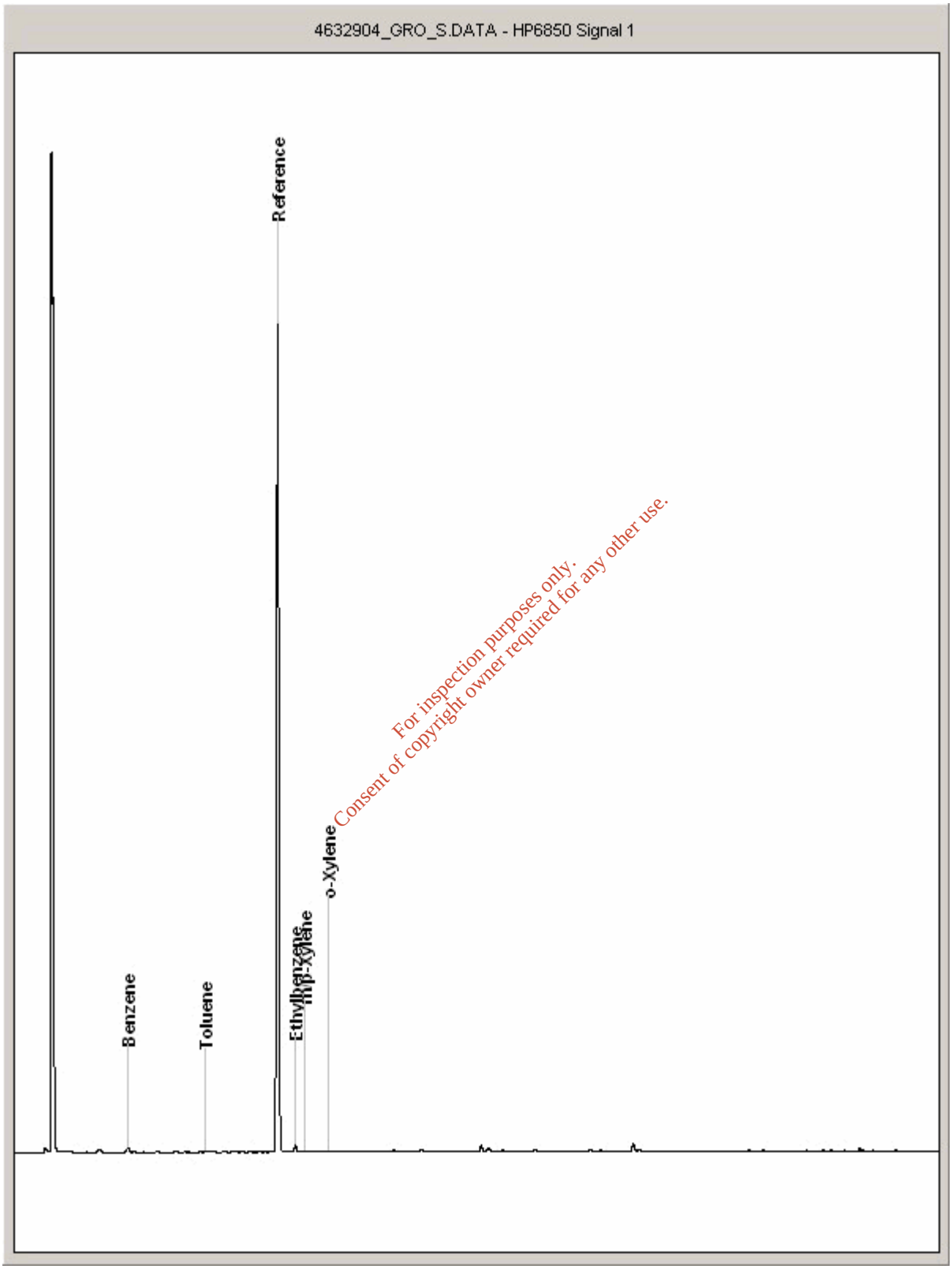
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632904
Sample ID : A1

Depth : 1.00 - 2.00



CERTIFICATE OF ANALYSIS

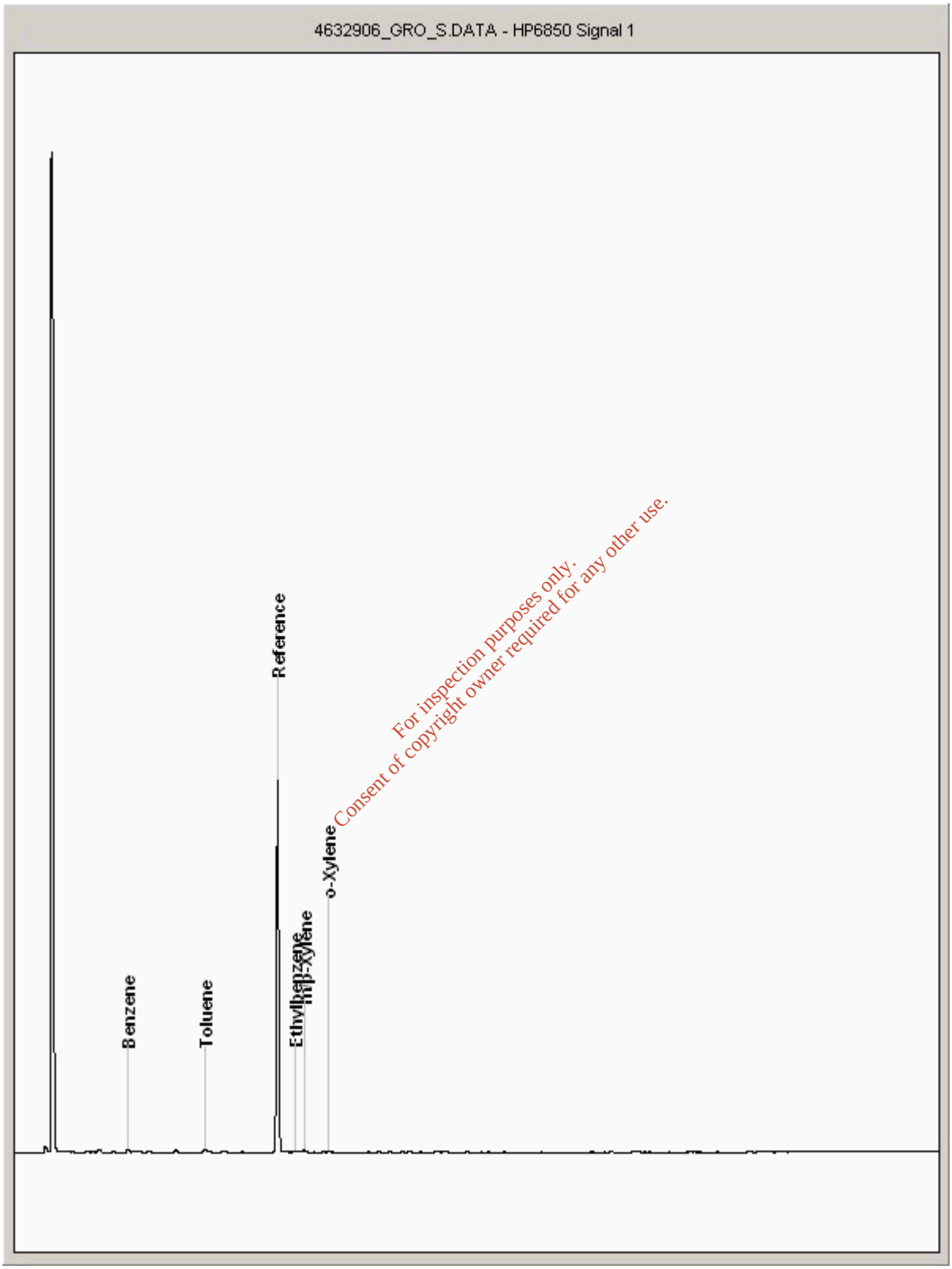
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4632906
Sample ID : B1

Depth : 0.20 - 1.00



CERTIFICATE OF ANALYSIS

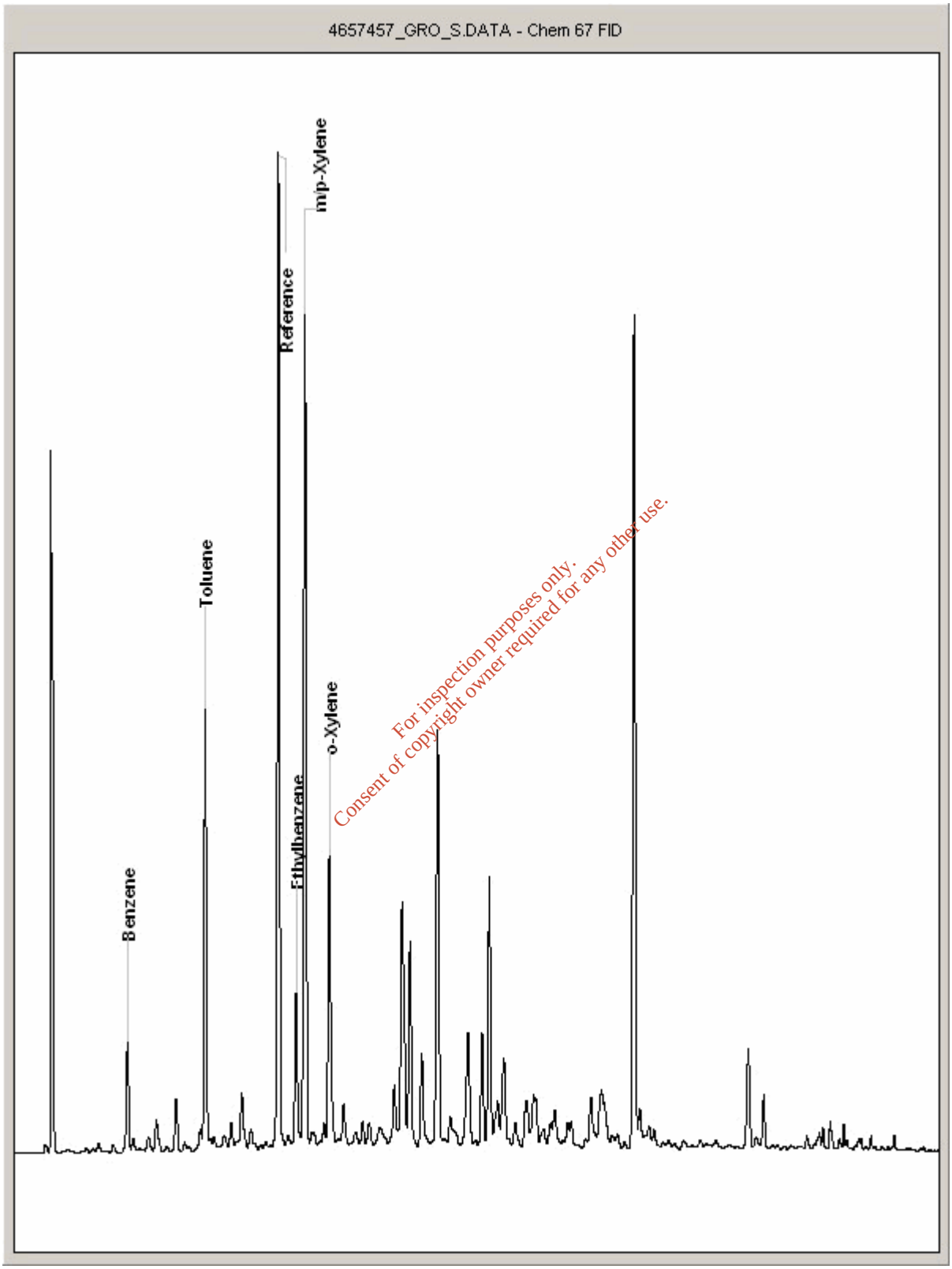
SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 4657457
Sample ID : C1

Depth : 3.00 - 3.50



SDG:	111028-110	**Location:**	Limerick Gasworks	**Order Number:**	4700000740
Job:	D_MOUCHEL_ELE-1	**Customer:**	Mouchel	**Report Number:**	164063
Client Reference:		**Attention:**	Neil Balderstone	**Superseded Report:**	159093

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS 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 both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos 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. ALcontrol Laboratories 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 screened 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. Is an asbestos fibre type is found it will be reported as detected (for each fibre type found). If asbestos is present either as asbestos containing material or loose fibres no further analysis will be undertaken. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

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 for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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 all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

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 themajor 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 C4 -C10 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.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE: ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE: ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE: ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE: ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE: ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE: ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6 -C40) EZ FLASH	WET	HEXANE: ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE: ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (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 Alcontrol Laboratories (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.

Human Health screen - Mouchel 2011 - Commercial (2.5% SOM)

Key:	
🟥	Exceeds screen and is potential outlier
🟧	Does not exceed screen but may be outlier
🟨	Exceeds screen but is not an outlier

				Sample Ref																										LEVEL 1 CHECK												
				trial pit / borehole ref	A1	A1	A2	A2	A9	A9	A10	A10	B1	B1	B2	B2	B2	B9	B9	B9	B9	B10	C1	C1	C1	C2	D2	D2	D2	No of samples in the averaging area	Degrees of freedom	Arithmetic Mean	standard deviation	Coefficient of variation	*confidence bound required (%)	t value	normalised upper bound on confidence limit of population	**Normalised upper bound (95% UCL of mean)**	**Soil Guideline Value**	Source for SGV	**Upper Bound less than the guideline value?**	Action - **note if no further action indicated still do maximum value test**
				Depth	0.30-1.00	1.00-2.00	0.00-1.00	1.00-2.00	0.00-0.7	0.70-0.9	0.50-0.7	2.30-2.6	0.20-1.00	2.10-2.30	0.20-0.80	0.80-1.30	1.30-2.00	0.30-0.50	1.00-1.80	2.00-2.20	2.50-2.80	0.00-0.40	0.20-1.00	2.80-3.00	3.00-3.50	1.50-2.00	0.50-1.0	1.00-1.5	2.00-2.5													
CAS REG No	**Determinand**	**Units**	***Screening Value**	***Source of screening value**																																						
	Inorganics																																									
	Arsenic	mg/kg	640	Mouchel derived GAC using SGV	16.90	7.04	8.45	5.03		7.06	8.90	16.40	8.87	11.20	31.20	7.89	25.60	12.70		28.30	7.11		6.31	6.38	8.19	21.90	25.90	14.60	12.20	22	21	13.55	8.04	0.13	95	1.721	1.218	**16.50**	640	Mouchel derived GAC using SGV	***YES***	No action warranted
	Cadmium	mg/kg	230	Mouchel derived GAC using SGV	0.17	0.43	0.30	0.23		0.21	0.37	0.39	0.41	0.39	0.35	0.40	0.61	0.37		0.49	0.42		0.24	0.30	0.38	0.51	0.46	0.50	0.63	22	21	0.39	0.12	0.07	95	1.721	1.113	**0.43**	230	Mouchel derived GAC using SGV	***YES***	No action warranted
	Chromium (VI)	mg/kg	35	LQM / CIEH GAC	0.60	0.60	0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60		0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	1.20	22	21	0.63	0.13	0.04	95	1.721	1.075	**0.67**	35	LQM / CIEH GAC	***YES***	No action warranted
	Copper	mg/kg	71700	LQM / CIEH GAC	63.10	10.70	9.47	26.20		15.10	20.40	26.90	18.40	16.70	21.90	119.00	626.00	16.00		24.30	4.28		9.29	7.96	17.90	37.50	48.70	23.80	16.90	22	21	53.66	130.20	0.52	95	1.721	1.890	**101.42**	71700	LQM / CIEH GAC	***YES***	No action warranted
	Lead	mg/kg	750	Old SGV	42.60	32.40	13.00	75.50		24.00	58.70	54.60	32.20	46.60	76.90	47.20	59.80	112.00		94.00	5.13		21.60	24.50	33.20	102.00	292.00	245.00	24.60	22	21	46.88	71.00	0.32	95	1.721	1.556	**72.93**	750	Old SGV	***YES***	No action warranted
	Mercury (inorganic)	mg/kg	3600	Mouchel derived GAC using SGV	0.14	0.14	0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.96	0.14		0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	22	21	0.18	0.18	0.21	95	1.721	1.362	**0.24**	3600	Mouchel derived GAC using SGV	***YES***	No action warranted
	Nickel	mg/kg	1800	Mouchel derived GAC using SGV (Inhalation TDI and exposure)	19.50	12.90	8.86	11.20		24.10	16.30	41.80	19.10	16.30	22.70	15.10	12.40	18.60		31.20	10.80		8.77	9.58	13.80	14.70	29.60	24.90	23.20	22	21	18.43	8.30	0.10	95	1.721	1.165	**21.47**	1800	Mouchel derived GAC using SGV (Inhalation	***YES***	No action warranted
	Selenium	mg/kg	13000	Mouchel derived GAC using SGV	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	22	21	1.00	0.00	0.00	95	1.721	1.000	**1.00**	13000	Mouchel derived GAC using SGV	***YES***	No action warranted
	Zinc	mg/kg	665000	LQM / CIEH GAC	67.70	33.40	28.30	30.30		49.10	81.70	61.90	33.00	39.50	90.40	82.20	192.00	95.30		234.00	21.60		17.80	27.10	55.50	75.70	147.00	51.00	84.50	22	21	72.68	55.24	0.16	95	1.721	1.279	**92.95**	665000	LQM / CIEH GAC	***YES***	No action warranted
	Cyanide	mg/kg	16000	Mouchel derived SSV using CLEA V1.04	1.00	1.70	1.00	2.37		1.00	1.00	38.50	1.00	1.00	1.00	7.82	1.00	1.00		4.69	2.39		7.16	1.93	18.90	19.30	1.00	2.72	217.00	22	21	15.20	45.97	0.64	95	1.721	2.109	**32.07**	16000	Mouchel derived SSV using CLEA V1.04	***YES***	No action warranted
	BTEX TPH																																									
	Benzene	mg/kg	50	Mouchel derived GAC using SGV	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.19	0.01	0.01	0.49	3.85	0.02	0.01	0.01	0.10	25	24	0.20	0.77	0.78	95	1.711	2.331	**0.46**	50	Mouchel derived GAC using SGV	***YES***	No action warranted
	Toluene	mg/kg	1920	Mouchel derived GAC using SGV (lower saturation value)	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.02	0.10	0.27	0.01	0.00	1.15	14.80	0.01	0.00	0.00	0.06	25	24	0.66	2.95	0.89	95	1.711	2.530	**1.67**	1920	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	Ethylbenzene	mg/kg	1220	Mouchel derived GAC using SGV (lower saturation value)	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.01	0.13	0.00	0.00	0.40	4.71	0.00	0.00	0.00	0.15	25	24	0.22	0.94	0.84	95	1.711	2.432	**0.55**	1220	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	o Xylene	mg/kg	1800	Mouchel derived GAC using SGV (Inhalation TDI and exposure)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.03	0.70	0.00	0.00	1.29	12.70	0.01	0.00	0.00	0.50	25	24	0.61	2.54	0.83	95	1.711	2.416	**1.48**	1800	Mouchel derived GAC using SGV (Inhalation	***YES***	No action warranted
	p&m-Xylene	mg/kg	1120	Mouchel derived GAC using SGV (lower saturation value)	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.01	1.16	0.01	0.02	0.05	1.48	0.01	0.01	2.24	33.90	0.02	0.01	0.01	0.80	25	24	1.59	6.75	0.85	95	1.711	2.451	**3.90**	1120	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	Aliphatic EC5-EC6	mg/kg	558	Mouchel derived GAC using SGV (lower saturation value)	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.04	0.01	0.02	0.06	0.04	0.03	0.01	0.08	0.88	0.03	0.02	0.02	0.14	25	24	0.06	0.17	0.57	95	1.711	1.974	**0.12**	558	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	Aliphatic EC6-EC8	mg/kg	322	Mouchel derived GAC using SGV (lower saturation value)	0.01	0.04	0.01	0.04	0.01	0.04	0.03	0.01	0.04	0.02	0.03	0.01	1.83	0.03	0.04	0.18	1.01	0.04	0.01	1.72	20.00	0.03	0.01	0.05	2.35	25	24	1.10	3.99	0.72	95	1.711	2.238	**2.47**	322	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	Aliphatic EC8-EC10	mg/kg	190	Mouchel derived GAC using SGV (lower saturation value)	0.01	0.10	0.01	0.11	0.01	0.02	0.02	0.01	0.03	0.02	0.12	0.05	9.32	0.07	0.02	0.05	4.16	0.07	0.01	5.16	51.70	0.04	0.01	0.06	6.16	25	24	3.09	10.41	0.67	95	1.711	2.152	**6.66**	190	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	Aliphatic EC10-EC12	mg/kg	118	Mouchel derived GAC using SGV (lower saturation value)	0.06	0.18	0.01	0.14	0.01	0.01	0.03	0.01	0.03	0.02	1.14	0.18	15.20	0.26	0.01	0.03	7.35	0.15	0.01	6.40	70.60	0.12	0.01	0.19	8.99	25	24	4.45	14.29	0.64	95	1.711	2.100	**9.33**	118	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	Aliphatic EC12-EC16	mg/kg	59	Mouchel derived GAC using SGV (lower saturation value)	0.10	3.96	0.10	3.87		0.10	7.84	0.10	4.89	0.10	4.13	1.65	103.00	11.80		11.10	14.70		0.10	30.40	58.70	6.00	9.19	15.00	9.70	22	21	13.48	23.94	0.38	95	1.721	1.652	**22.26**	59	Mouchel derived GAC using SGV (lower satu	***YES***	No action warranted
	Aliphatic EC16-EC35	mg/kg	1800000	LQM / CIEH GAC	0.10	12.80	0.10	12.90		0.10	40.20	0.10	14.10	4.74	18.40	26.60	214.00	484.00		107.00	66.80		0.10	69.20	128.00	21.00	67.00	46.20	70.50	22	21	63.82	107.52	0.36	95	1.721	1.618	**103.26**	1800000	LQM / CIEH GAC	***YES***	No action warranted
	Aliphatic EC35-EC44	mg/kg	1800000	LQM / CIEH GAC	0.10	1.49	0.10	0.97		0.10	6.82	0.10	1.22	0.10	3.46	0.10	0.10	44.10		18.60	7.66		0.10	3.26	23.80	2.60	9.82	2.21	21.40	22	21	6.74	11.04	0.35	95	1.721	1.601	**10.79**	1800000	LQM / CIEH GAC	***YES***	No action warranted
	Aromatic EC5-EC7	mg/kg	2260	LQM / CIEH GAC (lower saturation value)	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.19	0.01	0.01	0.49	3.85	0.02	0.01	0.01	0.10	25	24	0.20	0.77	0.78	95	1.711	2.330	**0.46**	2260	LQM / CIEH GAC (lower saturation value)	***YES***	No action warranted
	Aromatic EC7-EC8	mg/kg	1920	LQM / CIEH GAC (lower saturation value)	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.10	0.27	0.01	0.01	1.15	14.80	0.01	0.01	0.01	0.06	25	24	0.66	2.95	0.89	95	1.711	2.521	**1.68**	1920	LQM / CIEH GAC (lower saturation value)	***YES***	No action warranted
	Aromatic EC8-EC10	mg/kg	1500	LQM / CIEH GAC (lower saturation value)	0.01	0.10	0.01	0.10	0.02	0.04	0.03	0.01	0.03	0.03	0.13	0.05	7.47	0.07	0.04	0.12	5.08	0.06	0.01	7.37	85.80	0.06	0.01	0.05	5.56	25	24	4.49	17.11	0.76	95	1.711	2.304	**10.34**	1500	LQM / CIEH GAC (lower saturation value)	***YES***	No action warranted
	Aromatic EC10-EC12	mg/kg	899	LQM / CIEH GAC (lower saturation value)	0.04	0.12	0.01	0.09	0.01	0.01	0.02	0.01	0.02	0.02	0.76	0.12	10.20	0.17	0.01	0.02	4.90	0.10	0.01	4.27	47.10	0.08	0.01	0.13	5.99	25	24	2.97	9.53	0.64	95	1.711	2.099	**6.23**	899	LQM / CIEH GAC (lower saturation value)	***YES***	No action warranted
	Aromatic EC12-EC16	mg/kg	37000	LQM / CIEH GAC	6.70	6.51	0.10	5.33		3.42	14.00	0.10	4.51	0.10	200.00	8.53	92.90	26.60		21.30	35.10		0.70	82.00	173.00	9.21	4.39	229.00	18.40	22	21	42.81	69.23	0.34	95	1.721	1.593	**68.21**	37000	LQM / CIEH GAC	***YES***	No action warranted
	Aromatic EC16-EC21	mg/kg	28000	LQM / CIEH GAC	68.80	17.70	0.10	21.50		5.29	65.30	0.10	10.40	2.95	270.00	72.20	291.00	104.00		58.60	104.00		10.20	142.00	284.00	47.70	30.10	1580.00	65.80	22	21	147.81	332.52	0.48	95	1.721	1.825	**269.80**	28000	LQM / CIEH GAC	***YES***	No action warranted
	Aromatic EC21-EC35	mg/kg	28000	LQM / CIEH GAC	224.00	44.40	12.40	46.00		23.10	228.00	0.10	46.40	36.00	731.00	192.00	529.00	336.00		147.00	178.00		51.40	218.00	446.00	216.00	142.00	2750.00	110.00	22	21	304.85	576.26	0.40	95	1.721	1.693	**516.26**	28000	LQM / CIEH GAC	***YES***	No action warranted
	Aromatic EC35-EC44	mg/kg	28000	LQM / CIEH GAC	68.10	12.70	3.86	10.30		10.30	70.80	0.10	12.90	13.20	177.00	54.80	89.10	72.50		25.40	38.10		19.70	46.40	107.00	61.00	61.10	723.00	32.80	22	21	77.73	149.97	0.41	95	1.721	1.708	**132.75**	28000	LQM / CIEH GAC	***YES***	No action warranted
	PAH																																									
	Naphthalene	mg/kg	183	LQM / CIEH GAC (lower saturation value)	0.91	0.48	0.01	0.06		0.17	0.74	0.01	0.15	0.04	70.50	0.27	12.70	1.03		1.17	24.40		0.12	137.00	112.00	5.91	0.31	1.33	24.90	22	21	17.92	38.20	0.45	95	1.721	1.782	**31.93**	183	LQM / CIEH GAC (lower saturation value)	***YES***	No action warranted
	Acenaphthylene	mg/kg	212	LQM / CIEH GAC (lower saturation value)	0.21	0.21	0.01	0.06		0.07	1.21	0.01	0.07	0.02	2.48	0.17	1.10	6.14		0.30	5.19		0.03	19.60	13.30	0.50	0.21	3.48	8.64	22	21	2.86	5.08	0.38	95	1.721	1.650	**4.73**	212	LQM / CIEH GAC (lower saturation value)	***YES***	No action warranted
	Acenaphthene	mg/kg	141	LQM / CIEH GAC (lower saturation value)	0.14	0.28	0.01	0.06		0.01	0.12	0.01	0.03	0.01	7.87	0.11	5.47	1.19		0.35	1.24		0.04	8.99	4.87	0.67	0.04	2.07	4.18	22	21	1.72	2.73	0.34	95	1.721	1.584	**2.72**	141	LQM / CIEH GAC (lower saturation value)	***YES***	No action warranted
	Fluorene	mg/kg	69000	LQM / CIEH GAC	0.17	0.49	0.01	0.07		0.02	0.42	0.01	0.05	0.01	6.86	0.10	3.28	4.30		0.50	4.93		0.03	20.50	12.70	0.58	0.16	11.50	7.97	22	21	3.39	5.46	0.34	95	1.721	1.590	**5.40**	69000	LQM / CIEH GAC	***YES***	No action warranted
	Phenanthrene	mg/kg	22000	LQM / CIEH GAC	3.23	2.64	0.03	0.10		0.13	4.59	0.02	0.60	0.13	70.40	2.53	5.48	13.80		3.92	15.20		0.47	55.20	33.40	6.86	3.51	116.00	23.60	22	21	16.44	29.08	0.38	95	1.721	1.649	**27.11**	22000	LQM / CIEH GAC	***YES***	No action warranted
	Anthracene	mg/kg	540000	LQM / CIEH GAC	0.88	0.57	0.02	0.03		0.04	1.96	0.02	0.26	0.04	14.50	0.59	2.53	6.69		1.31	5.09		0.10	17.10	9.46	1.75	0.74	32.10	7.57	22	21	4.70	7.81	0.35	95	1.721	1.610	**7.56**	540000	LQM / CIEH GAC	***YES***	No action warranted
	Fluoranthene	mg/kg	23000	LQM / CIEH GAC	7.26	2.28	0.05	0.03		0.19	10.30	0.02	1.85	0.23	90.50	5.38	45.80	18.40		4.52	12.40		0.90	37.60	21.90	13.70	7.18	147.00	22.50	22	21	20.45	35.21	0.37	95	1.721	1.632	**33.37**	23000	LQM / CIEH GAC	***YES***	No action warranted
	Pyrene	mg/kg	54000	LQM / CIEH GAC	5.60	1.66	0.04	0.02		0.17	8.88	0.02	1.55	0.18	71.20	4.62	48.80	12.90		3.13	7.96		0.73	24.80	14.10	11.40	6.37	117.00	17.00	22	21	16.28	28.42	0.37	95	1.721	1.640	**26.70**	54000	LQM / CIEH GAC	***YES***	No action warranted
	Benzo[a]anthracene	mg/kg	95	LQM / CIEH GAC	4.18	1.20	0.05	0.01		0.13	6.51	0.01	1.72	0.22	51.00	2.66	27.50	7.88		2.10	4.65		0.89	12.60	6.15	9.99	5.70	67.20	11.70	22	21	10.18	17.21	0.36	95	1.721	1.620	**16.50**	95	LQM / CIEH GAC	***YES***	No action warranted
	Chrysene	mg/kg	140	LQM / CIEH GAC	3.52	0.97	0.05	0.01		0.10	4.39	0.01	1.31	0.18	42.10	2.23	21.40	4.93		1.67	3.03		0.83	9.04	4.83	7.81	4.65	48.80	7.59	22	21	7.70	13.14	0.36	95	1.721	1.626	**12.52**	140	LQM / CIEH GAC	***YES***	No action warranted
	Benzo[b]flouranthene	mg/kg	100	LQM / CIEH GAC	5.77	1.40	0.09	0.02		0.22	9.58	0.02	2.47	0.33	62.90	3.04	21.10	8.57		2.27	4.16		1.84	13.50	6.29	14.70	11.70	82.50	13.60	22	21	12.09	20.69	0.36	95	1.721	1.628	**19.68**	100	LQM / CIEH GAC	***YES***	No action warranted
	Benzo[k]flouranthene	mg/kg	140	LQM / CIEH GAC	2.02	0.55	0.04	0.01		0.06	3.24	0.01	0.94	0.13	19.80	1.21	6.25	2.68		0.78	1.62		0.75	4.89	2.58	4.65	3.94	29.50	5.34	22	21	4.14	7.07	0.36	95	1.721	1.627	**6.73**	140	LQM / CIEH GAC	***YES***	No action warranted
	Benzo[a]pyrene	mg/kg	14	LQM / CIEH GAC	4.25	1.06	0.05	0.02		0.17	7.65	0.02	2.00	0.25	49.40	2.55	15.50	6.71		1.34	3.40		1.49	10.40	4.81	11.10	6.94	64.60	11.00	22	21	9.30	16.22	0.37	95	1.721	1.639	**15.25**	14	LQM / CIEH GAC	**NO**	Remediation or further testing required
	Indeno[1,2,3-c,d]pyrene	mg/kg	61	LQM / CIEH GAC	2.43	0.50	0.03	0.02		0.11	4.33	0.02	1.06	0.15	23.70	1.19	4.88	3.17		0.65	1.44		0.97	4.65	2.28	5.93	6.06	35.40	6.31	22	21	4.79	8.49	0.38	95	1.721	1.651	**7.90**	61	LQM / CIEH GAC	***YES***	No action warranted
	Dibenzo[a,h]anthracene	mg/kg	13	LQM / CIEH GAC	0.75	0.21	0.02	0.02		0.02	1.34	0.02	0.41	0.06	7.98	0.42	1.87	0.87		0.23	0.42		0.37	1.33	0.67	2.14	1.79	10.20	1.86	22	21	1.50	2.57	0.37	95	1.721	1.629	**2.44**	13	LQM / CIEH GAC	***YES***	No action warranted
	Benzo[g,h,i]perylene	mg/kg	660	LQM / CIEH GAC	2.74	0.52	0.04	0.02		0.12	4.92	0.02	1.10	0.18	25.70	1.45	5.61	3.28		0.78	1.54		1.07	5.18	2.64	6.06	6.54	37.50	6.46	22	21	5.16	9.05	0.37	95	1.721	1.643	**8.48**	660	LQM / CIEH GAC	***YES***	No action warranted
	Other organics																																									
	Phenol	mg/kg	3200	Phenol mouchel derived GAC using SGV (threshold for direct skin contact)	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01		0.32	7.12		0.01	0.05	0.30	0.01	0.01	0.01	0.01	22	21	0.36	1.51	0.89	95	1.721	2.529	**0.92**	3200	Phenol mouchel derived GAC using SGV (thr	***YES***	No action warranted
	Chlorobenzene	mg/kg	130	LQM / CIEH GAC		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	130	LQM / CIEH GAC	***YES***	No action warranted
	1,2-Dichloroethane	mg/kg	1	LQM / CIEH GAC		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	1	LQM / CIEH GAC	***YES***	No action warranted
	Hexachloro-1,3-butadiene	mg/kg	69	LQM / CIEH GAC		0.012		0.012								0.012	0.012				0.012	0.120			0.012			0.012	0.012	9	8	0.02	0.04	0.50	95	1.860	1.930	**0.05**	69	LQM / CIEH GAC	***YES***	No action warranted
	1,1,1,2-Tetrachloroethane	mg/kg	260	LQM / CIEH GAC		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.04**	260	LQM / CIEH GAC	***YES***	No action warranted
	1,1,2,2-Tetrachloroethane	mg/kg	580	LQM / CIEH GAC		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.04**	580	LQM / CIEH GAC	***YES***	No action warranted
	Tetrachloroethene	mg/kg	290	LQM / CIEH GAC		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	290	LQM / CIEH GAC	***YES***	No action warranted
	1,1,1-Trichloroethane	mg/kg	1400	LQM / CIEH GAC		0.007		0.007								0.007	0.007				0.007	0.070			0.007			0.007	0.007	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.03**	1400	LQM / CIEH GAC	***YES***	No action warranted
	Trichloroethene	mg/kg	25	LQM / CIEH GAC		0.009		0.009								0.009	0.009				0.009	0.090			0.009			0.009	0.009	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.03**	25	LQM / CIEH GAC	***YES***	No action warranted
	Vinyl Chloride (chloroethene)	mg/kg	0.081	LQM / CIEH GAC		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.04**	0.081	LQM / CIEH GAC	***YES***	No action warranted
	Carbon tetrachloride (tetrachloromethane)	mg/kg	6.6	LQM / CIEH GAC		0.014		0.014								0.014	0.014				0.014	0.140			0.014			0.014	0.014	9	8	0.03	0.04	0.50	95	1.860	1.930	**0.05**	6.6	LQM / CIEH GAC	***YES***	No action warranted
	cis 1,2 Dichloroethene	mg/kg	24	EIC/AGS/CL:AIRE		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	24	EIC/AGS/CL:AIRE	***YES***	No action warranted
	trans 1,2 Dichloroethene	mg/kg	40	EIC/AGS/CL:AIRE		0.011		0.011								0.011	0.011				0.011	0.110			0.011			0.011	0.011	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.04**	40	EIC/AGS/CL:AIRE	***YES***	No action warranted
	PCBs tox based on C118)	mg/kg	0.029	Mouchel derived SSV using CLEA V1.04	0.003			0.003				0.003		0.003		0.003									0.003			0.003		7	6	0.00	0.00	0.00	95	1.943	1.000	**0.00**	0.029	Mouchel derived SSV using CLEA V1.04	***YES***	No action warranted
	Styrene	mg/kg	1440	EIC/AGS/CL:AIRE (lower saturation value)		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.04**	1440	EIC/AGS/CL:AIRE (lower saturation value)	***YES***	No action warranted
	Cresol	mg/kg	2900	Mouchel derived SSV using CLEA V1.04	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.03			8.10		0.01	0.23	5.88	0.01	0.01	0.01	0.04	21	20	0.69	2.12	0.67	95	1.725	2.158	**1.49**	2900	Mouchel derived SSV using CLEA V1.04	***YES***	No action warranted
	Carbon disulphide	mg/kg	23	LQM / CIEH GAC		0.01		0.01								0.007	0.074				0.041	0.070			0.061			0.007	0.095	9	8	0.04	0.04	0.29	95	1.860	1.531	**0.06**	23	LQM / CIEH GAC	***YES***	No action warranted

Human Health screen - Mouchel 2011 - Dutch intervention values

Key:	
(red)	Exceeds screen and is potential outlier
(orange)	Does not exceed screen but may be outlier
(yellow)	Exceeds screen but is not an outlier

CAS REG No	Determinand	Units	*Screening Value	*Source of screening value	A1	A1	A2	A2	A9	A9	A10	A10	B1	B1	B2	B2	B2	B9	B9	B9	B9	B10	C1	C1	C1	C2	D2	D2	D2
				Sample Ref / trial pit / borehole ref / Depth	0.30-1	1.00-2	0.00-1	1.00-2	0.00-0.7	0.70-0	0.50-0	2.30-2.6	0.20-1.	2.10-2	0.20-0.8	0.80-1.3	1.30-2.	0.30-0.5	1.00-1.8	2.00-2.2	2.50-2.8	0.00-0	0.20-1.	2.80-3.0	3.00-3.5	1.50-2.	0.50-1.	1.00-1.5	2.00-2.5
	Metals and Inorganics																												
	Arsenic	mg/kg	55	Dutch intervention value	16.90	7.04	8.45	5.03		7.06	8.90	16.40	8.87	11.20	31.20	7.89	25.60	12.70		28.30	7.11		6.31	6.38	8.19	21.90	25.90	14.60	12.20
	Cadmium	mg/kg	12	Dutch intervention value	0.17	0.43	0.30	0.23		0.21	0.37	0.39	0.41	0.39	0.35	0.40	0.61	0.37		0.49	0.42		0.24	0.30	0.38	0.51	0.46	0.50	0.63
	Total Chromium	mg/kg	380	Dutch intervention value	0.60	0.60	0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60		0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	1.20
	Copper	mg/kg	190	Dutch intervention value	63.10	10.70	9.47	26.20		15.10	20.40	26.90	18.40	16.70	21.90	119.00	626.00	16.00		24.30	4.28		9.29	7.96	17.90	37.50	48.70	23.80	16.90
	Lead	mg/kg	530	Dutch intervention value	42.60	32.40	13.00	75.50		24.00	58.70	54.60	32.20	46.60	76.90	47.20	59.80	112.00		94.00	5.13		21.60	24.50	33.20	102.00	292.00	245.00	24.60
	Mercury (inorganic)	mg/kg	10	Dutch intervention value	0.14	0.14	0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.96	0.14		0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14
	Nickel	mg/kg	210	Dutch intervention value	19.50	12.90	8.86	11.20		24.10	16.30	41.80	19.10	16.30	22.70	15.10	12.40	18.60		31.20	10.80		8.77	9.58	13.80	14.70	29.60	24.90	23.20
	Zinc	mg/kg	720	Dutch intervention value	67.70	33.40	28.30	30.30		49.10	81.70	61.90	33.00	39.50	90.40	82.20	192.00	95.30		234.00	21.60		17.80	27.10	55.50	75.70	147.00	51.00	84.50
	Cyanide	mg/kg	70	Dutch intervention value (free + complex CN @ pH > 5)	1.00	1.70	1.00	2.37		1.00	1.00	38.50	1.00	1.00	1.00	7.82	1.00	1.00		4.69	2.39		7.16	1.93	18.90	19.30	1.00	2.72	217.00
	BTEX																												
	Benzene	mg/kg	1	Dutch intervention value	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.19	0.01	0.01	0.49	3.85	0.02	0.01	0.01	0.10
	Toluene	mg/kg	130	Dutch intervention value	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.02	0.10	0.27	0.01	0.00	1.15	14.80	0.01	0.00	0.00	0.06
	Ethylbenzene	mg/kg	50	Dutch intervention value	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.01	0.13	0.00	0.00	0.40	4.71	0.00	0.00	0.00	0.15
	Xylenes	mg/kg	25	Dutch intervention value	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	0.00	0.00	0.00	0.00	0.00
	PAH																												
	Naphthalene	mg/kg			0.91	0.48	0.01	0.06		0.17	0.74	0.01	0.15	0.04	70.50	0.27	12.70	1.03		1.17	24.40		0.12	137.00	112.00	5.91	0.31	1.33	24.90
	Fluorene	mg/kg			0.17	0.49	0.01	0.07		0.02	0.42	0.01	0.05	0.01	6.86	0.10	3.28	4.30		0.50	4.93		0.03	20.50	12.70	0.58	0.16	11.50	7.97
	Phenanthrene	mg/kg			3.23	2.64	0.03	0.10		0.13	4.59	0.02	0.60	0.13	70.40	2.53	5.48	13.80		3.82	15.20		0.47	55.20	33.40	6.86	3.51	116.00	23.60
	Anthracene	mg/kg			0.88	0.57	0.02	0.03		0.04	1.96	0.02	0.26	0.04	14.50	0.59	2.53	6.69		1.31	5.09		0.10	17.10	9.46	1.75	0.74	32.10	7.57
	Fluoranthene	mg/kg			7.26	2.28	0.05	0.03		0.19	10.30	0.02	1.85	0.23	90.50	5.38	45.80	18.40		4.52	12.40		0.90	37.60	21.90	13.70	7.18	147.00	22.50
	Benzo[a]anthracene	mg/kg			4.18	1.20	0.05	0.01		0.13	6.51	0.01	1.72	0.22	51.00	2.66	27.50	7.88		2.10	4.65		0.89	12.60	6.15	9.99	5.70	67.20	11.70
	Chrysene	mg/kg			3.52	0.97	0.05	0.01		0.10	4.39	0.01	1.31	0.18	42.10	2.23	21.40	4.93		1.67	3.03		0.83	9.04	4.83	7.81	4.65	48.80	7.59
	Benzo[a]pyrene	mg/kg			4.25	1.06	0.05	0.02		0.17	7.65	0.02	2.00	0.25	49.40	2.55	15.50	6.71		1.34	3.40		1.49	10.40	4.81	11.10	6.94	64.60	11.00
	Indeno[1,2,3-c,d]pyrene	mg/kg			2.43	0.50	0.03	0.02		0.11	4.33	0.02	1.06	0.15	23.70	1.19	4.88	3.17		0.65	1.44		0.97	4.65	2.28	5.93	6.06	35.40	6.31
	Benzo[g,h,i]perylene	mg/kg			2.74	0.52	0.04	0.02		0.12	4.92	0.02	1.10	0.18	25.70	1.45	5.61	3.28		0.78	1.54		1.07	5.18	2.64	6.06	6.54	37.50	6.46
	Sum of 10 PAHs	mg/kg	40	Dutch intervention value	29.56	10.71	0.34	0.37	0.00	1.18	45.81	0.15	10.09	1.43	444.66	18.95	144.68	70.19	0.00	17.86	76.08	0.00	6.87	309.27	210.17	69.69	41.79	561.43	129.60
	Other organics																												
	Phenol	mg/kg	40	Dutch intervention value	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01		0.32	7.12		0.01	0.05	0.30	0.01	0.01	0.01	0.01
	Chlorobenzenes	mg/kg	30	Dutch intervention value (sum of 6 mono-, di-, and tri-chlorobenzenes analysed)		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	1,2-Dichloroethane	mg/kg	4	Dutch intervention value		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	Tetrachloroethene	mg/kg	4	Dutch intervention value		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	Vinyl Chloride (chloroethene)	mg/kg	0.1	Dutch intervention value		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010
	Carbon tetrachloride (tetrachloromethane)	mg/kg	1	Dutch intervention value		0.014		0.014								0.014	0.014				0.014	0.140			0.014			0.014	0.014
	cis 1,2 Dichloroethene	mg/kg	1	Dutch intervention value		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	trans 1,2 Dichloroethene	mg/kg	1	Dutch intervention value		0.011		0.011								0.011	0.011				0.011	0.110			0.011			0.011	0.011
	PCBs sum of 7	mg/kg	1	Dutch intervention value	0.003			0.003				0.003		0.003		0.003									0.003			0.003	
	Cresol	mg/kg	5	Dutch intervention value	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.03			8.10		0.01	0.23	5.88	0.01	0.01	0.01	0.04
	Dichloromethane	mg/kg	10	Dutch intervention value		0.01		0.01									0.01	0.01				0.01	0.10			0.01			0.01
	1,1-Dichloroethane	mg/kg	15	Dutch intervention value		0.01		0.01									0.01	0.01				0.01	0.08			0.01			0.01
	1,1,1-Trichloroethane	mg/kg	15	Dutch intervention value		0.01		0.01								0.01	0.01				0.01	0.07			0.01			0.01	0.01
	1,1,2-Trichloroethane	mg/kg	10	Dutch intervention value		0.01		0.01									0.01	0.01				0.01	0.10			0.01			0.01
	Trichloroethene	mg/kg	60	Dutch intervention value		0.01		0.01								0.01	0.01				0.01	0.09			0.01			0.01	0.01

LEVEL 1 CHECK

Determinand	No of samples in the averaging area	Degrees of freedom	Arithmetic Mean	standard deviation	Coefficient of variation	*confidence bound required (%)	t value	normalised upper bound on confidence limit of population	Normalised upper bound (95% UCL of mean)	Soil Guideline Value	Source for SGV	Upper Bound less than the guideline value?	Action - note if no further action indicated still do maximum value test
Metals and Inorganics													
Arsenic	22	21	13.55	8.04	0.13	95	1.721	1.218	**16.50**	55	Dutch intervention value	YES	No action warranted
Cadmium	22	21	0.39	0.12	0.07	95	1.721	1.113	**0.43**	12	Dutch intervention value	YES	No action warranted
Total Chromium	22	21	0.63	0.13	0.04	95	1.721	1.075	**0.67**	380	Dutch intervention value	YES	No action warranted
Copper	22	21	53.66	130.20	0.52	95	1.721	1.890	**101.42**	190	Dutch intervention value	YES	No action warranted
Lead	22	21	46.88	71.00	0.32	95	1.721	1.556	**72.93**	530	Dutch intervention value	YES	No action warranted
Mercury (inorganic)	22	21	0.18	0.18	0.21	95	1.721	1.362	**0.24**	10	Dutch intervention value	YES	No action warranted
Nickel	22	21	18.43	8.30	0.10	95	1.721	1.165	**21.47**	210	Dutch intervention value	YES	No action warranted
Zinc	22	21	72.68	55.24	0.16	95	1.721	1.279	**92.95**	720	Dutch intervention value	YES	No action warranted
Cyanide	22	21	15.20	45.97	0.64	95	1.721	2.109	**32.07**	70	Dutch intervention value (free + complex CN	YES	No action warranted
BTEX	0												
Benzene	25	24	0.20	0.77	0.78	95	1.711	2.331	**0.46**	1	Dutch intervention value	YES	No action warranted
Toluene	25	24	0.66	2.95	0.89	95	1.711	2.530	**1.67**	130	Dutch intervention value	YES	No action warranted
Ethylbenzene	25	24	0.22	0.94	0.84	95	1.711	2.432	**0.55**	50	Dutch intervention value	YES	No action warranted
Xylenes	25	24	0.00	0.00	#DIV/0!	95	1.711	#DIV/0!	**0.00**	25	Dutch intervention value	YES	No action warranted
PAH	0												
Naphthalene	22	21	17.92	38.20	0.45	95	1.721	1.782	**31.93**	0	0	NO	Remediation or further testing required
Fluorene	22	21	3.39	5.46	0.34	95	1.721	1.590	**5.40**	0	0	NO	Remediation or further testing required
Phenanthrene	22	21	16.44	29.08	0.38	95	1.721	1.649	**27.11**	0	0	NO	Remediation or further testing required
Anthracene	22	21	4.70	7.81	0.35	95	1.721	1.610	**7.56**	0	0	NO	Remediation or further testing required
Fluoranthene	22	21	20.45	35.21	0.37	95	1.721	1.632	**33.37**	0	0	NO	Remediation or further testing required
Benzo[a]anthracene	22	21	10.18	17.21	0.36	95	1.721	1.620	**16.50**	0	0	NO	Remediation or further testing required
Chrysene	22	21	7.70	13.14	0.36	95	1.721	1.626	**12.52**	0	0	NO	Remediation or further testing required
Benzo[a]pyrene	22	21	9.30	16.22	0.37	95	1.721	1.639	**15.25**	0	0	NO	Remediation or further testing required
Indeno[1,2,3-c,d]pyrene	22	21	4.79	8.49	0.38	95	1.721	1.651	**7.90**	0	0	NO	Remediation or further testing required
Benzo[g,h,i]perylene	22	21	5.16	9.05	0.37	95	1.721	1.643	**8.48**	0	0	NO	Remediation or further testing required
Sum of 10 PAHs	25	24	88.04	146.91	0.33	95	1.711	1.571	**138.30**	40	Dutch intervention value	NO	Remediation or further testing required
Other organics	0												
Phenol	22	21	0.36	1.51	0.89	95	1.721	2.529	**0.92**	40	Dutch intervention value	YES	No action warranted
Chlorobenzenes	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	30	Dutch intervention value (sum of 6 mono-, di	YES	No action warranted
1,2-Dichloroethane	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	4	Dutch intervention value	YES	No action warranted
Tetrachloroethene	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	4	Dutch intervention value	YES	No action warranted
Vinyl Chloride (chloroethene)	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.04**	0.1	Dutch intervention value	YES	No action warranted
Carbon tetrachloride (tetrachloromethane)	9	8	0.03	0.04	0.50	95	1.860	1.930	**0.05**	1	Dutch intervention value	YES	No action warranted
cis 1,2 Dichloroethene	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.02**	1	Dutch intervention value	YES	No action warranted
trans 1,2 Dichloroethene	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.04**	1	Dutch intervention value	YES	No action warranted
PCBs sum of 7	7	6	0.00	0.00	0.00	95	1.943	1.000	**0.00**	1	Dutch intervention value	YES	No action warranted
Cresol	21	20	0.69	2.12	0.67	95	1.725	2.158	**1.49**	5	Dutch intervention value	YES	No action warranted
Dichloromethane	8	7	0.02	0.03	0.53	95	1.895	2.003	**0.04**	10	Dutch intervention value	YES	No action warranted
1,1-Dichloroethane	8	7	0.02	0.03	0.53	95	1.895	2.003	**0.03**	15	Dutch intervention value	YES	No action warranted
1,1,1-Trichloroethane	9	8	0.01	0.02	0.50	95	1.860	1.930	**0.03**	15	Dutch intervention value	YES	No action warranted
1,1,2-Trichloroethane	8	7	0.02	0.03	0.53	95	1.895	2.003	**0.04**	10	Dutch intervention value	YES	No action warranted
Trichloroethene	9	8	0.02	0.03	0.50	95	1.860	1.930	**0.03**	60	Dutch intervention value	YES	No action warranted

Human Health screen - Mouchel 2011 - Public open space (2.5% SOM)

Key:	
🟥	Exceeds screen and is potential outlier
🟧	Does not exceed screen but may be outlier
🟨	Exceeds screen but is not an outlier

				Sample Ref																									
				trial pit / borehole ref	A1	A1	A2	A2	A9	A9	A10	A10	B1	B1	B2	B2	B2	B9	B9	B9	B9	B10	C1	C1	C1	C2	D2	D2	D2
				Depth	0.30-1.0	1.00-2.0	0.00-1.0	1.00-2.0	0.00-0.70	0.70-0.9	0.50-0.7	2.30-2.60	0.20-1.00	2.10-2.3	0.20-0.80	0.80-1.3	1.30-2.0	0.30-0.50	1.00-1.80	2.00-2.20	2.50-2.8	0.00-0.4	0.20-1.0	2.80-3.00	3.00-3.50	1.50-2.00	0.50-1.00	1.00-1.50	2.00-2.50
CAS REG No	Determinand	Units	*Screening Value	*Source of screening value																									
	Inorganics																												
	Arsenic	mg/kg	130	Mouchel derived GAC using SGV	16.90	7.04	8.45	5.03		7.06	8.90	16.40	8.87	11.20	31.20	7.89	25.60	12.70		28.30	7.11		6.31	6.38	8.19	21.90	25.90	14.60	12.20
	Cadmium	mg/kg	290	Mouchel derived GAC using SGV	0.17	0.43	0.30	0.23		0.21	0.37	0.39	0.41	0.39	0.35	0.40	0.61	0.37		0.49	0.42		0.24	0.30	0.38	0.51	0.46	0.50	0.63
	Chromium (VI)	mg/kg	120	Mouchel derived GAC using LQM / CIEH GAC	0.60	0.60	0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60		0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	1.20
	Copper	mg/kg	38000	Mouchel derived GAC using LQM / CIEH GAC	63.10	10.70	9.47	26.20		15.10	20.40	26.90	18.40	16.70	21.90	119.00	626.00	16.00		24.30	4.28		9.29	7.96	17.90	37.50	48.70	23.80	16.90
	Lead	mg/kg	450	Old SGV	42.60	32.40	13.00	75.50		24.00	58.70	54.60	32.20	46.60	76.90	47.20	59.80	112.00		94.00	5.13		21.60	24.50	33.20	102.00	292.00	245.00	24.60
	Mercury (inorganic)	mg/kg	960	Mouchel derived GAC using SGV	0.14	0.14	0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.96	0.14		0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14
	Nickel	mg/kg	2900	Mouchel derived GAC using SGV (oral TDI and exposure only)	19.50	12.90	8.86	11.20		24.10	16.30	41.80	19.10	16.30	22.70	15.10	12.40	18.60		31.20	10.80		8.77	9.58	13.80	14.70	29.60	24.90	23.20
	Selenium	mg/kg	3700	Mouchel derived GAC using SGV	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00
	Zinc	mg/kg	150000	Mouchel derived GAC using LQM / CIEH GAC	67.70	33.40	28.30	30.30		49.10	81.70	61.90	33.00	39.50	90.40	82.20	192.00	95.30		234.00	21.60		17.80	27.10	55.50	75.70	147.00	51.00	84.50
	Cyanide	mg/kg	2900	Mouchel derived GAC using LQM / CIEH GAC	1.00	1.70	1.00	2.37		1.00	1.00	38.50	1.00	1.00	1.00	7.82	1.00	1.00		4.69	2.39		7.16	1.93	18.90	19.30	1.00	2.72	217.00
	BTEX TPH																												
	Benzene	mg/kg	75	Mouchel derived GAC using SGV	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.19	0.01	0.01	0.49	3.85	0.02	0.01	0.01	0.10
	Toluene	mg/kg	1920	Mouchel derived GAC using SGV (lower soil saturation value)	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.02	0.10	0.27	0.01	0.00	1.15	14.80	0.01	0.00	0.00	0.06
	Ethylbenzene	mg/kg	1220	Mouchel derived GAC using SGV (lower soil saturation value)	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.01	0.13	0.00	0.00	0.40	4.71	0.00	0.00	0.00	0.15
	o Xylene	mg/kg	2900	Mouchel derived GAC using SGV (oral TDI and exposure only)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.03	0.70	0.00	0.00	1.29	12.70	0.01	0.00	0.00	0.50
	p&m-Xylene	mg/kg	1120	Mouchel derived GAC using SGV (lower soil saturation value)	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.01	1.16	0.01	0.02	0.05	1.48	0.01	0.01	2.24	33.90	0.02	0.01	0.01	0.80
	Aliphatic EC5-EC6	mg/kg	558	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.04	0.01	0.02	0.06	0.04	0.03	0.01	0.08	0.88	0.03	0.02	0.02	0.14
	Aliphatic EC6-EC8	mg/kg	322	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.01	0.04	0.01	0.04	0.01	0.04	0.03	0.01	0.04	0.02	0.03	0.01	1.83	0.03	0.04	0.18	1.01	0.04	0.01	1.72	20.00	0.03	0.01	0.05	2.35
	Aliphatic EC8-EC10	mg/kg	190	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.01	0.10	0.01	0.11	0.01	0.02	0.02	0.01	0.03	0.02	0.12	0.05	9.32	0.07	0.02	0.05	4.16	0.07	0.01	5.16	51.70	0.04	0.01	0.06	6.16
	Aliphatic EC10-EC12	mg/kg	118	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.06	0.18	0.01	0.14	0.01	0.01	0.03	0.01	0.03	0.02	1.14	0.18	15.20	0.26	0.01	0.03	7.35	0.15	0.01	6.40	70.60	0.12	0.01	0.19	8.99
	Aliphatic EC12-EC16	mg/kg	16000	Mouchel derived GAC using LQM / CIEH GAC	0.10	3.96	0.10	3.87		0.10	7.84	0.10	4.89	0.10	4.13	1.65	103.00	11.80		11.10	14.70		0.10	30.40	58.70	6.00	9.19	15.00	9.70
	Aliphatic EC16-EC35	mg/kg	320000	Mouchel derived GAC using LQM / CIEH GAC	0.10	12.80	0.10	12.90		0.10	40.20	0.10	14.10	4.74	18.40	26.60	214.00	484.00		107.00	66.80		0.10	69.20	128.00	21.00	67.00	46.20	70.50
	Aliphatic EC35-EC44	mg/kg	320000	Mouchel derived GAC using LQM / CIEH GAC	0.10	1.49	0.10	0.97		0.10	6.82	0.10	1.22	0.10	3.46	0.10	0.10	44.10		18.60	7.66		0.10	3.26	22.80	2.60	9.82	2.21	21.40
	Aromatic EC5-EC7	mg/kg	2260	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.19	0.01	0.01	0.49	3.85	0.02	0.01	0.01	0.10
	Aromatic EC7-EC8	mg/kg	1920	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.10	0.27	0.01	0.01	1.15	14.80	0.01	0.01	0.01	0.06
	Aromatic EC8-EC10	mg/kg	1500	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.01	0.10	0.01	0.10	0.02	0.04	0.03	0.01	0.03	0.03	0.13	0.05	7.47	0.07	0.04	0.12	5.08	0.06	0.01	7.37	85.80	0.06	0.01	0.05	5.56
	Aromatic EC10-EC12	mg/kg	6400	Mouchel derived GAC using LQM / CIEH GAC	0.04	0.12	0.01	0.09	0.01	0.01	0.02	0.01	0.02	0.02	0.76	0.12	10.20	0.17	0.01	0.02	4.90	0.10	0.01	4.27	47.10	0.08	0.01	0.13	5.99
	Aromatic EC12-EC16	mg/kg	6600	Mouchel derived GAC using LQM / CIEH GAC	6.70	6.51	0.10	5.33		3.42	14.00	0.10	4.51	0.10	200.00	8.53	92.90	26.60		21.30	35.10		0.70	82.00	173.00	9.21	4.39	229.00	18.40
	Aromatic EC16-EC21	mg/kg	5000	Mouchel derived GAC using LQM / CIEH GAC	68.80	17.70	0.10	21.50		5.29	65.30	0.10	10.40	2.95	270.00	72.20	291.00	104.00		58.60	104.00		10.20	142.00	284.00	47.70	30.10	1580.00	65.80
	Aromatic EC21-EC35	mg/kg	5000	Mouchel derived GAC using LQM / CIEH GAC	224.00	44.40	12.40	46.00		23.10	228.00	0.10	46.40	36.00	731.00	192.00	529.00	336.00		147.00	178.00		51.40	218.00	446.00	216.00	142.00	2750.00	110.00
	Aromatic EC35-EC44	mg/kg	5000	Mouchel derived GAC using LQM / CIEH GAC	68.10	12.70	3.86	10.30		10.30	70.80	0.10	12.90	13.20	177.00	54.80	89.10	72.50		25.40	38.10		19.70	46.40	107.00	61.00	61.10	723.00	32.80
	PAH																												
	Naphthalene	mg/kg	1600	Mouchel derived GAC using LQM / CIEH GAC	0.91	0.48	0.01	0.06		0.17	0.74	0.01	0.15	0.04	70.50	0.27	12.70	1.03		1.17	24.40		0.12	137.00	112.00	5.91	0.31	1.33	24.90
	Acenaphthylene	mg/kg	18000	Mouchel derived GAC using LQM / CIEH GAC	0.21	0.21	0.01	0.06		0.07	1.21	0.01	0.07	0.02	2.48	0.17	1.10	6.14		0.30	5.19		0.03	19.60	13.30	0.50	0.21	3.48	8.64
	Acenaphthene	mg/kg	18000	Mouchel derived GAC using LQM / CIEH GAC	0.14	0.28	0.01	0.06		0.01	0.12	0.01	0.03	0.01	7.87	0.11	5.47	1.19		0.35	1.24		0.04	8.99	4.87	0.67	0.04	2.07	4.18
	Fluorene	mg/kg	12000	Mouchel derived GAC using LQM / CIEH GAC	0.17	0.49	0.01	0.07		0.02	0.42	0.01	0.05	0.01	6.86	0.10	3.28	4.30		0.50	4.93		0.03	20.50	12.70	0.58	0.16	11.50	7.97
	Phenanthrene	mg/kg	3700	Mouchel derived GAC using LQM / CIEH GAC	3.23	2.64	0.03	0.10		0.13	4.59	0.02	0.60	0.13	70.40	2.53	5.48	13.80		3.82	15.20		0.47	55.20	33.40	6.86	3.51	116.00	23.60
	Anthracene	mg/kg	90000	Mouchel derived GAC using LQM / CIEH GAC	0.88	0.57	0.02	0.03		0.04	1.96	0.02	0.26	0.04	14.50	0.59	2.53	6.69		1.31	5.09		0.10	17.10	9.46	1.75	0.74	32.10	7.57
	Fluoranthene	mg/kg	3800	Mouchel derived GAC using LQM / CIEH GAC	7.26	2.28	0.05	0.03		0.19	10.30	0.02	1.85	0.23	90.50	5.38	45.80	18.40		4.52	12.40		0.90	37.60	21.90	13.70	7.18	147.00	22.50
	Pyrene	mg/kg	9100	Mouchel derived GAC using LQM / CIEH GAC	5.60	1.66	0.04	0.02		0.17	8.88	0.02	1.55	0.18	71.20	4.62	48.80	12.90		3.13	7.96		0.73	24.80	14.10	11.40	6.37	117.00	17.00
	Benzo[a]anthracene	mg/kg	26	Mouchel derived GAC using LQM / CIEH GAC	4.18	1.20	0.05	0.01		0.13	6.51	0.01	1.72	0.22	51.00	2.66	27.50	7.88		2.10	4.65		0.89	12.60	6.15	9.99	5.70	67.20	11.70
	Chrysene	mg/kg	36	Mouchel derived GAC using LQM / CIEH GAC	3.52	0.97	0.05	0.01		0.10	4.39	0.01	1.31	0.18	42.10	2.23	21.40	4.93		1.67	3.03		0.83	9.04	4.83	7.81	4.65	48.80	7.59
	Benzo[b]flouranthene	mg/kg	28	Mouchel derived GAC using LQM / CIEH GAC	5.77	1.40	0.09	0.02		0.22	9.58	0.02	2.47	0.33	62.90	3.04	21.10	8.57		2.27	4.16		1.84	13.50	6.29	14.70	11.70	82.50	13.60
	Benzo[k]flouranthene	mg/kg	42	Mouchel derived GAC using LQM / CIEH GAC	2.02	0.55	0.04	0.01		0.06	3.24	0.01	0.94	0.13	19.80	1.21	6.25	2.68		0.78	1.62		0.75	4.89	2.58	4.65	3.94	29.50	5.34
	Benzo[a]pyrene	mg/kg	4.1	Mouchel derived GAC using LQM / CIEH GAC	4.25	1.06	0.05	0.02		0.17	7.65	0.02	2.00	0.25	49.40	2.55	15.50	6.71		1.34	3.40		1.49	10.40	4.81	11.10	6.94	64.60	11.00
	Indeno[1,2,3-c,d]pyrene	mg/kg	17	Mouchel derived GAC using LQM / CIEH GAC	2.43	0.50	0.03	0.02		0.11	4.33	0.02	1.06	0.15	23.70	1.19	4.88	3.17		0.65	1.44		0.97	4.65	2.28	5.93	6.06	35.40	6.31
	Dibenzo[a,h]anthracene	mg/kg	3.9	Mouchel derived GAC using LQM / CIEH GAC	0.75	0.21	0.02	0.02		0.02	1.34	0.02	0.41	0.06	7.98	0.42	1.87	0.87		0.23	0.42		0.37	1.33	0.67	2.14	1.79	10.20	1.86
	Benzo[g,h,i]perylene	mg/kg	210	Mouchel derived GAC using LQM / CIEH GAC	2.74	0.52	0.04	0.02		0.12	4.92	0.02	1.10	0.18	25.70	1.45	5.61	3.28		0.78	1.54		1.07	5.18	2.64	6.06	6.54	37.50	6.46
	Other organics																												
	Phenol	mg/kg	2300	Mouchel derived GAC using SGV	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01		0.32	7.12		0.01	0.05	0.30	0.01	0.01	0.01	0.01
	Chlorobenzene	mg/kg	1520	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)		0.01		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	1,2-Dichloroethane	mg/kg	21	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	Hexachloro-1,3-butadiene	mg/kg	32	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.012								0.012	0.012				0.012	0.120			0.012			0.012	0.012
	1,1,1,2-Tetrachloroethane	mg/kg	1400	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010
	1,1,2,2-Tetrachloroethane	mg/kg	1500	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010
	Tetrachloroethene	mg/kg	951	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)		0.01		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	1,1,1-Trichloroethane	mg/kg	2920	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)		0.01		0.007								0.007	0.007				0.007	0.070			0.007			0.007	0.007
	Trichloroethene	mg/kg	780	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.009								0.009	0.009				0.009	0.090			0.009			0.009	0.009
	Vinyl Chloride (chloroethene)	mg/kg	3.7	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010
	Carbon tetrachloride (tetrachloromethane)	mg/kg	230	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.014								0.014	0.014				0.014	0.140			0.014			0.014	0.014
	cis 1,2 Dichloroethene	mg/kg	770	Mouchel derived using EIC/AGS/CL:AIRE GAC		0.01		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005
	trans 1,2 Dichloroethene	mg/kg	2000	Mouchel derived using EIC/AGS/CL:AIRE GAC		0.01		0.011								0.011	0.011				0.011	0.110			0.011			0.011	0.011
	PCBs tox based on C118)	mg/kg	0.0038	Mouchel derived GAC using CLEA v1.04	0.003			0.003				0.003		0.003		0.003									0.003			0.003	
	Styrene	mg/kg	1440	Mouchel derived using EIC/AGS/CL:AIRE GAC (lower soil saturation value)		0.01		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010
	Cresol	mg/kg	3400	Mouchel derived GAC using CLEA v1.04	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.03			8.10		0.01	0.23	5.88	0.01	0.01	0.01	0.04
	Carbon disulphide	mg/kg	2000	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.007								0.007	0.074				0.041	0.070			0.061			0.007	0.095

	LEVEL 1 CHECK												
Determinand	No of samples in the averaging area	Degrees of freedom	Arithmetic Mean	standard deviation	Coefficient of variation	*confidence bound required (%)	t value	normalised upper bound on confidence limit of population	Normalised upper bound (95% UCL of mean)	Soil Guideline Value	Source for SGV	Upper Bound less than the guideline value?	Action - note if no further action indicated still do maximum value test
Inorganics													
Arsenic	22	21	13.55	8.04	0.13	95	1.721	1.218	16.50	130	Mouchel derived GAC using SGV	YES	No action warranted
Cadmium	22	21	0.39	0.12	0.07	95	1.721	1.113	0.43	290	Mouchel derived GAC using SGV	YES	No action warranted
Chromium (VI)	22	21	0.63	0.13	0.04	95	1.721	1.075	0.67	120	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Copper	22	21	53.66	130.20	0.52	95	1.721	1.890	101.42	38000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Lead	22	21	46.88	71.00	0.32	95	1.721	1.556	72.93	450	Old SGV	YES	No action warranted
Mercury (inorganic)	22	21	0.18	0.18	0.21	95	1.721	1.362	0.24	960	Mouchel derived GAC using SGV	YES	No action warranted
Nickel	22	21	18.43	8.30	0.10	95	1.721	1.165	21.47	2900	Mouchel derived GAC using SGV (oral TDI a	YES	No action warranted
Selenium	22	21	1.00	0.00	0.00	95	1.721	1.000	1.00	3700	Mouchel derived GAC using SGV	YES	No action warranted
Zinc	22	21	72.68	55.24	0.16	95	1.721	1.279	92.95	150000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Cyanide	22	21	15.20	45.97	0.64	95	1.721	2.109	32.07	2900	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
BTEX TPH													
Benzene	25	24	0.20	0.77	0.78	95	1.711	2.331	0.46	75	Mouchel derived GAC using SGV	YES	No action warranted
Toluene	25	24	0.66	2.95	0.89	95	1.711	2.530	1.67	1920	Mouchel derived GAC using SGV (lower soil	YES	No action warranted
Ethylbenzene	25	24	0.22	0.94	0.84	95	1.711	2.432	0.55	1220	Mouchel derived GAC using SGV (lower soil	YES	No action warranted
o Xylene	25	24	0.61	2.54	0.83	95	1.711	2.416	1.48	2900	Mouchel derived GAC using SGV (oral TDI a	YES	No action warranted
p&m-Xylene	25	24	1.59	6.75	0.85	95	1.711	2.451	3.90	1120	Mouchel derived GAC using SGV (lower soil	YES	No action warranted
Aliphatic EC5-EC6	25	24	0.06	0.17	0.57	95	1.711	1.974	0.12	558	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aliphatic EC6-EC8	25	24	1.10	3.99	0.72	95	1.711	2.238	2.47	322	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aliphatic EC8-EC10	25	24	3.09	10.41	0.67	95	1.711	2.152	6.66	190	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aliphatic EC10-EC12	25	24	4.45	14.29	0.64	95	1.711	2.100	9.33	118	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aliphatic EC12-EC16	22	21	13.48	23.94	0.38	95	1.721	1.652	22.26	16000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aliphatic EC16-EC35	22	21	63.82	107.52	0.36	95	1.721	1.618	103.26	320000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aliphatic EC35-EC44	22	21	6.74	11.04	0.35	95	1.721	1.601	10.79	320000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC5-EC7	25	24	0.20	0.77	0.78	95	1.711	2.330	0.46	2260	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC7-EC8	25	24	0.66	2.95	0.89	95	1.711	2.521	1.68	1920	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC8-EC10	25	24	4.49	17.11	0.76	95	1.711	2.304	10.34	1500	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC10-EC12	25	24	2.97	9.53	0.64	95	1.711	2.099	6.23	6400	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC12-EC16	22	21	42.81	69.23	0.34	95	1.721	1.593	68.21	6600	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC16-EC21	22	21	147.81	332.52	0.48	95	1.721	1.825	269.80	5000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC21-EC35	22	21	304.85	576.26	0.40	95	1.721	1.693	516.26	5000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Aromatic EC35-EC44	22	21	77.73	149.97	0.41	95	1.721	1.708	132.75	5000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
PAH													
Naphthalene	22	21	17.92	38.20	0.45	95	1.721	1.782	31.93	1600	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Acenaphthylene	22	21	2.86	5.08	0.38	95	1.721	1.650	4.73	18000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Acenaphthene	22	21	1.72	2.73	0.34	95	1.721	1.584	2.72	18000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Fluorene	22	21	3.39	5.46	0.34	95	1.721	1.590	5.40	12000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Phenanthrene	22	21	16.44	29.08	0.38	95	1.721	1.649	27.11	3700	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Anthracene	22	21	4.70	7.81	0.35	95	1.721	1.610	7.56	90000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Fluoranthene	22	21	20.45	35.21	0.37	95	1.721	1.632	33.37	3800	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Pyrene	22	21	16.28	28.42	0.37	95	1.721	1.640	26.70	9100	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Benzo[a]anthracene	22	21	10.18	17.21	0.36	95	1.721	1.620	16.50	26	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Chrysene	22	21	7.70	13.14	0.36	95	1.721	1.626	12.52	36	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Benzo[b]flouranthene	22	21	12.09	20.69	0.36	95	1.721	1.628	19.68	28	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Benzo[k]flouranthene	22	21	4.14	7.07	0.36	95	1.721	1.627	6.73	42	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Benzo[a]pyrene	22	21	9.30	16.22	0.37	95	1.721	1.639	15.25	4.1	Mouchel derived GAC using LQM / CIEH GA	NO	Remediation or further testing required
Indeno[1,2,3-c,d]pyrene	22	21	4.79	8.49	0.38	95	1.721	1.651	7.90	17	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Dibenzo[a,h]anthracene	22	21	1.50	2.57	0.37	95	1.721	1.629	2.44	3.9	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Benzo[g,h,i]perylene	22	21	5.16	9.05	0.37	95	1.721	1.643	8.48	210	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Other organics													
Phenol	22	21	0.36	1.51	0.89	95	1.721	2.529	0.92	2300	Mouchel derived GAC using SGV	YES	No action warranted
Chlorobenzene	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	1520	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
1,2-Dichloroethane	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	21	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Hexachloro-1,3-butadiene	9	8	0.02	0.04	0.50	95	1.860	1.930	0.05	32	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
1,1,1,2-Tetrachloroethane	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	1400	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
1,1,2,2-Tetrachloroethane	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	1500	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Tetrachloroethene	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	951	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
1,1,1-Trichloroethane	9	8	0.01	0.02	0.50	95	1.860	1.930	0.03	2920	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Trichloroethene	9	8	0.02	0.03	0.50	95	1.860	1.930	0.03	780	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Vinyl Chloride (chloroethene)	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	3.7	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
Carbon tetrachloride (tetrachloromethane)	9	8	0.03	0.04	0.50	95	1.860	1.930	0.05	230	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted
cis 1,2 Dichloroethene	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	770	Mouchel derived using EIC/AGS/CL:AIRE GA	YES	No action warranted
trans 1,2 Dichloroethene	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	2000	Mouchel derived using EIC/AGS/CL:AIRE GA	YES	No action warranted
PCBs tox based on C118)	7	6	0.00	0.00	0.00	95	1.943	1.000	0.00	0.0038	Mouchel derived GAC using CLEA v1.04	YES	No action warranted
Styrene	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	1440	Mouchel derived using EIC/AGS/CL:AIRE GA	YES	No action warranted
Cresol	21	20	0.69	2.12	0.67	95	1.725	2.158	1.49	3400	Mouchel derived GAC using CLEA v1.04	YES	No action warranted
Carbon disulphide	9	8	0.04	0.04	0.29	95	1.860	1.531	0.06	2000	Mouchel derived GAC using LQM / CIEH GA	YES	No action warranted

Human Health screen - Mouchel 2011 - Residential without plant uptake (2.5% SOM)

Key:	
🟥	Exceeds screen and is potential outlier
🟧	Does not exceed screen but may be outlier
🟨	Exceeds screen but is not an outlier

				Sample Ref																										LEVEL 1 CHECK												
				trial pit / borehole ref	A1	A1	A2	A2	A9	A9	A10	A10	B1	B1	B2	B2	B2	B9	B9	B9	B9	B10	C1	C1	C1	C2	D2	D2	D2	No of samples in the averaging area	Degrees of freedom	Arithmetic Mean	standard deviation	Coefficient of variation	*confidence bound required (%)	t value	normalised upper bound on confidence limit of population	Normalised upper bound (95% UCL of mean)	Soil Guideline Value	Source for SGV	Upper Bound less than the guideline value?	Action - note if no further action indicated still do maximum value test
				Depth	0.30-1.00	1.00-2.0	0.00-1.0	1.00-2.00	0.00-0.70	0.70-0.9	0.50-0.7	2.30-2.60	0.20-1.00	2.10-2.3	0.20-0.80	0.80-1.3	1.30-2.00	0.30-0.50	1.00-1.80	2.00-2.20	2.50-2.8	0.00-0.4	0.20-1.00	2.80-3.00	3.00-3.50	1.50-2.00	0.50-1.00	1.00-1.50	2.00-2.50													
CAS REG No	Determinand	Units	*Screening Value	*Source of screening value																																						
	Inorganics																																									
	Arsenic	mg/kg	35	Mouchel derived GAC using SGV	16.90	7.04	8.45	5.03		7.06	8.90	16.40	8.87	11.20	31.20	7.89	25.60	12.70		28.30	7.11		6.31	6.38	8.19	21.90	25.90	14.60	12.20	22	21	13.55	8.04	0.13	95	1.721	1.218	16.50	35	Mouchel derived GAC using SGV	YES	No action warranted
	Cadmium	mg/kg	84	Mouchel derived GAC using SGV	0.17	0.43	0.30	0.23		0.21	0.37	0.39	0.41	0.39	0.35	0.40	0.61	0.37		0.49	0.42		0.24	0.30	0.38	0.51	0.46	0.50	0.63	22	21	0.39	0.12	0.07	95	1.721	1.113	0.43	84	Mouchel derived GAC using SGV	YES	No action warranted
	Chromium (VI)	mg/kg	4.3	Mouchel derived GAC using LQM / CIEH GAC	0.60	0.60	0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60	0.60		0.60	0.60		0.60	0.60	0.60	0.60	0.60	0.60	1.20	22	21	0.63	0.13	0.04	95	1.721	1.075	0.67	4.3	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Copper	mg/kg	6200	Mouchel derived GAC using LQM / CIEH GAC	63.10	10.70	9.47	26.20		15.10	20.40	26.90	18.40	16.70	21.90	119.00	626.00	16.00		24.30	4.28		9.29	7.96	17.90	37.50	48.70	23.80	16.90	22	21	53.66	130.20	0.52	95	1.721	1.890	101.42	6200	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Lead	mg/kg	450	Old SGV	42.60	32.40	13.00	75.50		24.00	58.70	54.60	32.20	46.60	76.90	47.20	59.80	112.00		94.00	5.13		21.60	24.50	33.20	102.00	292.00	245.00	24.60	22	21	46.88	71.00	0.32	95	1.721	1.556	72.93	450	Old SGV	YES	No action warranted
	Mercury (inorganic)	mg/kg	240	Mouchel derived GAC using SGV	0.14	0.14	0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	0.96	0.14		0.14	0.14		0.14	0.14	0.14	0.14	0.14	0.14	0.14	22	21	0.18	0.18	0.21	95	1.721	1.362	0.24	240	Mouchel derived GAC using SGV	YES	No action warranted
	Nickel	mg/kg	130	Mouchel derived GAC using SGV (inhal TDI and exposure only)	19.50	12.90	8.86	11.20		24.10	16.30	41.80	19.10	16.30	22.70	15.10	12.40	18.60		31.20	10.80		8.77	9.58	13.80	14.70	29.60	24.90	23.20	22	21	18.43	8.30	0.10	95	1.721	1.165	21.47	130	Mouchel derived GAC using SGV (inhal TDI and exposure only)	YES	No action warranted
	Selenium	mg/kg	600	Mouchel derived GAC using SGV	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	22	21	1.00	0.00	0.00	95	1.721	1.000	1.00	600	Mouchel derived GAC using SGV	YES	No action warranted
	Zinc	mg/kg	40000	Mouchel derived GAC using LQM / CIEH GAC	67.70	33.40	28.30	30.30		49.10	81.70	61.90	33.00	39.50	90.40	82.20	192.00	95.30		234.00	21.60		17.80	27.10	55.50	75.70	147.00	51.00	84.50	22	21	72.68	55.24	0.16	95	1.721	1.279	92.95	40000	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Cyanide	mg/kg	760	Mouchel derived GAC using LQM / CIEH GAC	1.00	1.70	1.00	2.37		1.00	1.00	38.50	1.00	1.00	1.00	7.82	1.00	1.00		4.69	2.39		7.16	1.93	18.90	19.30	1.00	2.72	217.00	22	21	15.20	45.97	0.64	95	1.721	2.109	32.07	760	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	BTEX TPH																																									
	Benzene	mg/kg	0.49	Mouchel derived GAC using SGV	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.19	0.01	0.01	0.49	3.85	0.02	0.01	0.01	0.10	25	24	0.20	0.77	0.78	95	1.711	2.331	0.46	0.49	Mouchel derived GAC using SGV	YES	No action warranted
	Toluene	mg/kg	1300	Mouchel derived GAC using SGV	0.00	0.00	0.00	0.00	0.01	0.02	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.02	0.10	0.27	0.01	0.00	1.15	14.80	0.01	0.00	0.00	0.06	25	24	0.66	2.95	0.89	95	1.711	2.530	1.67	1300	Mouchel derived GAC using SGV	YES	No action warranted
	Ethylbenzene	mg/kg	380	Mouchel derived GAC using SGV	0.00	0.03	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.09	0.00	0.00	0.01	0.13	0.00	0.00	0.40	4.71	0.00	0.00	0.00	0.15	25	24	0.22	0.94	0.84	95	1.711	2.432	0.55	380	Mouchel derived GAC using SGV	YES	No action warranted
	o Xylene	mg/kg	130	Mouchel derived GAC using SGV (inhal TDI and exposure only)	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.01	0.01	0.03	0.70	0.00	0.00	1.29	12.70	0.01	0.00	0.00	0.50	25	24	0.61	2.54	0.83	95	1.711	2.416	1.48	130	Mouchel derived GAC using SGV (inhal TDI and exposure only)	YES	No action warranted
	p&m-Xylene	mg/kg	140	Mouchel derived GAC using SGV	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.02	0.01	1.16	0.01	0.02	0.05	1.48	0.01	0.01	2.24	33.90	0.02	0.01	0.01	0.80	25	24	1.59	6.75	0.85	95	1.711	2.451	3.90	140	Mouchel derived GAC using SGV	YES	No action warranted
	Aliphatic EC5-EC6	mg/kg	55	Mouchel derived GAC using LQM / CIEH GAC	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.04	0.01	0.02	0.06	0.04	0.03	0.01	0.08	0.88	0.03	0.02	0.02	0.14	25	24	0.06	0.17	0.57	95	1.711	1.974	0.12	55	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aliphatic EC6-EC8	mg/kg	160	Mouchel derived GAC using LQM / CIEH GAC	0.01	0.04	0.01	0.04	0.01	0.04	0.03	0.01	0.04	0.02	0.03	0.01	1.83	0.03	0.04	0.18	1.01	0.04	0.01	1.72	20.00	0.03	0.01	0.05	2.35	25	24	1.10	3.99	0.72	95	1.711	2.238	2.47	160	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aliphatic EC8-EC10	mg/kg	46	Mouchel derived GAC using LQM / CIEH GAC	0.01	0.10	0.01	0.11	0.01	0.02	0.02	0.01	0.03	0.02	0.12	0.05	9.32	0.07	0.02	0.05	4.16	0.07	0.01	5.16	51.70	0.04	0.01	0.06	6.16	25	24	3.09	10.41	0.67	95	1.711	2.152	6.66	46	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aliphatic EC10-EC12	mg/kg	118	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.06	0.18	0.01	0.14	0.01	0.01	0.03	0.01	0.03	0.02	1.14	0.18	15.20	0.26	0.01	0.03	7.35	0.15	0.01	6.40	70.60	0.12	0.01	0.19	8.99	25	24	4.45	14.29	0.64	95	1.711	2.100	9.33	118	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	YES	No action warranted
	Aliphatic EC12-EC16	mg/kg	59.1	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.10	3.96	0.10	3.87		0.10	7.84	0.10	4.89	0.10	4.13	1.65	103.00	11.80		11.10	14.70		0.10	30.40	58.70	6.00	9.19	15.00	9.70	22	21	13.48	23.94	0.38	95	1.721	1.652	22.26	59.1	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	YES	No action warranted
	Aliphatic EC16-EC35	mg/kg	21.2	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.10	12.80	0.10	12.90		0.10	40.20	0.10	14.10	4.74	18.40	26.60	214.00	484.00		107.00	66.80		0.10	69.20	128.00	21.00	67.00	46.20	70.50	22	21	63.82	107.52	0.36	95	1.721	1.618	103.26	21.2	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	NO	Remediation or further testing required
	Aliphatic EC35-EC44	mg/kg	21.2	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.10	1.49	0.10	0.97		0.10	6.82	0.10	1.22	0.10	3.46	0.10	0.10	44.10		18.60	7.66		0.10	3.26	23.80	2.60	9.82	2.21	21.40	22	21	6.74	11.04	0.35	95	1.721	1.601	10.79	21.2	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	YES	No action warranted
	Aromatic EC5-EC7	mg/kg	480	Mouchel derived GAC using LQM / CIEH GAC	0.01	0.02	0.01	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.06	0.19	0.01	0.01	0.49	3.85	0.02	0.01	0.01	0.10	25	24	0.20	0.77	0.78	95	1.711	2.330	0.46	480	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aromatic EC7-EC8	mg/kg	1300	Mouchel derived GAC using LQM / CIEH GAC	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.10	0.27	0.01	0.01	1.15	14.80	0.01	0.01	0.01	0.06	25	24	0.66	2.95	0.89	95	1.711	2.521	1.68	1300	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aromatic EC8-EC10	mg/kg	81	Mouchel derived GAC using LQM / CIEH GAC	0.01	0.10	0.01	0.10	0.02	0.04	0.03	0.01	0.03	0.03	0.13	0.05	7.47	0.07	0.04	0.12	5.08	0.06	0.01	7.37	85.80	0.06	0.01	0.05	5.56	25	24	4.49	17.11	0.76	95	1.711	2.304	10.34	81	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aromatic EC10-EC12	mg/kg	420	Mouchel derived GAC using LQM / CIEH GAC	0.04	0.12	0.01	0.09	0.01	0.01	0.02	0.01	0.02	0.02	0.76	0.12	10.20	0.17	0.01	0.02	4.90	0.10	0.01	4.27	47.10	0.08	0.01	0.13	5.99	25	24	2.97	9.53	0.64	95	1.711	2.099	6.23	420	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aromatic EC12-EC16	mg/kg	419	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	6.70	6.51	0.10	5.33		3.42	14.00	0.10	4.51	0.10	200.00	8.53	92.90	26.60		21.30	35.10		0.70	82.00	173.00	9.21	4.39	229.00	18.40	22	21	42.81	69.23	0.34	95	1.721	1.593	68.21	419	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	YES	No action warranted
	Aromatic EC16-EC21	mg/kg	1300	Mouchel derived GAC using LQM / CIEH GAC	68.80	17.70	0.10	21.50		5.29	65.30	0.10	10.40	2.95	270.00	72.20	291.00	104.00		58.60	104.00		10.20	142.00	284.00	47.70	30.10	1580.00	65.80	22	21	147.81	332.52	0.48	95	1.721	1.825	269.80	1300	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aromatic EC21-EC35	mg/kg	1300	Mouchel derived GAC using LQM / CIEH GAC	224.00	44.40	12.40	46.00		23.10	228.00	0.10	46.40	36.00	731.00	192.00	529.00	336.00		147.00	178.00		51.40	218.00	446.00	216.00	142.00	2750.00	110.00	22	21	304.85	576.26	0.40	95	1.721	1.693	516.26	1300	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Aromatic EC35-EC44	mg/kg	1300	Mouchel derived GAC using LQM / CIEH GAC	68.10	12.70	3.86	10.30		10.30	70.80	0.10	12.90	13.20	177.00	54.80	89.10	72.50		25.40	38.10		19.70	46.40	107.00	61.00	61.10	723.00	32.80	22	21	77.73	149.97	0.41	95	1.721	1.708	132.75	1300	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	PAH																																									
	Naphthalene	mg/kg	39	Mouchel derived GAC using LQM / CIEH GAC	0.91	0.48	0.01	0.06		0.17	0.74	0.01	0.15	0.04	70.50	0.27	12.70	1.03		1.17	24.40		0.12	137.00	112.00	5.91	0.31	1.33	24.90	22	21	17.92	38.20	0.45	95	1.721	1.782	31.93	39	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Acenaphthylene	mg/kg	212	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.21	0.21	0.01	0.06		0.07	1.21	0.01	0.07	0.02	2.48	0.17	1.10	6.14		0.30	5.19		0.03	19.60	13.30	0.50	0.21	3.48	8.64	22	21	2.86	5.08	0.38	95	1.721	1.650	4.73	212	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	YES	No action warranted
	Acenaphthene	mg/kg	141	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.14	0.28	0.01	0.06		0.01	0.12	0.01	0.03	0.01	7.87	0.11	5.47	1.19		0.35	1.24		0.04	8.99	4.87	0.67	0.04	2.07	4.18	22	21	1.72	2.73	0.34	95	1.721	1.584	2.72	141	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	YES	No action warranted
	Fluorene	mg/kg	76.5	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	0.17	0.49	0.01	0.07		0.02	0.42	0.01	0.05	0.01	6.86	0.10	3.28	4.30		0.50	4.93		0.03	20.50	12.70	0.58	0.16	11.50	7.97	22	21	3.39	5.46	0.34	95	1.721	1.590	5.40	76.5	Mouchel derived GAC using LQM / CIEH GAC (lower soil saturation value)	YES	No action warranted
	Phenanthrene	mg/kg	930	Mouchel derived GAC using LQM / CIEH GAC	3.23	2.64	0.03	0.10		0.13	4.59	0.02	0.60	0.13	70.40	2.53	5.48	13.80		3.82	15.20		0.47	55.20	33.40	6.86	3.51	116.00	23.60	22	21	16.44	29.08	0.38	95	1.721	1.649	27.11	930	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Anthracene	mg/kg	2200	Mouchel derived GAC using LQM / CIEH GAC	0.88	0.57	0.02	0.03		0.04	1.96	0.02	0.26	0.04	14.50	0.59	2.53	6.69		1.31	5.09		0.10	17.10	9.46	1.75	0.74	32.10	7.57	22	21	4.70	7.81	0.35	95	1.721	1.610	7.56	2200	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Fluoranthene	mg/kg	990	Mouchel derived GAC using LQM / CIEH GAC	7.26	2.28	0.05	0.03		0.19	10.30	0.02	1.85	0.23	90.50	5.38	45.80	18.40		4.52	12.40		0.90	37.60	21.90	13.70	7.18	147.00	22.50	22	21	20.45	35.21	0.37	95	1.721	1.632	33.37	990	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Pyrene	mg/kg	2400	Mouchel derived GAC using LQM / CIEH GAC	5.60	1.66	0.04	0.02		0.17	8.88	0.02	1.55	0.18	71.20	4.62	48.80	12.90		3.13	7.96		0.73	24.80	14.10	11.40	6.37	117.00	17.00	22	21	16.28	28.42	0.37	95	1.721	1.640	26.70	2400	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Benzo[a]anthracene	mg/kg	5.2	Mouchel derived GAC using LQM / CIEH GAC	4.18	1.20	0.05	0.01		0.13	6.51	0.01	1.72	0.22	51.00	2.66	27.50	7.88		2.10	4.65		0.89	12.60	6.15	9.99	5.70	67.20	11.70	22	21	10.18	17.21	0.36	95	1.721	1.620	16.50	5.2	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	Chrysene	mg/kg	97	Mouchel derived GAC using LQM / CIEH GAC	3.52	0.97	0.05	0.01		0.10	4.39	0.01	1.31	0.18	42.10	2.23	21.40	4.93		1.67	3.03		0.83	9.04	4.83	7.81	4.65	48.80	7.59	22	21	7.70	13.14	0.36	95	1.721	1.626	12.52	97	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Benzo[b]flouranthene	mg/kg	7.3	Mouchel derived GAC using LQM / CIEH GAC	5.77	1.40	0.09	0.02		0.22	9.58	0.02	2.47	0.33	62.90	3.04	21.10	8.57		2.27	4.16		1.84	13.50	6.29	14.70	11.70	82.50	13.60	22	21	12.09	20.69	0.36	95	1.721	1.628	19.68	7.3	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	Benzo[k]flouranthene	mg/kg	10	Mouchel derived GAC using LQM / CIEH GAC	2.02	0.55	0.04	0.01		0.06	3.24	0.01	0.94	0.13	19.80	1.21	6.25	2.68		0.78	1.62		0.75	4.89	2.58	4.65	3.94	29.50	5.34	22	21	4.14	7.07	0.36	95	1.721	1.627	6.73	10	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Benzo[a]pyrene	mg/kg	1.0	Mouchel derived GAC using LQM / CIEH GAC	4.25	1.06	0.05	0.02		0.17	7.65	0.02	2.00	0.25	49.40	2.55	15.50	6.71		1.34	3.40		1.49	10.40	4.81	11.10	6.94	64.60	11.00	22	21	9.30	16.22	0.37	95	1.721	1.639	15.25	1	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	Indeno[1,2,3-c,d]pyrene	mg/kg	4.4	Mouchel derived GAC using LQM / CIEH GAC	2.43	0.50	0.03	0.02		0.11	4.33	0.02	1.06	0.15	23.70	1.19	4.88	3.17		0.65	1.44		0.97	4.65	2.28	5.93	6.06	35.40	6.31	22	21	4.79	8.49	0.38	95	1.721	1.651	7.90	4.4	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	Dibenzo[a,h]anthracene	mg/kg	0.91	Mouchel derived GAC using LQM / CIEH GAC	0.75	0.21	0.02	0.02		0.02	1.34	0.02	0.41	0.06	7.98	0.42	1.87	0.87		0.23	0.42		0.37	1.33	0.67	2.14	1.79	10.20	1.86	22	21	1.50	2.57	0.37	95	1.721	1.629	2.44	0.91	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	Benzo[g,h,i]perylene	mg/kg	47	Mouchel derived GAC using LQM / CIEH GAC	2.74	0.52	0.04	0.02		0.12	4.92	0.02	1.10	0.18	25.70	1.45	5.61	3.28		0.78	1.54		1.07	5.18	2.64	6.06	6.54	37.50	6.46	22	21	5.16	9.05	0.37	95	1.721	1.643	8.48	47	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Other organics																																									
	Phenol	mg/kg	420	Mouchel derived GAC using SGV	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.01		0.32	7.12		0.01	0.05	0.30	0.01	0.01	0.01	0.01	22	21	0.36	1.51	0.89	95	1.721	2.529	0.92	420	Mouchel derived GAC using SGV	YES	No action warranted
	Chlorobenzene	mg/kg	0.74	Mouchel derived GAC using LQM / CIEH GAC		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	0.74	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	1,2-Dichloroethane	mg/kg	0.0093	Mouchel derived GAC using LQM / CIEH GAC		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	0.0093	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	Hexachloro-1,3-butadiene	mg/kg	0.55	Mouchel derived GAC using LQM / CIEH GAC		0.012		0.012								0.012	0.012				0.012	0.120			0.012			0.012	0.012	9	8	0.02	0.04	0.50	95	1.860	1.930	0.05	0.55	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	1,1,1,2-Tetrachloroethane	mg/kg	2.5	Mouchel derived GAC using LQM / CIEH GAC		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	2.5	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	1,1,2,2-Tetrachloroethane	mg/kg	5.6	Mouchel derived GAC using LQM / CIEH GAC		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	5.6	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Tetrachloroethene	mg/kg	2.3	Mouchel derived GAC using LQM / CIEH GAC		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	2.3	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	1,1,1-Trichloroethane	mg/kg	13	Mouchel derived GAC using LQM / CIEH GAC		0.007		0.007								0.007	0.007				0.007	0.070			0.007			0.007	0.007	9	8	0.01	0.02	0.50	95	1.860	1.930	0.03	13	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Trichloroethene	mg/kg	0.23	Mouchel derived GAC using LQM / CIEH GAC		0.009		0.009								0.009	0.009				0.009	0.090			0.009			0.009	0.009	9	8	0.02	0.03	0.50	95	1.860	1.930	0.03	0.23	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted
	Vinyl Chloride (chloroethene)	mg/kg	0.0007	Mouchel derived GAC using LQM / CIEH GAC		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	0.0007	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	Carbon tetrachloride (tetrachloromethane)	mg/kg	0.04	Mouchel derived GAC using LQM / CIEH GAC		0.014		0.014								0.014	0.014				0.014	0.140			0.014			0.014	0.014	9	8	0.03	0.04	0.50	95	1.860	1.930	0.05	0.04	Mouchel derived GAC using LQM / CIEH GAC	NO	Remediation or further testing required
	cis 1,2 Dichloroethene	mg/kg	0.20	EIC/AGS/CL:AIRE GAC		0.005		0.005								0.005	0.005				0.005	0.050			0.005			0.005	0.005	9	8	0.01	0.02	0.50	95	1.860	1.930	0.02	0.2	EIC/AGS/CL:AIRE GAC	YES	No action warranted
	trans 1,2 Dichloroethene	mg/kg	0.35	EIC/AGS/CL:AIRE GAC		0.011		0.011								0.011	0.011				0.011	0.110			0.011			0.011	0.011	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	0.35	EIC/AGS/CL:AIRE GAC	YES	No action warranted
	PCBs tox based on C118)	mg/kg	0.0007	Mouchel derived GAC using CLEA v1.04	0.003			0.003				0.003		0.003		0.003									0.003			0.003		7	6	0.00	0.00	0.00	95	1.943	1.000	0.00	0.0007	Mouchel derived GAC using CLEA v1.04	NO	Remediation or further testing required
	Styrene	mg/kg	78	EIC/AGS/CL:AIRE GAC		0.010		0.010								0.010	0.010				0.010	0.100			0.010			0.010	0.010	9	8	0.02	0.03	0.50	95	1.860	1.930	0.04	78	EIC/AGS/CL:AIRE GAC	YES	No action warranted
	Cresol	mg/kg	12	Mouchel derived GAC using CLEA v1.04	0.01	0.01	0.01	0.01		0.01	0.01	0.01	0.01	0.01	0.06	0.01	0.01	0.03			8.10		0.01	0.23	5.88	0.01	0.01	0.01	0.04	21	20	0.69	2.12	0.67	95	1.725	2.158	1.49	12	Mouchel derived GAC using CLEA v1.04	YES	No action warranted
	Carbon disulphide	mg/kg	0.20	Mouchel derived GAC using LQM / CIEH GAC		0.01		0.007								0.007	0.074				0.041	0.070			0.061			0.007	0.095	9	8	0.04	0.04	0.29	95	1.860	1.531	0.06	0.2	Mouchel derived GAC using LQM / CIEH GAC	YES	No action warranted