



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

Post Certification Report

RPS Consultants Ltd
260 Park Avenue
Aztec West
Almondsbury
Bristol
BS32 4SY
Attention: Adam Parker

Date:	07/06/2018	Location:	Neal Soils
Customer:	RPS Consultants Ltd	No. Of Samples Received:	5
Your Reference:	JCD0170	Samples Scheduled:	5

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.

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



Post Certification Report

Customer : RPS Consultants Ltd
Client Reference : JCD0170

Location : Neal Soils

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
17613403	WS1			22/05/2018
17613402	WS2			22/05/2018
17613907	WS5			22/05/2018

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
17625696	WS3			24/05/2018
17625698	WS4			24/05/2018

ISO5667-3 Water quality - Sampling - Part3 -

During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of $(5\pm3)^{\circ}\text{C}$.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of $(5\pm3)^{\circ}\text{C}$ for a period of up to 24hrs.

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



Post Certification Report

Customer : RPS Consultants Ltd
Client Reference : JCD0170

Location : Neal Soils

Results Legend

- X** Test
N No Determination Possible

	Lab Sample No(s)		17613403	17613402	17613907
	Customer Sample Reference		WS1	WS2	WS5
	AGS Reference				
	Depth (m)				
	Container		Vial (AL E297) NaOH (AL E245) HNO3 Unfiltered H2SO4 (AL E244) DO KIT + DO 250 ml 1000ml glass bottle Vial (AL E297) NaOH (AL E245) HNO3 Unfiltered H2SO4 (AL E244) DO KIT + DO 250 ml 1000ml glass bottle Vial (AL E297) NaOH (AL E245) HNO3 Unfiltered H2SO4 (AL E244) DO KIT + DO 250 ml 1000ml glass bottle		
Ammonium Low	All	NDPs: 0 Tests: 3	X	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 3	X	X	X
BOD True Total	All	NDPs: 0 Tests: 3	X	X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 3	X	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 3	X	X	X
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 3	X	X	X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 3	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 3	X	X	X
Mercury Unfiltered	All	NDPs: 0 Tests: 3	X	X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 3	X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 3	X	X	X
pH Value	All	NDPs: 0 Tests: 3	X	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 3	X	X	X
Suspended Solids	All	NDPs: 0 Tests: 3	X	X	X
Total Metals by ICP-MS	All	NDPs: 0 Tests: 3	X	X	X



Post Certification Report

Customer : RPS Consultants Ltd
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Results Legend



Test



No Determination Possible

	Lab Sample No(s)		17625696	17625698
	Customer Sample Reference		WS3	WS4
	AGS Reference			
	Depth (m)			
	Container		Vial (AL E297) NaOH (AL E245) HNO3 Unfiltered H2SO4 (AL E244) DO KIT + DO 250 ml 1l plastic (AL E221) 1000ml glass bottle Vial (AL E297) NaOH (AL E245) HNO3 Unfiltered H2SO4 (AL E244) DO KIT + DO 250 ml 1l plastic (AL E221) 1000ml glass bottle	
Ammonium Low	All	NDPs: 0 Tests: 2	X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 2	X	X
BOD True Total	All	NDPs: 0 Tests: 2	X	X
Conductivity (at 20 deg.C)	All	NDPs: 0 Tests: 2	X	X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2	X	X
Dissolved Oxygen by Titration	All	NDPs: 0 Tests: 2	X	X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 2	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2	X	X
Mercury Unfiltered	All	NDPs: 0 Tests: 2	X	X
Nitrite by Kone (w)	All	NDPs: 0 Tests: 2	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2	X	X
pH Value	All	NDPs: 0 Tests: 2	X	X
Phosphate by Kone (w)	All	NDPs: 0 Tests: 2	X	X
Suspended Solids	All	NDPs: 0 Tests: 2	X	X
Total Metals by ICP-MS	All	NDPs: 0 Tests: 2	X	X



Post Certification Report

Customer : RPS Consultants Ltd
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Results Legend			Customer Sample Ref.	WS1	WS2	WS3	WS4	WS5	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference	Ground Water (GW)	Ground Water (GW)	Water	Water	Ground Water (GW)	
M	mCERTS accredited.			22/05/2018	22/05/2018	24/05/2018	24/05/2018	22/05/2018	
aq	Aqueous / settled sample.			24/05/2018	24/05/2018	25/05/2018	25/05/2018	24/05/2018	
diss.filt	Dissolved / filtered sample.			180524-15	180524-15	180525-61	180525-61	180524-15	
tot.unfilt	Total / unfiltered sample.			17613403	17613402	17625696	17625698	17613907	
*	subcontracted test.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.								
1-5&*\$@ Sample deviation (see appendix)									
Component	LOD/Units	Method							
Suspended solids, Total	<2 mg/l	TM022		49	2090			494	
				#	#			#	
Volatile Suspended Solids	<7 mg/l	TM022		29.5	183			56	
				#	#			#	
BOD, unfiltered	<1 mg/l	TM045		14.2	3.03			3.07	
				◆ #	◆ #			◆ #	
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099		1.34	0.595			2.65	
				#	#			#	
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120		1.15	1.14			3.03	
				#	#			#	
Arsenic (diss.filt)	<0.5 µg/l	TM152		3.64	3.58			4.47	
				2 #	2 #			2 #	
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08	<0.08			<0.08	
				2 #	2 #			2 #	
Cadmium (tot.unfilt)	<0.5 µg/l	TM152		<0.5	<0.5			<0.5	
				#	#			#	
Chromium (diss.filt)	<1 µg/l	TM152		2.09	<1			<1	
				2 #	2 #			2 #	
Copper (diss.filt)	<0.3 µg/l	TM152		<0.3	0.691			<0.3	
				2 #	2 #			2 #	
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2	<0.2			<0.2	
				2 #	2 #			2 #	
Nickel (diss.filt)	<0.4 µg/l	TM152		6.21	0.9			6.29	
				2 #	2 #			2 #	
Zinc (tot.unfilt)	<5 µg/l	TM152		54.7	206			21.9	
				#	#			#	
Calcium (Tot. Unfilt.)	<0.057 mg/l	TM152		144	113			328	
				#	#			#	
EPH Range >C10 - C40 (aq)	<100 µg/l	TM172		166	106			<100	
Mercury (tot.unfilt)	<0.02 µg/l	TM183		<0.02	0.0829			<0.02	
				#	#			#	
Sulphate	<2 mg/l	TM184		5	73.1			352	
				#	#			#	
Nitrite as N	<0.0152 mg/l	TM184		<0.0152	<0.0152			<0.0152	
				#	#			#	
Phosphate (Ortho as P)	<0.02 mg/l	TM184		0.0858	0.348			<0.02	
				#	#			#	
Chloride	<2 mg/l	TM184		123	89.2			336	
				#	#			#	
Nitrate as N	<0.0677 mg/l	TM184		<0.0677	0.33			<0.0677	
Total Oxidised Nitrogen as N	<0.1 mg/l	TM184		<0.1	0.336			<0.1	
				#	#			#	
Oxygen, dissolved	<0.3 mg/l	TM187		<0.3	1.81			0.36	
				#	#			#	
pH	<1 pH Units	TM256		7.53	8.19			7.52	
				#	#			#	
Suspended solids, Total	<2 mg/l	TM022				27000	14.5		
Volatile Suspended Solids	<7 mg/l	TM022				2820	<7		
BOD, unfiltered	<1 mg/l	TM045				53.4	<1		
						◆	◆		
Ammoniacal Nitrogen as N (low level)	<0.01 mg/l	TM099				2.11	1.05		
Conductivity @ 20 deg.C	<0.005 mS/cm	TM120				1.23	1.55		
Arsenic (diss.filt)	<0.5 µg/l	TM152				10.5	1.02		
						2	2		
Cadmium (diss.filt)	<0.08 µg/l	TM152				<0.08	<0.08		
						2	2		
Cadmium (tot.unfilt)	<0.5 µg/l	TM152				7.87	<0.5		
Chromium (diss.filt)	<1 µg/l	TM152				<1	<1		
						2	2		
Copper (diss.filt)	<0.3 µg/l	TM152				<0.3	1.15		
						2	2		
Lead (diss.filt)	<0.2 µg/l	TM152				<0.2	<0.2		
						2	2		
Nickel (diss.filt)	<0.4 µg/l	TM152				2.88	8.92		
						2	2		



Location : Neal Soils

[illegible]



Location : Neal Soils

07/06/2018 14:23:36



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Location : Neal Soils

Results Legend			Customer Sample Ref.	WS1	WS2	WS3	WS4	WS5	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.								
aq	Aqueous / settled sample.								
diss.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
*	subcontracted test.								
**	% recovery of the surrogate standard to check the efficiency of the method. The results of the individual compounds within the samples are not corrected for this recovery.								
1-5&*\$@ Sample deviation (see appendix)									
Component	LOD/Units	Method							
Naphthalene (aq)	<0.01 µg/l	TM178		<0.01	<0.01			0.0105	
Acenaphthene (aq)	<0.005 µg/l	TM178		<0.005	<0.005			<0.005	
Acenaphthylene (aq)	<0.005 µg/l	TM178		<0.005	<0.005			0.0116	
Fluoranthene (aq)	<0.005 µg/l	TM178		0.00979	0.039			0.00828	
Anthracene (aq)	<0.005 µg/l	TM178		<0.005	0.00799			<0.005	
Phenanthrene (aq)	<0.005 µg/l	TM178		0.0092	0.0243			0.00585	
Fluorene (aq)	<0.005 µg/l	TM178		<0.005	<0.005			<0.005	
Chrysene (aq)	<0.005 µg/l	TM178		<0.005	0.024			<0.005	
Pyrene (aq)	<0.005 µg/l	TM178		0.0103	0.0342			0.0176	
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178		<0.005	0.0283			<0.005	
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178		<0.005	0.0308			<0.005	
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178		<0.005	0.0234			<0.005	
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178		<0.002	0.0252			<0.002	
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178		<0.005	0.00622			<0.005	
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178		0.00889	0.051			<0.005	
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178		<0.005	0.025			<0.005	
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178		<0.082	0.319			<0.082	
Naphthalene (aq)	<0.01 µg/l	TM178				0.315	<0.01		
Acenaphthene (aq)	<0.005 µg/l	TM178				0.487	<0.005		
Acenaphthylene (aq)	<0.005 µg/l	TM178				0.238	<0.005		
Fluoranthene (aq)	<0.005 µg/l	TM178				8.78	0.014		
Anthracene (aq)	<0.005 µg/l	TM178				1.05	<0.005		
Phenanthrene (aq)	<0.005 µg/l	TM178				3.24	0.00857		
Fluorene (aq)	<0.005 µg/l	TM178				0.587	<0.005		
Chrysene (aq)	<0.005 µg/l	TM178				5.32	<0.005		
Pyrene (aq)	<0.005 µg/l	TM178				7.89	0.0402		
Benzo(a)anthracene (aq)	<0.005 µg/l	TM178				6.29	<0.005		
Benzo(b)fluoranthene (aq)	<0.005 µg/l	TM178				16	<0.005		
Benzo(k)fluoranthene (aq)	<0.005 µg/l	TM178				5.51	<0.005		
Benzo(a)pyrene (aq)	<0.002 µg/l	TM178				9.47	<0.002		
Dibenzo(a,h)anthracene (aq)	<0.005 µg/l	TM178				2.7	<0.005		
Benzo(g,h,i)perylene (aq)	<0.005 µg/l	TM178				9.33	<0.005		
Indeno(1,2,3-cd)pyrene (aq)	<0.005 µg/l	TM178				13.5	<0.005		
PAH, Total Detected USEPA 16 (aq)	<0.082 µg/l	TM178				90.8	<0.082		



Post Certification Report

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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
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM120	Method 2510B, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part 9:1970	Determination of Electrical Conductivity using a Conductivity Meter
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM187	Winkler, L.W, Ber Deutsch. Chem. Ges, 21,2843,1888."	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter

Method No	Reference	Description
TM022	Method 2540D, AWWA/APHA, 20th Ed., 1999 / BS 2690: Part120 1981;BS EN 872	Determination of total suspended solids in waters
TM045	MEWAM BOD5 2nd Ed.HMSO 1988 / Method 5210B, AWWA/APHA, 20th Ed., 1999; SCA Blue Book 130	Determination of BOD5 (ATU) Filtered by Oxygen Meter on liquids
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TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
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TM187	Winkler, L.W, Ber Deutsch. Chem. Ges, 21,2843,1888."	Dissolved Oxygen in Natural and Waste Waters HMSO 1979 ISBN 011 751442
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter

NA = not applicable.

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



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Test Completion Dates

Lab Sample No(s)	17613403	17613402	17625696	17625698	17613907
Customer Sample Ref.	WS1	WS2	WS3	WS4	WS5
AGS Ref.					
Depth					
Type	GROUND_W	GROUND_W	LIQUID	LIQUID	GROUND_W
Ammonium Low	01-Jun-2018	30-May-2018	04-Jun-2018	04-Jun-2018	30-May-2018
Anions by Kone (w)	01-Jun-2018	01-Jun-2018	04-Jun-2018	04-Jun-2018	01-Jun-2018
BOD True Total	30-May-2018	30-May-2018	31-May-2018	31-May-2018	30-May-2018
Conductivity (at 20 deg.C)	30-May-2018	30-May-2018	30-May-2018	30-May-2018	30-May-2018
Dissolved Metals by ICP-MS	03-Jun-2018	01-Jun-2018	05-Jun-2018	05-Jun-2018	01-Jun-2018
Dissolved Oxygen by Titration	29-May-2018	01-Jun-2018	02-Jun-2018	01-Jun-2018	01-Jun-2018
EPH (DRO) (C10-C40) Aqueous (W)	31-May-2018	31-May-2018	31-May-2018	31-May-2018	31-May-2018
GRO by GC-FID (W)	31-May-2018	31-May-2018	01-Jun-2018	01-Jun-2018	31-May-2018
Mercury Unfiltered	31-May-2018	31-May-2018	04-Jun-2018	04-Jun-2018	31-May-2018
Nitrite by Kone (w)	01-Jun-2018	01-Jun-2018	04-Jun-2018	04-Jun-2018	01-Jun-2018
PAH Spec MS - Aqueous (W)	31-May-2018	31-May-2018	31-May-2018	31-May-2018	31-May-2018
pH Value	29-May-2018	29-May-2018	30-May-2018	30-May-2018	29-May-2018
Phosphate by Kone (w)	31-May-2018	01-Jun-2018	04-Jun-2018	04-Jun-2018	01-Jun-2018
Suspended Solids	29-May-2018	31-May-2018	31-May-2018	31-May-2018	29-May-2018
Total Metals by ICP-MS	31-May-2018	30-May-2018	07-Jun-2018	06-Jun-2018	31-May-2018



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Chromatogram

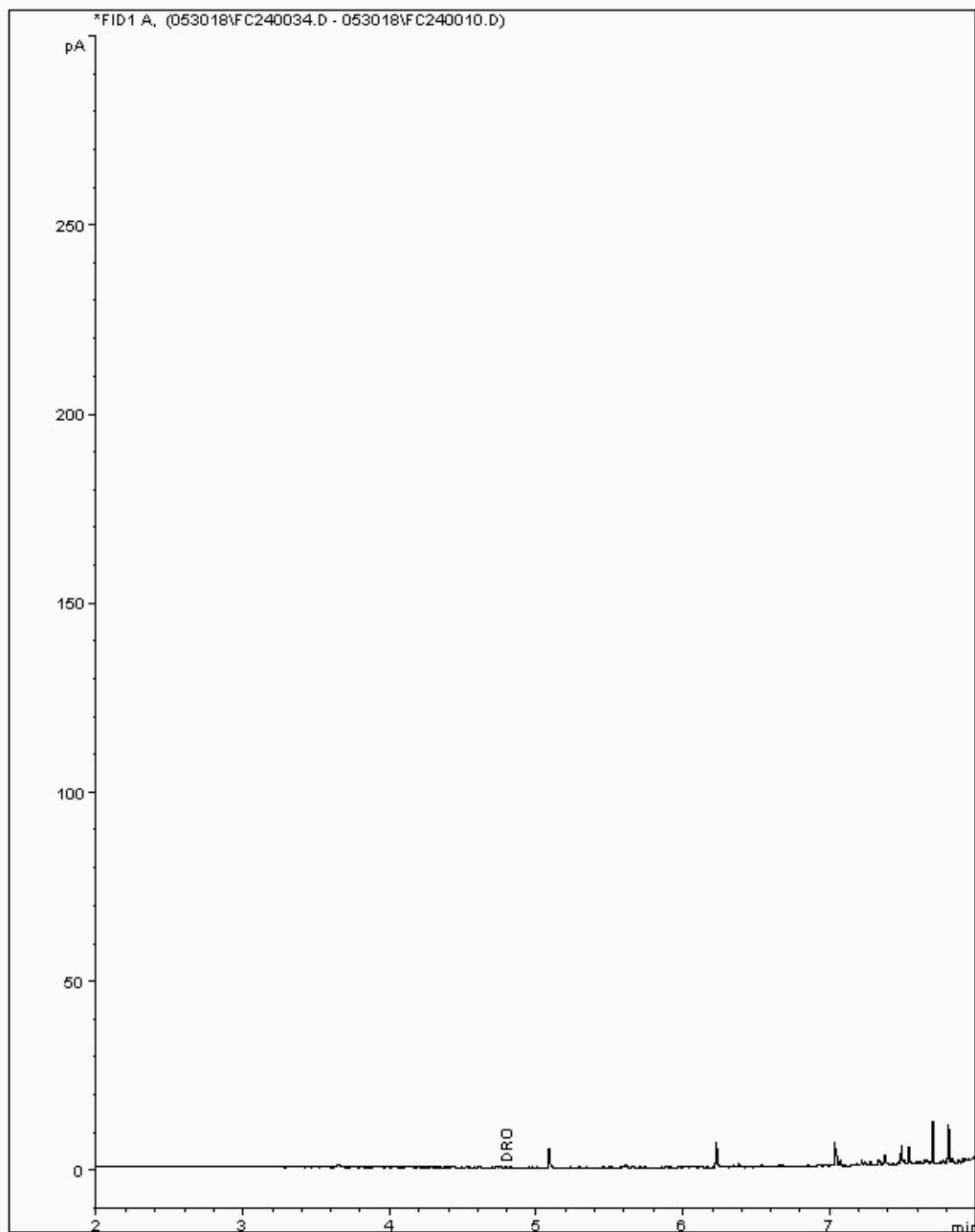
Analysis: EPH (DRO) (C10-C40) Aqueous (W)
17629667

Sample No :
Sample ID : WS3

17,629,667**Depth :**

EPH Range Organics (C10 - C40)

Sample Identity: 16563218-
Date Acquired : 31/05/2018 06:11:19 PM
Units : ppm





Post Certification Report

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Chromatogram

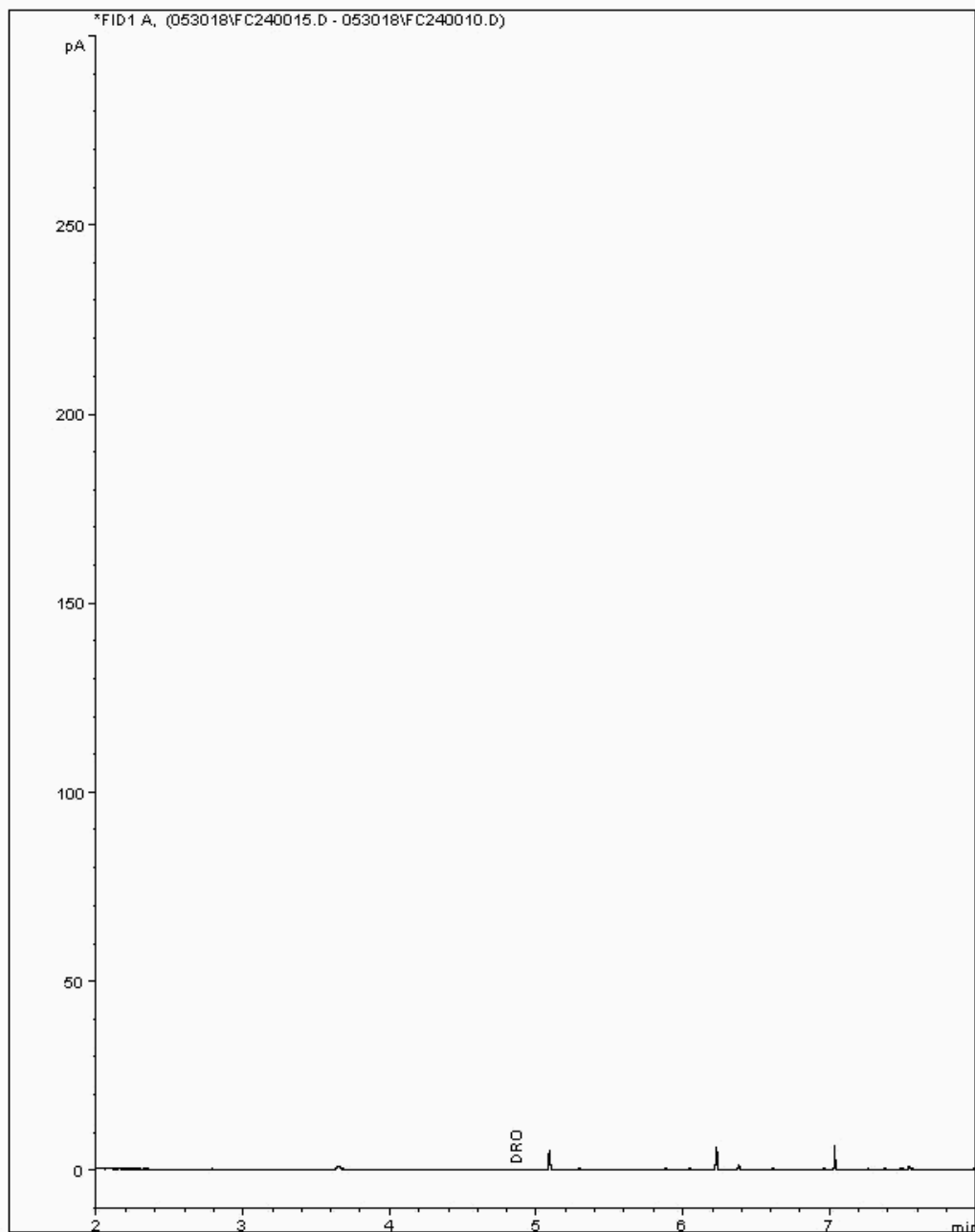
Analysis: EPH (DRO) (C10-C40) Aqueous (W)
17629669

Sample No :
Sample ID : WS4

17,629,669Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 16563239-
Date Acquired : 30/05/2018 22:20:44 PM
Units : ppm





Post Certification Report

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Chromatogram

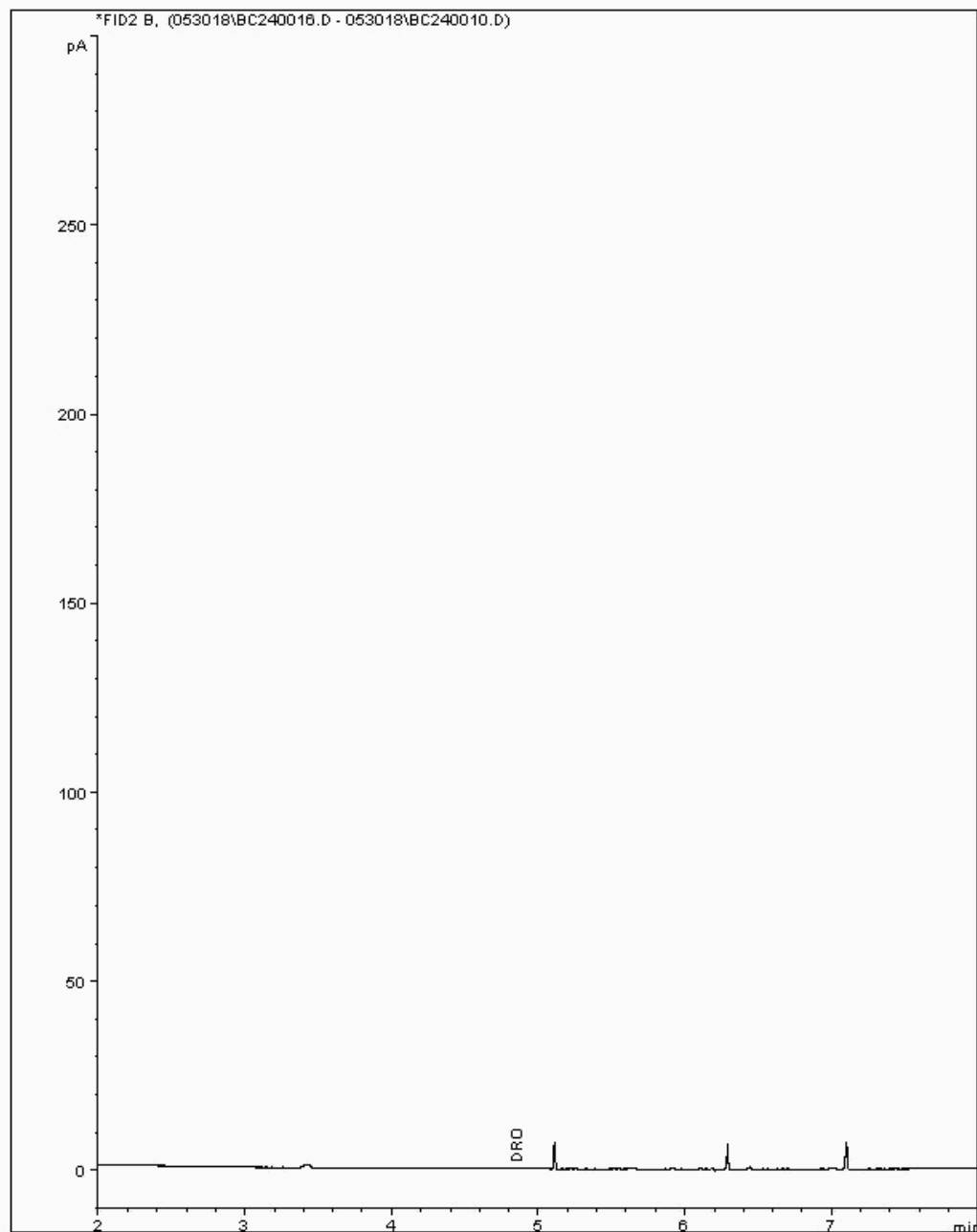
Analysis: EPH (DRO) (C10-C40) Aqueous (W)
17630589

Sample No :
Sample ID : WS2

17,630,589Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 16560746-
Date Acquired : 30/05/2018 22:44:59 PM
Units : mg/l





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Chromatogram

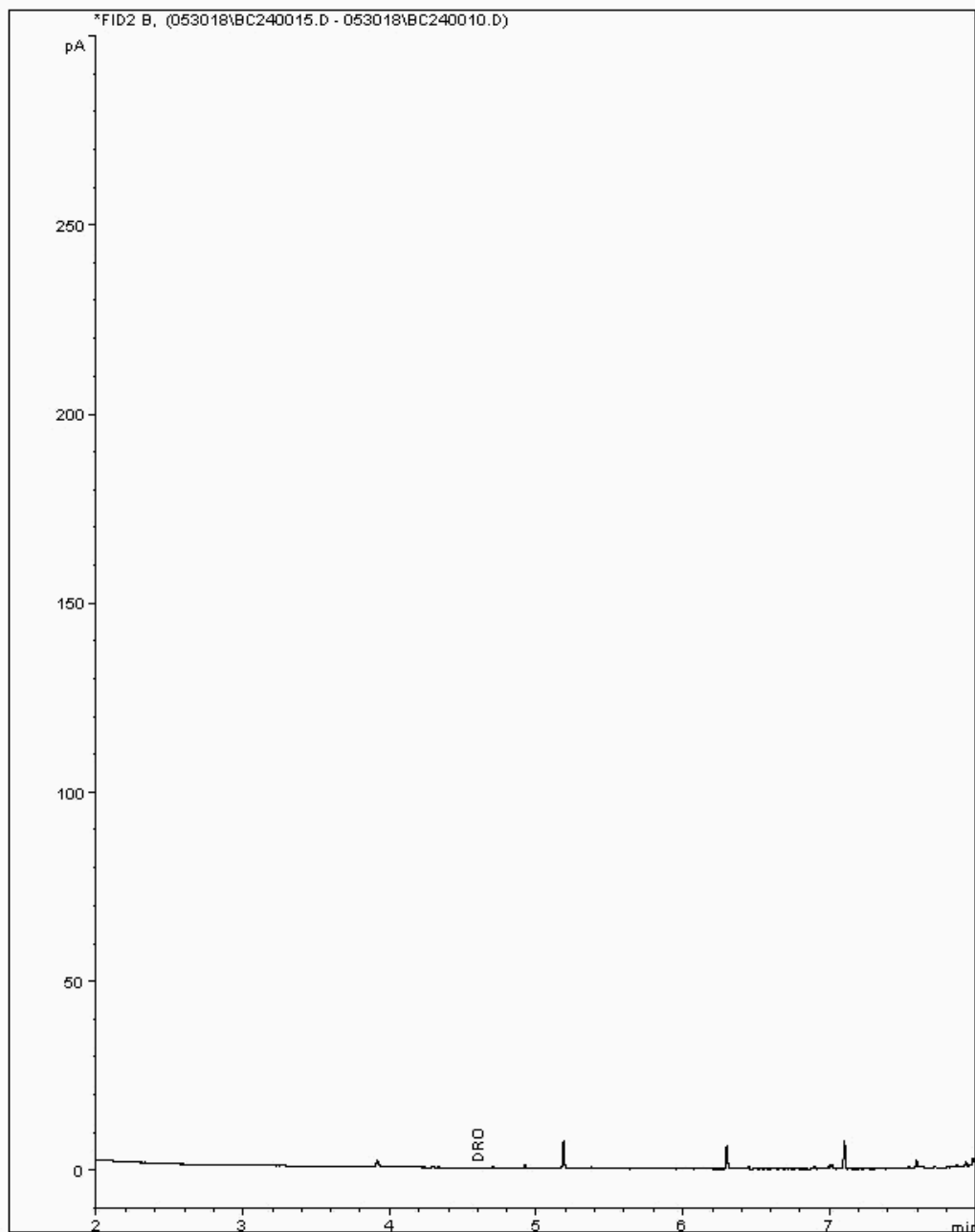
Analysis: EPH (DRO) (C10-C40) Aqueous (W)
17630598

Sample No :
Sample ID : WS1

17,630,598Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 16560783-
Date Acquired : 30/05/2018 22:20:44 PM
Units : mg/l





Post Certification Report

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Chromatogram

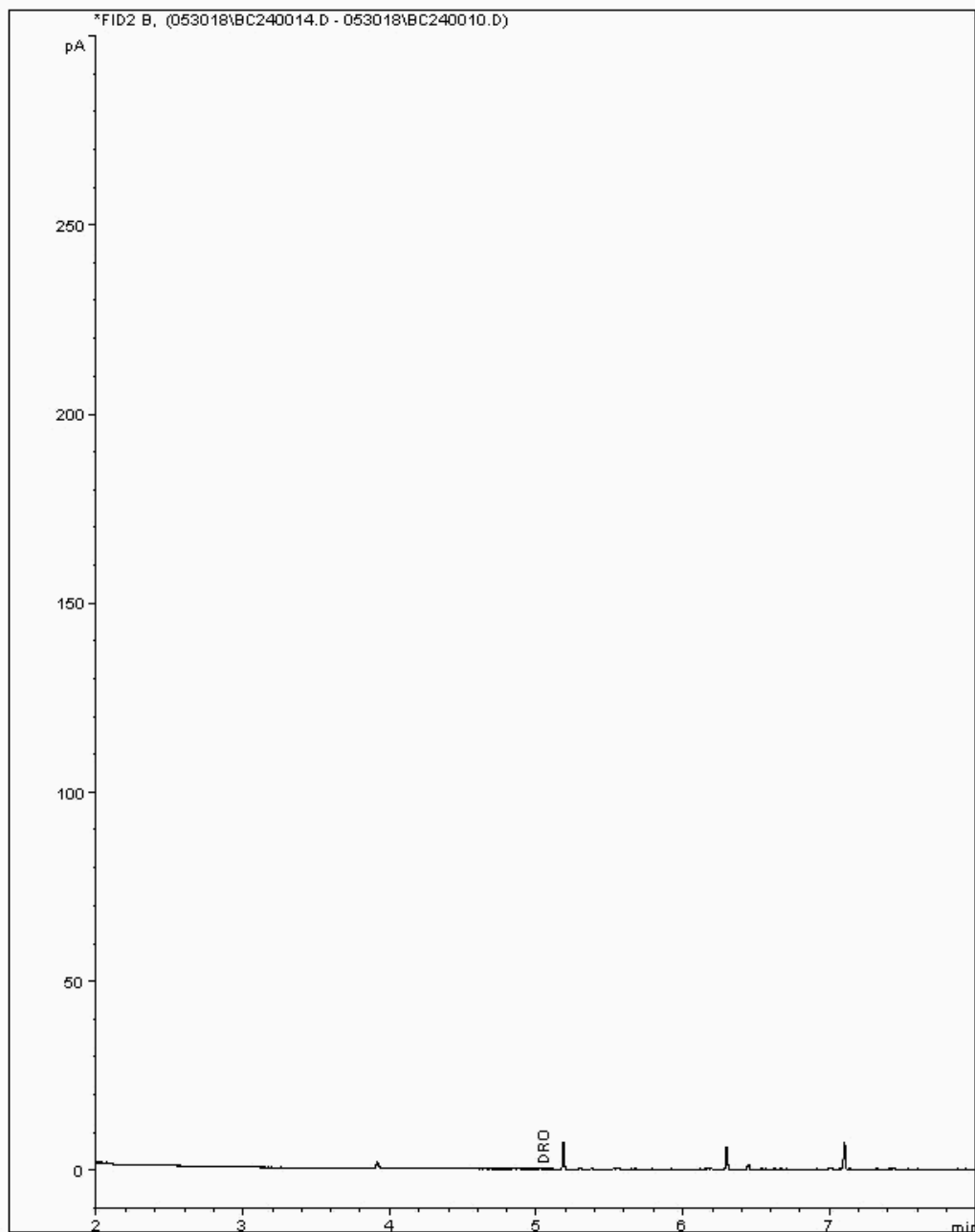
Analysis: EPH (DRO) (C10-C40) Aqueous (W)
17631322

Sample No :
Sample ID : WS5

17,631,322Depth :

EPH Range Organics (C10 - C40)

Sample Identity: 16561077-
Date Acquired : 30/05/2018 21:54:01 PM
Units : mg/l



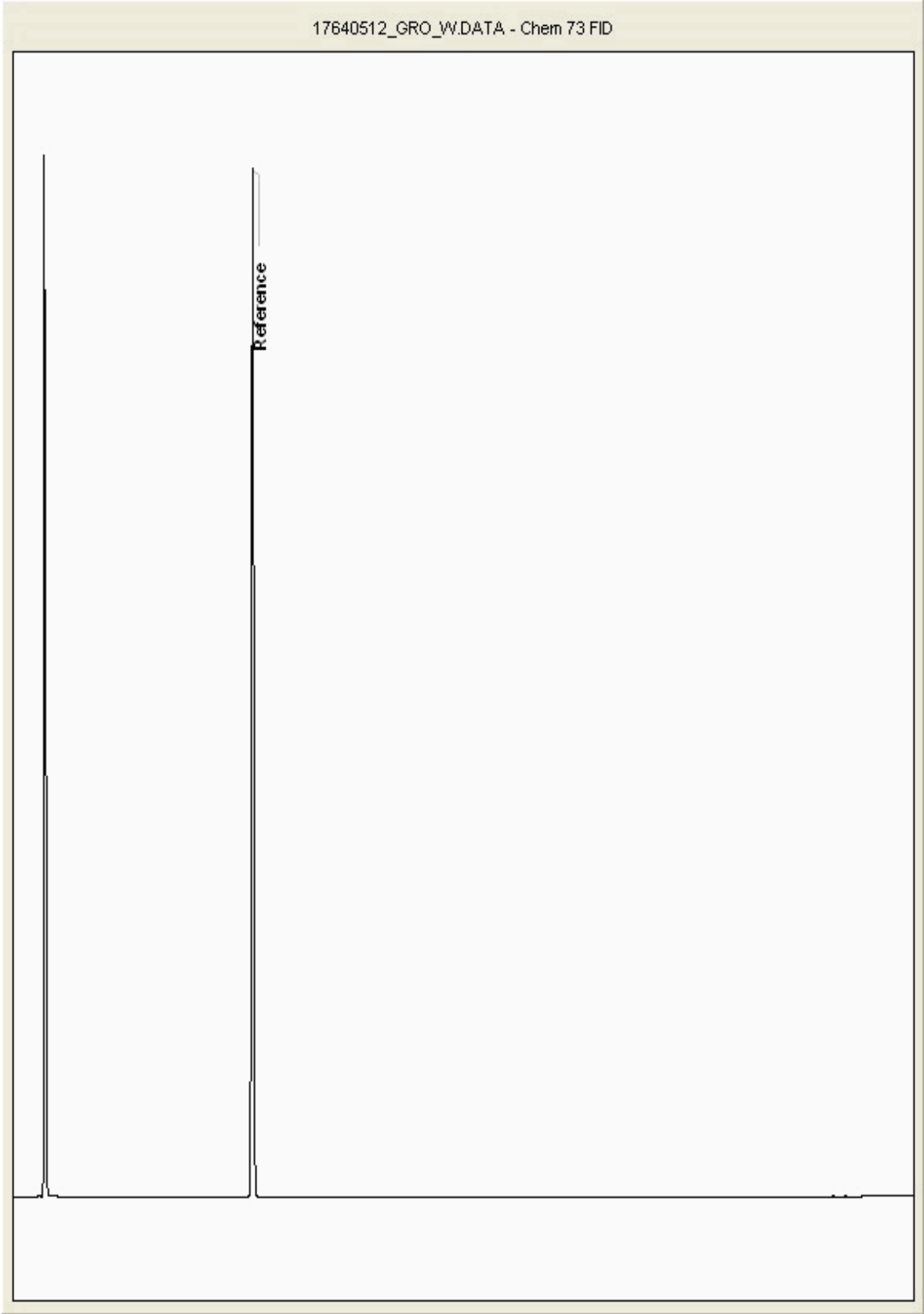


Post Certification Report

Customer :	RPS Consultants Ltd	Location :	Neal Soils
Client Reference :	JCD0170		

Chromatogram

Analysis: GRO by GC-FID (W)	Sample No :	17,640,512	Depth :
17640512	Sample ID : WS5		



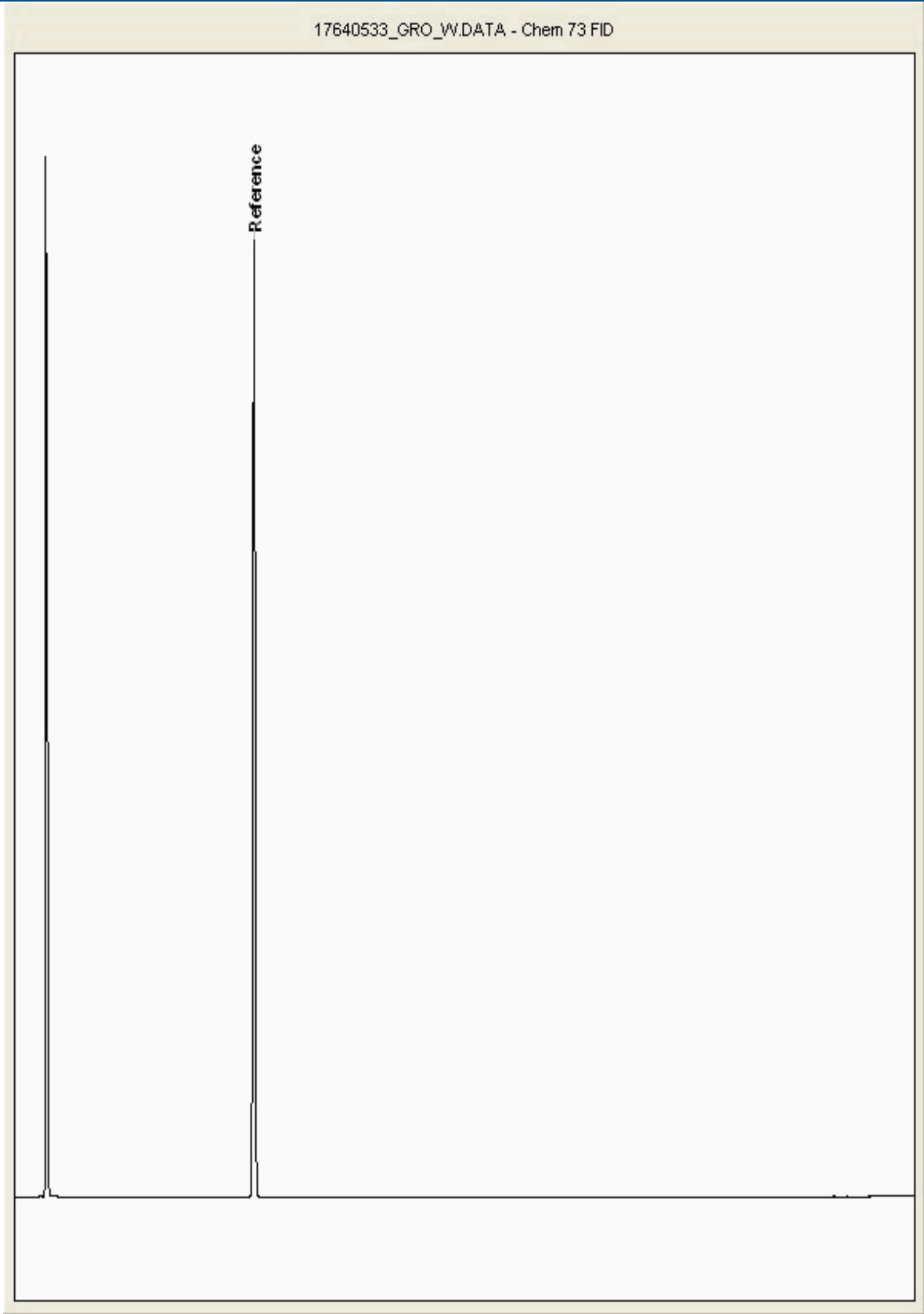


Post Certification Report

Customer :	RPS Consultants Ltd	Location :	Neal Soils
Client Reference :	JCD0170		

Chromatogram

Analysis: GRO by GC-FID (W)	Sample No :	17,640,533	Depth :
17640533	Sample ID : WS2		





Post Certification Report

Customer : RPS Consultants Ltd
Client Reference : JCD0170

Location : Neal Soils

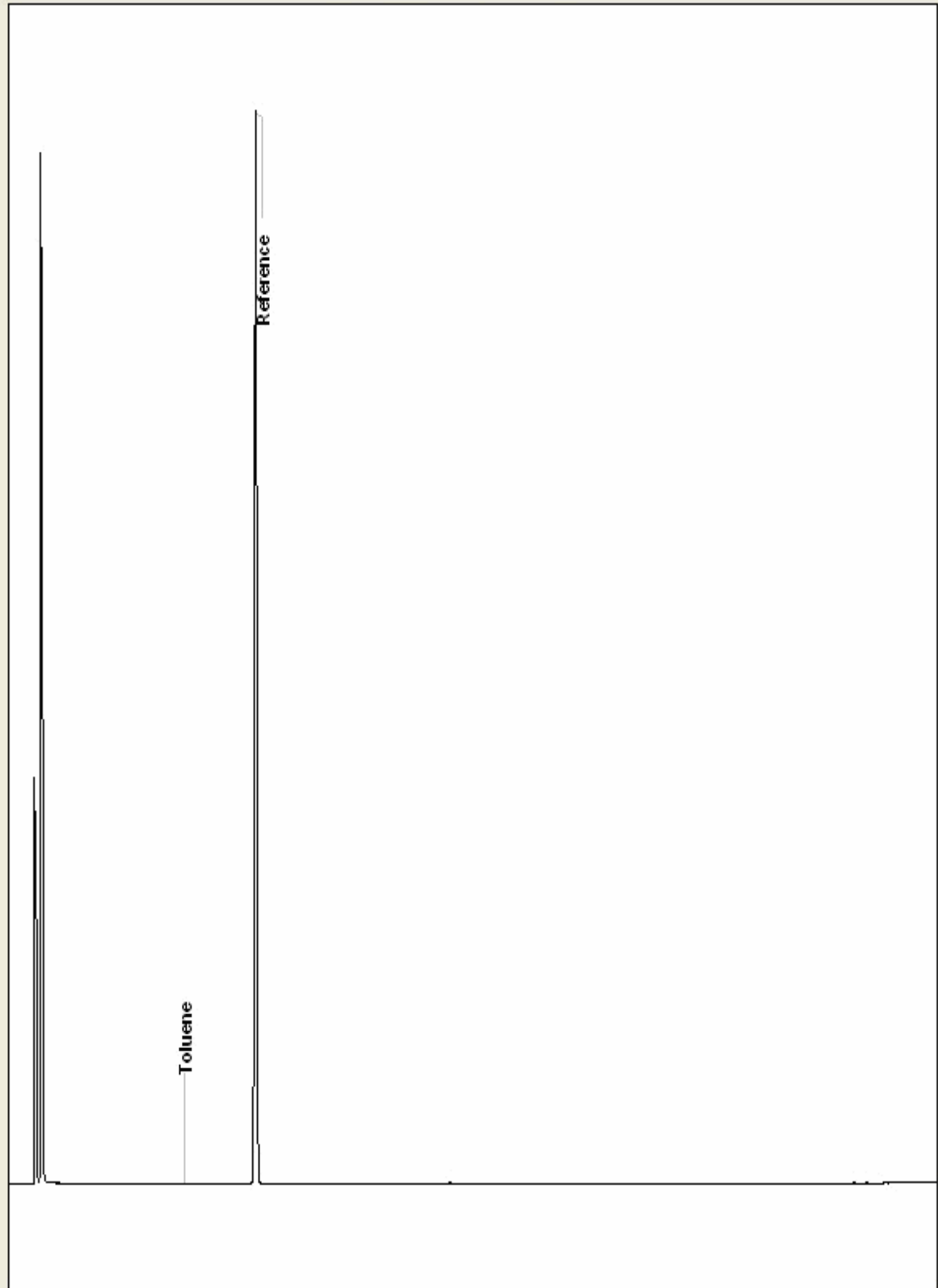
Chromatogram

Analysis: GRO by GC-FID (W)
17640541

Sample No : 17,640,541
Sample ID : WS1

Depth :

17640541_GRO_W.DATA - Chem 73 FID





Post Certification Report

Customer : RPS Consultants Ltd
Client Reference : JCD0170

Location : Neal Soils

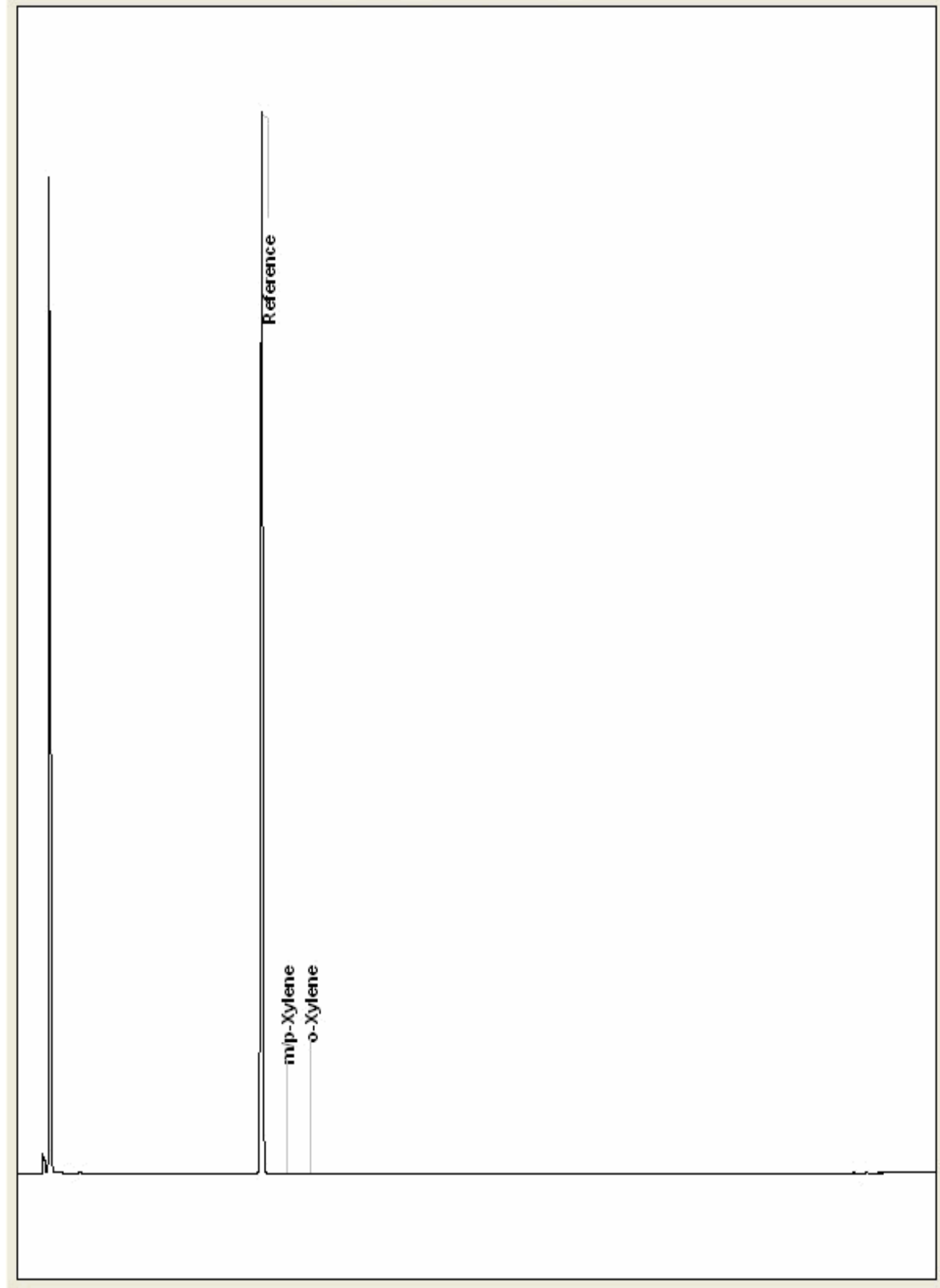
Chromatogram

Analysis: GRO by GC-FID (W)
17651430

Sample No : 17,651,430
Sample ID : WS3

Depth :

17651430_GRO_W.DATA - Chem 73 FID





Post Certification Report

Customer : RPS Consultants Ltd
Client Reference : JCD0170

Location : Neal Soils

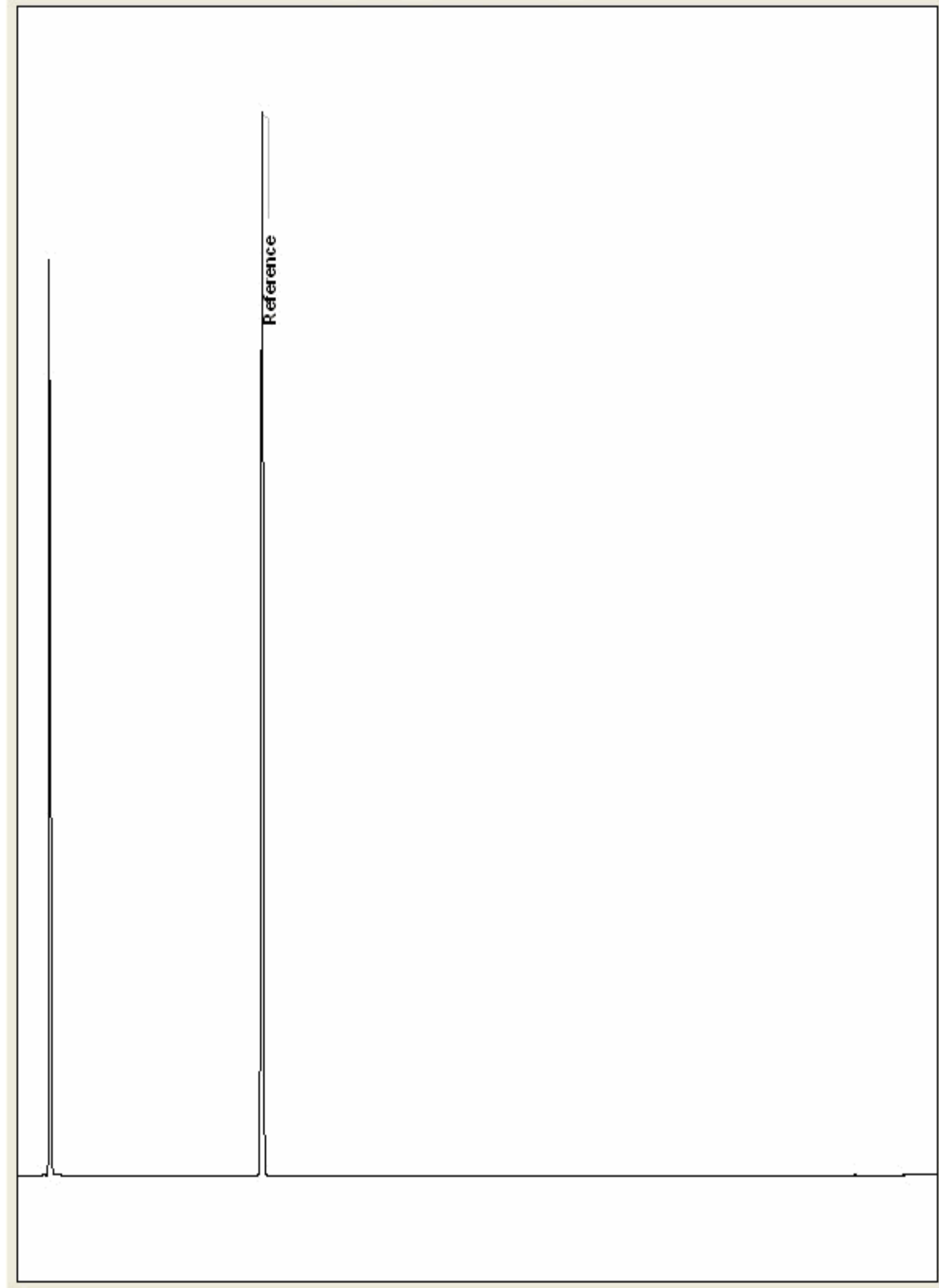
Chromatogram

Analysis: GRO by GC-FID (W)
17651438

Sample No : 17,651,438
Sample ID : WS4

Depth :

17651438_GRO_W.DAT - Chem 73 FID





Post Certification Report

Customer : RPS Consultants Ltd
Client Reference : JCD0170

Location : Neal Soils

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35°C) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH₄ by the BRE method, VOC TICs and SVOC TICs.

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. 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 analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

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

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

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

11. Results relate only to the items tested.

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

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

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

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

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

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

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

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

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

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

24. **Tentatively Identified Compounds (TICs)** are non-target peaks in VOC and SVOC analysis. All non-target peaks detected with a concentration above the LoD are subjected to a mass spectral library search. Non-target peaks with a library search confidence of >75% are reported based on the best mass spectral library match. When a non-target peak with a library search confidence of <75% is detected it is reported as "mixed hydrocarbons". Non-target compounds identified from the scan data are semi-quantified relative to one of the deuterated internal standards, under the same chromatographic conditions as the target compounds. This result is reported as a semi-quantitative value and reported as Tentatively Identified Compounds (TICs). TICs are outside the scope of UKAS accreditation and are not moisture corrected.

Sample Deviations

If a sample is classed as deviated then the associated results may be compromised.

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before preservation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using 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 Anorthosite	-
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.