Our ref: 70007995-002/10685

08 December 2016

Laura Miller
Contaminated Land Section
Environmental Health
Manchester City Council
Hammerstone Road
Gorton
Manchester
M18 8EQ

WSP | Parsons Brinckerhoff
The Victoria
150-182 The Quays
Salford
Manchester
M50 3SP
Tel: +44 (0)161 886 2400
Fax: +44 (0)161 886 2402
www.wspgroup.com

Offices worldwide

By email to: l.miller@manchester.gov.uk; contact@manchester.gov.uk

Dear Laura

Re: Redrow Moston Site 6 (St John Gardens), Ashley Lane, Manchester
Garden Topsoil Validation – Plots 7, 23-24

Validation Requirements

A Remediation Strategy for Moston Site 6 (Ashley Lane) agreed with Manchester City Council (MCC) requires validation of residential gardens areas. The agreed strategy (Ref: 12121870/002/9121(3), dated March 2010) requires the following:

- Where Made Ground is present at the surface in areas of private gardens and public open space, placement of a clean cover is required. The thickness of the cover layer should be a minimum of 600mm.
- Where natural soils (i.e. Glacial Till) are present at the surface, no capping layer is considered necessary, subject to appropriate chemical validation of the natural surface soils at a frequency of 1 per 200m^3.
- Cover soils (site won or imported) should have chemical concentrations within the thresholds presented in Table 1 of the Remediation Strategy. Validation testing should be undertaken on the basis of one test for topsoil and subsoil in every 4 plots.

Cover System Validation Visit

In accordance with the validation approach detailed above, WSP | Parsons Brinckerhoff (WSP | PB) attended the site on 07 December 2016 to observe the placed cover layer depth in the rear gardens of Plots 7, 23 and 24. Photographs from the site visit are provided in Appendix A.

A single trial hole was excavated through the topsoil into the underlying subsoil to a depth of 700mm prior to the arrival of a WSP | Parsons Brinkerhoff engineer.

The emplaced topsoil was found to be in excess of 150mm thickness, and the arisings appeared free from materials of anthropogenic origin (e.g. bricks/plastic) and had no odour or other feature which might suggest contamination.

Cover System Source and Suitability

The imported topsoil supplied to Plots 7, 23 and 24 is understood to have been obtained from a greenfield source via the supplier 'Drapers'. WSP | Parsons Brinckerhoff understands that this is the same source of material that has been used previously on Moston 6 and also in the garden areas on the Moston 5 Redrow development.

The following chemical analysis has been carried out by WSP on samples of topsoil and subsoil on the Moston 5 and 6 sites to confirm the suitability of the material for the cover system:

- **March 2015**: Topsoil (1 sample) and subsoil (1 sample) placed at Moston 6. These results (SDG: 150311-22) are presented in Appendix B.
- **March 2015**: Topsoil (1 sample) from Moston 5. The results (SDG: 150319-126) are presented in Appendix C.
- **June 2015:** Topsoil (1 sample) and subsoil (1 sample) laid in Moston 6 Plot 87. The results (SDG: 150617-71) are presented in Appendix D.
- **January 2016**: Topsoil (1 sample) and subsoil (1 sample) laid in Plot 42 on Moston 5. The results (SDG: 160128-93) are presented in Appendix E.
- **May 2016:** Topsoil (1 sample) and subsoil (1 sample) laid in Plot 44 on Moston 5. The results (SDG: 160430-55) are presented in Appendix F.

The available laboratory results indicate the topsoil and subsoil being used in rear gardens at Moston 6 are acceptable for a residential cover system.

The human health Category 4 Screening Levels (C4SLs) published in April 2014 (which have been formally adopted by the NHBC) have been used as a supplementary screening criteria when assessing the suitability of the cover system in residential gardens. The C4SL for Benzo(a)pyrene is 5mg/kg.

Conclusion

Based on the available information, it is the opinion of WSP | PB that the topsoil and subsoil placed in the rear garden of Plots 7, 23 and 24 at Moston Site 6 meets MCC's validation requirements.

We trust that the forgoing meets your requirements and look forward to receiving your written approval at your earliest opportunity. In the meantime, should you have any queries, please do not hesitate to contact us.

Yours sincerely

RJones
Richard Jones
AUTHOR
2016.12.08
12:06:50 Z

Richard Jones
Geo-Environmental Consultant

Appendix A: Photographs from validation of Plots 7, 23-24.
Appendix B: Moston 6 - Topsoil Analysis Report – WSP, March 2015 SDG: 150311-22
Appendix C: Moston 5 - Topsoil Analysis Report – WSP, March 2015 SDG: 150319-126
Appendix D: Moston 6 - Topsoil and Subsoil Analysis Report – WSP June 2015 SDG: 150617-71
Appendix E: Moston 5 - Topsoil Analysis Report – WSP, January 2016 SDG: 160128-93
Appendix F: Moston 5 – Topsoil Analysis Report – WSP, May 2016 SDG: 160430-55

CC: chris.tweedle@redrow.co.uk
callum.baldwin@redrow.co.uk

APPENDIX A
Photographs from validation of Plots 7, 23-24



Photo 1: Plot 7



Photo 2: Plot 7



Photo 3: Plot 7



Photo 4: Plot 7



Photo 5: Plot 23



Photo 6: Plot 23



Photo 7: Plot 23



Photo 8: Plot 23



Photo 9: Plot 24



Photo 10: Plot 24



Photo 11: Plot 24



Photo 12: Plot 24

APPENDIX B
Moston 6 March 2015
SDG 150311-22

ALcontrol Laboratories

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

WSP Environmental
The Victoria
150-182 The Quays
Salford
Manchester
Lancashire
M50 3SP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

Date:	19 March 2015
Customer:	H_WSP_MAN
Sample Delivery Group (SDG):	150311-22
Your Reference:	70007995 (Moston Site 6)
Location:	Moston Site 6
Report No:	306021

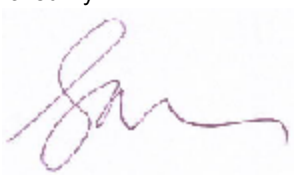
This report has been revised and directly supersedes 305973 in its entirety.

We received 2 samples on Wednesday March 11, 2015 and 2 of these samples were scheduled for analysis which was completed on Thursday March 19, 2015. 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

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10980508	Moston 6 SS	ES	0.00 - 0.00	09/03/2015
10980503	Moston 6 TS	ES	0.00 - 0.00	09/03/2015

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

CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

SOLID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)			10980508	10980503
Customer Sample Reference			Moston 6 SS	Moston 6 TS
AGS Reference			ES	ES
Depth (m)			0.00 - 0.00	0.00 - 0.00
Container			250g Amber Jar / 400g Tub (ALE214) / 60g VOC (ALE215)	250g Amber Jar / 400g Tub (ALE214) / 60g VOC (ALE215)
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2		X / X
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 2	X	X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 2	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2	X	X
Metals in solid samples by OES	All	NDPs: 0 Tests: 2	X	X
PAH by GCMS	All	NDPs: 0 Tests: 2	X	X
pH	All	NDPs: 0 Tests: 2	X	X
Sample description	All	NDPs: 0 Tests: 2	X	X
TPH CWG GC (S)	All	NDPs: 0 Tests: 2	X	X

CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

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
10980508	Moston 6 SS	0.00 - 0.00	Dark Brown	Clay	<0.063 mm	Vegetation	Stones
10980503	Moston 6 TS	0.00 - 0.00	Dark Brown	Clay	<0.063 mm	Stones	Brick

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:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Moston 6 SS	Moston 6 TS
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	09/03/2015	09/03/2015
			Sampled Time	-	-
			Date Received	11/03/2015	11/03/2015
			SDG Ref	150311-22	150311-22
			Lab Sample No.(s)	10980508	10980503
			AGS Reference	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		17	14
pH	1 pH Units	TM133		8.25 M	8.03 M
Arsenic	<0.6 mg/kg	TM181		7.63 M	7.13 M
Cadmium	<0.02 mg/kg	TM181		0.555 M	0.321 M
Chromium	<0.9 mg/kg	TM181		24.1 M	19.7 M
Copper	<1.4 mg/kg	TM181		21.8 M	20.4 M
Lead	<0.7 mg/kg	TM181		24.7 M	23 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		23.9 M	23.4 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		50.6 M	53.6 M

CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Moston 6 SS	Moston 6 TS
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	09/03/2015	09/03/2015
			Sampled Time	-	-
			Date Received	11/03/2015	11/03/2015
			SDG Ref	150311-22	150311-22
			Lab Sample No.(s)	10980508	10980503
			AGS Reference	ES	ES
Naphthalene-d8 % recovery**	%	TM218		101	103
Acenaphthene-d10 % recovery**	%	TM218		101	105
Phenanthrene-d10 % recovery**	%	TM218		99.8	103
Chrysene-d12 % recovery**	%	TM218		94.9	99.3
Perylene-d12 % recovery**	%	TM218		109	115
Naphthalene	<0.009 mg/kg	TM218		0.0379 M	<0.009 M
Acenaphthylene	<0.012 mg/kg	TM218		<0.012 M	<0.012 M
Acenaphthene	<0.008 mg/kg	TM218		0.0613 M	<0.008 M
Fluorene	<0.01 mg/kg	TM218		0.0564 M	<0.01 M
Phenanthrene	<0.015 mg/kg	TM218		0.417 M	<0.015 M
Anthracene	<0.016 mg/kg	TM218		0.105 M	<0.016 M
Fluoranthene	<0.017 mg/kg	TM218		0.497 M	0.0433 M
Pyrene	<0.015 mg/kg	TM218		0.393 M	0.0375 M
Benz(a)anthracene	<0.014 mg/kg	TM218		0.189 M	<0.014 M
Chrysene	<0.01 mg/kg	TM218		0.171 M	0.0232 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.21 M	0.04 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		0.0737 M	<0.014 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.157 M	0.0287 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.0821 M	<0.018 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		0.0296 M	<0.023 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		0.104 M	0.0281 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		2.58	0.201

CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Moston 6 SS	Moston 6 TS
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	09/03/2015	09/03/2015
			Sampled Time	-	-
			Date Received	11/03/2015	11/03/2015
			SDG Ref	150311-22	150311-22
			Lab Sample No.(s)	10980508	10980503
			AGS Reference	ES	ES
GRO Surrogate % recovery**	%	TM089		71	79
GRO TOT (Moisture Corrected)	<0.044 mg/kg	TM089		0.18 M	<0.044 M
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089		<0.005 M	<0.005 M
Benzene	<0.01 mg/kg	TM089		<0.01 M	<0.01 M
Toluene	<0.002 mg/kg	TM089		<0.002 M	0.00234 M
Ethylbenzene	<0.003 mg/kg	TM089		<0.003 M	<0.003 M
m,p-Xylene	<0.006 mg/kg	TM089		<0.006 M	<0.006 M
o-Xylene	<0.003 mg/kg	TM089		<0.003 M	<0.003 M
sum of detected mpo xylene by GC	<0.009 mg/kg	TM089		<0.009	<0.009
sum of detected BTEX by GC	<0.024 mg/kg	TM089		<0.024	<0.024
Aliphatics >C5-C6	<0.01 mg/kg	TM089		<0.01	<0.01
Aliphatics >C6-C8	<0.01 mg/kg	TM089		0.0168	<0.01
Aliphatics >C8-C10	<0.01 mg/kg	TM089		0.0336	<0.01
Aliphatics >C10-C12	<0.01 mg/kg	TM089		0.0552	<0.01
Aliphatics >C12-C16	<0.1 mg/kg	TM173		1.66	4.34
Aliphatics >C16-C21	<0.1 mg/kg	TM173		5.05	8.31
Aliphatics >C21-C35	<0.1 mg/kg	TM173		108	41.3
Aliphatics >C35-C44	<0.1 mg/kg	TM173		51.3	16.4
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173		166	70.4
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01	<0.01
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		<0.01	<0.01
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		0.0252	<0.01
Aromatics >EC10-EC12	<0.01 mg/kg	TM089		0.0372	<0.01
Aromatics >EC12-EC16	<0.1 mg/kg	TM173		1.5	1.25
Aromatics >EC16-EC21	<0.1 mg/kg	TM173		9.63	10.1
Aromatics >EC21-EC35	<0.1 mg/kg	TM173		113	64.4
Aromatics >EC35-EC44	<0.1 mg/kg	TM173		70.3	40.8
Aromatics >EC40-EC44	<0.1 mg/kg	TM173		28.3	16.8
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173		195	116
Total Aliphatics & Aromatics >C5-C44	<0.1 mg/kg	TM173		361	187

CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Moston 6 SS ES 0.00 - 0.00 SOLID 09/03/2015 00:00:00 11/03/2015 22:23:53 150311-22 10980508 TM048	18/03/15	Chris Swindells	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Moston 6 TS ES 0.00 - 0.00 SOLID 09/03/2015 00:00:00 11/03/2015 22:20:52 150311-22 10980503 TM048	18/03/15	Chris Swindells	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
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		

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

CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Test Completion Dates

Lab Sample No(s)	10980508	10980503
Customer Sample Ref.	Moston 6 SS	Moston 6 TS
AGS Ref.	ES	ES
Depth	0.00 - 0.00	0.00 - 0.00
Type	SOLID	SOLID
Asbestos ID in Solid Samples	18-Mar-2015	18-Mar-2015
EPH CWG (Aliphatic) GC (S)	19-Mar-2015	18-Mar-2015
EPH CWG (Aromatic) GC (S)	19-Mar-2015	18-Mar-2015
GRO by GC-FID (S)	18-Mar-2015	18-Mar-2015
Metals in solid samples by OES	17-Mar-2015	17-Mar-2015
PAH by GCMS	16-Mar-2015	16-Mar-2015
pH	12-Mar-2015	12-Mar-2015
Sample description	11-Mar-2015	12-Mar-2015
TPH CWG GC (S)	19-Mar-2015	18-Mar-2015

CERTIFICATE OF ANALYSIS

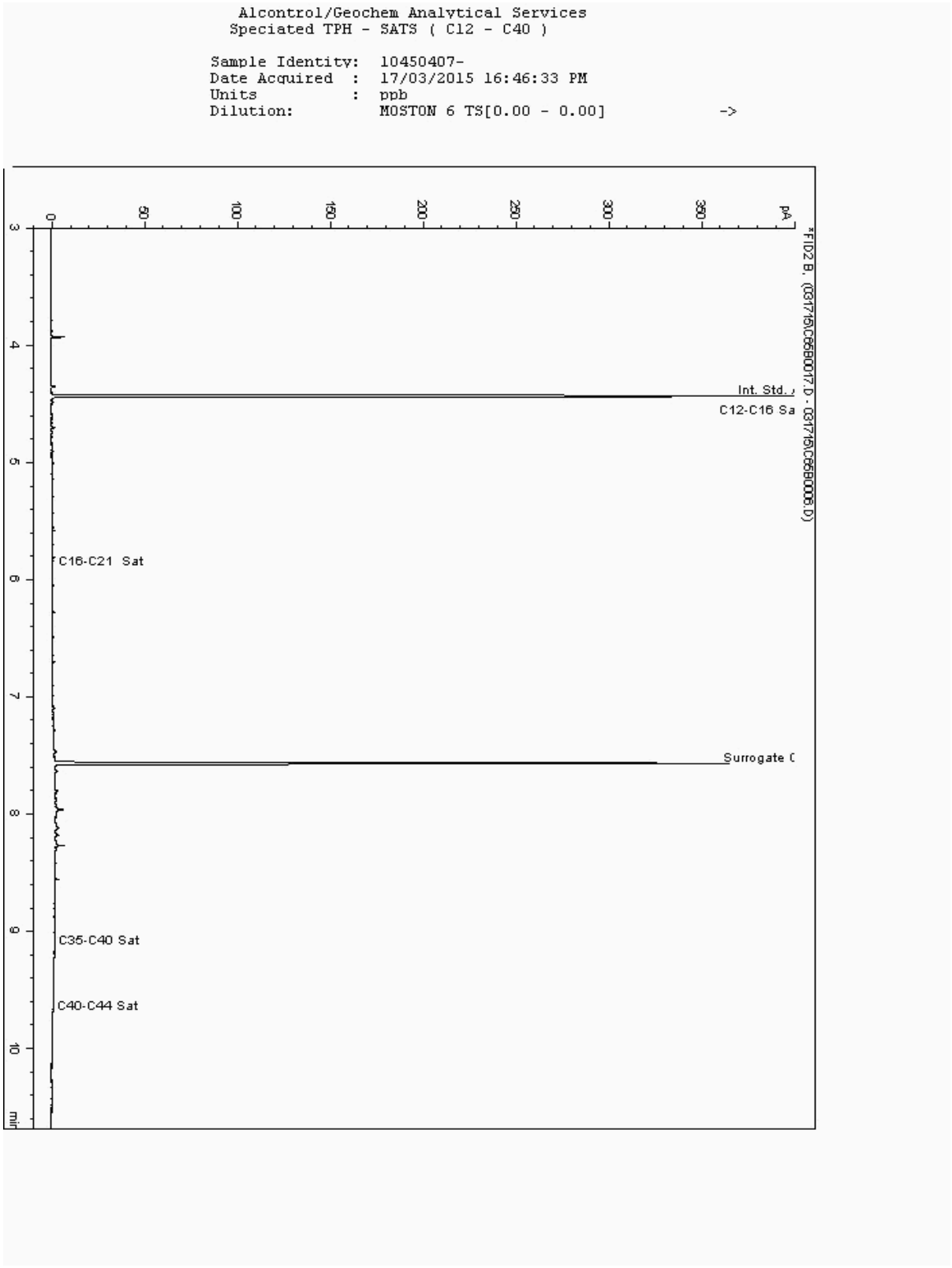
SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 10985503
Sample ID : Moston 6 TS

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

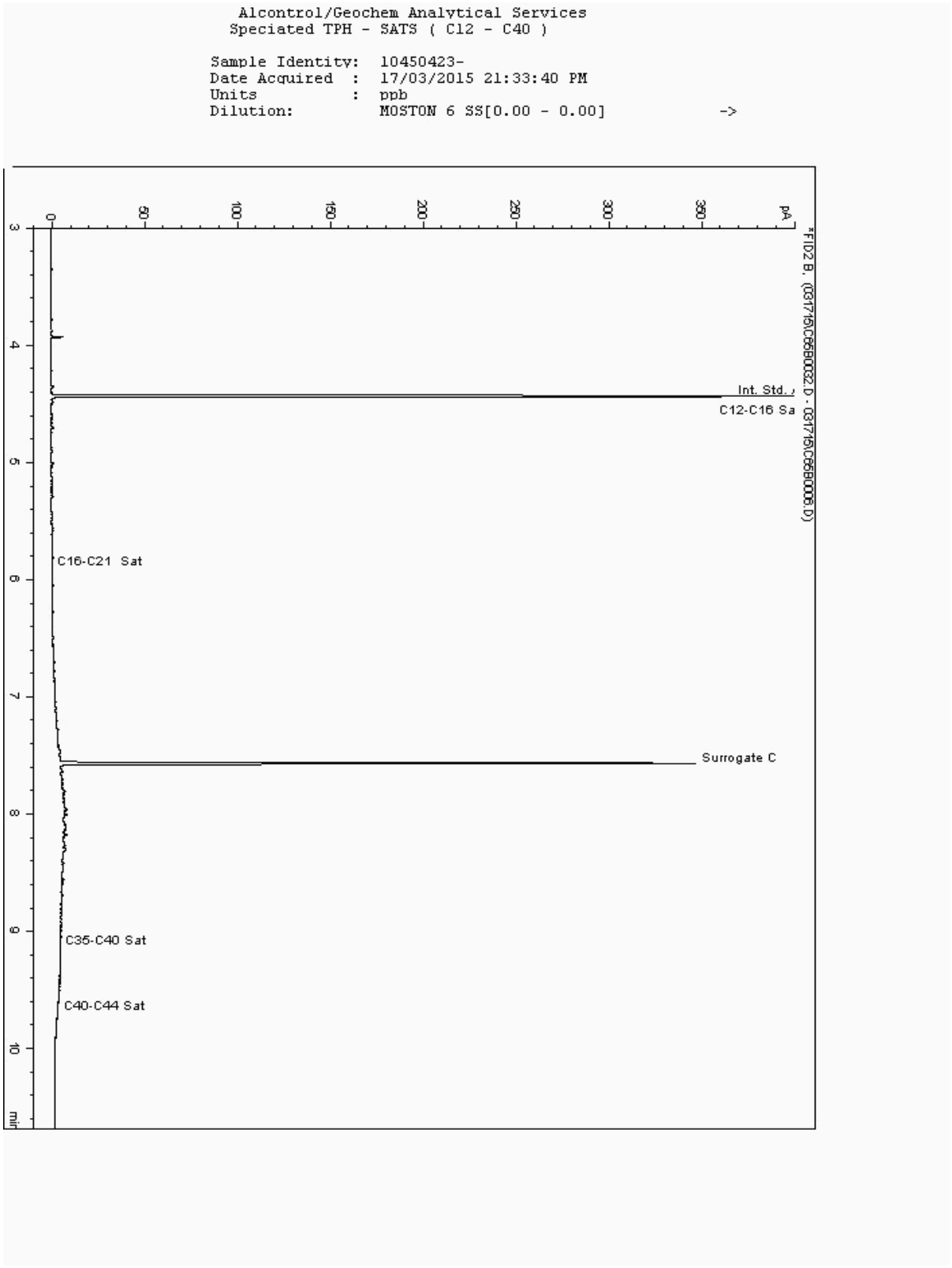
SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 10985509
Sample ID : Moston 6 SS

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

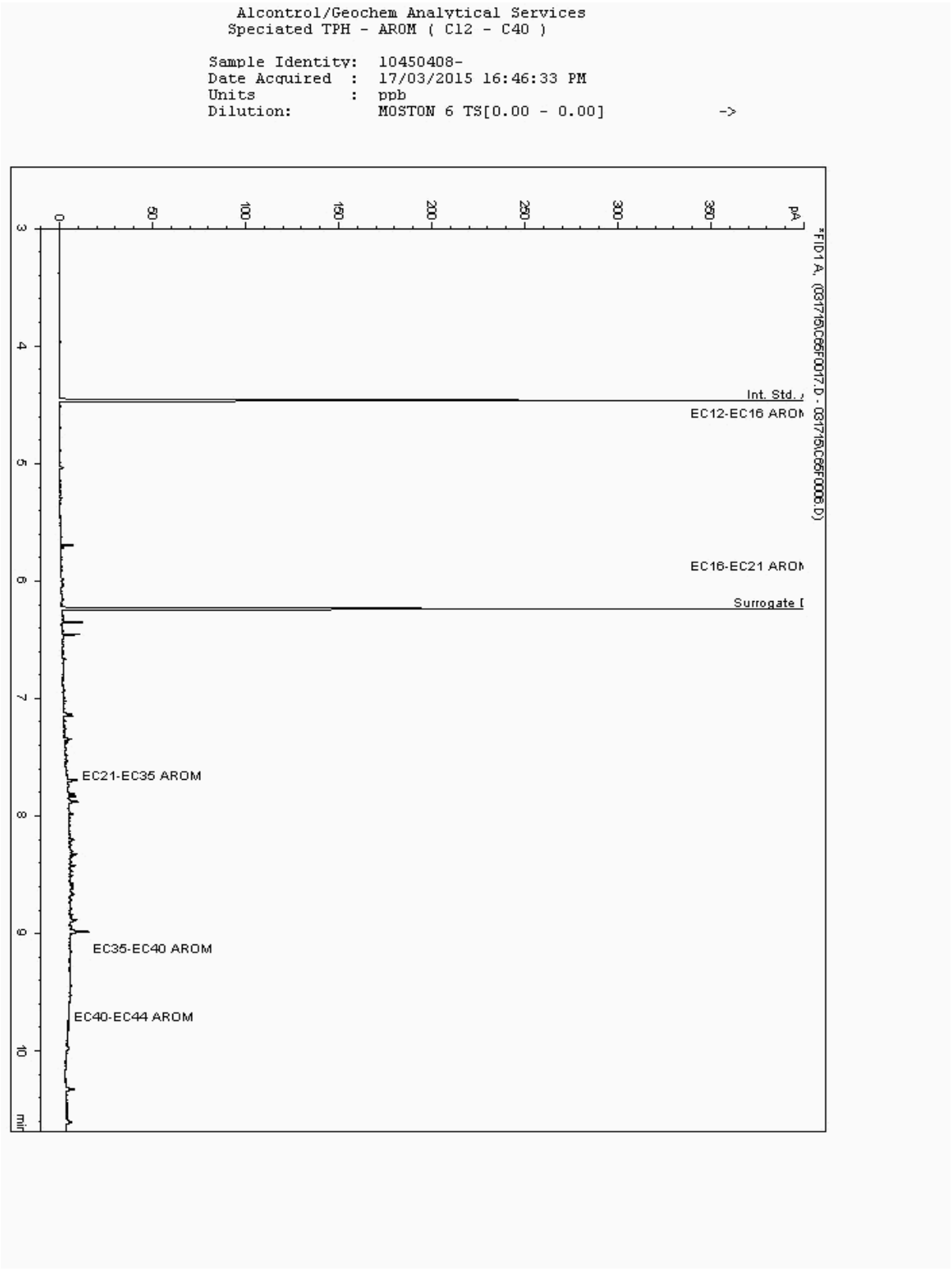
SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 10985503
Sample ID : Moston 6 TS

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

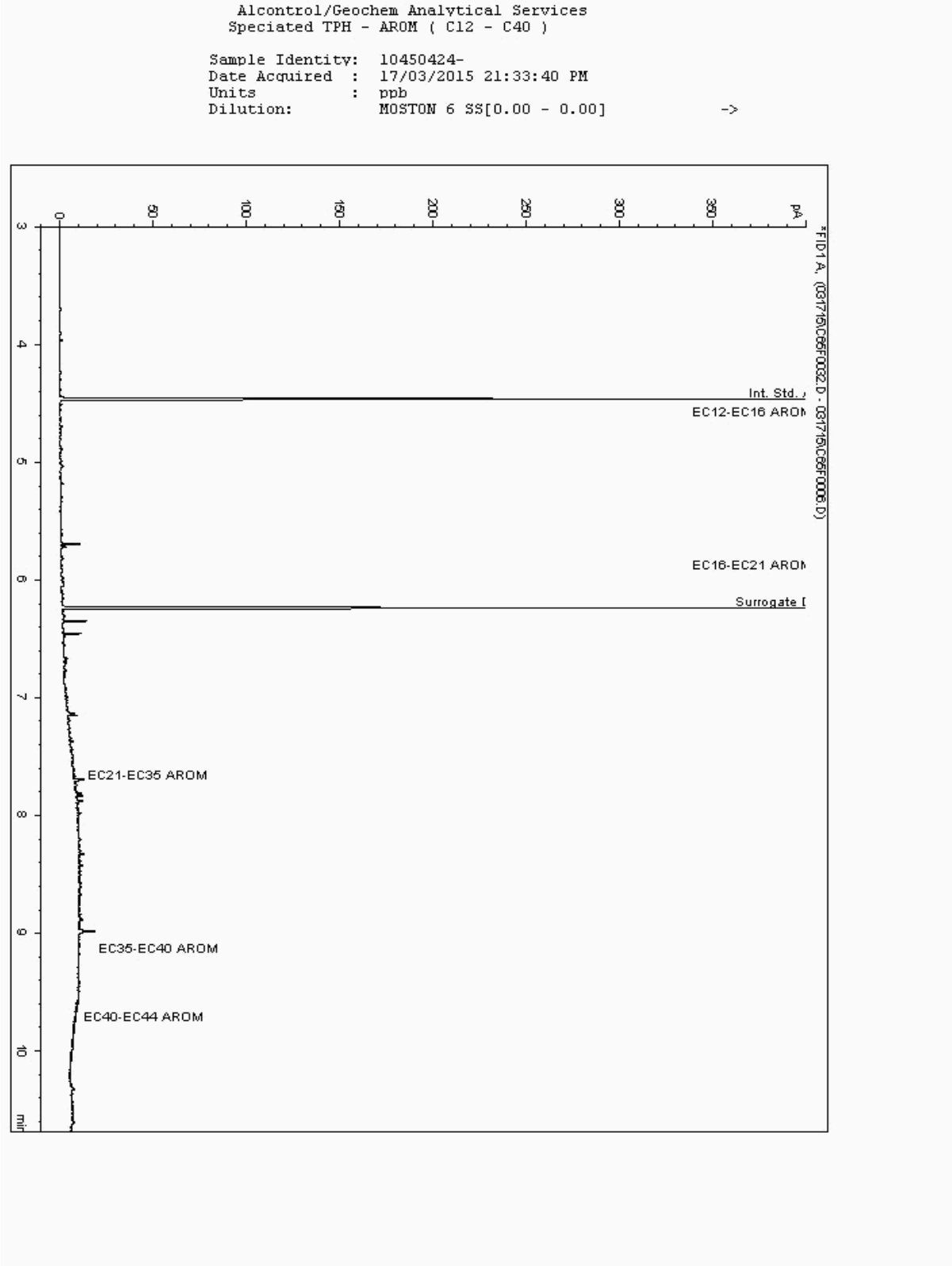
SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 10985509
Sample ID : Moston 6 SS

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

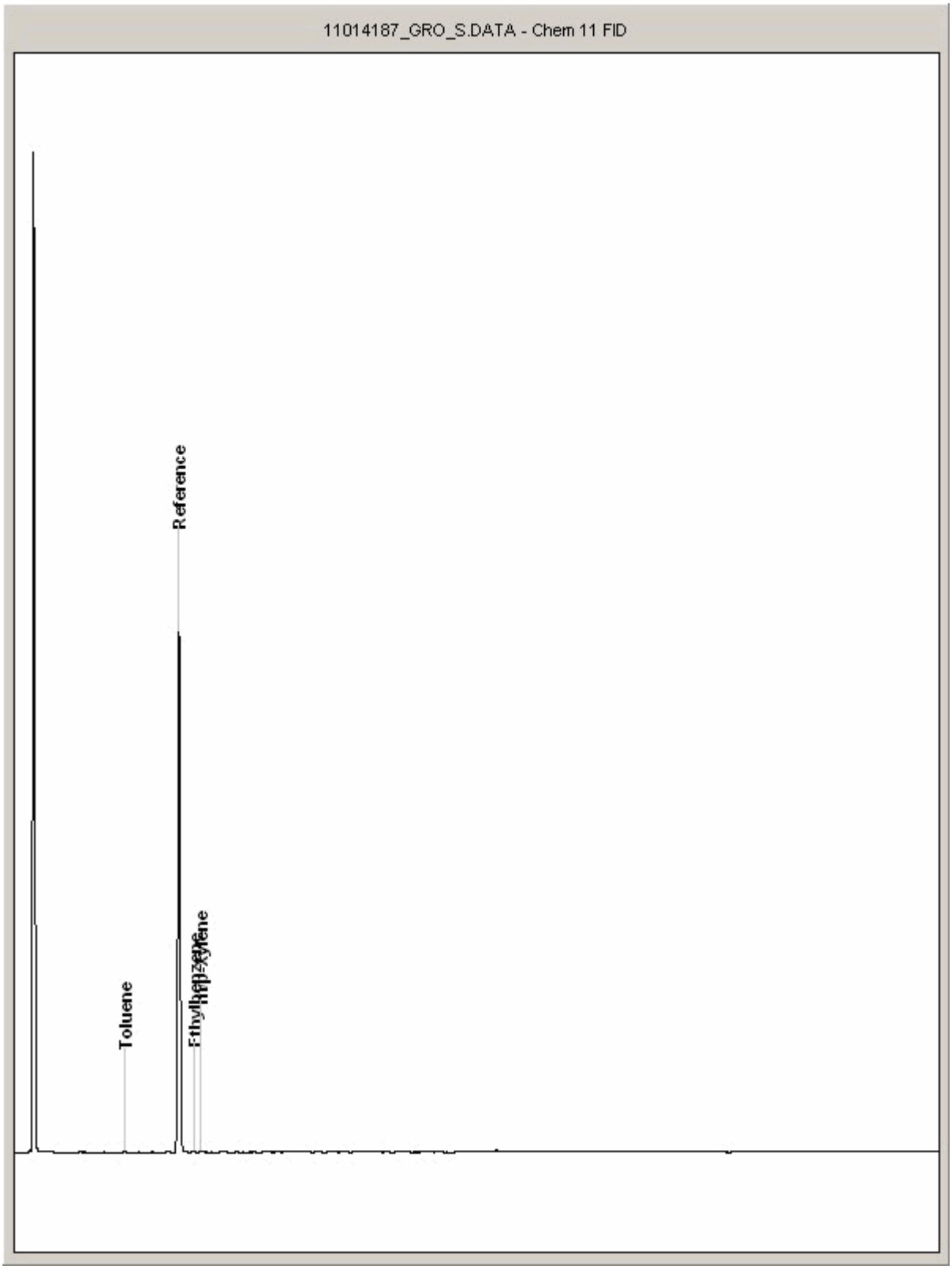
SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11014187
Sample ID : Moston 6 SS

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

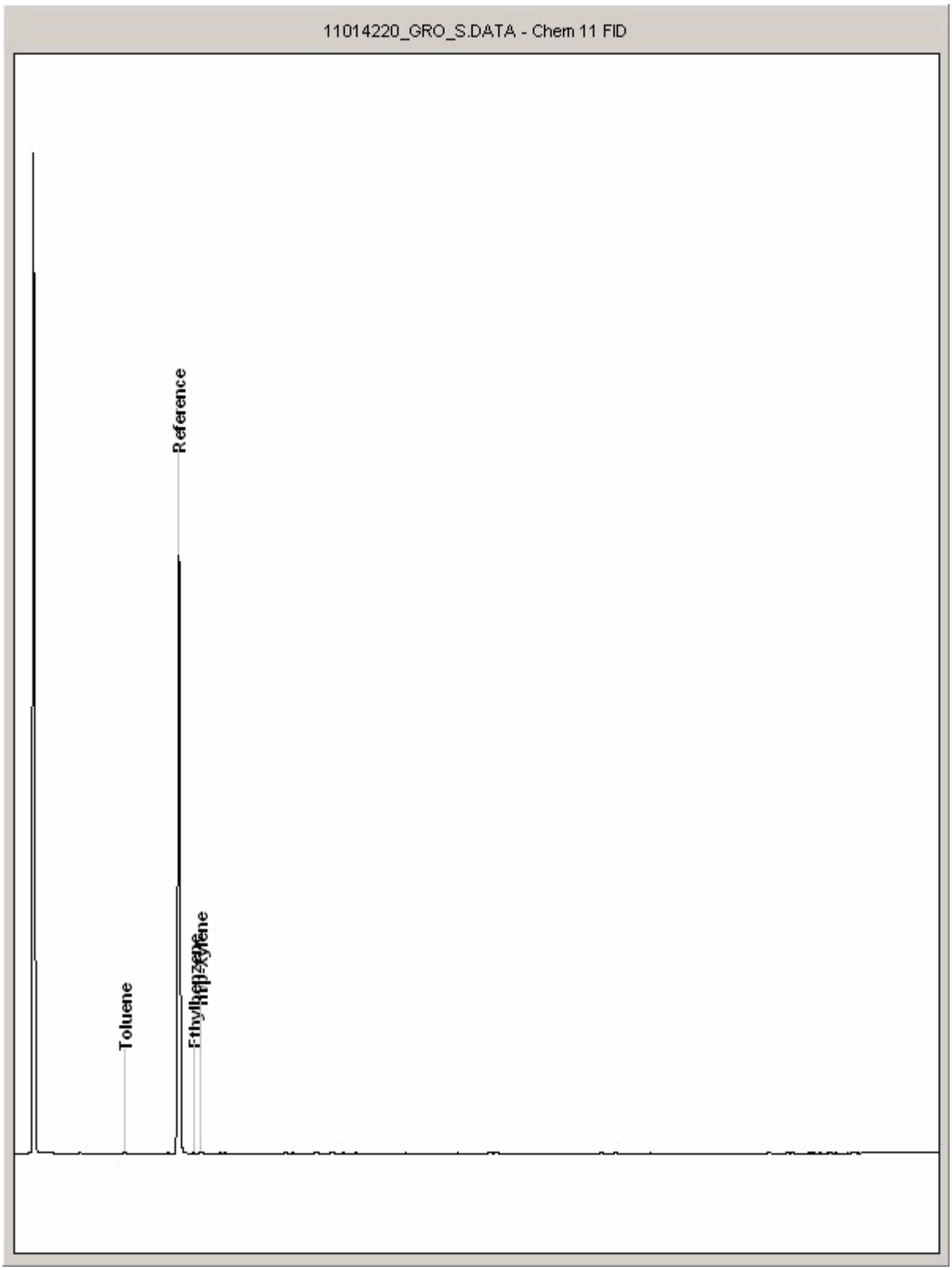
SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 11014220
Sample ID : Moston 6 TS

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

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 large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

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

23. 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.

24. 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
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
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 OVEREND	GC-FID
EPH (MINOIL)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
PCB TOT/ PCB CON	D&C	HEXANE:ACETONE	END OVEREND	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

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing 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).

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 MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	150311-22	**Location:**	Moston Site 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306021
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	305973

Appendix

General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. 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. 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 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 the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

APPENDIX C
Moston 5, March 2015
SDG: 150319-126

ALcontrol Laboratories

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

WSP Environmental
The Victoria
150-182 The Quays
Salford
Manchester
Lancashire
M50 3SP

Attention: Jess Kinchington

CERTIFICATE OF ANALYSIS

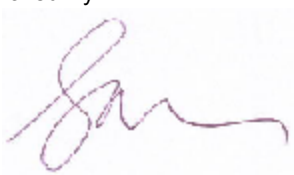
Date:	19 March 2015
Customer:	H_WSP_MAN
Sample Delivery Group (SDG):	150319-126
Your Reference:	70007995 (Moston Site 6)
Location:	Moston Site 6
Report No:	306026

We received 1 sample on Wednesday March 11, 2015 and 1 of these samples were scheduled for analysis which was completed on Thursday March 19, 2015. 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

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

CERTIFICATE OF ANALYSIS

SDG:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10980497	Moston 5 TS	ES	0.00 - 0.00	09/03/2015

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

CERTIFICATE OF ANALYSIS

SDG:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	
			10980497	Moston 5 TS	ES	0.00 - 0.00	400g Tub (ALE214)	60g VOC (ALE215)
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 1					X	
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 1	X					
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 1	X					
GRO by GC-FID (S)	All	NDPs: 0 Tests: 1						X
Metals in solid samples by OES	All	NDPs: 0 Tests: 1	X					
PAH by GCMS	All	NDPs: 0 Tests: 1	X					
pH	All	NDPs: 0 Tests: 1					X	
Sample description	All	NDPs: 0 Tests: 1	X					
TPH CWG GC (S)	All	NDPs: 0 Tests: 1	X					

CERTIFICATE OF ANALYSIS

SDG:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

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
10980497	Moston 5 TS	0.00 - 0.00	Dark Brown	Silty Clay	0.063 - 0.1 mm	Stones	Vegetation

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:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Moston 5 TS
			Depth (m)	0.00 - 0.00
			Sample Type	Soil/Solid
			Date Sampled	09/03/2015
			Sampled Time	-
			Date Received	11/03/2015
			SDG Ref	150319-126
			Lab Sample No.(s)	10980497
			AGS Reference	ES
Moisture Content Ratio (% of as received sample)	%	PM024		18
pH	1 pH Units	TM133		7.64 M
Arsenic	<0.6 mg/kg	TM181		9.97 M
Cadmium	<0.02 mg/kg	TM181		0.341 M
Chromium	<0.9 mg/kg	TM181		28.2 M
Copper	<1.4 mg/kg	TM181		22 M
Lead	<0.7 mg/kg	TM181		35.1 M
Mercury	<0.14 mg/kg	TM181		<0.14 M
Nickel	<0.2 mg/kg	TM181		13.7 M
Selenium	<1 mg/kg	TM181		<1 #
Zinc	<1.9 mg/kg	TM181		43.2 M

CERTIFICATE OF ANALYSIS

SDG:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Moston 5 TS
			Depth (m)	0.00 - 0.00
			Sample Type	Soil/Solid
			Date Sampled	09/03/2015
			Sampled Time	-
			Date Received	11/03/2015
			SDG Ref	150319-126
			Lab Sample No.(s)	10980497
			AGS Reference	ES
Naphthalene-d8 % recovery**	%	TM218		114
Acenaphthene-d10 % recovery**	%	TM218		115
Phenanthrene-d10 % recovery**	%	TM218		113
Chrysene-d12 % recovery**	%	TM218		109
Perylene-d12 % recovery**	%	TM218		114
Naphthalene	<0.009 mg/kg	TM218		0.039 M
Acenaphthylene	<0.012 mg/kg	TM218		<0.012 M
Acenaphthene	<0.008 mg/kg	TM218		0.0272 M
Fluorene	<0.01 mg/kg	TM218		0.0236 M
Phenanthrene	<0.015 mg/kg	TM218		0.213 M
Anthracene	<0.016 mg/kg	TM218		0.0469 M
Fluoranthene	<0.017 mg/kg	TM218		0.279 M
Pyrene	<0.015 mg/kg	TM218		0.255 M
Benz(a)anthracene	<0.014 mg/kg	TM218		0.134 M
Chrysene	<0.01 mg/kg	TM218		0.138 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.184 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		0.0775 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.145 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.0841 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		<0.023 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		0.109 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		1.76

CERTIFICATE OF ANALYSIS

SDG:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			Moston 5 TS	0.00 - 0.00	Soil/Solid	09/03/2015	-	11/03/2015	150319-126	10980497	ES
GRO Surrogate % recovery**	%	TM089	43								
GRO TOT (Moisture Corrected)	<0.044 mg/kg	TM089	<0.044 M								
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089	<0.005 M								
Benzene	<0.01 mg/kg	TM089	<0.01 M								
Toluene	<0.002 mg/kg	TM089	0.00366 M								
Ethylbenzene	<0.003 mg/kg	TM089	<0.003 M								
m,p-Xylene	<0.006 mg/kg	TM089	<0.006 M								
o-Xylene	<0.003 mg/kg	TM089	<0.003 M								
sum of detected mpo xylene by GC	<0.009 mg/kg	TM089	<0.009								
sum of detected BTEX by GC	<0.024 mg/kg	TM089	<0.024								
Aliphatics >C5-C6	<0.01 mg/kg	TM089	<0.01								
Aliphatics >C6-C8	<0.01 mg/kg	TM089	<0.01								
Aliphatics >C8-C10	<0.01 mg/kg	TM089	<0.01								
Aliphatics >C10-C12	<0.01 mg/kg	TM089	<0.01								
Aliphatics >C12-C16	<0.1 mg/kg	TM173	<0.1								
Aliphatics >C16-C21	<0.1 mg/kg	TM173	1.48								
Aliphatics >C21-C35	<0.1 mg/kg	TM173	29.5								
Aliphatics >C35-C44	<0.1 mg/kg	TM173	5.21								
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173	36.2								
Aromatics >EC5-EC7	<0.01 mg/kg	TM089	<0.01								
Aromatics >EC7-EC8	<0.01 mg/kg	TM089	<0.01								
Aromatics >EC8-EC10	<0.01 mg/kg	TM089	<0.01								
Aromatics >EC10-EC12	<0.01 mg/kg	TM089	<0.01								
Aromatics >EC12-EC16	<0.1 mg/kg	TM173	1.37								
Aromatics >EC16-EC21	<0.1 mg/kg	TM173	5.59								
Aromatics >EC21-EC35	<0.1 mg/kg	TM173	56.3								
Aromatics >EC35-EC44	<0.1 mg/kg	TM173	26.9								
Aromatics >EC40-EC44	<0.1 mg/kg	TM173	9.47								
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173	90.2								
Total Aliphatics & Aromatics >C5-C44	<0.1 mg/kg	TM173	126								

CERTIFICATE OF ANALYSIS

SDG:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Moston 5 TS ES 0.00 - 0.00 SOLID 09/03/2015 00:00:00 11/03/2015 22:18:16 150319-126 10980497 TM048	18/03/15	Chris Swindells	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	150319-126	**Location:**	Moston Site 6	**Order Number:**	62001103-S01
Job:	H_WSP_MAN-220	**Customer:**	WSP Environmental	**Report Number:**	306026
Client Reference:	70007995 (Moston Site 6)	**Attention:**	Jess Kinchington	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
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		

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

APPENDIX D
Moston 6, June 2015
SDG: 150617-71

ALcontrol Laboratories

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

WSP Environmental
The Victoria
150-182 The Quays
Salford
Manchester
Lancashire
M50 3SP

Attention: Paula Gallagher

CERTIFICATE OF ANALYSIS

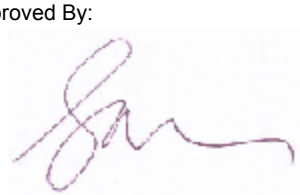
Date:	25 June 2015
Customer:	H_WSP_MAN
Sample Delivery Group (SDG):	150617-71
Your Reference:	70007995
Location:	Moston 6
Report No:	318490

We received 4 samples on Wednesday June 17, 2015 and 2 of these samples were scheduled for analysis which was completed on Thursday June 25, 2015. 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

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11547965	Plot 87 SS	ES	0.00 - 0.00	15/06/2015
11547979	Plot 88 SS	ES	0.00 - 0.00	15/06/2015
11547959	Plot 87 TS	D	0.00 - 0.00	15/06/2015
11547972	Plot 88 TS	ES	0.00 - 0.00	15/06/2015

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

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	11547965	11547959
			Customer Sample Reference	Plot 87 SS	Plot 87 TS
			AGS Reference	ES	D
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Container	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)	250g Amber Jar (AL	400g Tub (ALE214)	60g VOC (ALE215)
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2		X		X		
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 2	X			X		
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 2	X			X		
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2			X			X
Metals in solid samples by OES	All	NDPs: 0 Tests: 2	X			X		
PAH by GCMS	All	NDPs: 0 Tests: 2	X			X		
pH	All	NDPs: 0 Tests: 2		X			X	
Sample description	All	NDPs: 0 Tests: 2	X			X		
TPH CWG GC (S)	All	NDPs: 0 Tests: 2	X			X		

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

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
11547965	Plot 87 SS	0.00 - 0.00	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation
11547959	Plot 87 TS	0.00 - 0.00	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Stones	Vegetation

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:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 87 SS	Plot 87 TS
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	15/06/2015	15/06/2015
			Sampled Time	.	.
			Date Received	17/06/2015	17/06/2015
			SDG Ref	150617-71	150617-71
			Lab Sample No.(s)	11547965	11547959
			AGS Reference	ES	D
Moisture Content Ratio (% of as received sample)	%	PM024		9	9.2
pH	1 pH Units	TM133		7.85 M	7.9 M
Arsenic	<0.6 mg/kg	TM181		7.39 M	7.4 M
Cadmium	<0.02 mg/kg	TM181		0.402 M	0.289 M
Chromium	<0.9 mg/kg	TM181		16.5 M	17.1 M
Copper	<1.4 mg/kg	TM181		19.3 M	22.2 M
Lead	<0.7 mg/kg	TM181		29.7 M	32 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		20.6 M	22.7 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		54.6 M	55.1 M

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 87 SS	Plot 87 TS
			Depth (m)	0.00 - 0.00	0.00 - 0.00
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	15/06/2015	15/06/2015
			Sampled Time	.	.
			Date Received	17/06/2015	17/06/2015
			SDG Ref	150617-71	150617-71
			Lab Sample No.(s)	11547965	11547959
			AGS Reference	ES	D
Naphthalene-d8 % recovery**	%	TM218		100	101
Acenaphthene-d10 % recovery**	%	TM218		99.7	102
Phenanthrene-d10 % recovery**	%	TM218		95.2	96.4
Chrysene-d12 % recovery**	%	TM218		101	102
Perylene-d12 % recovery**	%	TM218		112	115
Naphthalene	<0.009 mg/kg	TM218		0.098 M	0.0909 M
Acenaphthylene	<0.012 mg/kg	TM218		0.0744 M	0.0666 M
Acenaphthene	<0.008 mg/kg	TM218		0.58 M	0.169 M
Fluorene	<0.01 mg/kg	TM218		0.612 M	0.127 M
Phenanthrene	<0.015 mg/kg	TM218		4.29 M	1.31 M
Anthracene	<0.016 mg/kg	TM218		1.46 M	0.887 M
Fluoranthene	<0.017 mg/kg	TM218		5.91 M	2.7 M
Pyrene	<0.015 mg/kg	TM218		4.52 M	2.42 M
Benz(a)anthracene	<0.014 mg/kg	TM218		2.24 M	1.62 M
Chrysene	<0.01 mg/kg	TM218		1.64 M	1.39 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		2.3 M	2.17 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		0.94 M	0.735 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		1.95 M	1.72 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.85 M	0.802 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		0.236 M	<0.023 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		0.976 M	0.97 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		28.7	17.2

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 87 SS	Plot 87 TS				
			Depth (m)	0.00 - 0.00	0.00 - 0.00				
			Sample Type	Soil/Solid	Soil/Solid				
			Date Sampled	15/06/2015	15/06/2015				
			Sampled Time	.	.				
			Date Received	17/06/2015	17/06/2015				
			SDG Ref	150617-71	150617-71				
			Lab Sample No.(s)	11547965	11547959				
			AGS Reference	ES	D				
GRO Surrogate % recovery**	%	TM089		52	55				
GRO TOT (Moisture Corrected)	<0.044 mg/kg	TM089		<0.044 M	<0.044 M				
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089		<0.005 M	<0.005 M				
Benzene	<0.01 mg/kg	TM089		<0.01 M	<0.01 M				
Toluene	<0.002 mg/kg	TM089		<0.002 M	<0.002 M				
Ethylbenzene	<0.003 mg/kg	TM089		<0.003 M	<0.003 M				
m,p-Xylene	<0.006 mg/kg	TM089		<0.006 M	<0.006 M				
o-Xylene	<0.003 mg/kg	TM089		<0.003 M	<0.003 M				
sum of detected mpo xylene by GC	<0.009 mg/kg	TM089		<0.009	<0.009				
sum of detected BTEX by GC	<0.024 mg/kg	TM089		<0.024	<0.024				
Aliphatics >C5-C6	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C6-C8	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C8-C10	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C10-C12	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C12-C16	<0.1 mg/kg	TM173		3.25	<0.1				
Aliphatics >C16-C21	<0.1 mg/kg	TM173		6.79	<0.1				
Aliphatics >C21-C35	<0.1 mg/kg	TM173		46	20.6				
Aliphatics >C35-C44	<0.1 mg/kg	TM173		15.1	6.53				
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173		71.1	27.1				
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC10-EC12	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC12-EC16	<0.1 mg/kg	TM173		4.24	2.34				
Aromatics >EC16-EC21	<0.1 mg/kg	TM173		26.8	22.3				
Aromatics >EC21-EC35	<0.1 mg/kg	TM173		72.1	98.4				
Aromatics >EC35-EC44	<0.1 mg/kg	TM173		27.6	40.7				
Aromatics >EC40-EC44	<0.1 mg/kg	TM173		10.9	15.7				
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173		131	164				
Total Aliphatics & Aromatics >C5-C44	<0.1 mg/kg	TM173		202	191				

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Plot 87 SS ES 0.00 - 0.00 SOLID 15/06/2015 00:00:00 17/06/2015 21:49:08 150617-71 11547965 TM048	24/6/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Plot 87 TS D 0.00 - 0.00 SOLID 15/06/2015 00:00:00 17/06/2015 21:45:03 150617-71 11547959 TM048	24/6/15	Rebecca Rawlings	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
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		

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

CERTIFICATE OF ANALYSIS

SDG:	150617-71	**Location:**	Moston 6	**Order Number:**	70007995-S01
Job:	H_WSP_MAN-214	**Customer:**	WSP Environmental	**Report Number:**	318490
Client Reference:	70007995	**Attention:**	Paula Gallagher	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11547965	11547959
Customer Sample Ref.	Plot 87 SS	Plot 87 TS
AGS Ref.	ES	D
Depth	0.00 - 0.00	0.00 - 0.00
Type	SOLID	SOLID
Asbestos ID in Solid Samples	25-Jun-2015	25-Jun-2015
EPH CWG (Aliphatic) GC (S)	19-Jun-2015	19-Jun-2015
EPH CWG (Aromatic) GC (S)	19-Jun-2015	19-Jun-2015
GRO by GC-FID (S)	23-Jun-2015	24-Jun-2015
Metals in solid samples by OES	22-Jun-2015	22-Jun-2015
PAH by GCMS	22-Jun-2015	22-Jun-2015
pH	23-Jun-2015	23-Jun-2015
Sample description	17-Jun-2015	17-Jun-2015
TPH CWG GC (S)	23-Jun-2015	24-Jun-2015

APPENDIX E
Moston 5, January 2016
SDG: 160128-93

ALcontrol Laboratories

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

WSP Environmental
The Victoria
150-182 The Quays
Salford
Manchester
Lancashire
M50 3SP

Attention: Paula Gallagher

CERTIFICATE OF ANALYSIS

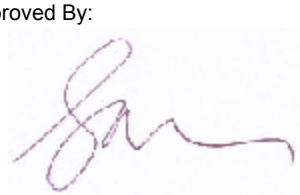
Date:	04 February 2016
Customer:	H_WSP_MAN
Sample Delivery Group (SDG):	160128-93
Your Reference:	70010970-002
Location:	Moston Site 5
Report No:	347916

We received 2 samples on Thursday January 28, 2016 and 2 of these samples were scheduled for analysis which was completed on Thursday February 04, 2016. 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

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12829128	Plot 42 - Subsoil	ES	0.20 - 0.30	26/01/2016
12829118	Plot 42 - Topsoil	ES	0.00 - 0.10	26/01/2016

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

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	12829128	12829118
			Customer Sample Reference	Plot 42 - Subsoil	Plot 42 - Topsoil
			AGS Reference	ES	ES
			Depth (m)	0.20 - 0.30	0.00 - 0.10
			Container	1kg TUB / 250g Amber Jar (AL / 60g VOC (ALE215)	1kg TUB / 250g Amber Jar (AL / 60g VOC (ALE215)
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2		X	X
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 2		X	X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 2		X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2		X	X
Metals in solid samples by OES	All	NDPs: 0 Tests: 2		X	X
PAH by GCMS	All	NDPs: 0 Tests: 2		X	X
pH	All	NDPs: 0 Tests: 2		X	X
Sample description	All	NDPs: 0 Tests: 2		X	X
TPH CWG GC (S)	All	NDPs: 0 Tests: 2		X	X

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

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
12829128	Plot 42 - Subsoil	0.20 - 0.30	Dark Brown	Sandy Clay Loam	0.1 - 2 mm	Vegetation	Stones
12829118	Plot 42 - Topsoil	0.00 - 0.10	Dark Brown	Loamy Sand	0.1 - 2 mm	Vegetation	Stones

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:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 42 - Subso il	Plot 42 - Topso il
			Depth (m)	0.20 - 0.30	0.00 - 0.10
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	26/01/2016	26/01/2016
			Sampled Time	.	.
			Date Received	28/01/2016	28/01/2016
			SDG Ref	160128-93	160128-93
			Lab Sample No.(s)	12829128	12829118
			AGS Reference	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		27	25
pH	1 pH Units	TM133		7.7 M	7.59 M
Arsenic	<0.6 mg/kg	TM181		9.49 M	7.87 M
Cadmium	<0.02 mg/kg	TM181		0.329 M	0.214 M
Chromium	<0.9 mg/kg	TM181		21.1 M	9.97 M
Copper	<1.4 mg/kg	TM181		23.1 M	23.4 M
Lead	<0.7 mg/kg	TM181		27.3 M	48.5 M
Mercury	<0.14 mg/kg	TM181		<0.14 M	<0.14 M
Nickel	<0.2 mg/kg	TM181		25.1 M	9.91 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #
Zinc	<1.9 mg/kg	TM181		69.7 M	59.2 M

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 42 - Subso il	Plot 42 - Topso il
			Depth (m)	0.20 - 0.30	0.00 - 0.10
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	26/01/2016	26/01/2016
			Sampled Time	.	.
			Date Received	28/01/2016	28/01/2016
			SDG Ref	160128-93	160128-93
			Lab Sample No.(s)	12829128	12829118
			AGS Reference	ES	ES
Naphthalene-d8 % recovery**	%	TM218		117	108
Acenaphthene-d10 % recovery**	%	TM218		117	108
Phenanthrene-d10 % recovery**	%	TM218		113	106
Chrysene-d12 % recovery**	%	TM218		107	102
Perylene-d12 % recovery**	%	TM218		117	113
Naphthalene	<0.009 mg/kg	TM218		<0.009 M	<0.009 M
Acenaphthylene	<0.012 mg/kg	TM218		<0.012 M	<0.012 M
Acenaphthene	<0.008 mg/kg	TM218		<0.008 M	<0.008 M
Fluorene	<0.01 mg/kg	TM218		<0.01 M	<0.01 M
Phenanthrene	<0.015 mg/kg	TM218		0.226 M	0.565 M
Anthracene	<0.016 mg/kg	TM218		0.234 M	0.586 M
Fluoranthene	<0.017 mg/kg	TM218		0.411 M	0.946 M
Pyrene	<0.015 mg/kg	TM218		0.342 M	0.887 M
Benz(a)anthracene	<0.014 mg/kg	TM218		<0.014 M	0.577 M
Chrysene	<0.01 mg/kg	TM218		0.232 M	0.592 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.385 M	1.06 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		0.337 M	0.927 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.202 M	0.585 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.107 M	0.315 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		<0.023 M	<0.023 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		0.143 M	0.406 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		2.62	7.45

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 42 - Subso il	Plot 42 - Topso il			
			Depth (m)	0.20 - 0.30	0.00 - 0.10			
			Sample Type	Soil/Solid	Soil/Solid			
			Date Sampled	26/01/2016	26/01/2016			
			Sampled Time	.	.			
			Date Received	28/01/2016	28/01/2016			
			SDG Ref	160128-93	160128-93			
			Lab Sample No.(s)	12829128	12829118			
			AGS Reference	ES	ES			
GRO Surrogate % recovery**	%	TM089		76	46			
GRO TOT (Moisture Corrected)	<0.044 mg/kg	TM089		<0.044 M	<0.044 M			
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089		<0.005 #	<0.005 #			
Benzene	<0.01 mg/kg	TM089		<0.01 M	<0.01 M			
Toluene	<0.002 mg/kg	TM089		0.0163 M	<0.002 M			
Ethylbenzene	<0.003 mg/kg	TM089		0.00544 M	<0.003 M			
m,p-Xylene	<0.006 mg/kg	TM089		<0.006 M	<0.006 M			
o-Xylene	<0.003 mg/kg	TM089		<0.003 M	<0.003 M			
sum of detected mpo xylene by GC	<0.009 mg/kg	TM089		<0.009	<0.009			
sum of detected BTEX by GC	<0.024 mg/kg	TM089		<0.024	<0.024			
Aliphatics >C5-C6	<0.01 mg/kg	TM089		<0.01	<0.01			
Aliphatics >C6-C8	<0.01 mg/kg	TM089		<0.01	<0.01			
Aliphatics >C8-C10	<0.01 mg/kg	TM089		<0.01	<0.01			
Aliphatics >C10-C12	<0.01 mg/kg	TM089		<0.01	<0.01			
Aliphatics >C12-C16	<0.1 mg/kg	TM173		0.177	0.524			
Aliphatics >C16-C21	<0.1 mg/kg	TM173		<0.1	2.91			
Aliphatics >C21-C35	<0.1 mg/kg	TM173		3.5	20.4			
Aliphatics >C35-C44	<0.1 mg/kg	TM173		0.424	1.5			
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173		4.1	25.3			
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01	<0.01			
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		0.0163	<0.01			
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		<0.01	<0.01			
Aromatics >EC10-EC12	<0.01 mg/kg	TM089		<0.01	<0.01			
Aromatics >EC12-EC16	<0.1 mg/kg	TM173		0.239	0.845			
Aromatics >EC16-EC21	<0.1 mg/kg	TM173		1.77	10.5			
Aromatics >EC21-EC35	<0.1 mg/kg	TM173		25.3	91.3			
Aromatics >EC35-EC44	<0.1 mg/kg	TM173		16.3	30.8			
Aromatics >EC40-EC44	<0.1 mg/kg	TM173		7.49	11.2			
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173		43.6	133			
Total Aliphatics & Aromatics >C5-C44	<0.1 mg/kg	TM173		47.7	159			

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Plot 42 - Subsoil ES 0.20 - 0.30 SOLID 26/01/2016 00:00:00 30/01/2016 10:58:56 160128-93 12829128 TM048	03/02/16	Chris Swindells	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Plot 42 - Topsoil ES 0.00 - 0.10 SOLID 26/01/2016 00:00:00 30/01/2016 10:53:53 160128-93 12829118 TM048	03/02/16	Chris Swindells	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
ASB_PREP				
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
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		

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

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	12829128	12829118
Customer Sample Ref.	Plot 42 - Subsoil	Plot 42 - Topsoil
AGS Ref.	ES	ES
Depth	0.20 - 0.30	0.00 - 0.10
Type	SOLID	SOLID
Asbestos ID in Solid Samples	03-Feb-2016	03-Feb-2016
EPH CWG (Aliphatic) GC (S)	02-Feb-2016	03-Feb-2016
EPH CWG (Aromatic) GC (S)	02-Feb-2016	03-Feb-2016
GRO by GC-FID (S)	03-Feb-2016	03-Feb-2016
Metals in solid samples by OES	03-Feb-2016	03-Feb-2016
PAH by GCMS	04-Feb-2016	04-Feb-2016
pH	04-Feb-2016	04-Feb-2016
Sample description	30-Jan-2016	30-Jan-2016
TPH CWG GC (S)	03-Feb-2016	03-Feb-2016

CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

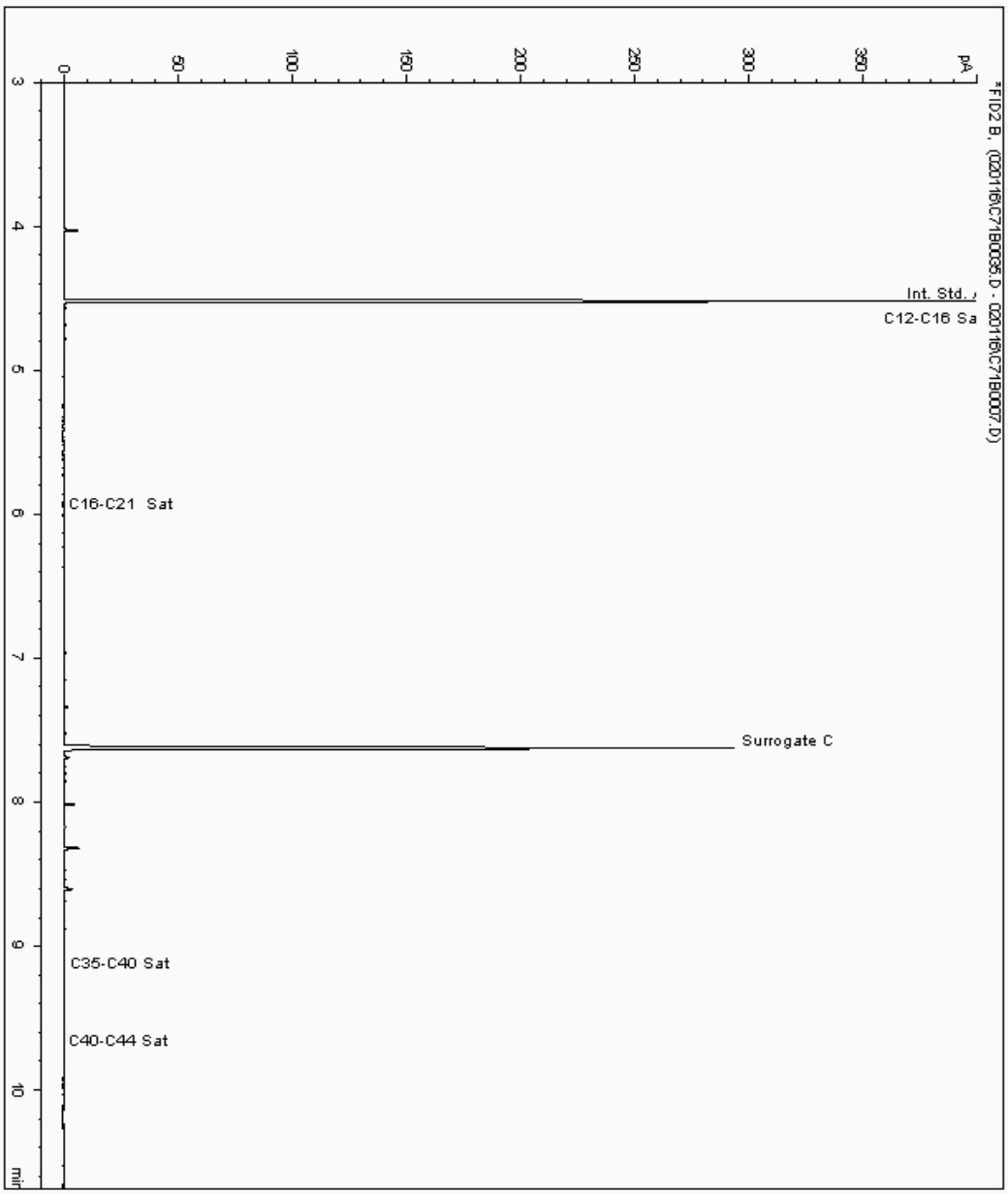
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 12842453
Sample ID : Plot 42 - Subsoil

Depth : 0.20 - 0.30

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

Sample Identity: 12109295-
Date Acquired : 02/02/2016 04:56:14 PM
Units : ppb
Dilution: PLOT 42 - SUBSO[0.20 - 0.30] ->



CERTIFICATE OF ANALYSIS

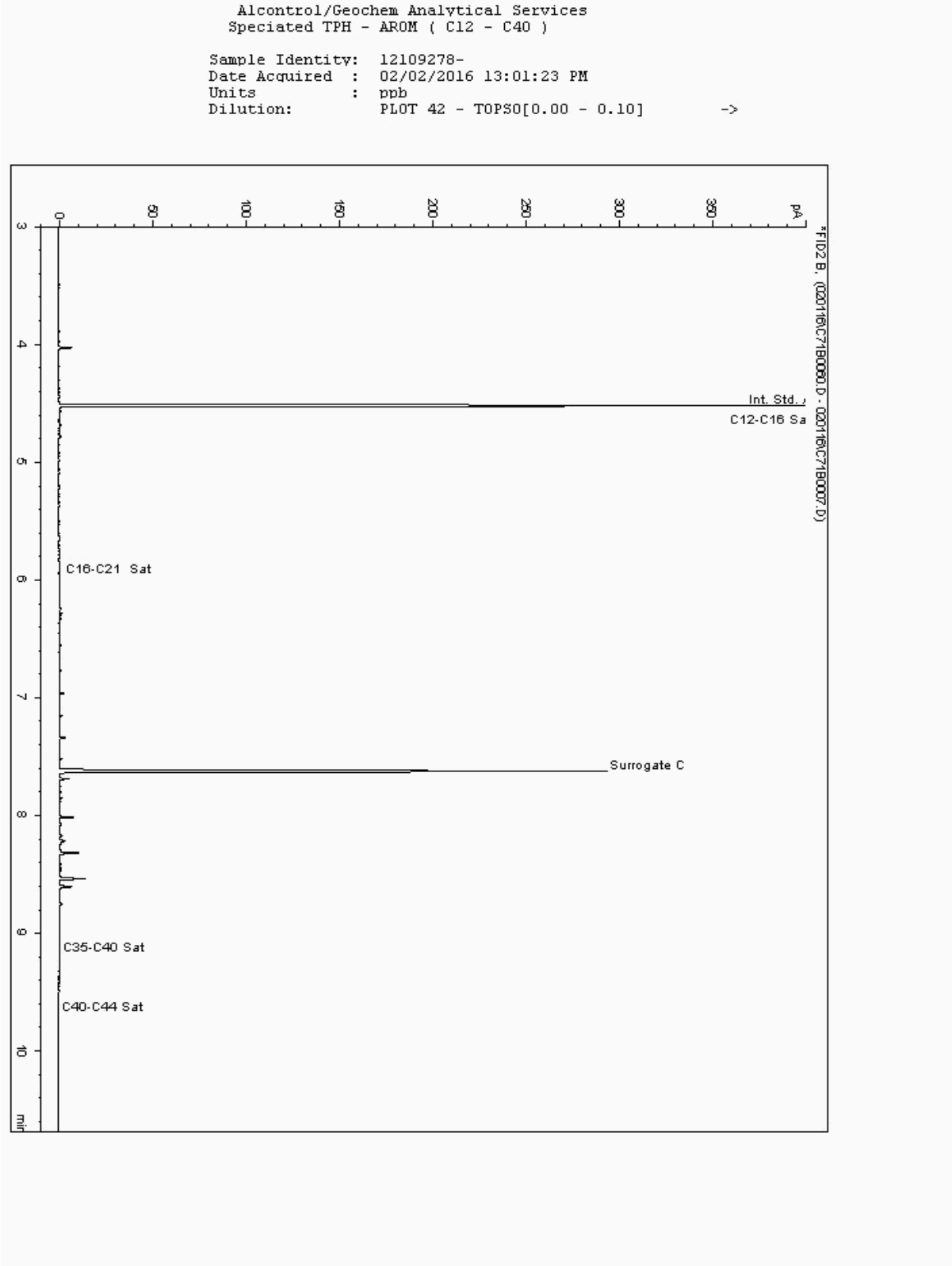
SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 12842485
Sample ID : Plot 42 - Topsoil

Depth : 0.00 - 0.10



CERTIFICATE OF ANALYSIS

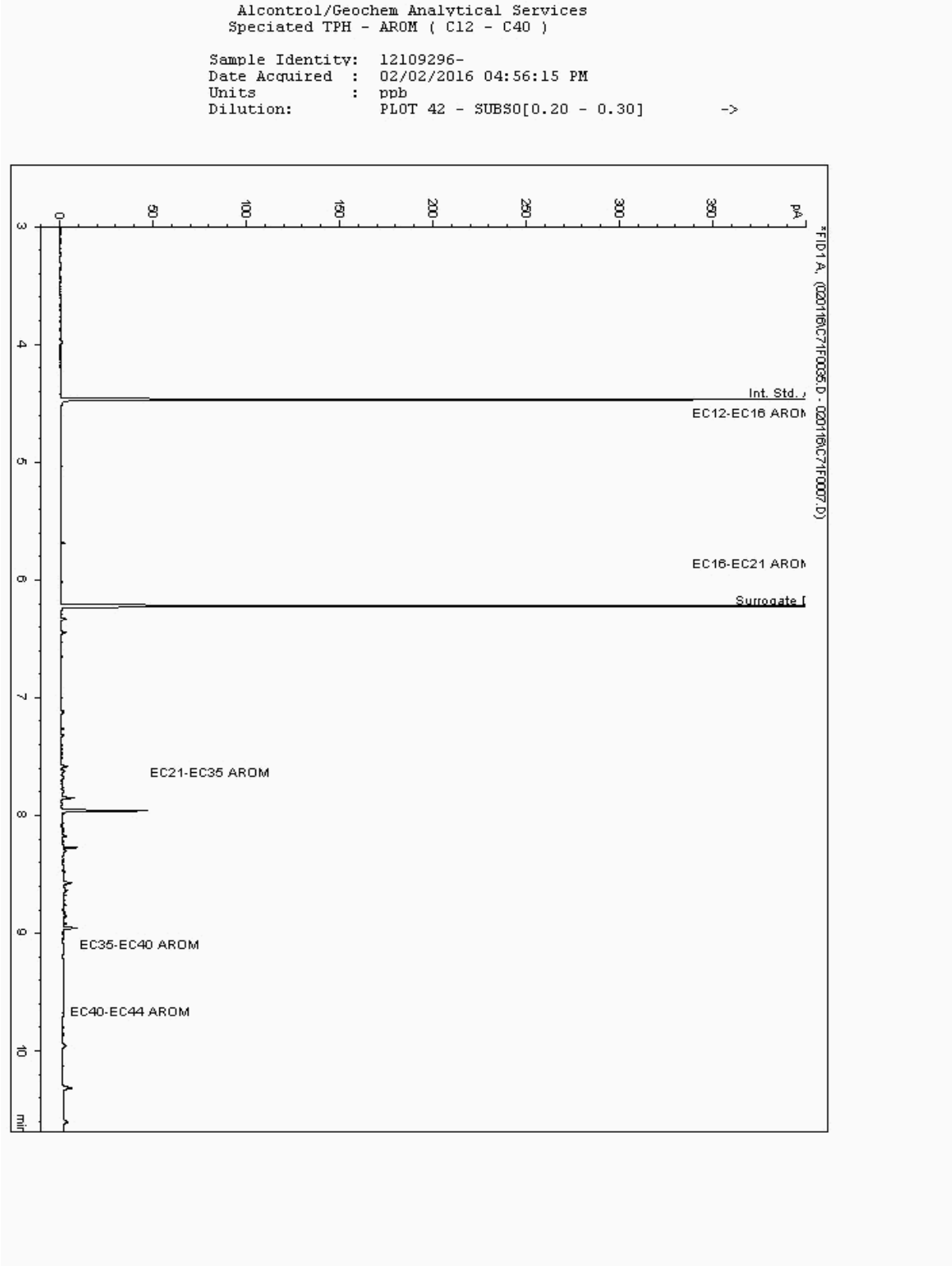
SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 12842453
Sample ID : Plot 42 - Subsoil

Depth : 0.20 - 0.30



CERTIFICATE OF ANALYSIS

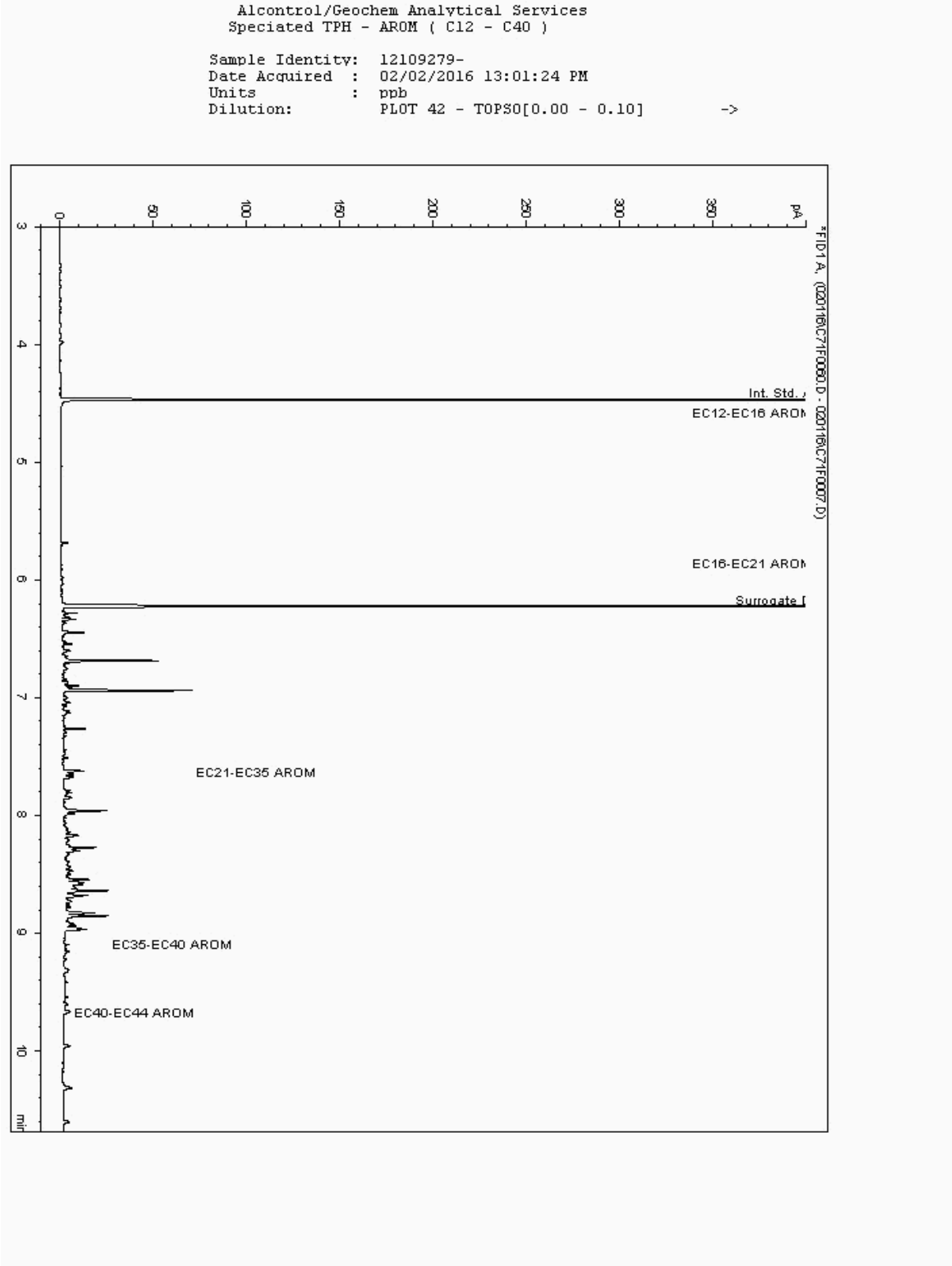
SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 12842485
Sample ID : Plot 42 - Topsoil

Depth : 0.00 - 0.10



CERTIFICATE OF ANALYSIS

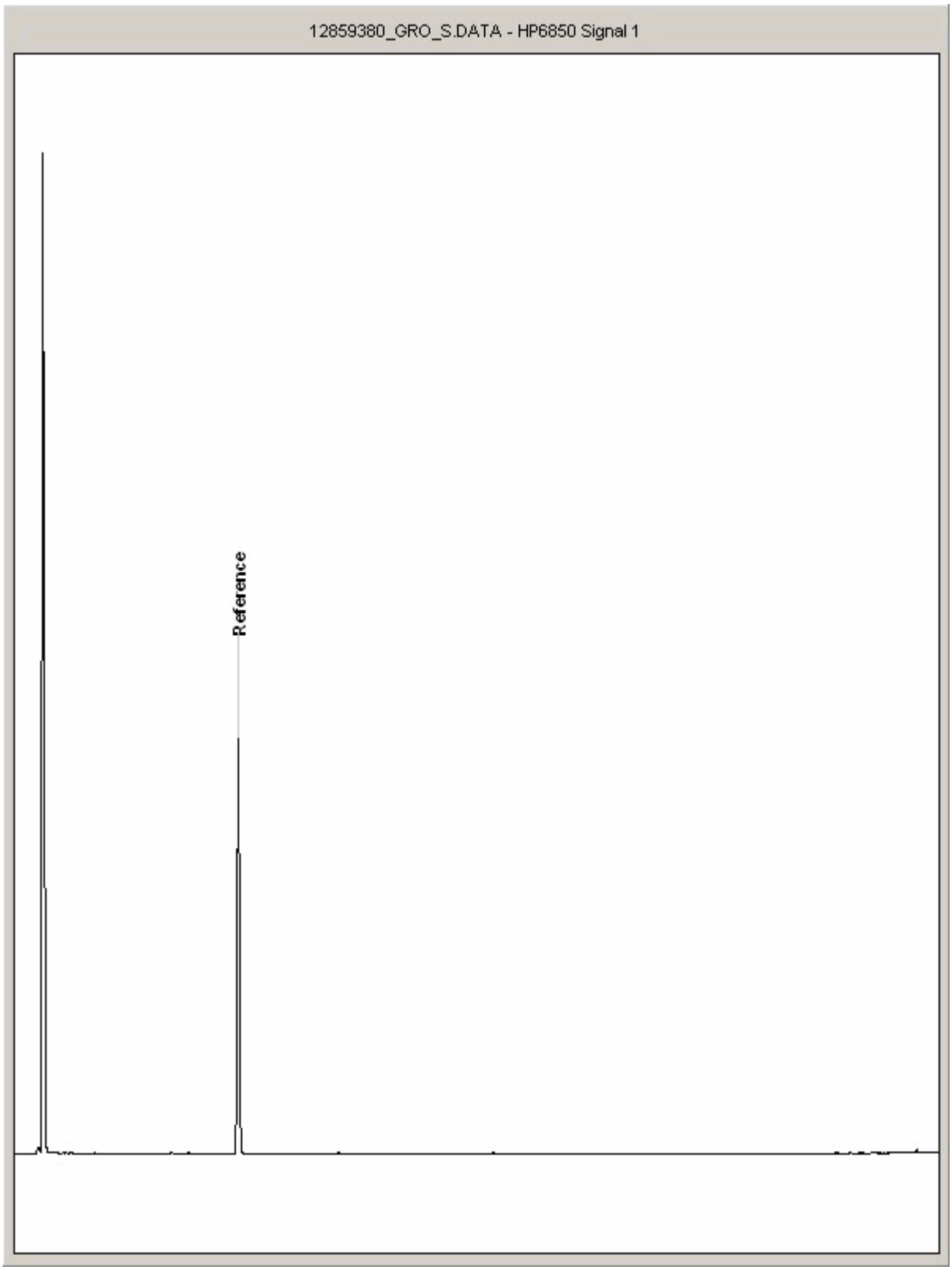
SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 12859380
Sample ID : Plot 42 - Topsoil

Depth : 0.00 - 0.10



CERTIFICATE OF ANALYSIS

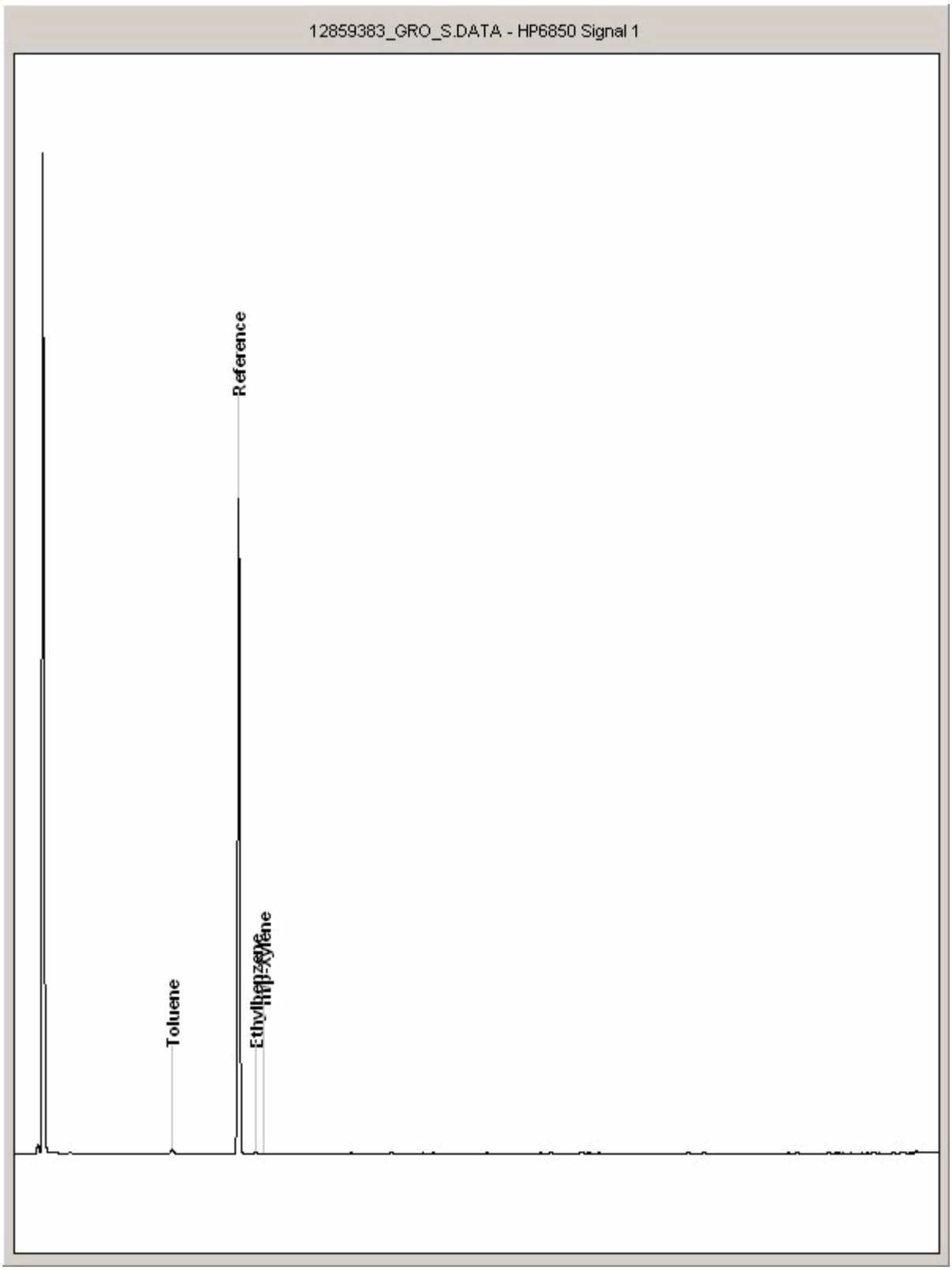
SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 12859383
Sample ID : Plot 42 - Subsoil

Depth : 0.20 - 0.30



CERTIFICATE OF ANALYSIS

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

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 large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

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. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

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 14).

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

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. 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.

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

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

23. 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.

24. 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
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
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)	GC-MS
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)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing 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).

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 MDHS 100.

The identification of asbestos containing materials 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.

Last Updated : 2010/09/08

SDG:	160128-93	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP Environmental	**Report Number:**	347916
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Appendix

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. 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 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.

General

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

APPENDIX F
Moston 5, May 2016
SDG: 160430-55

ALcontrol Laboratories

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

WSP PB MLN
The Victoria
150-182 The Quays
Salford
Manchester
Lancashire
M50 3SP

Attention: Paula Gallagher

CERTIFICATE OF ANALYSIS

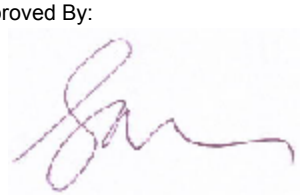
Date:	09 May 2016
Customer:	H_WSP_MAN
Sample Delivery Group (SDG):	160430-55
Your Reference:	70010970-002
Location:	Moston Site 5
Report No:	359866

We received 2 samples on Saturday April 30, 2016 and 2 of these samples were scheduled for analysis which was completed on Monday May 09, 2016. 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

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
13350439	Plot 44	ES	0.00 - 0.10	29/04/2016
13350445	Plot 44	ES	0.50 - 0.60	29/04/2016

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

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

SOLID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	13350439	13350445
			Customer Sample Reference	Plot 44	Plot 44
			AGS Reference	ES	ES
			Depth (m)	0.00 - 0.10	0.50 - 0.60
			Container	1kg TUB / 250g Amber Jar (AL / 60g VOC (ALE215)	1kg TUB / 250g Amber Jar (AL / 60g VOC (ALE215)
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 2		X	X
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 2		X	X
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 2		X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 2		X	X
Metals in solid samples by OES	All	NDPs: 0 Tests: 2		X	X
PAH by GCMS	All	NDPs: 0 Tests: 2		X	X
pH	All	NDPs: 0 Tests: 2		X	X
Sample description	All	NDPs: 0 Tests: 2		X	X
TPH CWG GC (S)	All	NDPs: 0 Tests: 2		X	X

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

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
13350439	Plot 44	0.00 - 0.10	Black	Sandy Clay Loam	0.063 - 2.00 mm	Stones	Vegetation
13350445	Plot 44	0.50 - 0.60	Dark Brown	Sandy Clay Loam	0.063 - 2.00 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.

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 44	Plot 44				
			Depth (m)	0.00 - 0.10	0.50 - 0.60				
			Sample Type	Soil/Solid	Soil/Solid				
			Date Sampled	29/04/2016	29/04/2016				
			Sampled Time	.	.				
			Date Received	30/04/2016	30/04/2016				
			SDG Ref	160430-55	160430-55				
			Lab Sample No.(s)	13350439	13350445				
			AGS Reference	ES	ES				
Moisture Content Ratio (% of as received sample)	%	PM024		20	21				
pH	1 pH Units	TM133		7.39 M	8.04 M				
Arsenic	<0.6 mg/kg	TM181		8.12 M	8.36 M				
Cadmium	<0.02 mg/kg	TM181		0.311 M	0.36 M				
Chromium	<0.9 mg/kg	TM181		10.6 M	14.9 M				
Copper	<1.4 mg/kg	TM181		24.1 M	30.6 M				
Lead	<0.7 mg/kg	TM181		71.7 M	58.2 M				
Mercury	<0.14 mg/kg	TM181		0.148 M	<0.14 M				
Nickel	<0.2 mg/kg	TM181		11.4 M	19.8 M				
Selenium	<1 mg/kg	TM181		<1 #	<1 #				
Zinc	<1.9 mg/kg	TM181		73.6 M	71.4 M				

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 44	Plot 44
			Depth (m)	0.00 - 0.10	0.50 - 0.60
			Sample Type	Soil/Solid	Soil/Solid
			Date Sampled	29/04/2016	29/04/2016
			Sampled Time	.	.
			Date Received	30/04/2016	30/04/2016
			SDG Ref	160430-55	160430-55
			Lab Sample No.(s)	13350439	13350445
			AGS Reference	ES	ES
Naphthalene-d8 % recovery**	%	TM218		98.5	126
Acenaphthene-d10 % recovery**	%	TM218		95	125
Phenanthrene-d10 % recovery**	%	TM218		91.8	122
Chrysene-d12 % recovery**	%	TM218		82.4	120
Perylene-d12 % recovery**	%	TM218		86.2	126
Naphthalene	<0.009 mg/kg	TM218		0.0233 M	0.0197 M
Acenaphthylene	<0.012 mg/kg	TM218		<0.012 M	<0.012 M
Acenaphthene	<0.008 mg/kg	TM218		0.0231 M	0.0311 M
Fluorene	<0.01 mg/kg	TM218		0.0217 M	0.0255 M
Phenanthrene	<0.015 mg/kg	TM218		0.242 M	0.254 M
Anthracene	<0.016 mg/kg	TM218		0.0481 M	0.0523 M
Fluoranthene	<0.017 mg/kg	TM218		0.402 M	0.367 M
Pyrene	<0.015 mg/kg	TM218		0.375 M	0.328 M
Benz(a)anthracene	<0.014 mg/kg	TM218		0.22 M	0.206 M
Chrysene	<0.01 mg/kg	TM218		0.219 M	0.176 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.325 M	0.284 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		0.12 M	0.0948 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.232 M	0.211 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.141 M	0.122 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		0.0395 M	0.0378 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		0.174 M	0.146 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		2.61	2.35

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	Plot 44	Plot 44				
			Depth (m)	0.00 - 0.10	0.50 - 0.60				
			Sample Type	Soil/Solid	Soil/Solid				
			Date Sampled	29/04/2016	29/04/2016				
			Sampled Time	.	.				
			Date Received	30/04/2016	30/04/2016				
			SDG Ref	160430-55	160430-55				
			Lab Sample No.(s)	13350439	13350445				
			AGS Reference	ES	ES				
GRO Surrogate % recovery**	%	TM089		61	55				
GRO TOT (Moisture Corrected)	<0.044 mg/kg	TM089		<0.044 M	<0.044 M				
Methyl tertiary butyl ether (MTBE)	<0.005 mg/kg	TM089		<0.005 #	<0.005 #				
Benzene	<0.01 mg/kg	TM089		<0.01 M	<0.01 M				
Toluene	<0.002 mg/kg	TM089		<0.002 M	<0.002 M				
Ethylbenzene	<0.003 mg/kg	TM089		<0.003 M	<0.003 M				
m,p-Xylene	<0.006 mg/kg	TM089		<0.006 M	<0.006 M				
o-Xylene	<0.003 mg/kg	TM089		<0.003 M	<0.003 M				
sum of detected mpo xylene by GC	<0.009 mg/kg	TM089		<0.009	<0.009				
sum of detected BTEX by GC	<0.024 mg/kg	TM089		<0.024	<0.024				
Aliphatics >C5-C6	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C6-C8	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C8-C10	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C10-C12	<0.01 mg/kg	TM089		<0.01	<0.01				
Aliphatics >C12-C16	<0.1 mg/kg	TM173		<0.1	<0.1				
Aliphatics >C16-C21	<0.1 mg/kg	TM173		<0.1	2.57				
Aliphatics >C21-C35	<0.1 mg/kg	TM173		4.41	29.1				
Aliphatics >C35-C44	<0.1 mg/kg	TM173		0.199	9.47				
Total Aliphatics >C12-C44	<0.1 mg/kg	TM173		4.61	41.1				
Aromatics >EC5-EC7	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC7-EC8	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC8-EC10	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC10-EC12	<0.01 mg/kg	TM089		<0.01	<0.01				
Aromatics >EC12-EC16	<0.1 mg/kg	TM173		<0.1	0.372				
Aromatics >EC16-EC21	<0.1 mg/kg	TM173		2.23	4.42				
Aromatics >EC21-EC35	<0.1 mg/kg	TM173		20.3	65.9				
Aromatics >EC35-EC44	<0.1 mg/kg	TM173		7.78	36.8				
Aromatics >EC40-EC44	<0.1 mg/kg	TM173		2.57	14.6				
Total Aromatics >EC12-EC44	<0.1 mg/kg	TM173		30.3	107				
Total Aliphatics & Aromatics >C5-C44	<0.1 mg/kg	TM173		34.9	149				

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Asbestos Identification - Soil

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Plot 44 ES 0.00 - 0.10 SOLID 29/04/2016 00:00:00 04/05/2016 07:32:53 160430-55 13350439 TM048	05/05/16	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	Plot 44 ES 0.50 - 0.60 SOLID 29/04/2016 00:00:00 04/05/2016 07:37:26 160430-55 13350445 TM048	05/05/16	Kevin Bowron	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Table of Results - Appendix

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		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
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		

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

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	13350439	13350445
Customer Sample Ref.	Plot 44	Plot 44
AGS Ref.	ES	ES
Depth	0.00 - 0.10	0.50 - 0.60
Type	SOLID	SOLID
Asbestos ID in Solid Samples	05-May-2016	05-May-2016
EPH CWG (Aliphatic) GC (S)	09-May-2016	09-May-2016
EPH CWG (Aromatic) GC (S)	09-May-2016	09-May-2016
GRO by GC-FID (S)	05-May-2016	05-May-2016
Metals in solid samples by OES	08-May-2016	08-May-2016
PAH by GCMS	06-May-2016	06-May-2016
pH	06-May-2016	05-May-2016
Sample description	04-May-2016	04-May-2016
TPH CWG GC (S)	09-May-2016	09-May-2016

CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

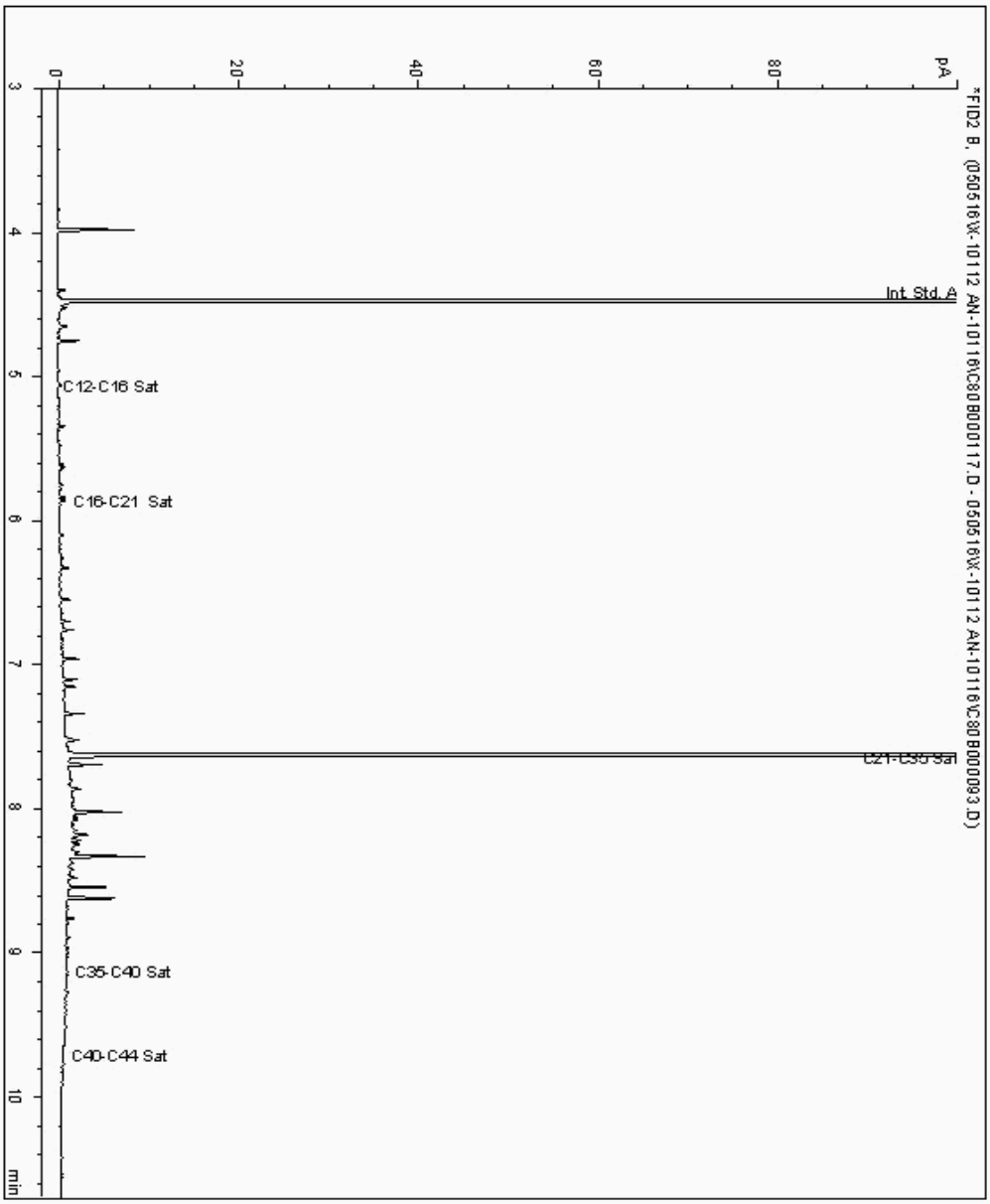
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 13359586
Sample ID : Plot 44

Depth : 0.50 - 0.60

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

Sample Identity: 12570115-
Date Acquired : 06/05/16 19:48:28
Units : ppb
Dilution :
CF : 1
Multiplier : 0.970



CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

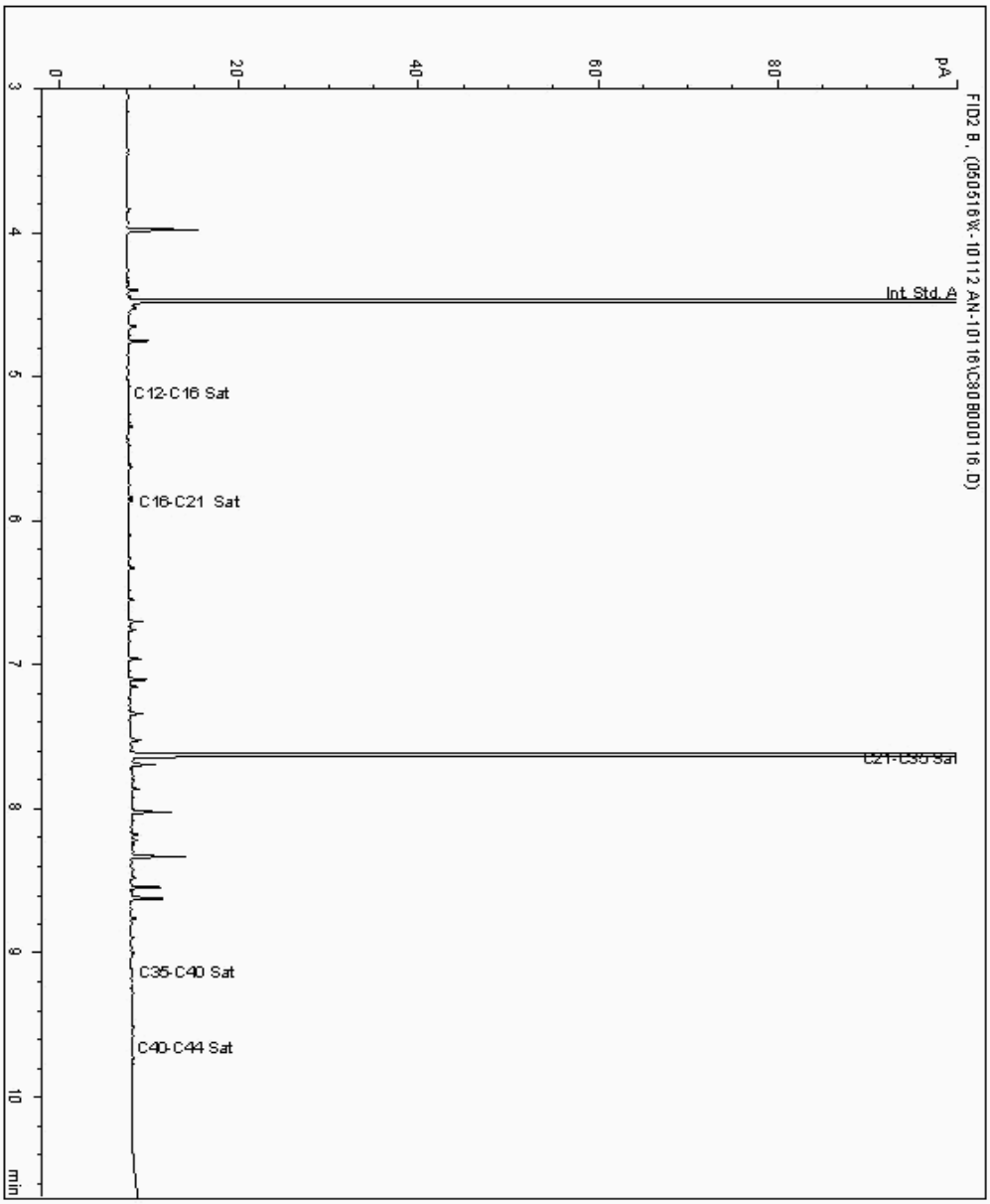
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 13359638
Sample ID : Plot 44

Depth : 0.00 - 0.10

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

Sample Identity: 12570086-
Date Acquired : 06/05/16 19:28:05
Units : ppb
Dilution :
CF : 1
Multiplier : 0.960



CERTIFICATE OF ANALYSIS

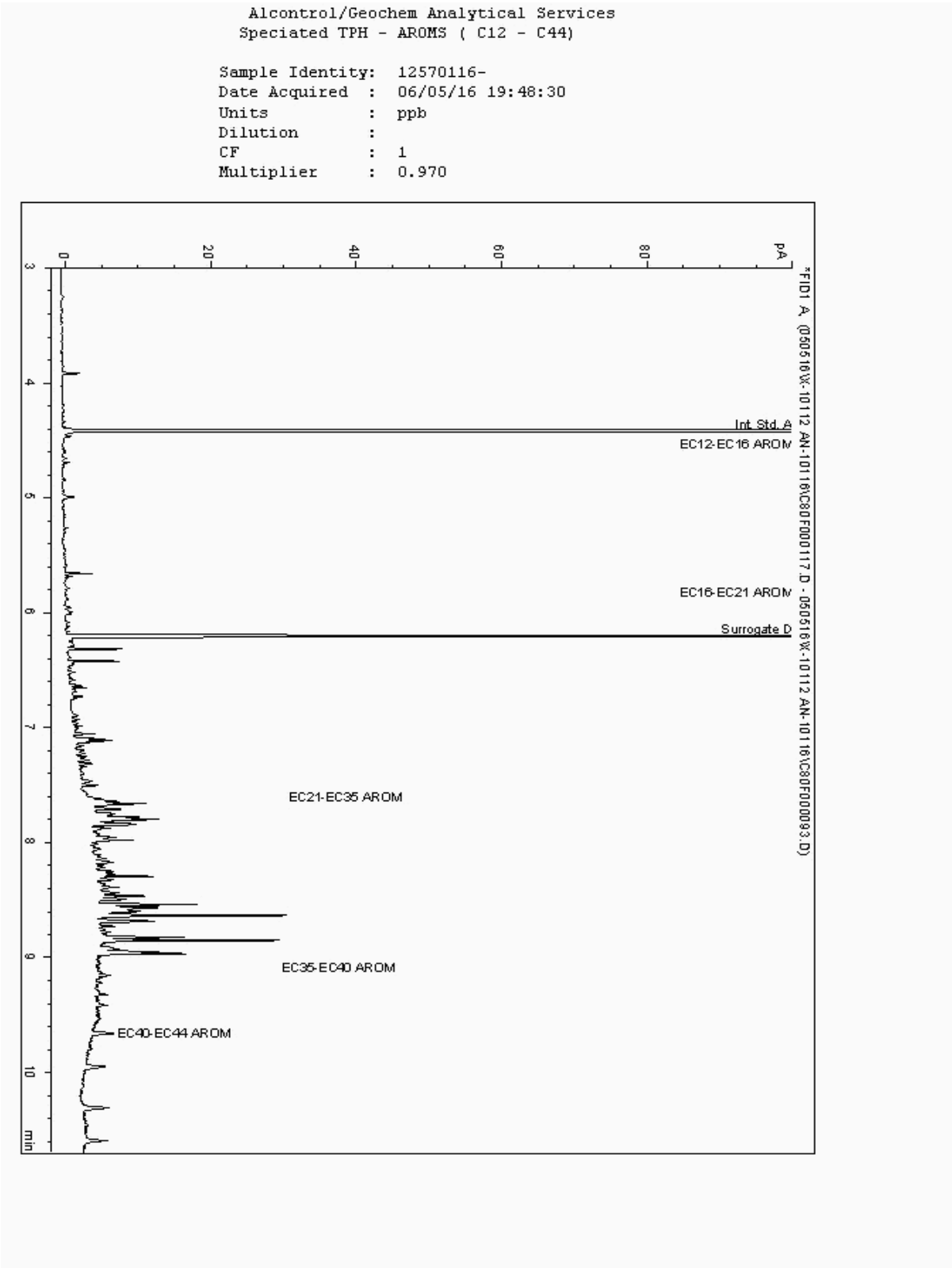
SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 13359586
Sample ID : Plot 44

Depth : 0.50 - 0.60



CERTIFICATE OF ANALYSIS

SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

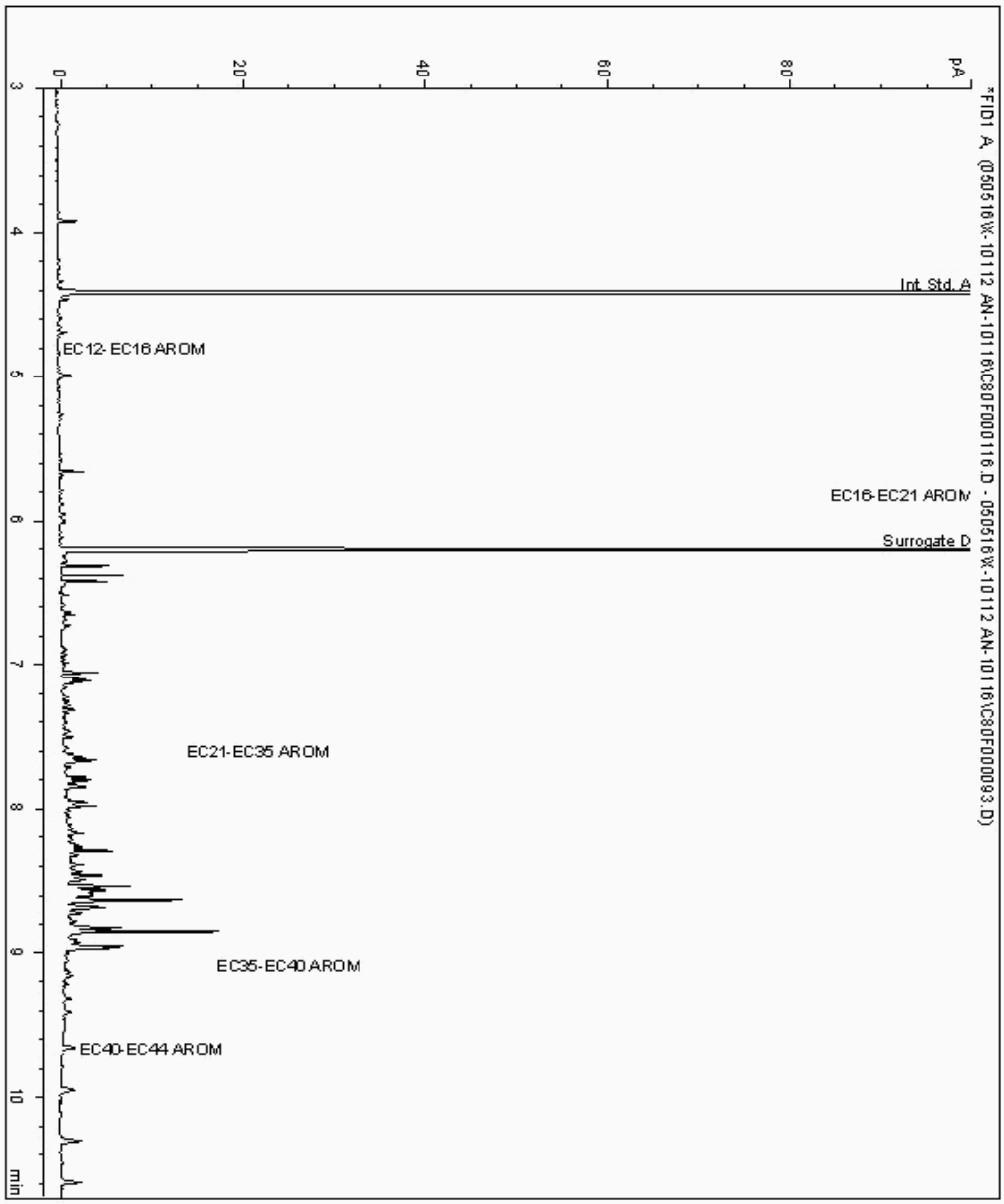
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 13359638
Sample ID : Plot 44

Depth : 0.00 - 0.10

Alcontrol/Geochem Analytical Services
Speciated TPH - AROMS (C12 - C44)

Sample Identity: 12570087-
Date Acquired : 06/05/16 19:28:07
Units : ppb
Dilution :
CF : 1
Multiplier : 0.960



CERTIFICATE OF ANALYSIS

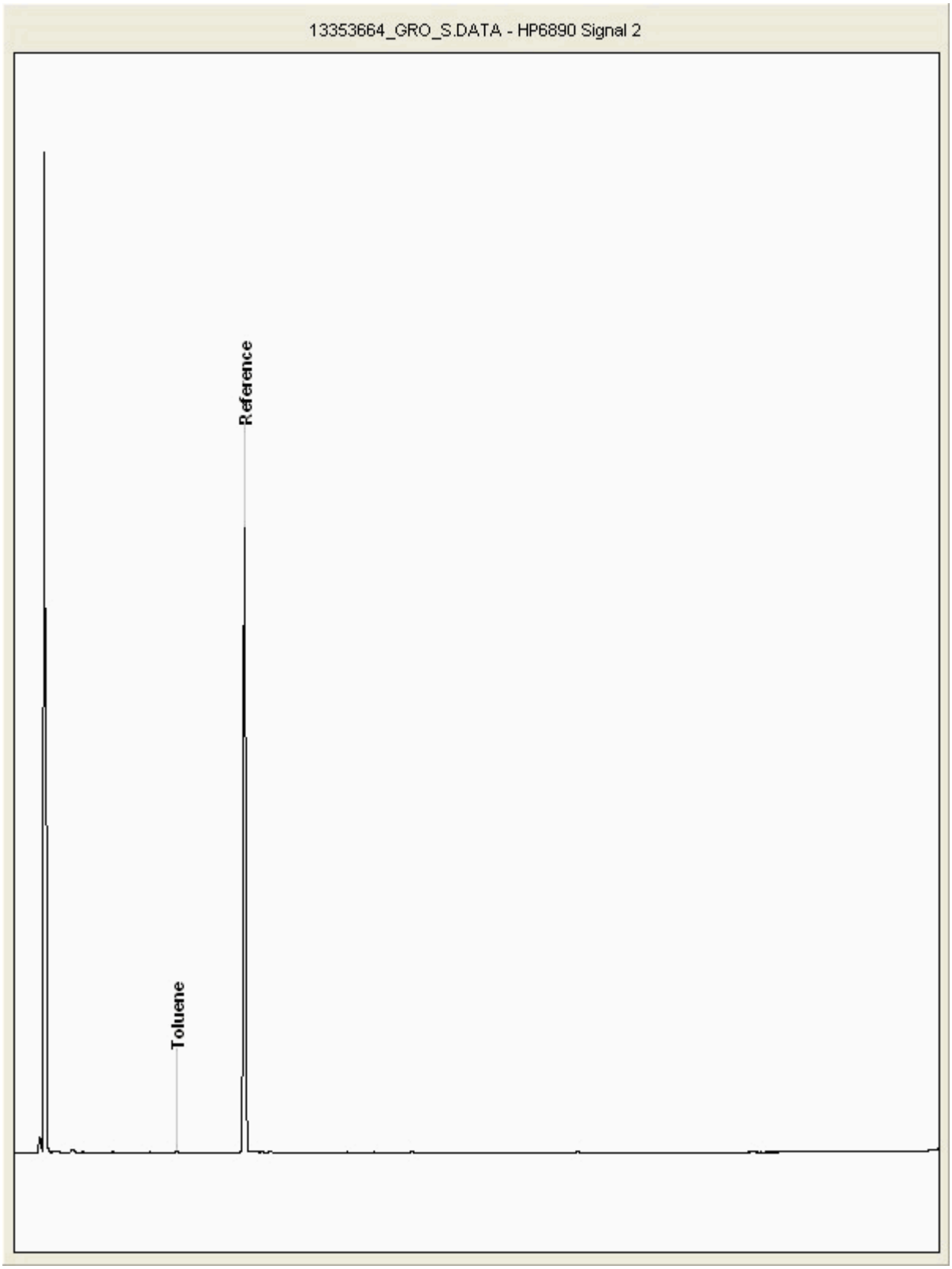
SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 13353664
Sample ID : Plot 44

Depth : 0.50 - 0.60



CERTIFICATE OF ANALYSIS

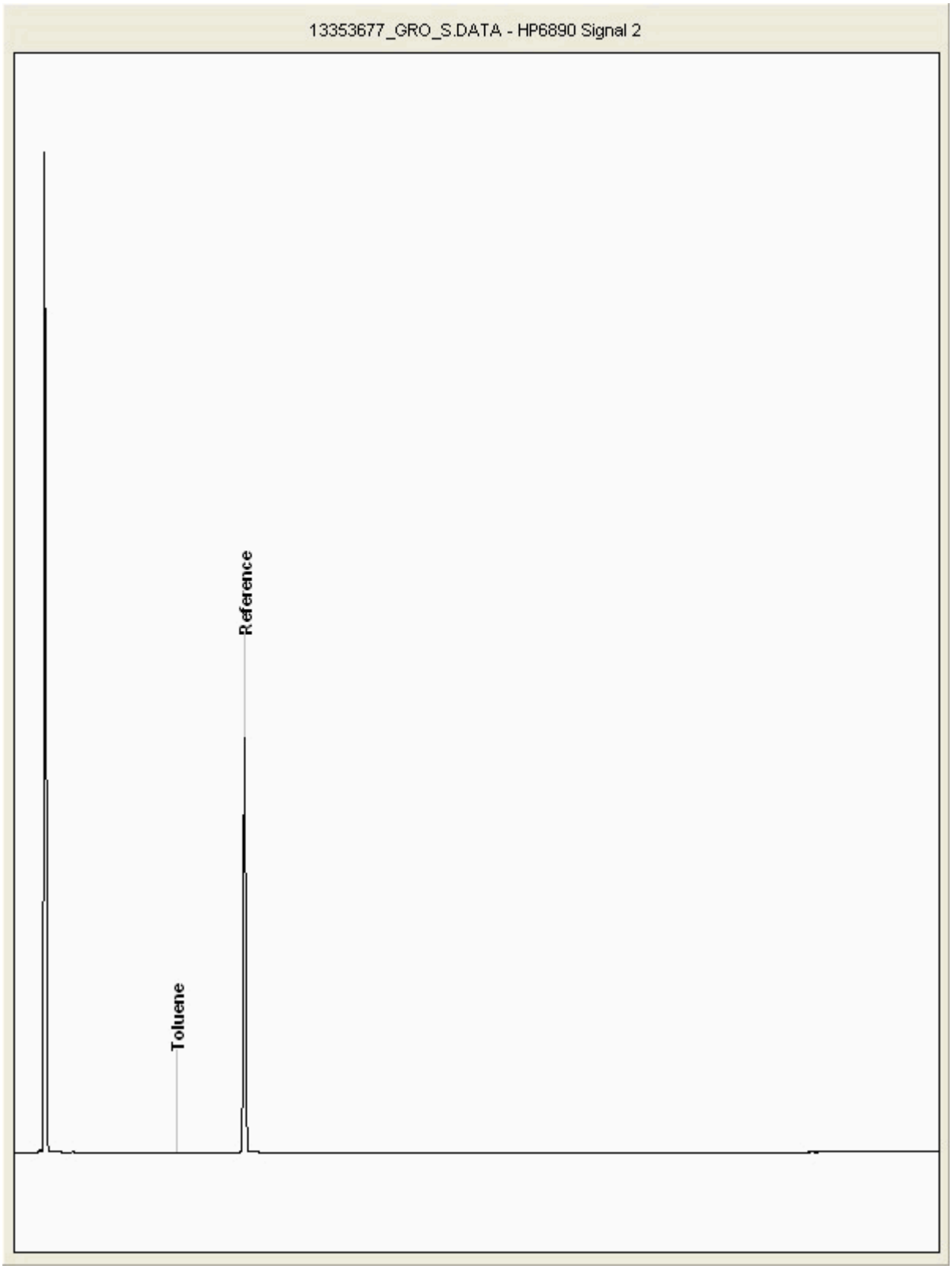
SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 13353677
Sample ID : Plot 44

Depth : 0.00 - 0.10



SDG:	160430-55	**Location:**	Moston Site 5	**Order Number:**	70010970-002
Job:	H_WSP_MAN-294	**Customer:**	WSP PB MLN	**Report Number:**	359866
Client Reference:	70010970-002	**Attention:**	Paula Gallagher	**Superseded Report:**	

Appendix

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. 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 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.

General

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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