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Attention: Phil Garvey

CERTIFICATE OF ANALYSIS

Date of report Generation: 10 May 2019
Customer: H_RHASKON_PTB
Sample Delivery Group (SDG): 190419-93
Your Reference: Cole Green Supplementary Investigation - Burnside
Location: Cole Green
Report No: 504456

This report has been revised and directly supersedes 503857 in its entirety.

We received 22 samples on Thursday April 18, 2019 and 7 of these samples were scheduled for analysis which was completed on Thursday May 02, 2019. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

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

All sample data is provided by the customer. The reported results relate to the sample supplied, and on the basis that this data is correct.

Incorrect sampling dates and/or sample information will affect the validity of results.

The customer is not permitted to reproduce this report except in full without the approval of the laboratory.

Approved By:

Sonia McWhan

Operations Manager





CERTIFICATE OF ANALYSIS

Validated

SDG: 190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location: Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
19824325	DH-BH-27		0.00 - 0.20	16/04/2019
19824246	RH-BH-27		0.00 - 0.50	16/04/2019
19824247	RH-BH-27		0.00 - 1.50	16/04/2019
19824248	RH-BH-27		0.00 - 2.50	16/04/2019
19824249	RH-BH-27		0.00 - 3.50	16/04/2019
19824250	RH-BH-27		0.00 - 4.60	16/04/2019
19824251	RH-BH-28		0.00 - 0.50	16/04/2019
19824252	RH-BH-28		0.00 - 1.50	16/04/2019
19824253	RH-BH-28		0.00 - 2.50	16/04/2019
19824254	RH-BH-28		0.00 - 3.50	16/04/2019
19824255	RH-BH-28		0.00 - 4.50	16/04/2019
19824257	RH-BH-29		0.00 - 0.20	17/04/2019
19824258	RH-BH-29		0.00 - 0.60	17/04/2019
19824260	RH-BH-29		0.00 - 1.60	17/04/2019
19824261	RH-BH-29		0.00 - 2.60	17/04/2019
19824262	RH-BH-29		0.00 - 3.60	17/04/2019
19824263	RH-BH-29		0.00 - 5.60	17/04/2019
19824265	RH-BH-30		0.00 - 0.15	17/04/2019
19824266	RH-BH-30		0.00 - 0.50	17/04/2019
19824267	RH-BH-30		0.00 - 1.50	17/04/2019
19824269	RH-BH-30		0.00 - 2.50	17/04/2019
19824270	RH-BH-30		0.00 - 4.50	17/04/2019

Maximum Sample/Coolbox Temperature (°C) : 9.6

ISO5667-3 Water quality - Sampling - Part3 -
During Transportation samples shall be stored in a cooling device capable of maintaining a temperature of (5±3)°C.

ALS have data which show that a cool box with 4 frozen icepacks is capable of maintaining pre-chilled samples at a temperature of (5±3)°C for a period of up to 24hrs.

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



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

Results Legend

- X Test
- N No Determination Possible

- Sample Types -
- S - Soil/Solid
 - UNS - Unspecified Solid
 - GW - Ground Water
 - SW - Surface Water
 - LE - Land Leachate
 - PL - Prepared Leachate
 - PR - Process Water
 - SA - Saline Water
 - TE - Trade Effluent
 - TS - Treated Sewage
 - US - Untreated Sewage
 - RE - Recreational Water
 - DW - Drinking Water
 - Non-regulatory
 - UNL - Unspecified Liquid
 - SL - Sludge
 - G - Gas
 - OTH - Other

	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container		Sample Type
					60g VOC (ALE215)	250g AmberJar (ALE210)	
	19824325	DH-BH-27		0.00 - 0.20	60g VOC (ALE215)	250g AmberJar (ALE210)	S
	19824246	RH-BH-27		0.00 - 0.50	60g VOC (ALE215)	250g AmberJar (ALE210)	S
	19824247	RH-BH-27		0.00 - 1.50	60g VOC (ALE215)	250g AmberJar (ALE210)	S
	19824251	RH-BH-28		0.00 - 0.50	60g VOC (ALE210)	250g AmberJar (ALE210)	S
	19824252	RH-BH-28		0.00 - 1.50	60g VOC (ALE215)	250g AmberJar (ALE210)	S
	19824257	RH-BH-29		0.00 - 0.20	60g VOC (ALE215)	250g AmberJar (ALE210)	S
	19824258	RH-BH-29		0.00 - 0.60	60g VOC (ALE215)	250g AmberJar (ALE210)	S
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 7			X	X	X
Asbestos Quantification - Full	All	NDPs: 0 Tests: 2				X	X
Boron Water Soluble	All	NDPs: 0 Tests: 7			X	X	X
Chromium III	All	NDPs: 0 Tests: 7			X	X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 7			X	X	X
EPH	All	NDPs: 0 Tests: 7			X	X	X
EPH by FID	All	NDPs: 0 Tests: 7			X	X	X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 7			X	X	X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 7			X	X	X
Metals in solid samples by OES	All	NDPs: 0 Tests: 7			X	X	X
PAH by GCMS	All	NDPs: 0 Tests: 7			X	X	X
PCBs by GCMS	All	NDPs: 0 Tests: 7			X	X	X
pH	All	NDPs: 0 Tests: 7			X	X	X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 7			X	X	X
Sample description	All	NDPs: 0 Tests: 7			X	X	X



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference:	Cole Green Suppleme	Report Number:	504456
Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Results Legend Test No Determination Possible	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	Sample Type											
Sample Types - S - Soil/Solid UNS - Unspecified Solid GW - Ground Water SW - Surface Water LE - Land Leachate PL - Prepared Leachate PR - Process Water SA - Saline Water TE - Trade Effluent TS - Treated Sewage US - Untreated Sewage RE - Recreational Water DW - Drinking Water Non-regulatory UNL - Unspecified Liquid SL - Sludge G - Gas OTH - Other	19824258	RH-BH-29		0.00 - 0.60	60g VOC (ALE215)	S											
	19824257	RH-BH-29		0.00 - 0.20	250g Amber Jar (ALE210)	S											
	19824252	RH-BH-28		0.00 - 1.50	60g VOC (ALE215)	S											
	19824251	RH-BH-28		0.00 - 0.50	250g Amber Jar (ALE210)	S											
	19824247	RH-BH-27		0.00 - 1.50	60g VOC (ALE215)	S											
	19824246	RH-BH-27		0.00 - 0.50	1kg TUB	S											
	19824325	DH-BH-27		0.00 - 0.20	60g VOC (ALE215)	S											
						250g Amber Jar (ALE210)	S										
						1kg TUB	S										
						60g VOC (ALE215)	S										
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 7					X		X		X	X	X	X	X	X	
Total Organic Carbon	All	NDPs: 0 Tests: 7					X		X		X	X	X	X	X	X	
VOC MS (S)	All	NDPs: 0 Tests: 7						X		X		X	X		X	X	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190419-93 Client Reference: Cole Green Suppleme Report Number: 504456
 Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0.1mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
19824325	DH-BH-27	0.00 - 0.20	Dark Brown	Clay	Stones	Vegetation
19824246	RH-BH-27	0.00 - 0.50	Light Brown	Loamy Sand	Stones	Vegetation
19824247	RH-BH-27	0.00 - 1.50	Dark Brown	Sandy Loam	Crushed Brick	Stones
19824251	RH-BH-28	0.00 - 0.50	Dark Brown	Sandy Silt Loam	Stones	Vegetation
19824252	RH-BH-28	0.00 - 1.50	Dark Brown	Silty Clay Loam	Vegetation	Stones
19824257	RH-BH-29	0.00 - 0.20	Dark Brown	Loamy Sand	Stones	Vegetation
19824258	RH-BH-29	0.00 - 0.60	Dark Brown	Loamy Sand	Vegetation	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 occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample.

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



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SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

Results Legend		Customer Sample Ref.	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28	RH-BH-29
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-345@ Sample deviation (see appendix)		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.20 Soil/Solid (S) 16/04/2019 00:00:00 18/04/2019 190419-93 19824325 ES101	0.00 - 0.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824246 ES102	0.00 - 1.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824247 ES103	0.00 - 0.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824251 ES101	0.00 - 1.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824252 ES102	0.00 - 0.20 Soil/Solid (S) 17/04/2019 18/04/2019 190419-93 19824257 ES101
Component	LOD/Units	Method						
Moisture Content Ratio (% of as received sample)	%	PM024	16	19	12	21	20	18
EPH (C5-C40)	<35 mg/kg	TM061	80.2	101	609	103	39.1	115
EPH Range >C10 - C40	<35 mg/kg	TM061	80.2 @ M	101 M	609 M	103 M	39.1 M	115 M
Phenol	<0.01 mg/kg	TM062 (S)	<0.01 M	<0.01 @ M	<0.01 @ M	<0.01 @ M	<0.01 @ M	<0.01 M
Cresols	<0.01 mg/kg	TM062 (S)	<0.01 M	<0.01 @ M	<0.01 @ M	<0.01 @ M	<0.01 @ M	<0.01 M
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015 M	<0.015 @ M	<0.015 @ M	<0.015 @ M	<0.015 @ M	<0.015 M
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	<0.035 M	<0.035 @ M	<0.035 @ M	<0.035 @ M	<0.035 @ M	<0.035 M
Soil Organic Matter (SOM)	<0.35 %	TM132	2.84 #	4 #	1.08 #	3.28 #	2.67 #	3.47 #
pH	1 pH Units	TM133	8.13 M	8 M	8.37 M	8.5 M	8.05 M	7.82 M
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #	<0.6 #
Cyanide, Total	<1 mg/kg	TM153	<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
PCB congener 118	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 81	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 77	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 123	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 114	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 105	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 126	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 167	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 156	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 157	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 169	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
PCB congener 189	<3 µg/kg	TM168	<15 M	<3 M	<15 M	<3 M	<3 M	<3 M
Sum of detected WHO 12 PCBs	<36 µg/kg	TM168	<180 M	<36 M	<180 M	<36 M	<36 M	<36 M
Chromium, Trivalent	<0.9 mg/kg	TM181	18.1 M	15.8 M	20.9 M	20.5 M	23.7 M	24.1 M
Arsenic	<0.6 mg/kg	TM181	15.7 M	14.6 M	22.8 M	17.6 M	14.8 M	25.5 M
Barium	<0.6 mg/kg	TM181	103 #	77.4 #	74.6 #	124 #	102 #	102 #
Beryllium	<0.01 mg/kg	TM181	0.675 M	0.62 M	0.724 M	0.773 M	0.738 M	0.635 M
Cadmium	<0.02 mg/kg	TM181	0.469 M	0.486 M	0.471 M	0.478 M	0.516 M	1.06 M
Chromium	<0.9 mg/kg	TM181	18.1 M	15.8 M	20.9 M	20.5 M	23.7 M	24.1 M
Copper	<1.4 mg/kg	TM181	22.7 M	21.5 M	22.9 M	28.3 M	26.7 M	65 M
Lead	<0.7 mg/kg	TM181	44.7 M	51.7 M	37.6 M	110 M	125 M	146 M



CERTIFICATE OF ANALYSIS

Validated

SDG: 190419-93 Client Reference: Cole Green Suppleme Report Number: 504456
 Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Results Legend			Customer Sample Ref.	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28	RH-BH-29
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.20	0.00 - 0.50	0.00 - 1.50	0.00 - 0.50	0.00 - 1.50	0.00 - 0.20
M	mCERTS accredited.			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.			16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	17/04/2019
diss.filt	Dissolved / filtered sample.			00:00:00					
tot.unfilt	Total / unfiltered sample.			18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
*	Subcontracted - refer to subcontractor report for accreditation status.			190419-93	190419-93	190419-93	190419-93	190419-93	190419-93
**	% 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			19824325	19824246	19824247	19824251	19824252	19824257
(F)	Trigger breach confirmed			ES101	ES102	ES103	ES101	ES102	ES101
1-3*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Mercury	<0.14 mg/kg	TM181	<0.14	<0.14	<0.14	<0.14	<0.14	<0.14	
Nickel	<0.2 mg/kg	TM181	24.9	22	38.4	23.5	24.3	31.1	
Selenium	<1 mg/kg	TM181	<1	<1	<1	<1	<1	<1	
Vanadium	<0.2 mg/kg	TM181	40.2	34.4	52.6	44.8	48.1	44.2	
Zinc	<1.9 mg/kg	TM181	95.3	91.3	90.9	133	126	251	
Boron, water soluble	<1 mg/kg	TM222	<1	<1	<1	<1	1.12	<1	
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304				<0.001	#	<0.001	
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304				<0.001	#	<0.001	
Additional Asbestos Components (Using TM048)		TM304				None	#	None	
Analysts Comments		TM304				N/C		N/C	
Asbestos Quantification - Total - %	<0.001 %	TM304				<0.001	#	<0.001	



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

Results Legend		Customer Sample Ref.				
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-3*5@ Sample deviation (see appendix)		Depth (m) 0.00 - 0.60 Sample Type Soil/Solid (S) Date Sampled 17/04/2019 Sampled Time Date Received 18/04/2019 SDG Ref 190419-93 Lab Sample No.(s) 19824258 AGS Reference ES102				
Component	LOD/Units	Method				
Moisture Content Ratio (% of as received sample)	%	PM024	17			
EPH (C5-C40)	<35 mg/kg	TM061	108			
EPH Range >C10 - C40	<35 mg/kg	TM061	108		M	
Phenol	<0.01 mg/kg	TM062 (S)	<0.01		M	
Cresols	<0.01 mg/kg	TM062 (S)	<0.01		M	
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015		M	
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	<0.035		M	
Soil Organic Matter (SOM)	<0.35 %	TM132	3.38		#	
pH	1 pH Units	TM133	7.73		M	
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6		#	
Cyanide, Total	<1 mg/kg	TM153	<1		M	
PCB congener 118	<3 µg/kg	TM168	3.89		M	
PCB congener 81	<3 µg/kg	TM168	<3		M	
PCB congener 77	<3 µg/kg	TM168	<3		M	
PCB congener 123	<3 µg/kg	TM168	<3		M	
PCB congener 114	<3 µg/kg	TM168	<3		M	
PCB congener 105	<3 µg/kg	TM168	<3		M	
PCB congener 126	<3 µg/kg	TM168	<3		M	
PCB congener 167	<3 µg/kg	TM168	<3		M	
PCB congener 156	<3 µg/kg	TM168	<3		M	
PCB congener 157	<3 µg/kg	TM168	<3		M	
PCB congener 169	<3 µg/kg	TM168	<3		M	
PCB congener 189	<3 µg/kg	TM168	<3		M	
Sum of detected WHO 12 PCBs	<36 µg/kg	TM168	<36			
Chromium, Trivalent	<0.9 mg/kg	TM181	27.5			
Arsenic	<0.6 mg/kg	TM181	19.3		M	
Barium	<0.6 mg/kg	TM181	119		#	
Beryllium	<0.01 mg/kg	TM181	0.731		M	
Cadmium	<0.02 mg/kg	TM181	1.12		M	
Chromium	<0.9 mg/kg	TM181	27.5		M	
Copper	<1.4 mg/kg	TM181	67.8		M	
Lead	<0.7 mg/kg	TM181	237		M	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190419-93
Location: Cole Green

Client Reference: Cole Green Suppleme
Order Number: 9Y0074-107-100

Report Number: 504456
Superseded Report: 503857

Table with columns: Results Legend, Customer Sample Ref., Depth (m), Sample Type, Date Sampled, Sampled Time, Date Received, SDG Ref, Lab Sample No.(s), AGS Reference, Component, LOD/Units, Method, and analytical data for Mercury, Nickel, Selenium, Vanadium, Zinc, and Boron, water soluble.



CERTIFICATE OF ANALYSIS

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SDG: 190419-93 Client Reference: Cole Green Suppleme Report Number: 504456
 Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

GRO by GC-FID (S)

Results Legend		Customer Sample Ref.					
#	ISO17025 accredited.	RH-BH-29 Depth (m) 0.00 - 0.60 Sample Type Soil/Solid (S) Date Sampled 17/04/2019 Sampled Time Date Received 18/04/2019 SDG Ref 190419-93 Lab Sample No.(s) 19824258 AGS Reference ES102					
M	mCERTS accredited.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted - refer to subcontractor report for accreditation status.						
**	% 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						
1-3*5@	Sample deviation (see appendix)						
Component	LOD/Units		Method				
GRO >C5-C10	<20 µg/kg	TM089	<20				



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

PAH by GCMS

Results Legend			Customer Sample Ref.	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28	RH-BH-29
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-3*5@ Sample deviation (see appendix)			Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.20 Soil/Solid (S) 16/04/2019 00:00:00 18/04/2019 190419-93 19824325 ES101	0.00 - 0.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824246 ES102	0.00 - 1.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824247 ES103	0.00 - 0.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824251 ES101	0.00 - 1.50 Soil/Solid (S) 16/04/2019 18/04/2019 190419-93 19824252 ES102	0.00 - 0.20 Soil/Solid (S) 17/04/2019 18/04/2019 190419-93 19824257 ES101
Component	LOD/Units	Method							
Naphthalene-d8 % recovery**	%	TM218	92.4	99.5	90.5	94	91.4	93.3	
Acenaphthene-d10 % recovery**	%	TM218	88.8	95.5	85.6	90.3	88.6	83	
Phenanthrene-d10 % recovery**	%	TM218	94.6	98.6	87	92.5	90.7	90.5	
Chrysene-d12 % recovery**	%	TM218	95.2	80.7	71.5	76.3	76.8	71.4	
Perylene-d12 % recovery**	%	TM218	93	79	70.3	72.5	74.1	70.7	
Naphthalene	<9 µg/kg	TM218	<9 @ M	14.4 M	<90 M	<9 M	<9 M	<9 M	
Acenaphthylene	<12 µg/kg	TM218	26.5 @ M	28 M	<120 M	42.7 M	<12 M	28.8 M	
Acenaphthene	<8 µg/kg	TM218	<8 @ M	31.9 M	263 M	29.9 M	23 M	31.5 M	
Fluorene	<10 µg/kg	TM218	<10 @ M	35.5 M	241 M	33 M	<10 M	33.4 M	
Phenanthrene	<15 µg/kg	TM218	124 @ M	352 M	1250 M	415 M	323 M	373 M	
Anthracene	<16 µg/kg	TM218	51.1 @ M	114 M	399 M	105 M	83.9 M	112 M	
Fluoranthene	<17 µg/kg	TM218	476 @ M	710 M	1720 M	1000 M	649 M	687 M	
Pyrene	<15 µg/kg	TM218	423 @ M	625 M	1560 M	901 M	541 M	623 M	
Benz(a)anthracene	<14 µg/kg	TM218	296 @ M	295 M	665 M	425 M	229 M	301 M	
Chrysene	<10 µg/kg	TM218	304 @ M	252 M	722 M	437 M	199 M	288 M	
Benzo(b)fluoranthene	<15 µg/kg	TM218	523 @ M	483 M	1090 M	642 M	297 M	493 M	
Benzo(k)fluoranthene	<14 µg/kg	TM218	177 @ M	200 M	380 M	279 M	145 M	176 M	
Benzo(a)pyrene	<15 µg/kg	TM218	329 @ M	355 M	772 M	475 M	227 M	333 M	
Indeno(1,2,3-cd)pyrene	<18 µg/kg	TM218	265 @ M	209 M	428 M	276 M	119 M	198 M	
Dibenzo(a,h)anthracene	<23 µg/kg	TM218	47.8 @ M	41.8 M	<230 M	67.8 M	<23 M	40.1 M	
Benzo(g,h,i)perylene	<24 µg/kg	TM218	289 @ M	280 M	565 M	345 M	149 M	270 M	
PAH, Total Detected USEPA 16	<118 µg/kg	TM218	3330	4030	10100	5480	2980	3990	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190419-93 Client Reference: Cole Green Suppleme Report Number: 504456
Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

PAH by GCMS

Table with columns: Results Legend, Customer Sample Ref., Method, LOD/Units, Component, and numerical values for various PAHs like Naphthalene-d8, Acenaphthene-d10, etc.



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

Semi Volatile Organic Compounds

Results Legend			Customer Sample Ref.	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28	RH-BH-29
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-345@ Sample deviation (see appendix)	Depth (m)	Sample Type							
	Date Sampled	Sampled Time							
	Date Received	SDG Ref							
	Lab Sample No.(s)	AGS Reference							
Phenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Pentachlorophenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Nitrobenzene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Isophorone	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Hexachloroethane	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Hexachlorocyclopentadiene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Hexachlorobutadiene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Hexachlorobenzene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
n-Dioctyl phthalate	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Dimethyl phthalate	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Diethyl phthalate	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
n-Dibutyl phthalate	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Dibenzofuran	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Carbazole	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Butylbenzyl phthalate	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
bis(2-Chloroethyl)ether	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Azobenzene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
4-Nitrophenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
4-Nitroaniline	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
4-Methylphenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
4-Chlorophenylphenylether	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
4-Chloroaniline	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
4-Chloro-3-methylphenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
4-Bromophenylphenylether	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
3-Nitroaniline	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2-Nitrophenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2-Nitroaniline	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2-Methylphenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
1,2,4-Trichlorobenzene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference:	Cole Green Suppleme	Report Number:	504456
Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Semi Volatile Organic Compounds

Results Legend			Customer Sample Ref.	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28	RH-BH-29
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-3*5@ Sample deviation (see appendix)	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference								
Component	LOD/Units	Method							
2-Chlorophenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2,6-Dinitrotoluene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2,4-Dinitrotoluene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2,4-Dimethylphenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2,4-Dichlorophenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2,4,6-Trichlorophenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2,4,5-Trichlorophenol	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
1,4-Dichlorobenzene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
1,3-Dichlorobenzene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
1,2-Dichlorobenzene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2-Chloronaphthalene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
2-Methylnaphthalene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Acenaphthylene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Acenaphthene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Anthracene	<100 µg/kg	TM157	<100	148	273	<200	<100	130	
Benzo(a)anthracene	<100 µg/kg	TM157	254	355	798	519	<100	431	
Benzo(b)fluoranthene	<100 µg/kg	TM157	329	434	1030	655	127	525	
Benzo(k)fluoranthene	<100 µg/kg	TM157	184	221	488	348	<100	287	
Benzo(a)pyrene	<100 µg/kg	TM157	229	314	713	465	<100	389	
Benzo(g,h,i)perylene	<100 µg/kg	TM157	187	244	507	318	<100	270	
Chrysene	<100 µg/kg	TM157	218	331	646	470	<100	426	
Fluoranthene	<100 µg/kg	TM157	378	709	1570	992	138	958	
Fluorene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157	287	360	828	502	<100	453	
Phenanthrene	<100 µg/kg	TM157	165	494	1040	501	<100	479	
Pyrene	<100 µg/kg	TM157	405	732	1460	926	141	1030	
Naphthalene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Dibenzo(a,h)anthracene	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157	<100	<100	<200	<200	<100	<100	



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference:	Cole Green Suppleme	Report Number:	504456
Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	RH-BH-29				
# ISO17025 accredited.		Depth (m)	0.00 - 0.60				
M mCERIS accredited.		Sample Type	Soil/Solid (S)				
aq Aqueous / settled sample.		Date Sampled	17/04/2019				
diss.filt Dissolved / filtered sample.		Sampled Time	.				
tot.unfilt Total / unfiltered sample.		Date Received	18/04/2019				
* Subcontracted - refer to subcontractor report for accreditation status.		SDG Ref	190419-93				
** % 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		Lab Sample No.(s)	19824258				
(F) Trigger breach confirmed		AGS Reference	ES102				
1-345@ Sample deviation (see appendix)							
Component	LOD/Units	Method					
Phenol	<100 µg/kg	TM157	<200				
Pentachlorophenol	<100 µg/kg	TM157	<200				
n-Nitroso-n-dipropylamine	<100 µg/kg	TM157	<200				
Nitrobenzene	<100 µg/kg	TM157	<200				
Isophorone	<100 µg/kg	TM157	<200				
Hexachloroethane	<100 µg/kg	TM157	<200				
Hexachlorocyclopentadiene	<100 µg/kg	TM157	<200				
Hexachlorobutadiene	<100 µg/kg	TM157	<200				
Hexachlorobenzene	<100 µg/kg	TM157	<200				
n-Dioctyl phthalate	<100 µg/kg	TM157	<200				
Dimethyl phthalate	<100 µg/kg	TM157	<200				
Diethyl phthalate	<100 µg/kg	TM157	<200				
n-Dibutyl phthalate	<100 µg/kg	TM157	<200				
Dibenzofuran	<100 µg/kg	TM157	<200				
Carbazole	<100 µg/kg	TM157	<200				
Butylbenzyl phthalate	<100 µg/kg	TM157	<200				
bis(2-Ethylhexyl) phthalate	<100 µg/kg	TM157	<200				
bis(2-Chloroethoxy)methane	<100 µg/kg	TM157	<200				
bis(2-Chloroethyl)ether	<100 µg/kg	TM157	<200				
Azobenzene	<100 µg/kg	TM157	<200				
4-Nitrophenol	<100 µg/kg	TM157	<200				
4-Nitroaniline	<100 µg/kg	TM157	<200				
4-Methylphenol	<100 µg/kg	TM157	<200				
4-Chlorophenylphenylether	<100 µg/kg	TM157	<200				
4-Chloroaniline	<100 µg/kg	TM157	<200				
4-Chloro-3-methylphenol	<100 µg/kg	TM157	<200				
4-Bromophenylphenylether	<100 µg/kg	TM157	<200				
3-Nitroaniline	<100 µg/kg	TM157	<200				
2-Nitrophenol	<100 µg/kg	TM157	<200				
2-Nitroaniline	<100 µg/kg	TM157	<200				
2-Methylphenol	<100 µg/kg	TM157	<200				
1,2,4-Trichlorobenzene	<100 µg/kg	TM157	<200				



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference:	Cole Green Suppleme	Report Number:	504456
Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	RH-BH-29				
# ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-3*5@ Sample deviation (see appendix)		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.60 Soil/Solid (S) 17/04/2019 18/04/2019 190419-93 19824258 ES102				
Component	LOD/Units	Method					
2-Chlorophenol	<100 µg/kg	TM157	<200				
2,6-Dinitrotoluene	<100 µg/kg	TM157	<200				
2,4-Dinitrotoluene	<100 µg/kg	TM157	<200				
2,4-Dimethylphenol	<100 µg/kg	TM157	<200				
2,4-Dichlorophenol	<100 µg/kg	TM157	<200				
2,4,6-Trichlorophenol	<100 µg/kg	TM157	<200				
2,4,5-Trichlorophenol	<100 µg/kg	TM157	<200				
1,4-Dichlorobenzene	<100 µg/kg	TM157	<200				
1,3-Dichlorobenzene	<100 µg/kg	TM157	<200				
1,2-Dichlorobenzene	<100 µg/kg	TM157	<200				
2-Chloronaphthalene	<100 µg/kg	TM157	<200				
2-Methylnaphthalene	<100 µg/kg	TM157	<200				
Acenaphthylene	<100 µg/kg	TM157	<200				
Acenaphthene	<100 µg/kg	TM157	<200				
Anthracene	<100 µg/kg	TM157	<200				
Benzo(a)anthracene	<100 µg/kg	TM157	267				
Benzo(b)fluoranthene	<100 µg/kg	TM157	349				
Benzo(k)fluoranthene	<100 µg/kg	TM157	<200				
Benzo(a)pyrene	<100 µg/kg	TM157	254				
Benzo(g,h,i)perylene	<100 µg/kg	TM157	<200				
Chrysene	<100 µg/kg	TM157	<200				
Fluoranthene	<100 µg/kg	TM157	389				
Fluorene	<100 µg/kg	TM157	<200				
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157	258				
Phenanthrene	<100 µg/kg	TM157	<200				
Pyrene	<100 µg/kg	TM157	382				
Naphthalene	<100 µg/kg	TM157	<200				
Dibenzo(a,h)anthracene	<100 µg/kg	TM157	<200				
Bis(2-chloroisopropyl) ether	<100 µg/kg	TM157	<200				



CERTIFICATE OF ANALYSIS

Validated

SDG: 190419-93
Location: Cole Green

Client Reference: Cole Green Suppleme
Order Number: 9Y0074-107-100

Report Number: 504456
Superseded Report: 503857

VOC MS (S)

Results Legend			Customer Sample Ref.	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28	RH-BH-29
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.20	0.00 - 0.50	0.00 - 1.50	0.00 - 0.50	0.00 - 1.50	0.00 - 0.20
M	mCERTS accredited.			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq	Aqueous / settled sample.			16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	17/04/2019
diss.filt	Dissolved / filtered sample.			00:00:00					
tot.unfilt	Total / unfiltered sample.			18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
**	Subcontracted - refer to subcontractor report for accreditation status.		190419-93	190419-93	190419-93	190419-93	190419-93	190419-93	
	% 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		19824325	19824246	19824247	19824251	19824252	19824257	
(F)	Trigger breach confirmed		ES101	ES102	ES103	ES101	ES102	ES101	
1-3*5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Dibromofluoromethane**	%	TM116	107	102 @	104	109 2	108	101	
Toluene-d8**	%	TM116	94.3	94.4 @	96.1	88.8 2	85.8	92.7	
4-Bromofluorobenzene**	%	TM116	75.4	85.9 @	89.5	73 2	73.7	76.6	
Dichlorodifluoromethane	<6 µg/kg	TM116	<6 M	<60 @ M	<6 M	<6 2 M	<6 M	<6 M	
Chloromethane	<7 µg/kg	TM116	<7 #	<70 @ #	<7 #	<7 2 #	<7 #	<7 #	
Vinyl Chloride	<6 µg/kg	TM116	<6 M	<60 @ M	<6 M	<6 2 M	<6 M	<6 M	
Bromomethane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
Chloroethane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
Trichlorofluoromethane	<6 µg/kg	TM116	<6 M	<60 @ M	<6 M	<6 2 M	<6 M	<6 M	
1,1-Dichloroethene	<10 µg/kg	TM116	<10 #	<100 @ #	<10 #	<10 2 #	<10 #	<10 #	
Carbon Disulphide	<7 µg/kg	TM116	<7 M	<70 @ M	<7 M	<7 2 M	<7 M	<7 M	
Dichloromethane	<10 µg/kg	TM116	33.2 #	<100 @ #	43.4 #	39.7 2 #	104 #	91.8 #	
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
trans-1,2-Dichloroethene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
1,1-Dichloroethane	<8 µg/kg	TM116	<8 M	<80 @ M	<8 M	<8 2 M	<8 M	<8 M	
cis-1,2-Dichloroethene	<6 µg/kg	TM116	<6 M	<60 @ M	<6 M	<6 2 M	<6 M	<6 M	
2,2-Dichloropropane	<10 µg/kg	TM116	<10	<100 @	<10	<10 2	<10	<10	
Bromochloromethane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
Chloroform	<8 µg/kg	TM116	<8 M	<80 @ M	<8 M	<8 2 M	<8 M	<8 M	
1,1,1-Trichloroethane	<7 µg/kg	TM116	<7 M	<70 @ M	<7 M	<7 2 M	<7 M	<7 M	
1,1-Dichloropropene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
Carbontetrachloride	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
1,2-Dichloroethane	<5 µg/kg	TM116	<5 M	<50 @ M	<5 M	<5 2 M	<5 M	<5 M	
Benzene	<9 µg/kg	TM116	<9 M	<90 @ M	<9 M	<9 2 M	<9 M	<9 M	
Trichloroethene	<9 µg/kg	TM116	<9 #	<90 @ #	<9 #	<9 2 #	<9 #	<9 #	
1,2-Dichloropropane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
Dibromomethane	<9 µg/kg	TM116	<9 M	<90 @ M	<9 M	<9 2 M	<9 M	<9 M	
Bromodichloromethane	<7 µg/kg	TM116	<7 M	<70 @ M	<7 M	<7 2 M	<7 M	<7 M	
cis-1,3-Dichloropropene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	
Toluene	<7 µg/kg	TM116	<7 M	<70 @ M	<7 M	<7 2 M	<7 M	<7 M	
trans-1,3-Dichloropropene	<10 µg/kg	TM116	<10	<100 @	<10	<10 2	<10	<10	
1,1,2-Trichloroethane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M	



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

VOC MS (S)

Results Legend		Customer Sample Ref.						
#	ISO17025 accredited.		Depth (m)	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28
M	mCERTS accredited.	0.00 - 0.20	0.00 - 0.20	0.00 - 0.50	0.00 - 1.50	0.00 - 0.50	0.00 - 1.50	0.00 - 0.20
aq	Aqueous / settled sample.	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
diss.filt	Dissolved / filtered sample.	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	16/04/2019	17/04/2019
tot.unfilt	Total / unfiltered sample.	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00
*	Subcontracted - refer to subcontractor report for accreditation status.	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019	18/04/2019
**	% 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	190419-93	190419-93	190419-93	190419-93	190419-93	190419-93	190419-93
(F)	Trigger breach confirmed	19824325	19824246	19824247	19824251	19824252	19824252	19824257
1-3*5@	Sample deviation (see appendix)	ES101	ES102	ES103	ES101	ES102	ES102	ES101
Component	LOD/Units	Method						
1,3-Dichloropropane	<7 µg/kg	TM116	<7 M	<70 @ M	<7 M	<7 2 M	<7 M	<7 M
Tetrachloroethene	<5 µg/kg	TM116	<5 M	<50 @ M	<5 M	<5 2 M	<5 M	<5 M
Dibromochloromethane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
1,2-Dibromoethane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
Chlorobenzene	<5 µg/kg	TM116	<5 M	<50 3 @ M	<5 M	<5 2 M	<5 M	<5 M
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
Ethylbenzene	<4 µg/kg	TM116	<4 M	<40 @ M	<4 M	<4 2 M	<4 M	<4 M
p/m-Xylene	<10 µg/kg	TM116	<10 #	<100 @ #	<10 #	<10 2 #	<10 #	<10 #
o-Xylene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
Styrene	<10 µg/kg	TM116	<10 #	<100 @ #	<10 #	<10 2 #	<10 #	<10 #
Bromoform	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
Isopropylbenzene	<5 µg/kg	TM116	<5 #	<50 @ #	<5 #	<5 2 #	<5 #	<5 #
1,1,2,2-Tetrachloroethane	<10 µg/kg	TM116	<10 #	<100 @ #	<10 #	<10 2 #	<10 #	<10 #
1,2,3-Trichloropropane	<16 µg/kg	TM116	<16 M	<160 @ M	<16 M	<16 2 M	<16 M	<16 M
Bromobenzene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
Propylbenzene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
2-Chlorotoluene	<9 µg/kg	TM116	<9 M	<90 @ M	<9 M	<9 2 M	<9 M	<9 M
1,3,5-Trimethylbenzene	<8 µg/kg	TM116	<8 M	<80 @ M	<8 M	<8 2 M	<8 M	<8 M
4-Chlorotoluene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
tert-Butylbenzene	<14 µg/kg	TM116	<14 M	<140 @ M	<14 M	<14 2 M	<14 M	<14 M
1,2,4-Trimethylbenzene	<9 µg/kg	TM116	<9 #	<90 @ #	<9 #	<9 2 #	<9 #	<9 #
sec-Butylbenzene	<10 µg/kg	TM116	<10 @	<100 @	<10 2	<10 2	<10 2	<10 2
4-Isopropyltoluene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
1,3-Dichlorobenzene	<8 µg/kg	TM116	<8 M	<80 @ M	<8 M	<8 2 M	<8 M	<8 M
1,4-Dichlorobenzene	<5 µg/kg	TM116	<5 M	<50 @ M	<5 M	<5 2 M	<5 M	<5 M
n-Butylbenzene	<11 µg/kg	TM116	<11 @	<110 @	<11 2	<11 2	<11 2	<11 2
1,2-Dichlorobenzene	<10 µg/kg	TM116	<10 M	<100 @ M	<10 M	<10 2 M	<10 M	<10 M
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116	<14 M	<140 @ M	<14 M	<14 2 M	<14 M	<14 M
Tert-amyl methyl ether	<10 µg/kg	TM116	<10 #	<100 @ #	<10 #	<10 2 #	<10 #	<10 #
1,2,4-Trichlorobenzene	<20 µg/kg	TM116	<20 @	<200 @	<20 2	<20 2	<20 2	<20 2
Hexachlorobutadiene	<20 µg/kg	TM116	<20 @	<200 @	<20 2	<20 2	<20 2	<20 2
Naphthalene	<13 µg/kg	TM116	<13 M	<130 @ M	<13 M	<13 2 M	37.7 M	<13 M



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

VOC MS (S)

Results Legend		Customer Sample Ref.	RH-BH-29				
#	ISO17025 accredited.	Depth (m)	0.00 - 0.60				
M	mCERTS accredited.	Sample Type	Soil/Solid (S)				
aq	Aqueous / settled sample.	Date Sampled	17/04/2019				
diss.filt	Dissolved / filtered sample.	Sampled Time	.				
tot.unfilt	Total / unfiltered sample.	Date Received	18/04/2019				
*	Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	190419-93				
**	% 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	Lab Sample No.(s)	19824258				
(F)	Trigger breach confirmed	AGS Reference	ES102				
1-3&@	Sample deviation (see appendix)						
Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM116	107				
Toluene-d8**	%	TM116	89.6				
4-Bromofluorobenzene**	%	TM116	75.2				
Dichlorodifluoromethane	<6 µg/kg	TM116	<6		M		
Chloromethane	<7 µg/kg	TM116	<7		#		
Vinyl Chloride	<6 µg/kg	TM116	<6		M		
Bromomethane	<10 µg/kg	TM116	<10		M		
Chloroethane	<10 µg/kg	TM116	<10		M		
Trichlorofluoromethane	<6 µg/kg	TM116	<6		M		
1,1-Dichloroethene	<10 µg/kg	TM116	<10		#		
Carbon Disulphide	<7 µg/kg	TM116	<7		M		
Dichloromethane	<10 µg/kg	TM116	94.9		#		
Methyl Tertiary Butyl Ether	<10 µg/kg	TM116	<10		M		
trans-1,2-Dichloroethene	<10 µg/kg	TM116	<10		M		
1,1-Dichloroethane	<8 µg/kg	TM116	<8		M		
cis-1,2-Dichloroethene	<6 µg/kg	TM116	<6		M		
2,2-Dichloropropane	<10 µg/kg	TM116	<10				
Bromochloromethane	<10 µg/kg	TM116	<10		M		
Chloroform	<8 µg/kg	TM116	<8		M		
1,1,1-Trichloroethane	<7 µg/kg	TM116	<7		M		
1,1-Dichloropropene	<10 µg/kg	TM116	<10		M		
Carbontetrachloride	<10 µg/kg	TM116	<10		M		
1,2-Dichloroethane	<5 µg/kg	TM116	<5		M		
Benzene	<9 µg/kg	TM116	<9		M		
Trichloroethene	<9 µg/kg	TM116	<9		#		
1,2-Dichloropropane	<10 µg/kg	TM116	<10		M		
Dibromomethane	<9 µg/kg	TM116	<9		M		
Bromodichloromethane	<7 µg/kg	TM116	<7		M		
cis-1,3-Dichloropropene	<10 µg/kg	TM116	<10		M		
Toluene	<7 µg/kg	TM116	<7		M		
trans-1,3-Dichloropropene	<10 µg/kg	TM116	<10				
1,1,2-Trichloroethane	<10 µg/kg	TM116	<10		M		



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

VOC MS (S)

#	Customer Sample Ref.	RH-BH-29													
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%; vertical-align: top;"> Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-3*5@ Sample deviation (see appendix) </td> <td style="width: 20%; vertical-align: top;"> Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference </td> <td style="width: 10%; vertical-align: top;"> 0.00 - 0.60 Soil/Solid (S) 17/04/2019 18/04/2019 190419-93 19824258 ES102 </td> <td colspan="5"></td> </tr> </table>								Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-3*5@ Sample deviation (see appendix)	Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.60 Soil/Solid (S) 17/04/2019 18/04/2019 190419-93 19824258 ES102					
Results Legend # ISO17025 accredited. M mCERTS accredited. aq Aqueous / settled sample. diss.filt Dissolved / filtered sample. tot.unfilt Total / unfiltered sample. * Subcontracted - refer to subcontractor report for accreditation status. ** % 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 1-3*5@ Sample deviation (see appendix)	Customer Sample Ref. Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.60 Soil/Solid (S) 17/04/2019 18/04/2019 190419-93 19824258 ES102													
Component	LOD/Units	Method													
1,3-Dichloropropane	<7 µg/kg	TM116	<7		M										
Tetrachloroethene	<5 µg/kg	TM116	<5		M										
Dibromochloromethane	<10 µg/kg	TM116	<10		M										
1,2-Dibromoethane	<10 µg/kg	TM116	<10		M										
Chlorobenzene	<5 µg/kg	TM116	<5		M										
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116	<10		M										
Ethylbenzene	<4 µg/kg	TM116	<4		M										
p/m-Xylene	<10 µg/kg	TM116	<10		#										
o-Xylene	<10 µg/kg	TM116	<10		M										
Styrene	<10 µg/kg	TM116	<10		#										
Bromoform	<10 µg/kg	TM116	<10		M										
Isopropylbenzene	<5 µg/kg	TM116	<5		#										
1,1,1,2-Tetrachloroethane	<10 µg/kg	TM116	<10		#										
1,2,3-Trichloropropane	<16 µg/kg	TM116	<16		M										
Bromobenzene	<10 µg/kg	TM116	<10		M										
Propylbenzene	<10 µg/kg	TM116	<10		M										
2-Chlorotoluene	<9 µg/kg	TM116	<9		M										
1,3,5-Trimethylbenzene	<8 µg/kg	TM116	<8		M										
4-Chlorotoluene	<10 µg/kg	TM116	<10		M										
tert-Butylbenzene	<14 µg/kg	TM116	<14		M										
1,2,4-Trimethylbenzene	<9 µg/kg	TM116	<9		#										
sec-Butylbenzene	<10 µg/kg	TM116	<10												
4-Isopropyltoluene	<10 µg/kg	TM116	<10		M										
1,3-Dichlorobenzene	<8 µg/kg	TM116	<8		M										
1,4-Dichlorobenzene	<5 µg/kg	TM116	<5		M										
n-Butylbenzene	<11 µg/kg	TM116	<11												
1,2-Dichlorobenzene	<10 µg/kg	TM116	<10		M										
1,2-Dibromo-3-chloropropane	<14 µg/kg	TM116	<14		M										
Tert-amyl methyl ether	<10 µg/kg	TM116	<10		#										
1,2,4-Trichlorobenzene	<20 µg/kg	TM116	<20												
Hexachlorobutadiene	<20 µg/kg	TM116	<20												
Naphthalene	<13 µg/kg	TM116	<13		M										



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

Asbestos Identification - Solid Samples

Results Legend

ISO17025 accredited.
M mCERTS accredited.
* Subcontracted test.
(F) Trigger breach confirmed
1-5&*\$@ Sample deviation (see appendix)

	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. DH-BH-27ES101 Depth (m) 0.00 - 0.20 Sample Type SOLID Date Sampled 16/04/2019 00:00:00 Date Received 18/04/2019 13:20:00 SDG 190419-93 Original Sample 19824325 Method Number TM048	01/05/2019	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. RH-BH-27ES102 Depth (m) 0.00 - 1.50 Sample Type SOLID Date Sampled 16/04/2019 00:00:00 Date Received 18/04/2019 13:20:00 SDG 190419-93 Original Sample 19824246 Method Number TM048	01/05/19	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. RH-BH-27ES103 Depth (m) 0.00 - 1.50 Sample Type SOLID Date Sampled 16/04/2019 00:00:00 Date Received 18/04/2019 13:20:00 SDG 190419-93 Original Sample 19824247 Method Number TM048	01/05/2019	James Richards	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. RH-BH-28ES101 Depth (m) 0.00 - 1.50 Sample Type SOLID Date Sampled 16/04/2019 00:00:00 Date Received 18/04/2019 13:20:00 SDG 190419-93 Original Sample 19824251 Method Number TM048	01/05/2019	Lucy Caroe	oose fibres in soil	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. RH-BH-28ES102 Depth (m) 0.00 - 1.50 Sample Type SOLID Date Sampled 16/04/2019 00:00:00 Date Received 18/04/2019 13:20:00 SDG 190419-93 Original Sample 19824252 Method Number TM048	01/05/2019	Lucy Caroe	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. RH-BH-29ES101 Depth (m) 0.00 - 0.20 Sample Type SOLID Date Sampled 17/04/2019 00:00:00 Date Received 18/04/2019 13:20:00 SDG 190419-93 Original Sample 19824257 Method Number TM048	01/05/2019	Marcin Magdziarek	oose fibres in soil	Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. RH-BH-29ES102 Depth (m) 0.00 - 0.60 Sample Type SOLID Date Sampled 17/04/2019 00:00:00 Date Received 18/04/2019 13:20:00 SDG 190419-93 Original Sample 19824258 Method Number TM048	01/05/2019	Marcin Magdziarek	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Asbestos Quantification - Full



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference:	Cole Green Suppleme	Report Number:	504456
Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Results Legend

ISO17025 accredited.
 M mCERTS accredited.
 * Subcontracted test.
 (F) Trigger breach confirmed
 1-5	@ Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM Evaluation	Asbestos Quantification - Total - %
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	RH-BH-28ES101 0.00 - 0.50 SOLID 16/04/2019 00:00:00 18/04/2019 13:20:00 190419-93 19824251 TM304	None (#)	N/C	<0.001 (#)	<0.001 (#)	<0.001 (#)
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	RH-BH-29ES101 0.00 - 0.20 SOLID 17/04/2019 00:00:00 18/04/2019 13:20:00 190419-93 19824257 TM304	None (#)	N/C	<0.001 (#)	<0.001 (#)	<0.001 (#)



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference:	Cole Green Suppleme	Report Number:	504456
Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Table of Results - Appendix

Method No	Reference	Description
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
TM061	Method for the Determination of EPH, Massachusetts Dept. of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS
TM132	In - house Method	ELTRA CS800 Operators Guide
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only

NA = not applicable.

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



CERTIFICATE OF ANALYSIS

Validated

SDG:	190419-93	Client Reference: Cole Green Suppleme	Report Number: 504456
Location:	Cole Green	Order Number: 9Y0074-107-100	Superseded Report: 503857

Test Completion Dates

Lab Sample No(s)	19824325	19824246	19824247	19824251	19824252	19824257	19824258
Customer Sample Ref.	DH-BH-27	RH-BH-27	RH-BH-27	RH-BH-28	RH-BH-28	RH-BH-29	RH-BH-29
AGS Ref.							
Depth	0.00 - 0.20	0.00 - 0.50	0.00 - 1.50	0.00 - 0.50	0.00 - 1.50	0.00 - 0.20	0.00 - 0.60
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Asbestos ID in Solid Samples	01-May-2019	01-May-2019	01-May-2019	01-May-2019	01-May-2019	01-May-2019	01-May-2019
Asbestos Quantification - Full				02-May-2019		02-May-2019	
Boron Water Soluble	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019
Chromium III	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019
Cyanide Comp/Free/Total/Thiocyanate	30-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019
EPH	02-May-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019
EPH by FID	02-May-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019
GRO by GC-FID (S)	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	29-Apr-2019	30-Apr-2019
Hexavalent Chromium (s)	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019
Metals in solid samples by OES	30-Apr-2019	29-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	29-Apr-2019
PAH by GCMS	01-May-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019
PCBs by GCMS	02-May-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019	29-Apr-2019
pH	02-May-2019	01-May-2019	01-May-2019	01-May-2019	01-May-2019	01-May-2019	01-May-2019
Phenols by HPLC (S)	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019
Sample description	26-Apr-2019	25-Apr-2019	26-Apr-2019	25-Apr-2019	25-Apr-2019	25-Apr-2019	25-Apr-2019
Semi Volatile Organic Compounds	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019
Total Organic Carbon	30-Apr-2019	29-Apr-2019	30-Apr-2019	29-Apr-2019	30-Apr-2019	29-Apr-2019	29-Apr-2019
VOC MS (S)	29-Apr-2019	01-May-2019	30-Apr-2019	30-Apr-2019	30-Apr-2019	29-Apr-2019	30-Apr-2019



CERTIFICATE OF ANALYSIS

Validated

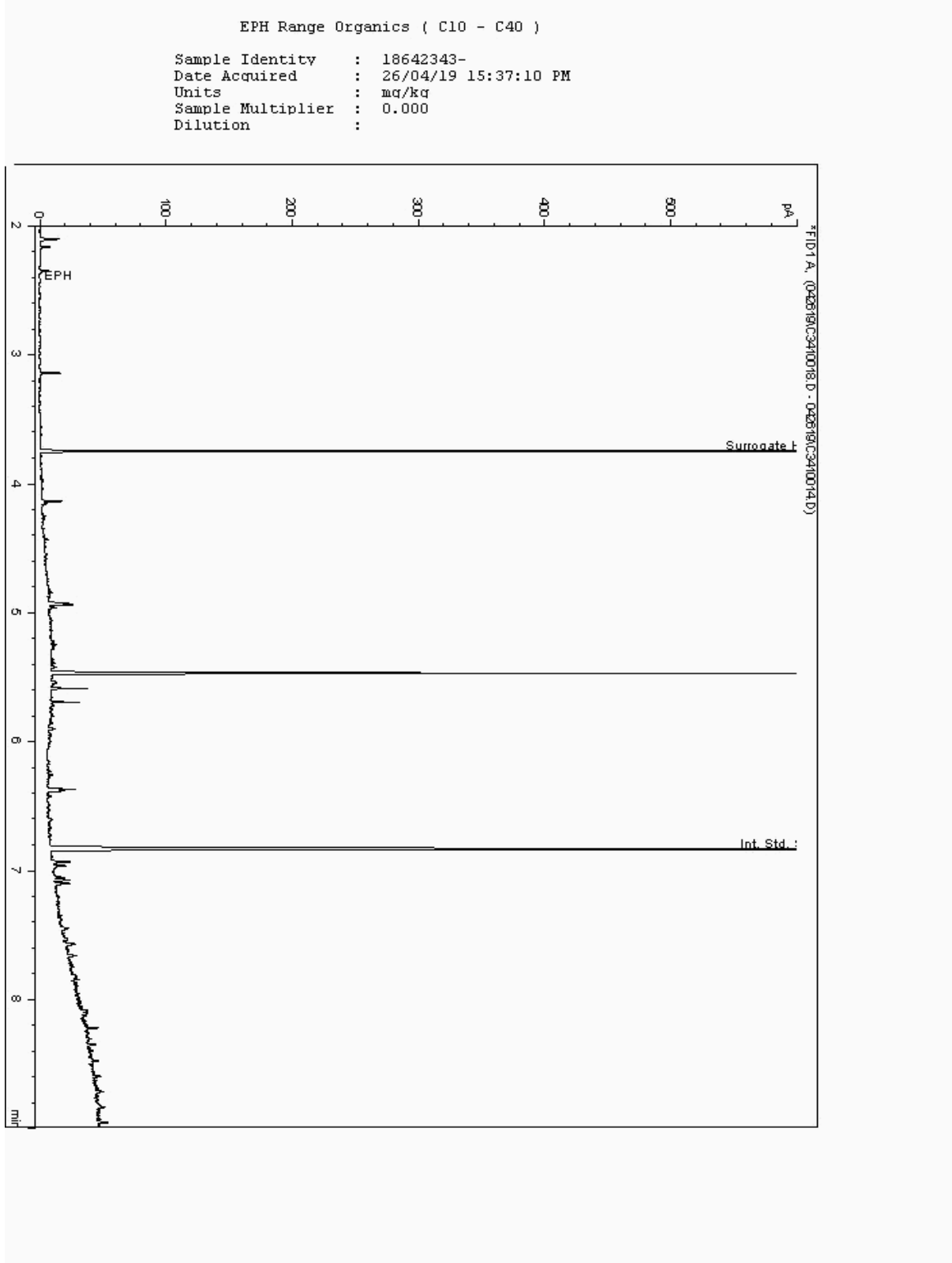
SDG: 190419-93 Client Reference: Cole Green Suppleme Report Number: 504456
Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: EPH by FID

Sample No : 19850863
Sample ID : RH-BH-27

Depth : 0.00 - 1.50





CERTIFICATE OF ANALYSIS

Validated

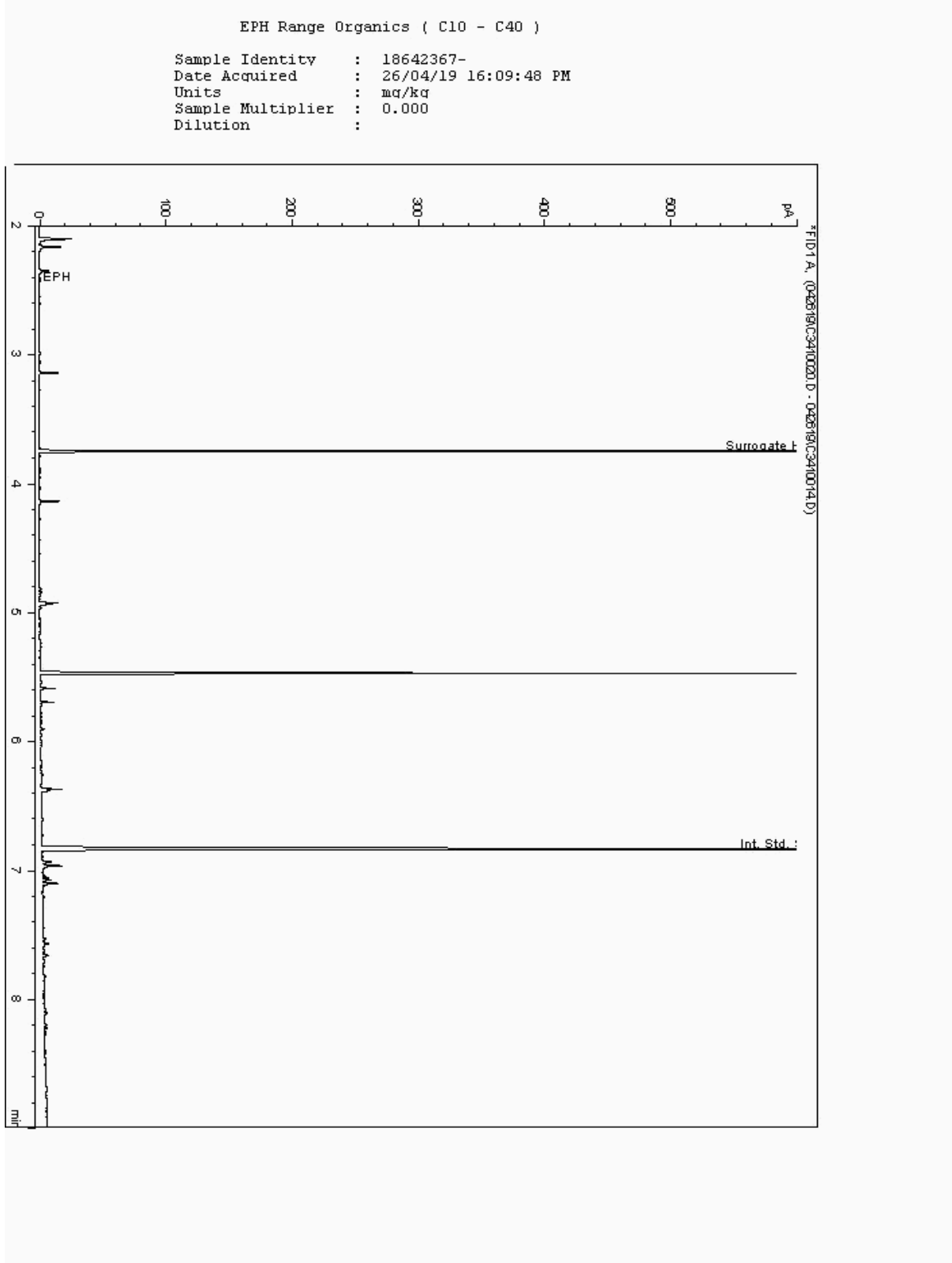
SDG: 190419-93 Client Reference: Cole Green Suppleme Report Number: 504456
Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: EPH by FID

Sample No : 19850923
Sample ID : RH-BH-28

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

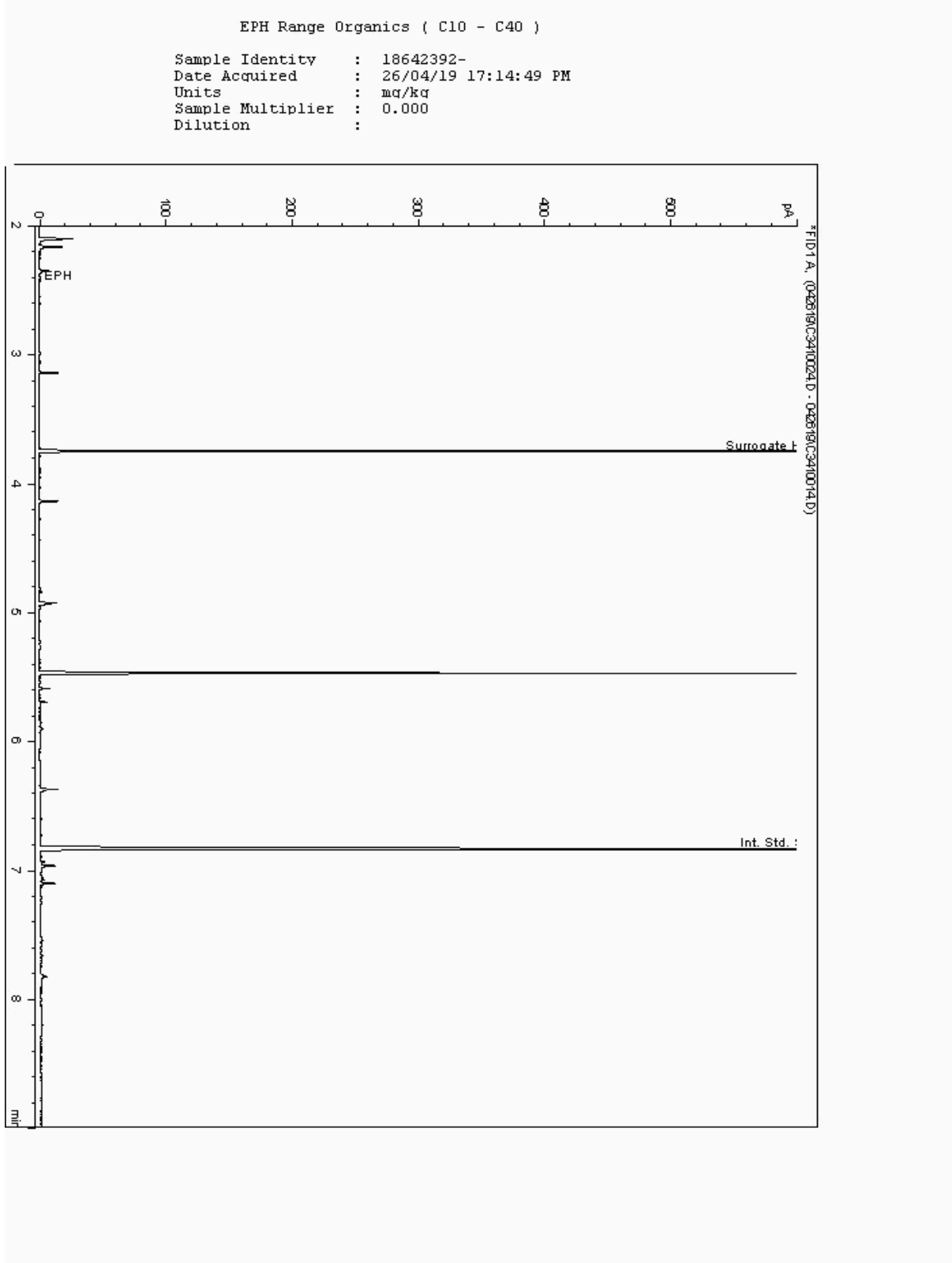
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Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: EPH by FID

Sample No : 19850930
Sample ID : RH-BH-28

Depth : 0.00 - 1.50





CERTIFICATE OF ANALYSIS

Validated

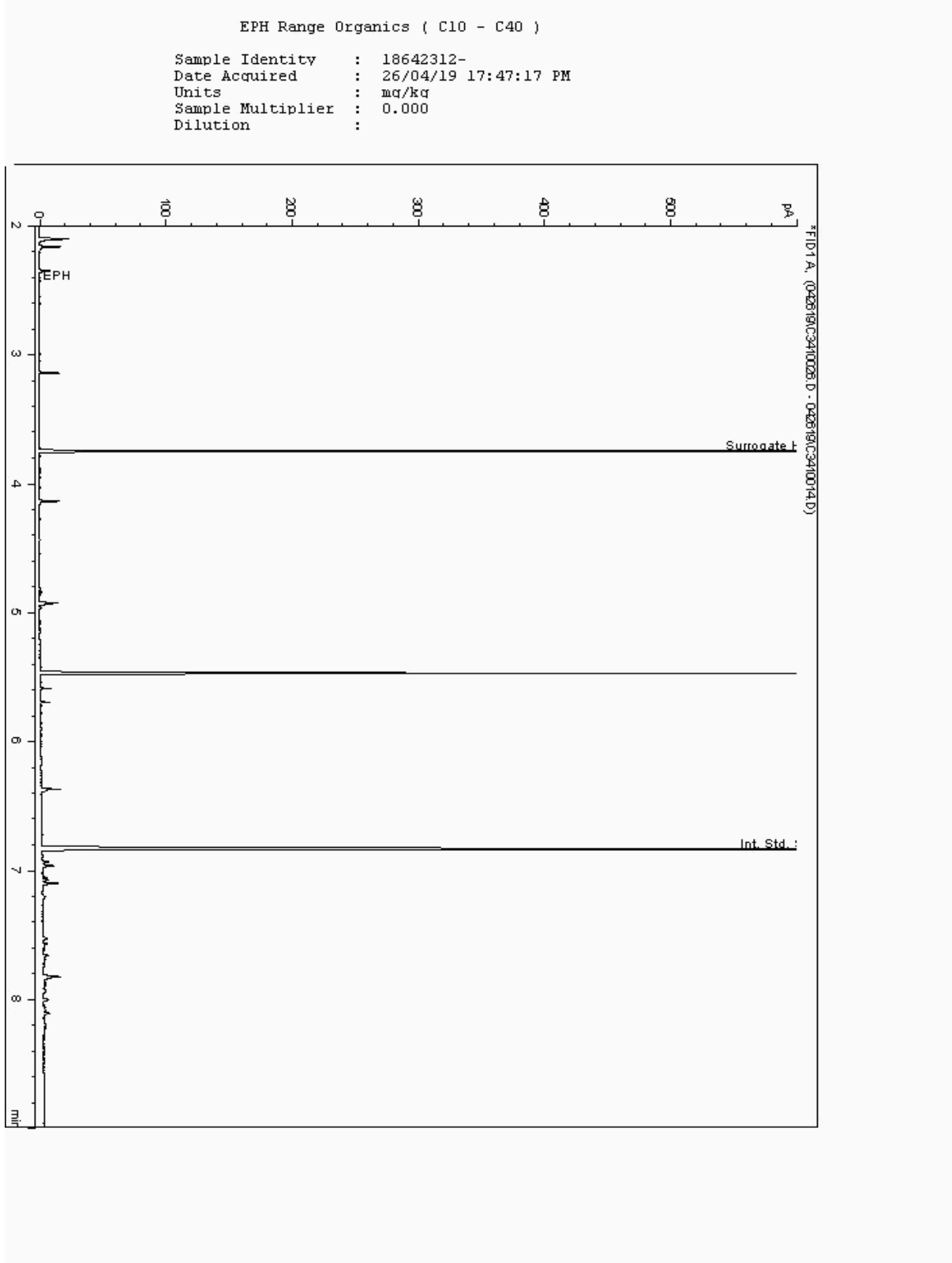
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Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: EPH by FID

Sample No : 19850993
Sample ID : RH-BH-27

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

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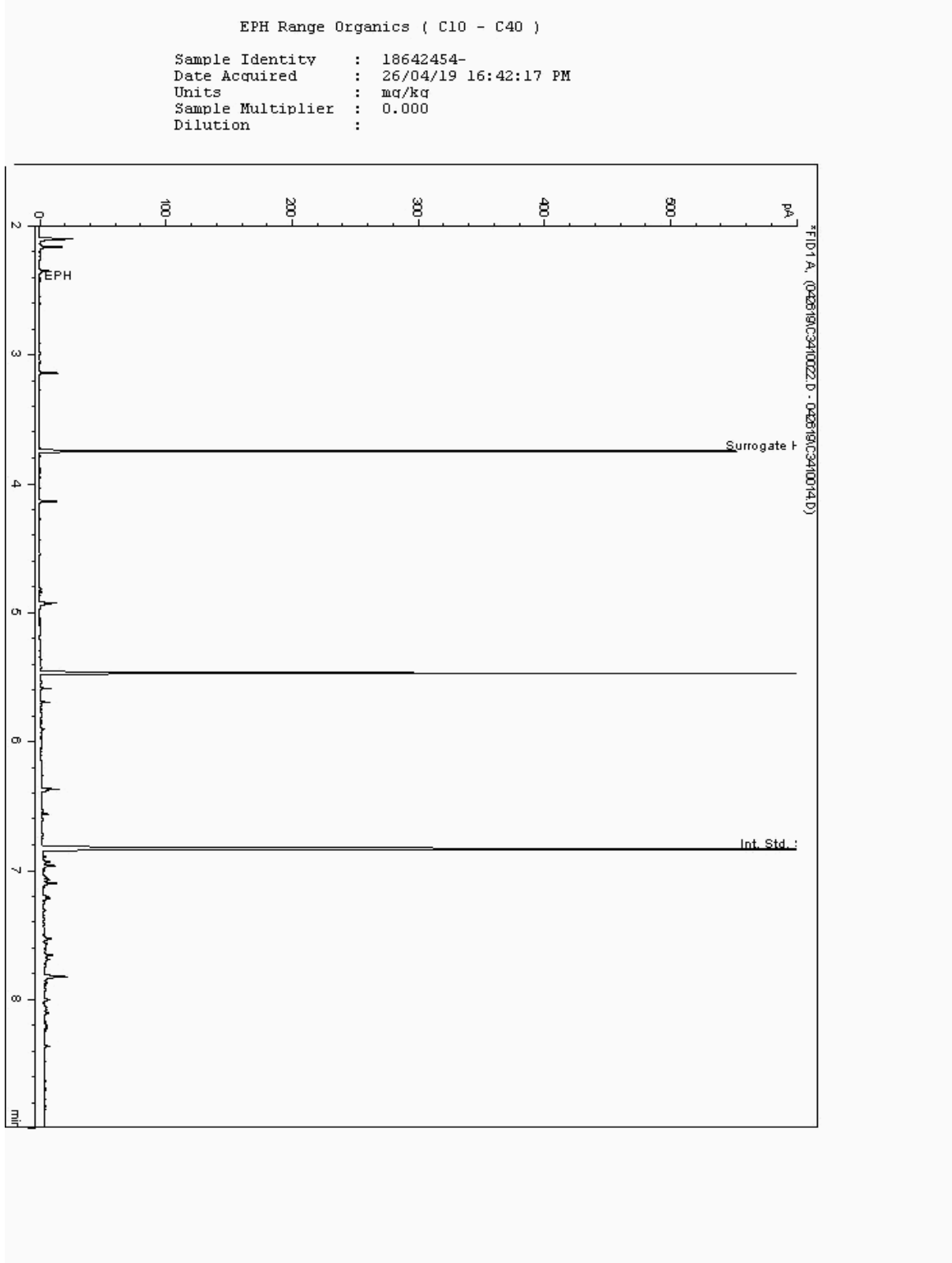
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Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: EPH by FID

Sample No : 19851019
Sample ID : RH-BH-29

Depth : 0.00 - 0.60





CERTIFICATE OF ANALYSIS

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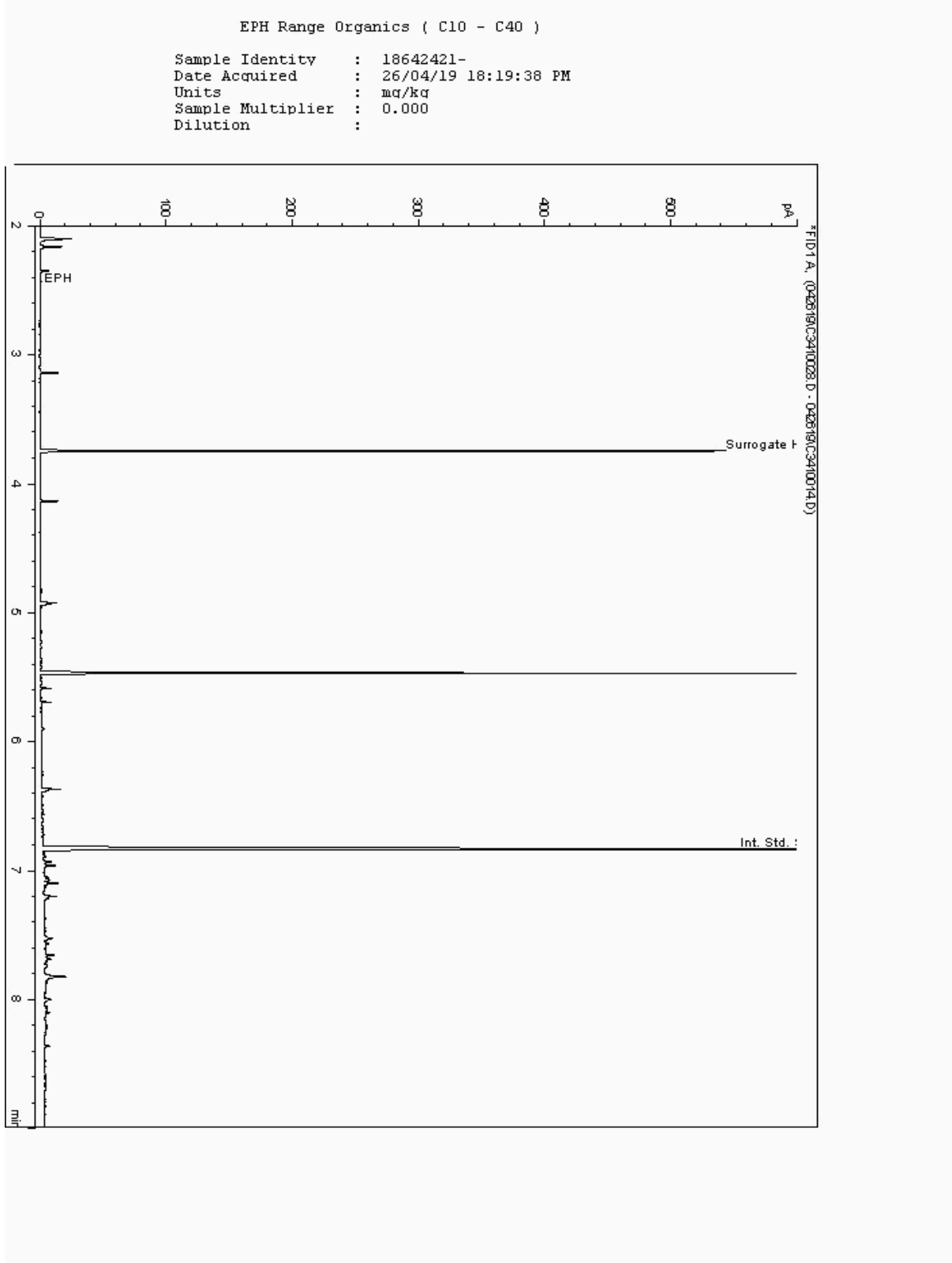
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Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: EPH by FID

Sample No : 19851026
Sample ID : RH-BH-29

Depth : 0.00 - 0.20





CERTIFICATE OF ANALYSIS

Validated

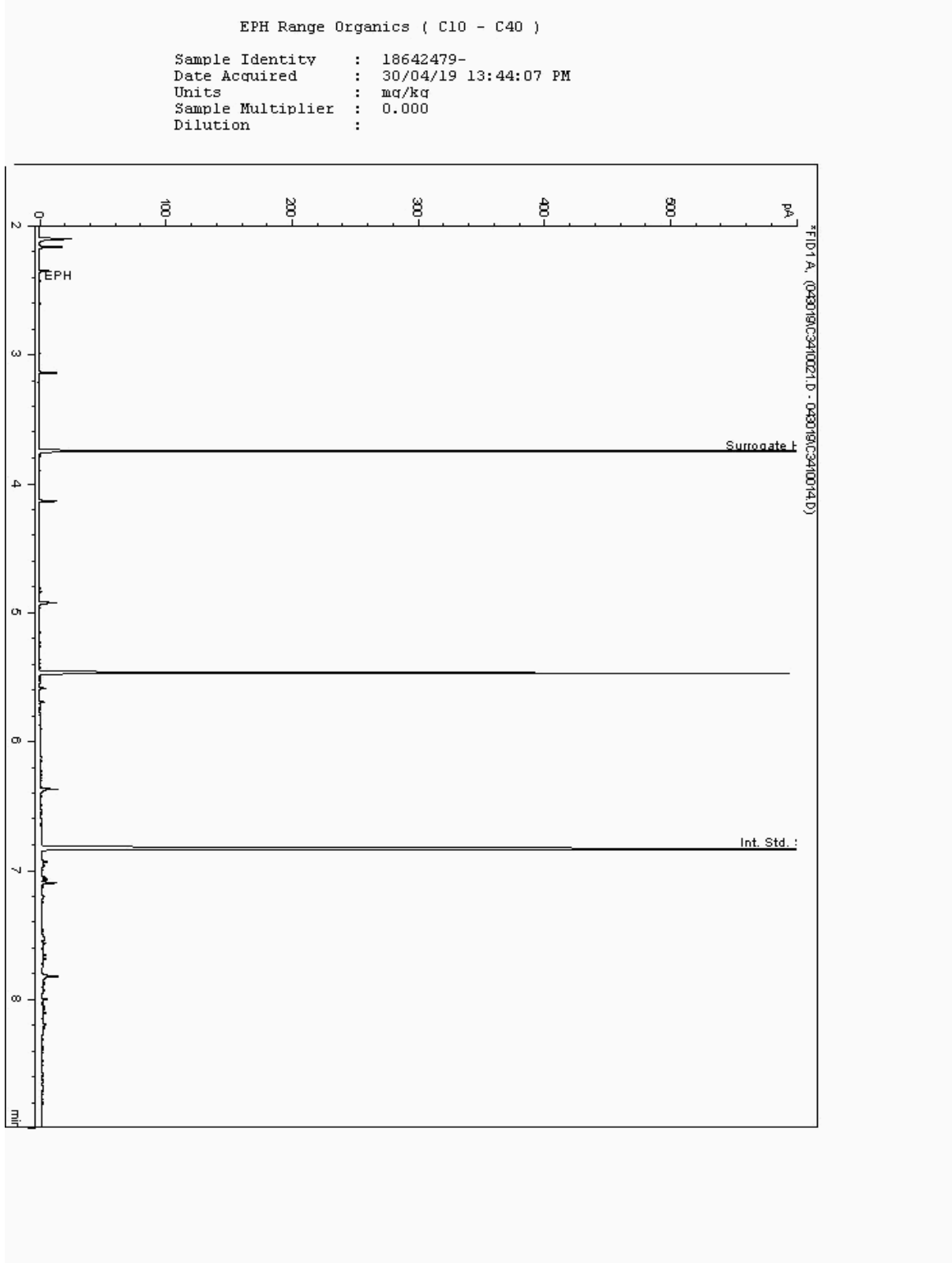
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Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: EPH by FID

Sample No : 19857934
Sample ID : DH-BH-27

Depth : 0.00 - 0.20





CERTIFICATE OF ANALYSIS

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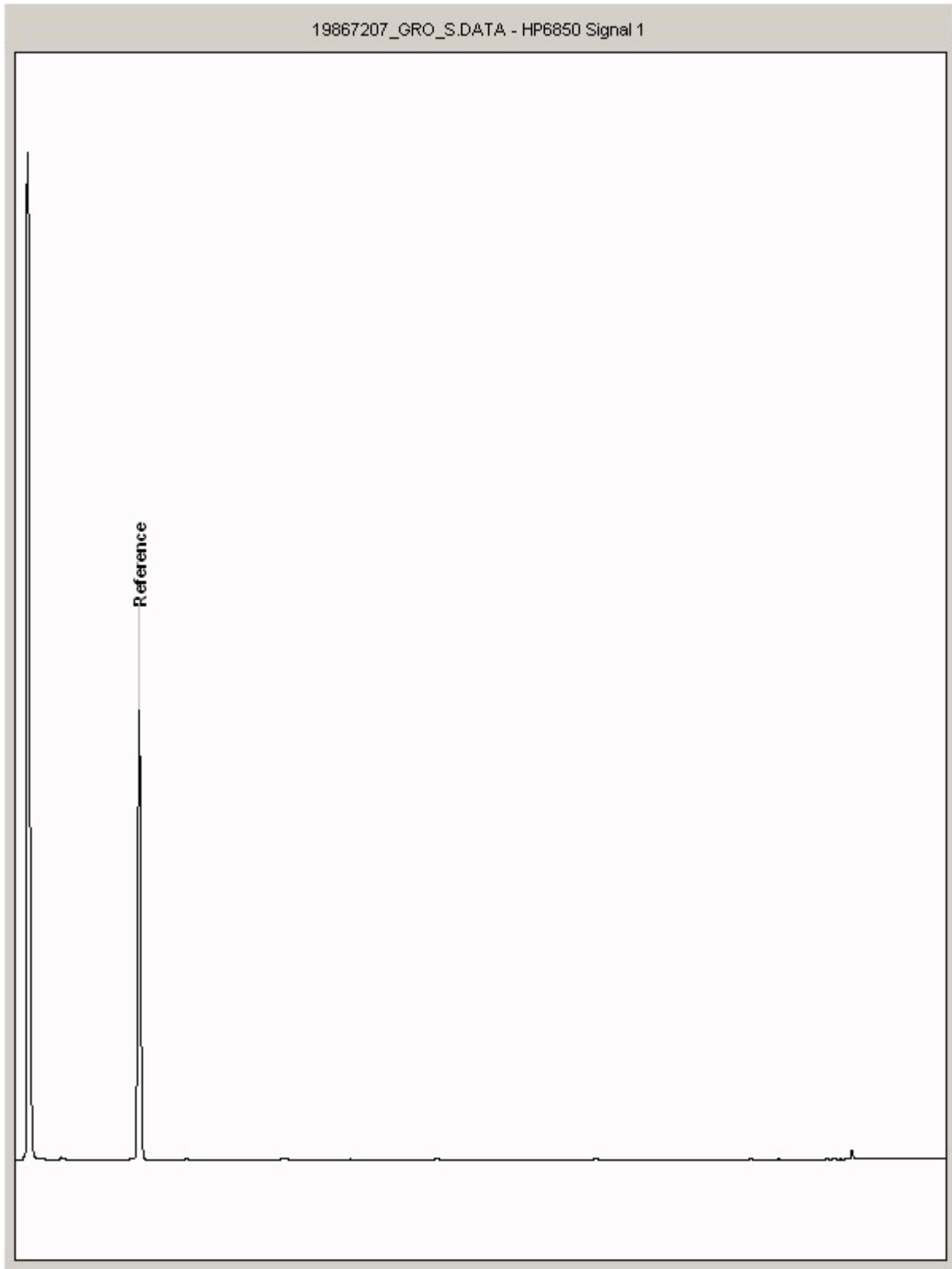
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Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19867207
Sample ID : RH-BH-29

Depth : 0.00 - 0.20





CERTIFICATE OF ANALYSIS

Validated

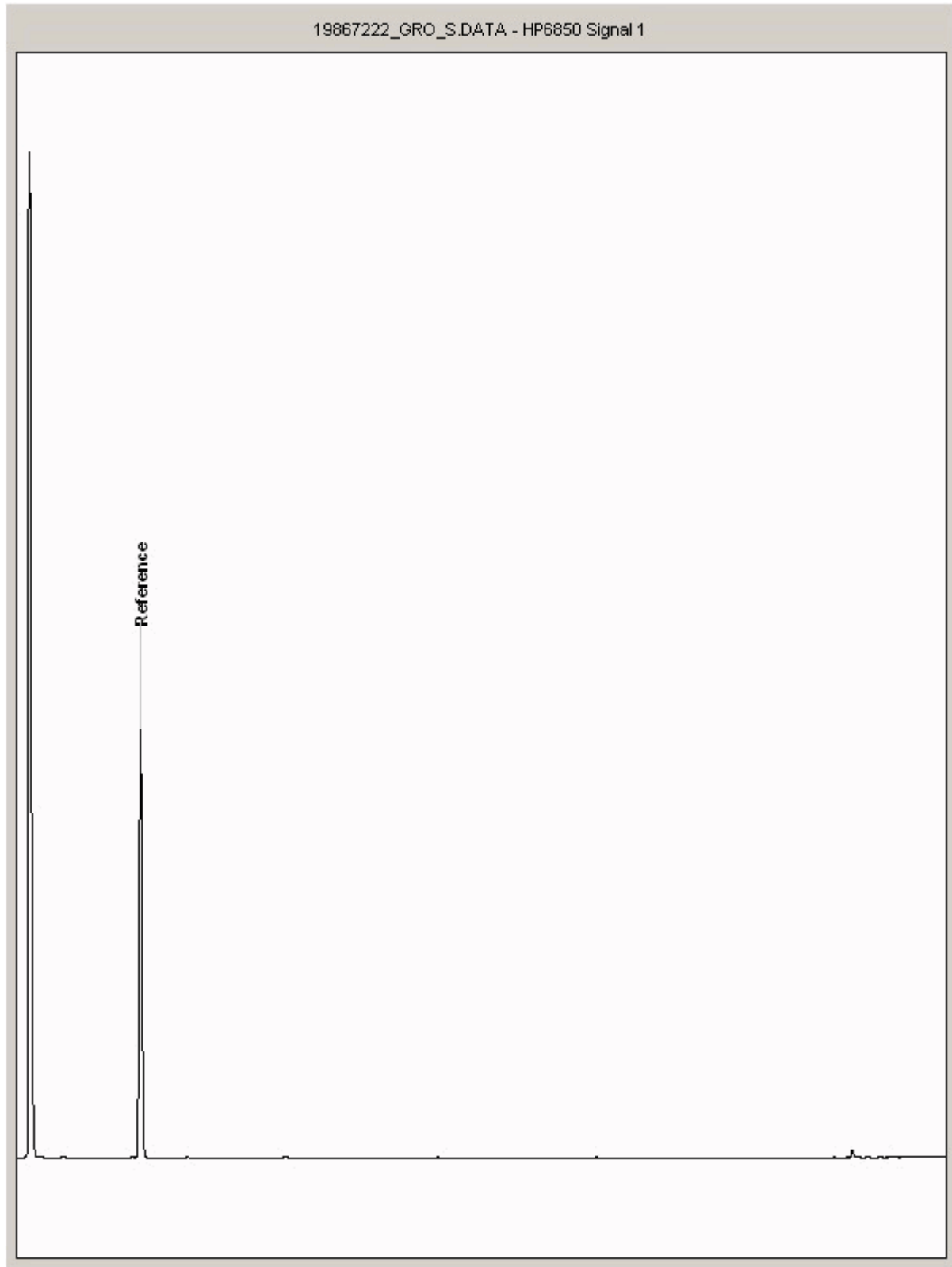
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Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19867222
Sample ID : DH-BH-27

Depth : 0.00 - 0.20





CERTIFICATE OF ANALYSIS

Validated

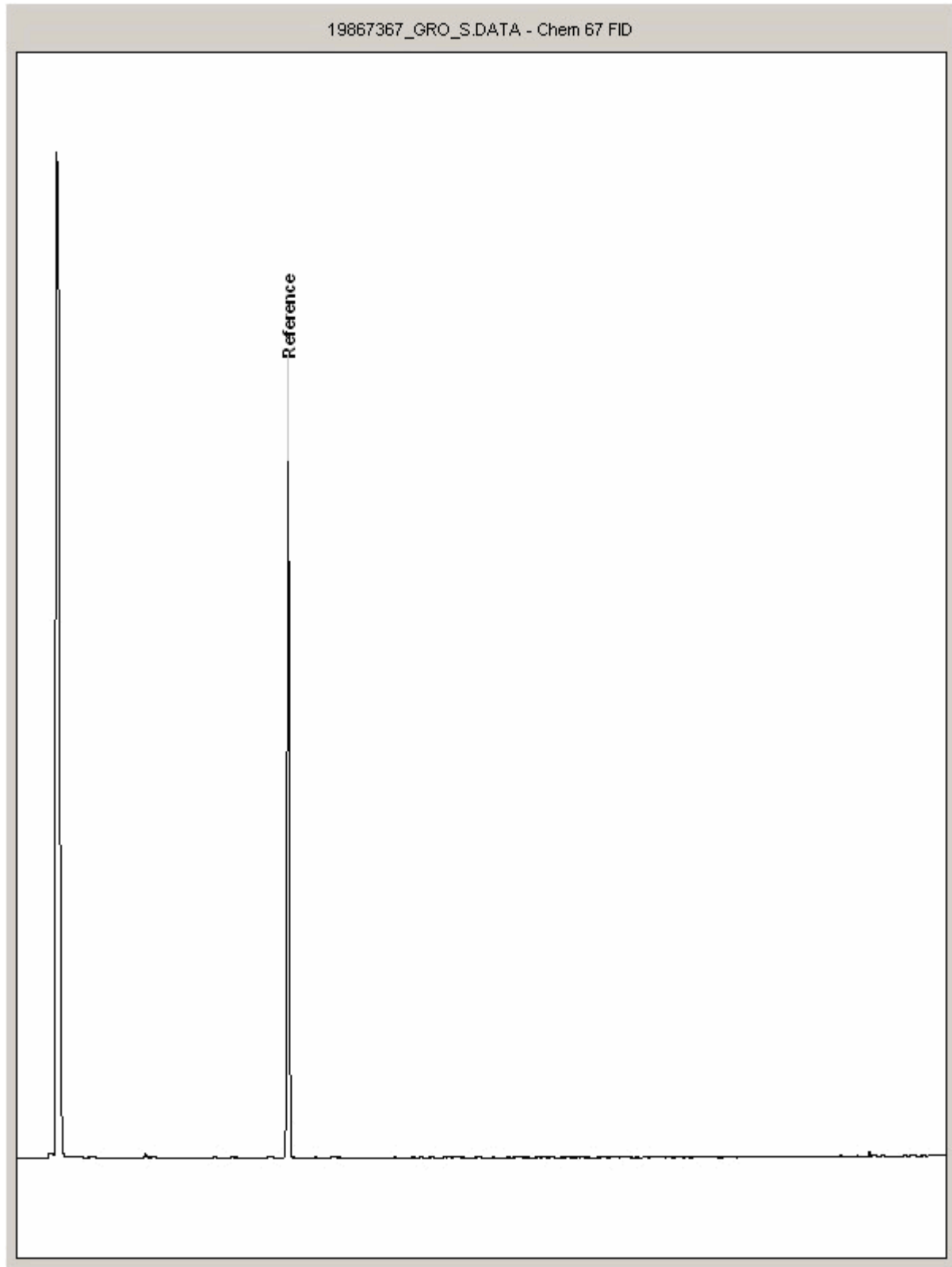
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Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19867367
Sample ID : RH-BH-28

Depth : 0.00 - 1.50





CERTIFICATE OF ANALYSIS

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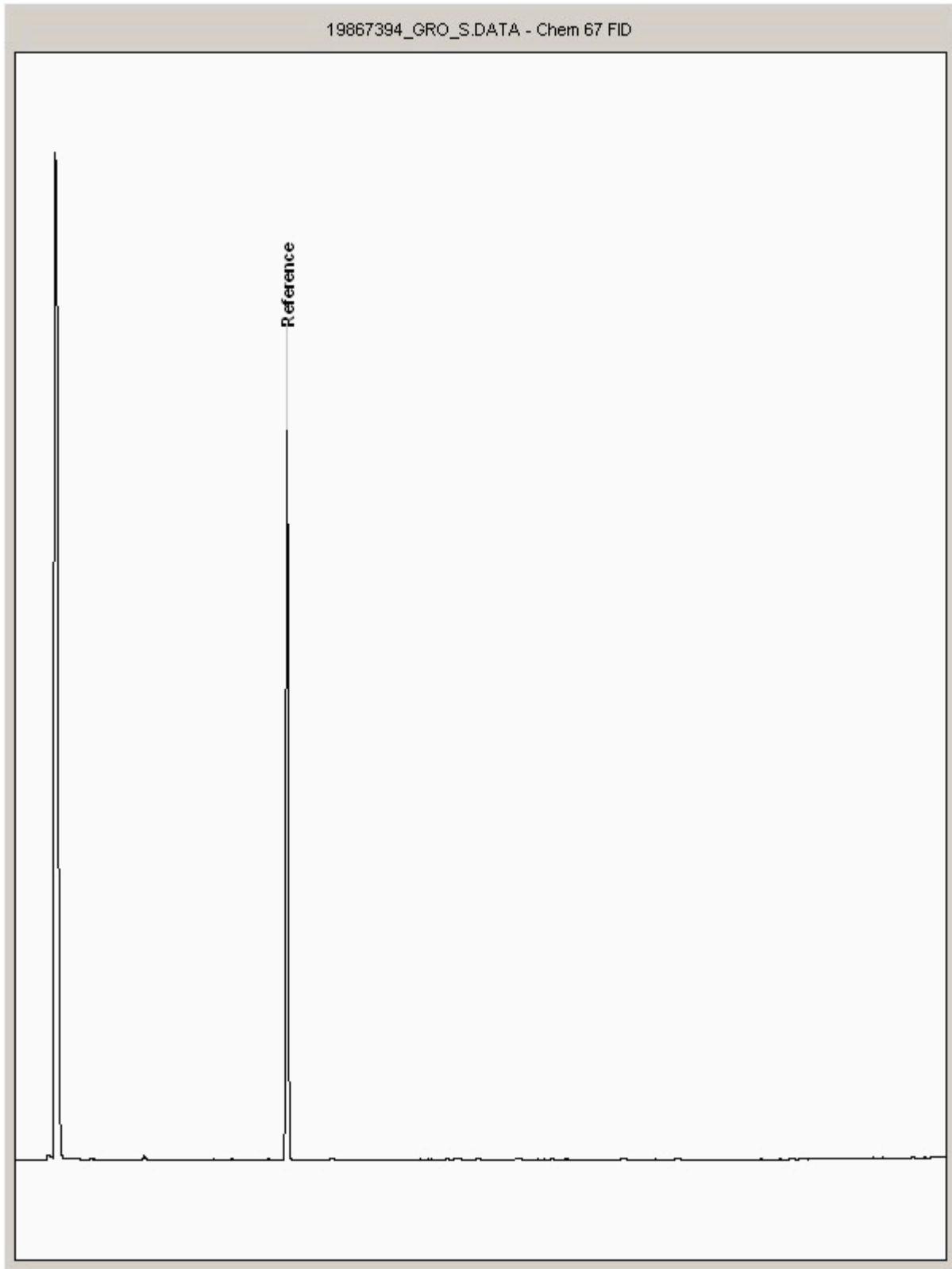
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Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19867394
Sample ID : RH-BH-29

Depth : 0.00 - 0.60





CERTIFICATE OF ANALYSIS

Validated

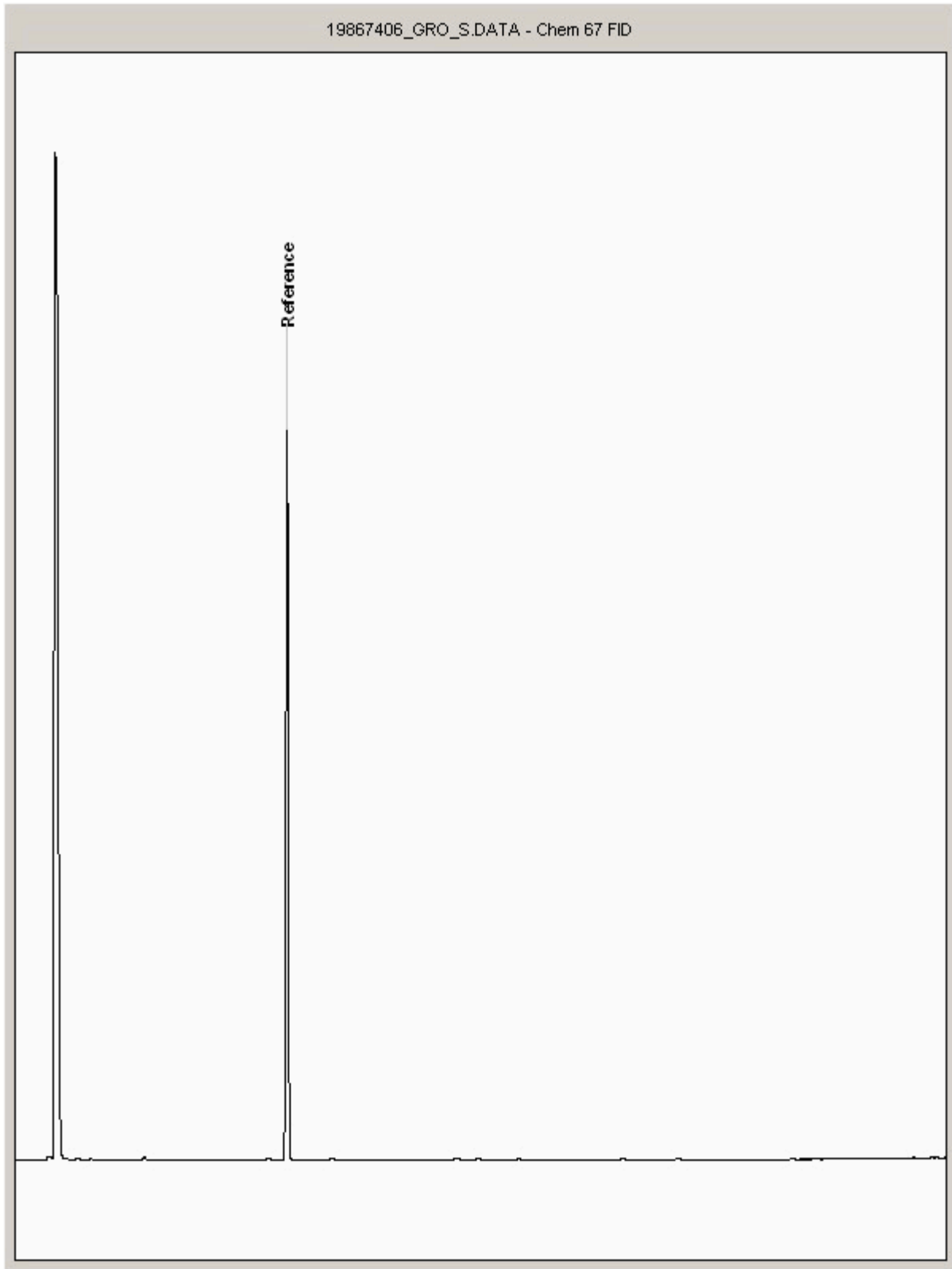
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Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19867406
Sample ID : RH-BH-27

Depth : 0.00 - 1.50





CERTIFICATE OF ANALYSIS

Validated

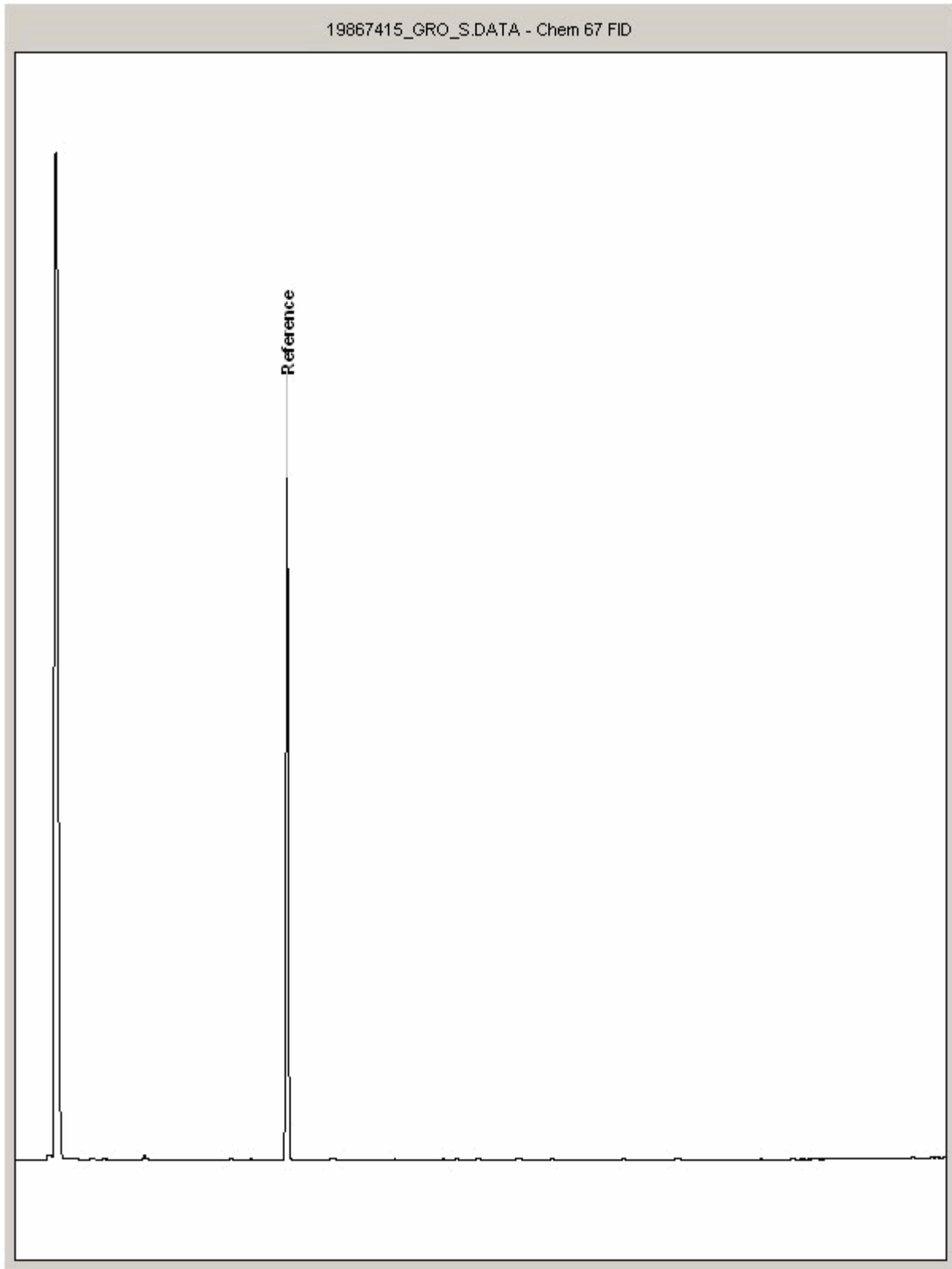
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Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19867415
Sample ID : RH-BH-27

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

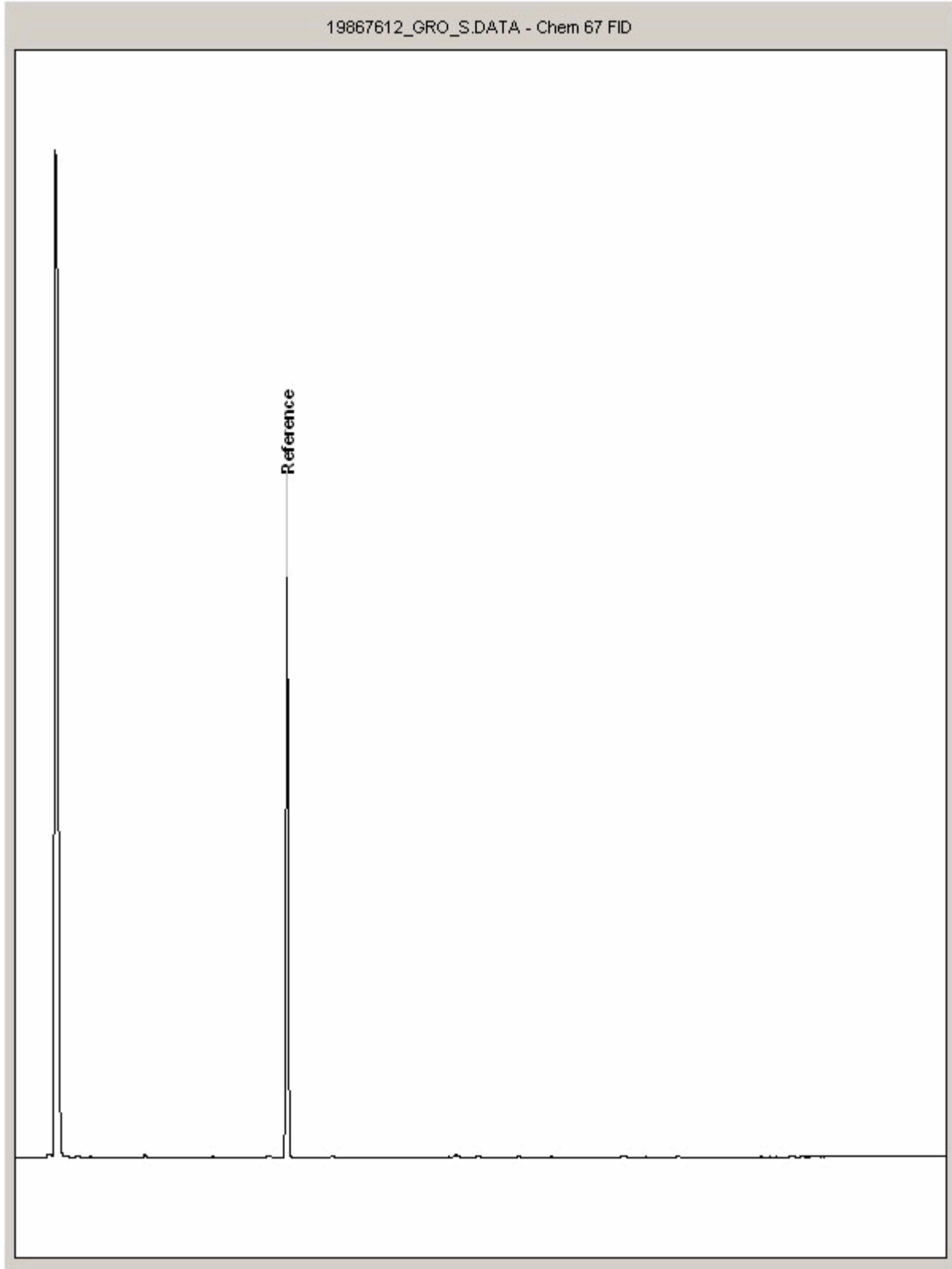
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Location: Cole Green Order Number: 9Y0074-107-100 Superseded Report: 503857

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19867612
Sample ID : RH-BH-28

Depth : 0.00 - 0.50





CERTIFICATE OF ANALYSIS

Validated

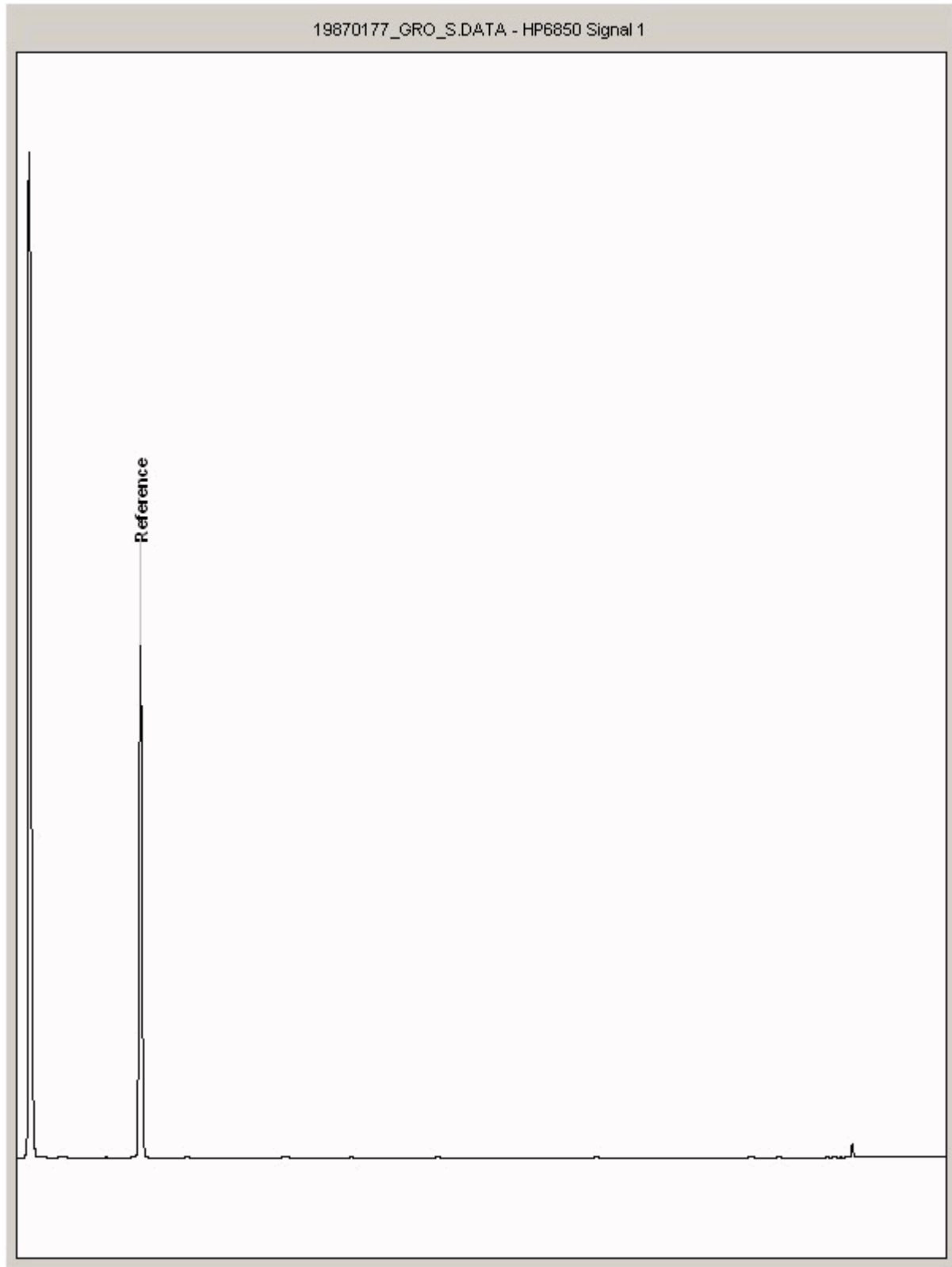
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Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 19870177
Sample ID : DH-BH-27

Depth : 0.00 - 0.20





CERTIFICATE OF ANALYSIS

SDG:	190419-93	Client Reference:	Cole Green Supplement	Report Number:	504456
Location:	Cole Green	Order Number:	9Y0074-107-100	Superseded Report:	503857

Appendix

General

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

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

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

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

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

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

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

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

11. Results relate only to the items tested.

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

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

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

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
§	Sampled on date not provided
◆	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to late arrival of instructions or samples

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using ALS (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.