

Appendix B

REPORT LIMITATIONS



REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.
2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.
3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.
4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

PHASE 1 GEO ENVIRONMENTAL AND PRELIMINARY RISK ASSESSMENTS

Coverage: *This section covers reports with the following titles or combination of titles: phase 1; desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; project scope summary report (PSSR), program environmental impact report (PEIR), geotechnical development risk register; and, baseline environmental assessment.*

5. The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP UK Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.
6. The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP UK Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.
7. It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the site.
8. WSP UK Limited does not warrant work / data undertaken / provided by others.

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

INTRUSIVE INVESTIGATION REPORTS

Coverage: *The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.*

9. The investigation has been undertaken to provide information concerning either:
 - i. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or
 - ii. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.
10. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.
11. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.
12. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.
13. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.
14. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.
15. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.
16. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated

REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

17. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.
18. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.
19. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.
20. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

21. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.
22. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

DETAILED QUANTITATIVE RISK ASSESSMENTS AND REMEDIAL STRATEGY REPORTS

23. These reports build upon previous report versions and associated notes. The scope of the investigation, further testing and monitoring and associated risk assessments were selected on the basis of the specific development and land use scenario proposed by the Client and may not be appropriate to another form of development or scheme layout. The risk assessment and opinions provided are based on currently available approaches in the generation of Site Specific Assessment Criteria relating to contamination concentrations and are not considered to represent a risk in a specific land use scenario to a specific receptor. No liability can be accepted for the retrospective effects of any future changes or amendments to these values, associated models or associated guidance.



REPORT LIMITATIONS - GROUND RISK AND REMEDIATION

- 24. The outputs of the Detailed Quantitative Risk Assessments are based upon WSP UK Limited manipulation of standard risk assessment models. These are our interpretation of the risk assessment criteria.
- 25. Prior to adoption on site they will need discussing and agreeing with the Regulatory Authorities prior to adoption on site. The regulatory discussion and engagement process may result in an alternative interpretation being determined and agreed. The process and timescales associated with the Regulatory Authority engagement are not within the control of WSP UK Limited. All costs and programmes presented as a result of this process should be validated by a quantity surveyor and should be presumed to be indicative.

GEOTECHNICAL DESIGN REPORT (GDR)

- 26. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. All the relevant information needs to be provided to allow for a GDR to be produced.

MONITORING (INCLUDING REMEDIATION MONITORING REPORTS)

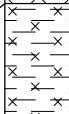
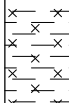
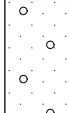
- 27. These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.
- 28. The data is presented and will be compared with assessment criteria.

Appendix C

EXPLORATORY HOLE LOGS

WSP

 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200	BOREHOLE LOG		Hole No. BH301
	Project Reading Gasholder No.4		Sheet 1 of 4
Job No 70031882	Client Danescroft LLP		Date 18-09-19 19-09-19
Contractor / Driller Geotechnical Engineering	Method/Plant Used Pioneer Rig	Logged By Will Allaway	Co-Ordinates (NGR) E 472866.164 N 173668.181
		Ground Level (m AOD) 37.550	

SAMPLES & TESTS							STRATA					Install / Backfill	
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 100 mm	
5.50-6.00	ES		30				37.45	0.10	ASPHALT.		TARMAC		
								(1.60)	Black slightly clayey sandy fine to coarse subrounded to angular GRAVEL of sandstone, brick, concrete and clinker with occasional lump of solid tar. (MADE GROUND)		GMG		
							35.85	1.70	1.50 - 5.05 Strong coal tar odour throughout. Occasionally tarry veins within the clay.		ALV		
								(1.30)	Soft black silty CLAY with frequent fine white snail shells. (ALLUVIUM)				
							34.55	3.00	Soft greenish grey mottled white occasionally black silty CLAY with occasional white shell fragments. (ALLUVIUM)				
								(0.85)					
			33.70	3.85	Soft light grey occasionally black silty CLAY with occasional white shell fragments. (ALLUVIUM)		ALV						
			33.35	4.20	Soft brownish black silty CLAY with occasional white shell fragments. (ALLUVIUM)		ALV						
			32.50	5.05	Brownish black sandy fine to coarse very angular to rounded GRAVEL of flint and sandstone with occasional sandy areas. (RIVER TERRACE GRAVELS)		RT						
				(0.85)	5.05 - 7.40 Strong coal tar odour throughout. Areas of visible product/sheen.								
			31.65	5.90	Brownish black gravelly medium and coarse SAND. Gravel is fine and medium subangular to rounded of flint and sandstone. (RIVER TERRACE GRAVELS)		RT						
						30					(1.50)		

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling			Water Added			General Remarks Hole completed at 20m bgl.					
From	To	Hours	Tool	From	To						
Scale 1:43.75		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

17 WSP BH LOG 70031882 - READING GASHOLDER 4 GPJ WSPTEMPLATE7.00.GDT 20/11/19

 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200		BOREHOLE LOG		Hole No. BH301	
				Sheet 3 of 4	
Job No 70031882		Client Danescroft LLP		Date 18-09-19 19-09-19	
Contractor / Driller Geotechnical Engineering		Method/Plant Used Pioneer Rig		Logged By Will Allaway	
				Co-Ordinates (NGR) E 472866.164 N 173668.181	
				Ground Level (m AOD) 37.550	

SAMPLES & TESTS							STRATA					Install Backfill	
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P.Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 100 mm	
15.00-15.20	ES		95						Structureless CHALK composed of white clayey fine to coarse subrounded GRAVEL. (SEAFORD CHALK FORMATION) <i>(continued)</i>		SECK		
													14.50 - 16.00 Obvious product staining of core liner.
			56				21.85	15.70	Strong CHALK with occasional flint cobble. (SEAFORD CHALK FORMATION)		SECK		
									16.00 - 20.00 Slight product staining to core liner.				
			14										
											SECK		
			18						(4.30)				
			8				17.55	20.00	Borehole completed at 20.0m bgl.		END		

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling				Water Added							
From	To	Hours	Tool	From	To	General Remarks Hole completed at 20m bgl.					
Scale 1:43.75		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

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 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200	BOREHOLE LOG		Hole No. BH302
	Project Reading Gasholder No.4		Sheet 1 of 2
Job No 70031882	Client Danescroft LLP		Date 22-09-19 22-09-19
Contractor / Driller Geotechnical Engineering	Method/Plant Used Pioneer Rig	Logged By Will Allaway	Co-Ordinates (NGR) E 472859.471 N 173676.953 Ground Level (m AOD) 37.665

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. mm
								(2.70)	Dark brown slightly sandy gravelly CLAY with occasional ash. Gravel is fine to coarse angular of brick, concrete and flint. (MADE GROUND)		MG	
							34.97	2.70	Borehole terminated at 2.7m bgl due to obstruction. Possible base of former gas holder pipe inlet.		END	

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling				Water Added		General Remarks Hole terminated at 2.7m bgl due to obstruction					
From	To	Hours	Tool	From	To						
Scale 1:62.5		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200	BOREHOLE LOG		Hole No. BH302A
	Project Reading Gasholder No.4		Sheet 1 of 4
Job No 70031882	Client Danescroft LLP		Date 23-09-19 24-09-19
Contractor / Driller Geotechnical Engineering	Method/Plant Used Comacchio Geo 305	Logged By Will Allaway	Co-Ordinates (NGR) E 472861.358 N 173675.850
		Ground Level (m AOD) 37.659	

SAMPLES & TESTS							STRATA					Install / Backfill		
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 100 mm		
5.70-5.80	ES		8				36.16	1.50	Dark brown slightly sandy gravelly CLAY with occasional ash. Gravel is fine to coarse angular of brick, concrete and flint. (MADE GROUND)		CMG			
								(1.50)						
						34.86	2.80	Soft brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to subrounded of flint and occasional brick. (MADE GROUND)		CMG				
				(1.30)										
											Black silty CLAY with occasional coarse angular gravel of cinders. (MADE GROUND - Possibly reworked alluvium)			CMG
											3.50 - 3.60 Flint cobble			
											3.80 - 4.50 Strong coal tar odour. Visible sheen at 4.2m bgl.			
											(2.70)			
								4.50 - 7.50 Product covering core liners. Very strong coal tar odour.						
			30				32.16	5.50			GMG			
							31.96	5.70	Multi-coloured fine and medium subrounded GRAVEL of flint. (MADE GROUND)					
							31.86	5.80						
			35						Black very gravelly CLAY with hydrocarbon staining. Gravel is fine and medium subrounded of flint. (MADE GROUND)		GMG			
									5.70 - 5.80 Cobbles sized piece of clay pipe.					
									Black medium and coarse angular GRAVEL of brick, concrete, though mostly wood. (MADE GROUND)					
								(1.60)						

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling				Water Added		General Remarks Hole completed at 20.6m bgl.					
From	To	Hours	Tool	From	To						
Scale 1:43.75		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

17 WSP BH LOG 70031882 - READING GASHOLDER 4 GPJ WSPTEMPLATE7.00.GDT 20/11/19

 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200	BOREHOLE LOG			Hole No. BH302A	
	Project Reading Gasholder No.4			Sheet 2 of 4	
Job No 70031882		Client Danescroft LLP			Date 23-09-19 24-09-19
Contractor / Driller Geotechnical Engineering		Method/Plant Used Comacchio Geo 305	Logged By Will Allaway	Co-Ordinates (NGR) E 472861.358 N 173675.850	Ground Level (m AOD) 37.659

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kNm/m2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 100 mm
							30.26	7.40	Black medium and coarse angular GRAVEL of brick, concrete, though mostly wood. (MADE GROUND) <i>(continued)</i>		GMG	
							30.16	7.50	Black and red coarse angular GRAVEL of concrete and brick. (MADE GROUND)		GMG	
			1					(0.90)	7.40 - 7.50 Single layer of brick and concrete NO RECOVERY. 7.50 - 8.50 Poor recovery. Coal tar odour, no visual contamination.		NR	
			8				29.26	8.40	Structureless CHALK composed of gravelly greyish white CLAY. Gravel is weak and angular. (SEAFORD CHALK FORMATION) 8.50 - 16.10 Coal tar odour, no visual contamination.		SECK	
							28.76	8.90				
									Weak white grey CHALK. (SEAFORD CHALK FORMATION)		SECK	
			23									
			30									
			52					(5.10)				
			54									
			52									
			19									
							23.66	14.00				

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling				Water Added		General Remarks Hole completed at 20.6m bgl.					
From	To	Hours	Tool	From	To						
Scale 1:43.75		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

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 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200	BOREHOLE LOG		Hole No. BH302A
	Project Reading Gasholder No.4		Sheet 3 of 4
Job No 70031882	Client Danescroft LLP		Date 23-09-19 24-09-19
Contractor / Driller Geotechnical Engineering	Method/Plant Used Comacchio Geo 305	Logged By Will Allaway	Co-Ordinates (NGR) E 472861.358 N 173675.850 Ground Level (m AOD) 37.659

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 100 mm
			13						Weak white and grey CHALK with occasional flint cobble. (SEAFORD CHALK FORMATION)			
			12									
			11						16.10 - 19.10 Strong coal tar odour. Some visual evidence of product on core liner and flint cobbles.		SECK	
			12					(5.10)				
			11									
			14									
			11				18.56	19.10				
			13				18.16	(0.40) 19.50	Structureless CHALK composed of grey white very gravelly fine to coarse SAND. Gravel is angular of chalk and flint. (SEAFORD CHALK FORMATION)		SECK	
								(0.80)	19.10 - 20.60 Coal tar odour, no visual contamination. Structureless CHALK composed of white clayey fine to coarse angular GRAVEL of chalk. (SEAFORD CHALK FORMATION)		SECK	
			12				17.36	20.30				
							17.06	20.60	Weak white and grey CHALK with occasional flint cobble. (SEAFORD CHALK FORMATION)		SECK	
									Borehole completed at 20.6m bgl.		END	

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling				Water Added		General Remarks Hole completed at 20.6m bgl.					
From	To	Hours	Tool	From	To						
Scale 1:43.75		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200	BOREHOLE LOG		Hole No. BH303	
	Project Reading Gasholder No.4		Sheet 1 of 4	
Job No 70031882	Client Danescroft LLP		Date 25-09-19 26-09-19	
Contractor / Driller Geotechnical Engineering	Method/Plant Used Comacchio Geo 205	Logged By Will Allaway	Co-Ordinates (NGR) E 472884.275 N 173652.159	Ground Level (m AOD) 37.276

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thick-ness)	Description	Legend	Geology	Dia. 50 mm
							37.13	0.15	ASPHALT.		TARMAC	
								(1.55)	0.00 - 0.15 Railway lines visible at surface adjacent to borehole Dark brownish black slightly sandy gravelly CLAY with occasional ash and wood. Gravel is fine to coarse angular to subrounded of concrete, brick and flint. (MADE GROUND) 0.15 - 0.30 Railway sleepers in southern side of pit.		CMG	
			28				35.58	1.70	1.40 - 1.50 Frequent fine white snail shells 1.50 - 5.50 Strong coal tar odour Soft black silty CLAY. Potentially reworked alluvium. (MADE GROUND) 1.90 - 2.20 Visible sheen		CMG	
							34.78	2.50	Soft greyish black silty CLAY. Potentially reworked alluvium. (MADE GROUND)		CMG	
			25					(1.00)				
							33.78	3.50				
							33.68	3.60	CONCRETE. Possible cobble.		CONC	
							33.53	3.75	Brown GRAVEL. Solid wooden core. (MADE GROUND)		GMG	
							33.48	3.80	3.60 - 4.50 Poor recovery due to presence of wood. White fine to coarse angular to subrounded GRAVEL of concrete and chalk. (MADE GROUND) NO RECOVERY.		GMG	
							32.78	4.50			NR	
			50					(0.40)	White grey sandy fine to coarse subangular to subrounded GRAVEL of chalk and flint. (RIVER TERRACE GRAVELS)		RT	
							32.38	4.90				
								(0.45)	White grey slightly gravelly fine to coarse SAND. Gravel is fine and medium subrounded of chalk. (RIVER TERRACE GRAVELS)		RT	
			17				31.93	5.35				
							31.83	5.45	White grey very sandy fine to coarse subangular to subrounded GRAVEL of chalk and flint. (RIVER TERRACE GRAVELS)		RT	
							31.78	5.50	Structureless CHALK composed of white gravelly CLAY. Gravel is gravel is fine to coarse sub rounded flint. (SEAFORD CHALK FORMATION) Structureless CHALK recovered as flint gravel. (SEAFORD CHALK FORMATION) 5.50 - 13.20 Poor recovery. Chalk fines washed out, retrieved as flint gravel		SECK	

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling				Water Added							
From	To	Hours	Tool	From	To	General Remarks Hole completed at 20m bgl.					
Scale 1:43.75		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

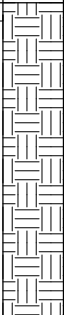
17 WSP BH LOG 70031882 - READING GASHOLDER 4.GPJ WSPTEMPLATE7.00.GDT 20/11/19

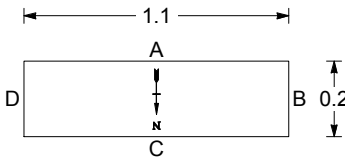
 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200	BOREHOLE LOG		Hole No. BH303	
	Project Reading Gasholder No.4		Sheet 3 of 4	
Job No 70031882		Client Danescroft LLP		Date 25-09-19 26-09-19
Contractor / Driller Geotechnical Engineering	Method/Plant Used Comacchio Geo 205	Logged By Will Allaway	Co-Ordinates (NGR) E 472884.275 N 173652.159	Ground Level (m AOD) 37.276

SAMPLES & TESTS							STRATA					Install / Backfill
Depth	Type	Test Result	PID (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	Dia. 50 mm
			5				22.88	14.40	Structureless CHALK recovered as flint gravel. (SEAFORD CHALK FORMATION) <i>(continued)</i>		SECK	
							22.58	14.70	Structureless CHALK composed of white gravelly CLAY. Gravel is fine angular flint. (SEAFORD CHALK FORMATION)		SECK	
			7					(1.50)	Weak CHALK recovered as gravel. (SEAFORD CHALK FORMATION) 14.70 - 16.20 Weak chalk retrieved as chalk and flint gravel.		SECK	
			6				21.08	16.20	Weak CHALK with occasional flint cobble. (SEAFORD CHALK FORMATION)		SECK	
			3					(3.80)			SECK	
			3				17.28	20.00	Borehole completed at 20.0m bgl.		END	

Boring Progress						Water Strikes					
Date	Time	Depth	Casing Dpt	Dia. (mm)	Water Dpt	Date	Time	Strike	Minutes	Standing	Casing
Chiselling				Water Added		General Remarks Hole completed at 20m bgl.					
From	To	Hours	Tool	From	To						
Scale 1:43.75		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.									

 WSP 1 Queens Street Bristol BS2 0HQ Telephone: 0117 930 6200 Fax:	TRIAL PIT LOG		Hole No. TP-GH4	
	Project Reading Gasholder No.4		Sheet 1 of 1	
Job No 70031882	Client Danescroft LLP		Date 19-09-19 19-09-19	
Contractor / Driller Geotechnical Engineering	Method/Plant Used Vac-Ex	Logged By Will Allaway	Co-Ordinates (NGR) E 472894.697 N 173707.014	Ground Level (m AOD) 37.211

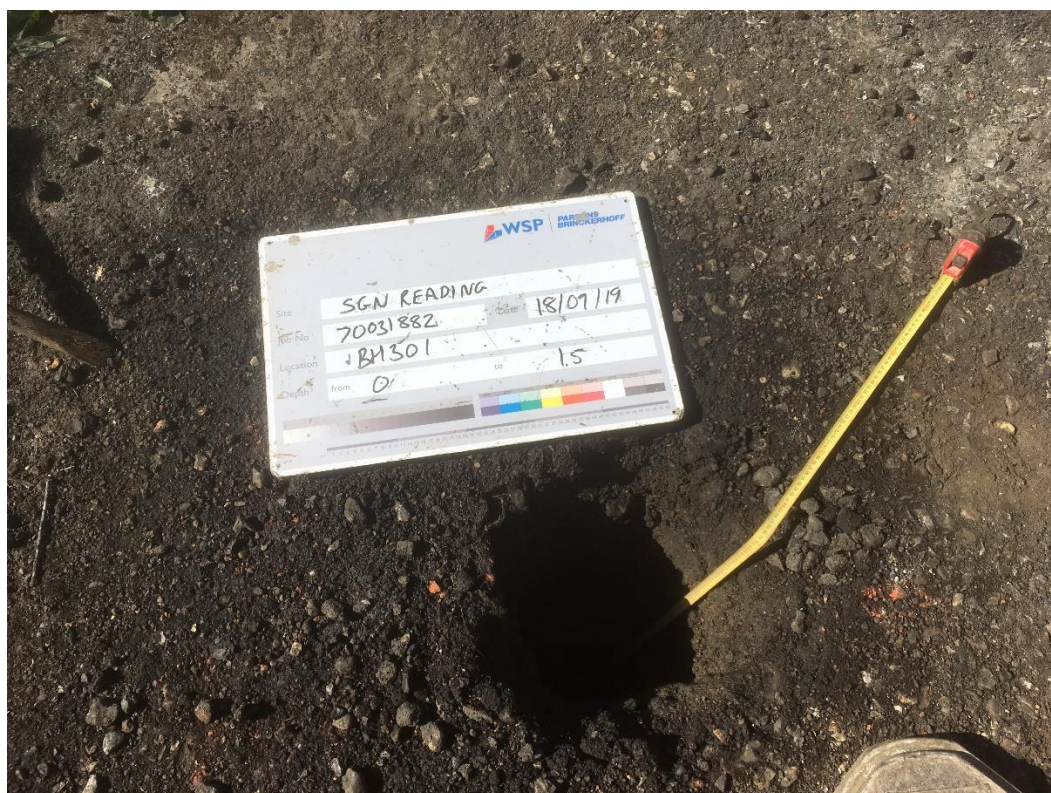
SAMPLES & TESTS						STRATA					Install / Backfill
Depth	Type	PID (ppmV)	HSV (kN/m2)	P. Pen (kN/m2)	Water	Elev. (mAOD)	Depth (Thickness)	Description	Legend	Geology	
						37.16	0.05	Multi-coloured fine and medium subrounded GRAVEL of Sandstone and flint. (MADE GROUND) 0.00 - 1.30 Steel holder wall extends to a line of rivets at 1.25m bgl sitting on top of a flat concrete pad which extends to at least 1.1m from the gasholder. Adjacent concrete roadway prevents further excavation. Brown slightly sandy gravelly CLAY. Gravel is fine to coarse angular to rounded of brick, concrete, flint and sandstone. (MADE GROUND)		GMG	
						(1.25)	CMG				
					35.91	1.30	Trial pit terminated at 1.3m bgl on gasholder foundation.			END	

	Length 1.10m	Shoring/Support: Stability:	Water Strikes					
	Width 0.20m		Date	Time	Strike	Minutes	Standing	Remarks
	Orientation 0 degrees from north		General Remarks Hole terminated at 1.3m on concrete gas holder foundation					
Scale 1:31.25		Notes: All dimensions in metres. Logs should be read in accordance with the provided Key. Descriptions are based on visual and manual identification.						

Appendix D

PHOTOGRAPHIC RECORD

WSP



1. BH301: Vacuum excavation hole to 1.5m bgl



2. BH301: 1.5m to 4.5m bgl



3. BH301: 4.5m to 7.5m bgl



4. BH301: 13.0m to 16.0m bgl



5. BH302: Vacuum excavation hole to 1.7m bgl



6. BH302A: 4.5m to 7.5m bgl



7. BH302A: 7.5m to 10.0m bgl



8. BH302A: 16.1m to 19.1m bgl



9. BH303: Vacuum excavation hole to 1.5m bgl



10. BH302: 4.5m to 8.5m bgl



11. BH303: 16.2m to 19.2m bgl



12. GH4 Foundations



13. GH4 Foundations



14. GH4 Foundations



15. BH202 during well development

Appendix E

GAS AND GROUNDWATER MONITORING DATA



GAS MONITORING BOREHOLE RECORD SHEET – ROUND 1			
Site: Reading Gasholder No. 4			Page 1 of 1
Operative(s): EW / EV		Date:16/11/15	Time: Various
MONITORING EQUIPMENT			
Instrument Type	Instrument Make	Serial No.	Date Last Calibrated
<i>Infra-red gas analyser</i>	GA2000	PB Godalming	23/04/15
<i>Dipmeter</i>	Interface Probe	PB Cardiff	NA
MONITORING CONDITIONS			
Weather Conditions: Dry, Sunny			
Ground Surface Conditions: Tarmac / Concrete			
Barometric Pressure Trend (24hr): Falling Pressure Trend			
Barometric Pressure (mbar):		Start: 1012	End: 1011
Ambient Concentration: ...0.0.....%CH ₄ ...0.0....%CO ₂ ...21.2.....%O ₂			

[illegible]

Reading Gas Monitoring Results

Borehole	Event Name	Date	Atmospheric Pressure Start-End (atm)	PID (ppm)	Borehole Pressure (Pa)	Initial gas flow rate (l/hr)	Steady gas flow rate (l/hr)	Initial CO ₂ (%v/v)	Steady CO ₂ (%v/v)	Initial O ₂ (%v/v)	Steady O ₂ (%v/v)	Initial CH ₄ (%v/v)	Steady CH ₄ (%v/v)	H ₂ S (ppmv)	CO (ppmv)
BH102B	Response Zone - 1.00 - 1.20														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	<0.1	<0.1	20.0	19.8	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	<0.1	0.0	<0.1	<0.1	<0.1	<0.1	20.5	19.8	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	2.6	0.0	<0.1	<0.1	0.2	0.1	20.1	20.1	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	<0.1	0.0	1.1	<0.1	<0.1	0.9	20.0	18.9	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	<0.1	3.0	1.6	0.4	<0.1	<0.1	20.4	19.9	<0.1	<0.1	<0.1	<0.1
BH103A	Response Zone - 1.00 - 1.50														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	<0.1	3.0	20.0	3.4	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	0.2	0.0	0.5	<0.1	<0.1	2.3	20.1	6.7	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	4.9	0.0	-29.5	<0.1	0.5	2.6	19.6	8.2	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	<0.1	0.0	1.1	<0.1	<0.1	0.9	20.2	14.9	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	0.3	-4.0	-50.0	-0.6	<0.1	1.0	19.9	7.5	<0.1	<0.1	<0.1	<0.1
BH104	Response Zone - 1.00 - 1.50														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	0.2	5.9	18.5	15.1	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	<0.1	0.0	<0.1	<0.1	0.2	5.7	19.9	15.3	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	0.8	0.0	<0.1	<0.1	0.6	9.2	19.3	9.3	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	<0.1	0.0	<0.1	<0.1	<0.1	8.0	20.0	8.4	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	<0.1	0.0	0.3	0.1	<0.1	6.0	17.8	13.9	<0.1	<0.1	<0.1	<0.1
BH202	Response Zone - 0.50 - 1.00														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	<0.1	0.8	19.9	9.2	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	17.0	0.0	<0.1	<0.1	<0.1	0.9	20.5	10.3	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	4.1	0.0	<0.1	<0.1	3.0	3.8	18.1	17.0	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	8.9	0.0	<0.1	<0.1	<0.1	1.0	20.2	19.8	<0.1	<0.1	<0.1	<0.1
VW201A	Response Zone - 0.75 - 1.00														
	Round 5	09/04/2019	1008 - 1008	73.9	0.0	0.4	<0.1	<0.1	0.4	20.0	17.8	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	100.0	0.0	<0.1	<0.1	<0.1	0.4	20.0	19.1	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	227.0	0.0	<0.1	<0.1	0.1	4.4	19.3	13.5	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	40.0	0.0	<0.1	<0.1	<0.1	3.2	19.8	12.4	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	11.5	1.0	0.1	<0.1	<0.1	2.9	19.9	11.2	<0.1	<0.1	<0.1	<0.1
VW202	Response Zone - 0.75 - 1.00														
	Round 5	09/04/2019	1008 - 1008	0.4	0.0	<0.1	<0.1	<0.1	1.9	18.1	13.4	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	<0.1	0.0	<0.1	<0.1	<0.1	1.9	20.4	15.1	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	12.8	0.0	<0.1	<0.1	0.1	6.0	19.5	4.7	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	-	0.0	<0.1	<0.1	<0.1	0.5	20.0	10.1	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	-	0.0	1.2	-0.1	-	-	-	-	-	-	-	-

Reading Gas Monitoring Results

Borehole	Event Name	Date	Atmospheric Pressure Start-End (atm)	PID (ppm)	Borehole Pressure (Pa)	Initial gas flow rate (l/hr)	Steady gas flow rate (l/hr)	Initial CO ₂ (%v/v)	Steady CO ₂ (%v/v)	Initial O ₂ (%v/v)	Steady O ₂ (%v/v)	Initial CH ₄ (%v/v)	Steady CH ₄ (%v/v)	H ₂ S (ppmv)	CO (ppmv)
VW203A	Response Zone - 0.75 - 1.00														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	<0.1	3.6	20.1	13.3	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	0.2	0.0	<0.1	<0.1	<0.1	2.9	20.0	15.7	<0.1	<0.1	<0.1	8.0
	Round 7	30/09/2019	1010 - 1111	4.8	0.0	<0.1	<0.1	0.4	5.8	17.7	9.6	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	<0.1	0.0	<0.1	<0.1	<0.1	5.0	20.8	9.4	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	<0.1	0.0	0.7	<0.1	<0.1	2.1	17.5	17.1	<0.1	<0.1	<0.1	<0.1
WS201A	Response Zone - 0.60 - 1.10														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	<0.1	0.2	19.8	19.6	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	<0.1	0.0	<0.1	<0.1	<0.1	0.5	20.0	18.8	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	2.3	0.0	<0.1	<0.1	0.1	4.3	19.8	14.7	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	1.0	0.0	0.8	<0.1	<0.1	3.6	19.8	15.2	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	<0.1	0.0	0.1	<0.1	<0.1	0.0	20.4	20.2	<0.1	<0.1	<0.1	<0.1
WS202	Response Zone - 0.50 - 1.30														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	<0.1	2.2	20.3	15.3	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	<0.1	0.0	<0.1	<0.1	<0.1	0.3	20.3	20.3	<0.1	<0.1	<0.1	<0.1
	Round 7	30/09/2019	1010 - 1111	0.5	0.0	<0.1	<0.1	0.2	4.0	18.1	17.5	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	1.0	0.0	<0.1	<0.1	<0.1	4.0	19.8	16.3	<0.1	<0.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	<0.1	0.0	<0.1	-0.1	<0.1	1.8	18.9	19.4	<0.1	<0.1	<0.1	<0.1
WS205	Response Zone - 0.50 - 1.50														
	Round 5	09/04/2019	1008 - 1008	<0.1	0.0	<0.1	<0.1	<0.1	5.3	19.9	0.0	<0.1	2.8	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	0.5	0.0	<0.1	<0.1	<0.1	6.3	20.1	0.1	<0.1	1.8	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	2.0	0.0	<0.1	<0.1	<0.1	7.6	19.8	0.0	<0.1	2.1	<0.1	<0.1
	Round 9	10/02/2020	995 - 990	<0.1	0.0	0.1	<0.1	<0.1	5.4	18.9	0.0	<0.1	2.2	<0.1	<0.1
WS206	Response Zone - 1.00 - 3.00														
	Round 5	09/04/2019	1008 - 1008	76.0	0.0	<0.1	<0.1	<0.1	0.4	19.8	18.8	<0.1	<0.1	<0.1	<0.1
	Round 6	15/04/2019	1017 - 1014	80.0	0.0	<0.1	<0.1	<0.1	0.9	21.0	17.7	<0.1	<0.1	<0.1	<0.1
	Round 8	15/10/2019	999 - 999	<0.1	0.0	0.5	<0.1	<0.1	6.0	19.7	10.2	<0.1	<0.1	<0.1	<0.1

Borehole	DateTime	Electrical Conductivity uS/cm	Dissolved Oxygen		pH pH Units	Redox Potential mV	Temperature degC
BH101	30/09/2019 15:36	462		6.6	6.95	61.1	16.5
	30/09/2019 15:24	544.3		6.6	6.56	192.4	16.4
	30/09/2019 15:27	455.4		6.9	6.91	95.1	16.5
	30/09/2019 15:30	454.7		6.71	6.94	80	16.5
	30/09/2019 15:33	460		6.62	6.95	67.4	16.5
	30/09/2019 15:39	465		6.56	6.96	50.7	16.5
	30/09/2019 15:42	467		6.56	6.96	43.5	16.5
	30/09/2019 15:45	467		6.56	6.96	40	16.5
	10/02/2020 14:54	348	61		7.79	-15	8.5
	10/02/2020 14:59	336	53		7.64	-26	8.4
	10/02/2020 15:03	331	50		7.59	-28	8.4
	10/02/2020 15:06	331	50		7.58	-29	8.4
	10/02/2020 15:09	331	49		7.57	-29	8.4
BH102B	01/10/2019 11:29	1991		1.32	6.08	140	15.9
	01/10/2019 11:32	1922		0.34	6.4	75.3	15.8
	01/10/2019 11:35	1914		0.52	6.47	52.8	15.9
	01/10/2019 11:38	1914		0.17	6.5	47.8	15.9
	01/10/2019 11:41	1913		0.17	6.53	38.8	16
	01/10/2019 11:45	1909		0.18	6.57	31.2	16.1
	01/10/2019 11:48	1900		0.17	6.61	32.4	16.2
	01/10/2019 11:53	1903		0.17	6.63	33.4	16.3
	11/02/2020 08:58	1628		0.58	7.15	132	8.3
	11/02/2020 09:02	1651		0.5	7.16	120.1	7.2
	11/02/2020 09:06	1644		0.63	7.17	109	7
	11/02/2020 09:12	1637		0.5	7.17	99.8	7.9
	11/02/2020 09:15	1637		0.47	7.16	96.1	7.8
	11/02/2020 09:18	1632		0.44	7.16	94.3	7.8
	11/02/2020 09:21	1632		0.43	7.16	92.4	7.9
BH103A	01/10/2019 12:33	599		0.2514	6.96	50.8	18.8
	01/10/2019 12:38	571		0.03	6.95	48.5	18.8
	01/10/2019 12:44	563		0.03	6.95	43.1	19
	01/10/2019 12:30	613		0.55	6.97	54.1	18.8
	01/10/2019 12:41	568		0.01	6.95	47.5	18.9
	01/10/2019 12:48	555		0	6.95	40.5	19
	01/10/2019 12:52	548		0	6.95	36.8	19.2
	01/10/2019 12:56	547		0	6.95	34.6	19.1
	01/10/2019 12:58	542		0	6.95	34.1	19.1
	11/02/2020 11:25	609.4		2.2	7.47	99.8	8.7
	11/02/2020 11:29	594		0.77	7.43	84.5	8.5
	11/02/2020 11:34	580.6		0.58	7.43	74	8.3
	11/02/2020 11:37	582.5		0.43	7.43	68	8.3
	11/02/2020 11:40	577		0.4	7.42	60.5	8.7
	11/02/2020 11:43	575.2		0.4	7.42	57.9	8.6
	11/02/2020 11:46	572.7		0.33	7.42	54.2	8.6
	11/02/2020 11:49	571		0.31	7.42	51.4	8.6
	11/02/2020 11:52	568.9		0.31	7.42	49.3	8.6
BH104	01/10/2019 15:02	1612		0.9	6.48	-272.8	15.5
	01/10/2019 15:04	1613		0.47	6.48	-285.8	15.4
	01/10/2019 15:07	1601		0.32	6.48	-295.2	15.4
	01/10/2019 15:10	1592		0.25	6.49	-297.6	15.4
	01/10/2019 15:13	1581		0.23	6.49	-298.9	15.4
	01/10/2019 15:17	1575		0.24	6.49	-301.9	15.4
	01/10/2019 15:20	1564		0.23	6.49	-302.8	15.4
	11/02/2020 13:18	1806	19		6.79	-8	9.1
	11/02/2020 13:21	1826	11		6.79	-3	9.1
	11/02/2020 13:25	1834	8.7		6.8	-9	8.9
	11/02/2020 13:30	1835	8.8		6.81	-19	9
	11/02/2020 13:33	1837	8.1		6.81	-35	9
	11/02/2020 13:38	1845	7		6.82	8	8.9
	11/02/2020 13:41	1843	6.6		6.82	15	9
	11/02/2020 13:44	1844	6.5		6.82	17	9
BH105	11/02/2020 09:03	401	14		7.5	-11	10.3
	11/02/2020 09:11	681	4.2		6.94	-71	10.1
	11/02/2020 09:14	717	3.8		6.95	-79	10.1
	11/02/2020 09:17	814	3.9		7.04	-69	10
	11/02/2020 09:20	840	3.9		7.09	-68	10
	11/02/2020 09:23	853	3.7		7.12	-94	10
	11/02/2020 09:26	853	3.6		7.15	-103	10
	11/02/2020 09:29	863	3.7		7.18	-100	10
	11/02/2020 09:32	871	3.6		7.19	-83	10
	11/02/2020 09:35	872	3.9		7.19	-79	10
BH106	11/02/2020 09:38	875	4.3		7.2	-82	10
	01/10/2019 14:03	894		0.91	6.81	65.5	15.3

Borehole	DateTime	Electrical Conductivity uS/cm	Dissolved Oxygen		pH pH Units	Redox Potential mV	Temperature degC
	01/10/2019 14:15	926		0.2	6.71	76.6	15
	01/10/2019 14:06	910		0.13	6.71	77.7	15.3
	01/10/2019 14:09	923		0.15	6.69	79.3	15.2
	01/10/2019 14:12	926		0.16	6.69	78.5	15.1
	01/10/2019 14:18	928		0.1	6.73	73.7	15
	01/10/2019 14:21	929		0.1	6.72	72.8	15
	11/02/2020 14:12	861		2.02	7.09	129.1	11
	11/02/2020 14:15	864		0.83	7.09	127.6	11.1
	11/02/2020 14:18	864		0.62	7.09	126.3	11.3
	11/02/2020 14:21	865		0.57	7.09	125.4	11.2
	11/02/2020 14:24	864		0.47	7.09	124.5	11.4
	11/02/2020 14:27	864		0.46	7.09	123.7	11.4
	11/02/2020 14:30	865		0.42	7.09	122.9	11.4
	11/02/2020 14:33	865		0.38	7.09	122.2	11.3
	11/02/2020 14:36	865		0.36	7.09	121.4	11.2
BH107	01/10/2019 16:14	9.6		10.18	7.15	20.7	17
	01/10/2019 16:17	9.6		9.8	7.04	11.4	16.6
	01/10/2019 16:21	9.6		9.74	6.78	-4.1	16.2
	01/10/2019 16:25	9.5		9.61	6.82	-8.8	16
	01/10/2019 16:28	9.5		9.42	6.83	-12.4	15.9
	01/10/2019 16:34	9.4		9.21	6.85	-27.4	15.8
	01/10/2019 16:36	9.4		9.11	6.86	-28.7	15.8
	01/10/2019 16:38	9.4		9.02	6.84	-30.3	15.8
	01/10/2019 16:40	9.3		8.98	6.86	-54.3	15.8
	11/02/2020 10:31	172	82		7.19	164	10.5
	11/02/2020 10:35	786	31		7.14	35	10.5
	11/02/2020 10:39	788	27		7.11	26	10.6
	11/02/2020 10:42	787	27		7.1	17	10.5
	11/02/2020 10:45	786	26		7.09	9	10.7
	11/02/2020 10:48	787	26		7.09	4	10.8
	11/02/2020 10:51	788	26		7.09	5	10.7
	11/02/2020 10:54	787	26		7.09	6	10.7
BH201	30/09/2019 16:26	435		3.73	7.13	75.4	14.8
	30/09/2019 16:33	623		0.63	7.01	-42.3	13.7
	30/09/2019 16:36	624		0.4	7.02	-120.3	13.6
	30/09/2019 16:39	626		0.3	7.03	-124.5	13.8
	30/09/2019 16:42	631		0.26	7.03	-146.8	13.7
	30/09/2019 16:45	633		0.26	7.03	-158.4	13.7
	30/09/2019 16:48	635		0.25	7.02	-174.4	13.8
	30/09/2019 16:51	636		0.24	7.02	-182.1	13.7
	10/02/2020 15:51	317	74		7.61	12	10.7
	10/02/2020 15:55	336	51		7.66	13	11.6
	10/02/2020 15:59	758	11.7		7.4	8	11.4
	10/02/2020 16:02	769	9.6		7.42	3.6	11.3
	10/02/2020 16:06	771	6		7.42	0	11.4
	10/02/2020 16:10	772	5		7.42	-3	11.3
BH202	10/02/2020 12:16	1409	30		6.89	-137	11
	10/02/2020 12:20	1418	8.9		6.89	-148	11
	10/02/2020 12:26	1419	5.6		6.9	-148	10.7
	10/02/2020 12:30	1415	5		6.9	-147	10.7
	10/02/2020 12:39	1416	4		6.91	-146	10.5
	10/02/2020 12:42	1416	4.2		6.91	-146	10.5
BH203C	01/10/2019 12:16	650		1.25	6.42	-50.3	14.6
	01/10/2019 12:19	636		1.08	6.62	-97.1	14.5
	01/10/2019 12:22	612		1.06	6.68	-151.9	14.5
	01/10/2019 12:25	600		1.04	6.69	-186.5	14.4
	01/10/2019 12:29	588		0.36	6.71	-211	14.3
	01/10/2019 12:33	590		0.33	6.71	-218.1	14.4
	01/10/2019 12:38	592		0.42	6.72	-226.3	14.8
	01/10/2019 12:42	584		0.28	6.71	-237.4	13.9
	01/10/2019 12:44	582		0.26	6.71	-239.5	13.9
	01/10/2019 12:47	582		0.26	6.71	-248.5	13.8
	11/02/2020 10:21	793		1.7	7.24	111.5	10
	11/02/2020 10:24	768		0.97	7.24	109.1	10.1
	11/02/2020 10:27	754		0.79	7.23	107.1	10.2
	11/02/2020 10:30	751		0.72	7.24	105.7	10.2
	11/02/2020 10:34	750		0.67	7.24	104.2	10.3
	11/02/2020 10:37	748		0.65	7.24	103	10.6
	11/02/2020 10:40	748		0.64	7.24	102.2	10.6

Borehole	DateTime	Electrical Conductivity uS/cm	Dissolved Oxygen		pH pH Units	Redox Potential mV	Temperature degC
BH204	01/10/2019 13:47	637		1.4	6.73	-235.3	15.2
	01/10/2019 13:51	642		0.64	6.71	-235.6	15.5
	01/10/2019 13:54	642		0.53	6.73	-261.2	15.4
	01/10/2019 13:57	636		0.5	6.75	-266.4	14.9
	01/10/2019 14:00	636		0.48	6.74	-269.6	14.8
	01/10/2019 14:03	634		0.44	6.74	-272.8	14.8
	01/10/2019 14:08	630		0.41	6.73	-275	14.8
	01/10/2019 14:11	628		0.38	6.73	-274.5	14.7
	01/10/2019 14:13	625		0.37	6.73	-279	14.5
	01/10/2019 14:15	624		0.36	6.72	-281.6	14.5
	11/02/2020 12:43	811		2.19	7.09	106.7	10.4
	11/02/2020 12:47	823		1.83	7.12	101.2	9.1
	11/02/2020 12:50	817		1.62	7.11	99.1	10.9
	11/02/2020 12:53	822		1.44	7.11	97.8	11
	11/02/2020 12:56	822		1.34	7.11	97.2	11
	11/02/2020 12:59	821		1.36	7.11	96.8	11.1
	11/02/2020 13:01	821		1.34	7.11	96.6	11
WS206	10/02/2020 15:11	2561		0.57	6.76	135.7	9.6
	10/02/2020 15:13	2553		0.88	6.78	128.8	9.4
	10/02/2020 15:16	2546		0.89	6.79	121.2	9.4
	10/02/2020 15:20	25314		0.8	6.83	110.4	9.1
	10/02/2020 15:23	2545		0.8	6.83	108.8	8.9
	10/02/2020 15:26	2543		0.91	6.83	103.3	8.5
	10/02/2020 15:30	2530		0.95	6.84	100.4	8.7
BH301	10/02/2020 11:33	1425	12.3		7.41	-174	11.7
	10/02/2020 10:53	1007	10.1		7.31	57	11.5
	10/02/2020 11:01	1006	3.2		7.31	-72	11.7
	10/02/2020 11:04	1000	5.5		7.31	-91	11.7
	10/02/2020 11:07	1009	6.9		7.31	-105	11.7
	10/02/2020 11:10	1046	6.5		7.32	-121	11.7
	10/02/2020 11:13	1089	5.4		7.33	-133	11.7
	10/02/2020 11:17	1178	5.1		7.35	-148	11.7
	10/02/2020 11:20	1251	5.9		7.35	-154	11.7
	10/02/2020 11:23	1305	8.1		7.36	-161	11.8
	10/02/2020 11:26	1378	16.4		7.39	-168	11.8
	10/02/2020 11:30	1416	13.6		7.41	-173	11.8
	10/02/2020 11:36	1445	9		7.42	-176	11.7
BH302A	10/02/2020 13:24	968	35		7.46	-17	10.4
	10/02/2020 13:27	956	7.5		7.43	-31	11
	10/02/2020 13:30	964	4.5		7.44	-45	11.2
	10/02/2020 13:33	967	3.7		7.45	-42	11.4
	10/02/2020 13:36	965	3.3		7.44	-46	11.5
	10/02/2020 13:39	966	2.9		7.44	-46	11.5
	10/02/2020 13:42	966	2.6		7.45	-50	11.5
BH303	10/02/2020 13:45	964	2.4		7.45	-53	11.5
	11/02/2020 11:46	763	44		7.34	80	9.5
	11/02/2020 11:52	754	15		7.27	-36	9.8
	11/02/2020 11:55	764	12.7		7.25	-35	10.1
	11/02/2020 12:02	778	15.7		7.17	-47	10.2
	11/02/2020 12:05	781	16.9		7.18	-52	10.2
	11/02/2020 12:08	781	16.7		7.18	-54	10.2
	11/02/2020 12:11	779	16.4		7.19	-33	10.2
	11/02/2020 12:14	778	15		7.19	-23	10.3
	11/02/2020 12:17	778	16		7.18	-54	10.3

Appendix F

**HUMAN HEALTH GAC
JUSTIFICATION**



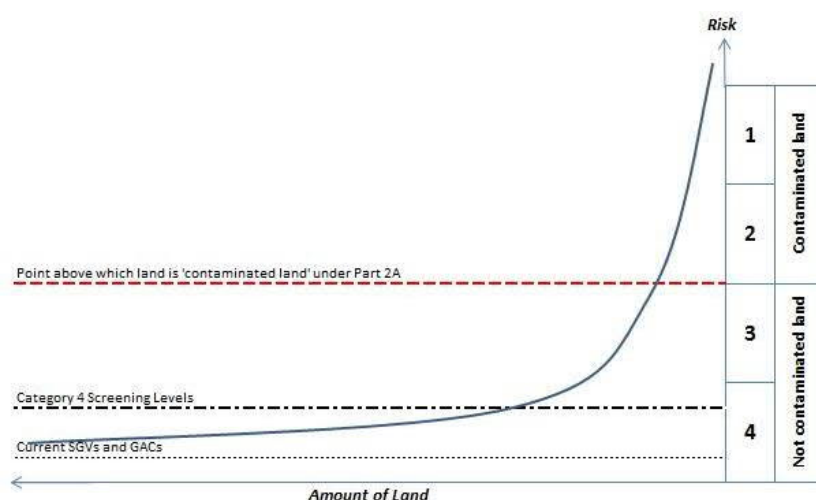
METHODOLOGY FOR THE DERIVATION OF GENERIC QUANTITATIVE ASSESSMENT CRITERIA TO EVALUATE RISKS TO HUMAN HEALTH FROM SOIL & GROUNDWATER CONTAMINATION

UK APPROACH

In the UK, the potential risks to human health from contamination in the ground are usually evaluated through a generic quantitative risk assessment (GQRA) approach. This allows generic and conservative exposure assumptions to be readily applied to risk assessments, and can be a useful tool for rapidly screening data and to identify those contaminants or scenarios that could benefit from further investigation and/or site-specific detailed quantitative risk assessment (DQRA). Current industry good practice is to use the approach presented in the Environment Agency (EA) publications SR2¹ and SR3². This approach allows the derivation of Generic Assessment Criteria (GACs), primarily for chronic exposure.

In April 2012, the Department of Environment, Food and Rural Affairs (Defra) published updated statutory guidance³ which introduced a four category approach to determining whether land in England and Wales is contaminated or not on the grounds of significant possibility of significant harm (SPOSH). **Figure 1** presents a graphical representation of the categories.

Figure 1: Four Categories for Determining if Land Represent a SPOSH



Cases classified as Category 1 are considered to be SPOSH based on actual evidence or an unacceptably high probability of harm existing. Category 4 cases are those where there is no risk, or a low risk of SPOSH.

¹ Environment Agency 'Human Health Toxicological Assessment of Contaminants in Soil', Report SC050021/SR2. January 2009.

² Environment Agency 'Updated Technical Background to the CLEA Model,' Report SC050021/SR3. January 2009.

³ Defra 'Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance'. April 2012.

GACs represent a minimal risk level, well within Category 4. A 2014 publication by Contaminated Land: Applications in Real Environments (CL:AIRE), SP1010⁴ and endorsed by Defra⁵ provided an approach to determine Category 4 Screening Levels (C4SLs) which are higher than the GACs whilst being “more pragmatic but still strongly precautionary”. It also provided C4SLs for six contaminants of concern. Although the C4SLs were designed to support Part 2A assessments to determine ‘contaminated land’ they are specifically mentioned, along with reference to the Part 2A statutory guidance, by the Department for Communities and Local Government (DCLG) for use in a planning context⁶.

An updated version the Contaminated Land Exposure Assessment (CLEA) Workbook (v1.071) was released by the EA in September 2015 to take into account the publication of SP1010. The updates comprised: additional toxicity data for the six chemicals for which C4SLs were derived; two new public open space land use scenarios; updated exposure parameters; options to run the model using C4SL exposure assumptions; and increased functionality. There were no changes to algorithms, so it is still possible to replicate the withdrawn SGVs using the input parameters held within v1.071.

It should be noted that the four category approach has not been adopted in Scotland under Part 2A or the planning regime. The Part 2A statutory guidance applicable in Scotland (Paper SE/2006/44 dated May 2006) does not reflect the changes introduced by Defra in April 2012 which allow for the use of C4SLs within Part 2A risk assessments. Additionally, it is considered that the principal of ‘minimal risk’ should still apply under planning in Scotland, based on current guidance.

WSP APPROACH

Following the withdrawal of the SGVs, and in the absence of an industry-wide, accepted set of GACs it is down to individual practitioners to derive their own soil assessment criteria. WSP has used the approach provided within SR2, SR3, SP1010, CLEA Workbook v1.071 and SR4⁷ to produce a set of minimal risk GACs. The chemical-specific data within two key publications were considered during their production: CL:AIRE 2010⁸ and LQM 2015⁹. Both documents provide comprehensive sets of GACs for different contaminants of concern.

The LQM Suitable For Use Levels (S4ULs) have selected exposure parameters consistent with the C4SL exposure scenarios. This approach was rejected by WSP as not representing minimal risk. However, the LQM S4UL document was critically reviewed and the approach and chemical input parameters were utilised where considered to be appropriate.

An industry-led C4SL Working Group is in the process of deriving a larger set of C4SLs in the near future, for approximately 20 contaminants. This will include a critical review of the chemical input data for all selected substances, and may therefore lead to further amendments to the chemical input data used in the WSP in-house screening values. It is considered likely that the contaminant list will

⁴ CL:AIRE ‘Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination’ SP1010, Final Project Report (Revision 2). September 2014.

⁵ Defra ‘SP1010: Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination – Policy Companion Document’. December 2014.

⁶ DCLG Planning Practice Guidance ‘Land Affected by Contamination’, particularly Paragraphs 001 and 007. Ref IDs: 33-001-20140306 & 33-007-20140612.

⁷ Environment Agency ‘CLEA Software (Version 1.05) Handbook (and Software)’, Report SC050021/SR4. September 2009.

⁸ CL:AIRE ‘The EIC/AGS/CL:AIRE Soil Generic Assessment Criteria for Human Health Risk Assessment’. ISBN 978-1-05046-20-1. January 2010.

⁹ Nathanail et al ‘The LQM/CIEH S4ULs for Human Health Risk Assessment’, Land Quality Press, ISBN 978-0-9931084-0-2. 2015.

crossover with the 2009 EIC/AGS/CL:AIRE GACs. As such, this document was not critically reviewed by WSP.

WSP's current approach to the assessment of risks to human health is to continue to evaluate minimal risk through the use of in-house derived GACs, and to use the published C4SLs as a secondary tier of assessment until such time as additional C4SLs are published and/or in-house values are derived.

EXPOSURE MODELS

LAND USES

WSP has largely adopted the exposure assumptions of the generic land use scenarios included within SR3, with two additional public open space scenarios included from within SP1010:

- Residential with homegrown produce consumption;
- Residential without homegrown produce consumption;
- Allotments;
- Commercial;
- Public open space near residential housing (POS_{resi}); and
- Public park (POS_{park}).

Exceptions are described in the following Sections.

SOIL PROPERTIES

SR3 assumes a sandy loam soil with a pH of 7 and a Soil Organic Matter (SOM) content of 6% for its generic land uses, based on the geographical spread of topsoils in the UK. WSP has adopted these default values. In addition, GACs based on an SOM of 1% and 2.5% have been derived, based on common experience of the nature of Made Ground and lack of topsoil on many brownfield sites.

RECEPTOR CHARACTERISTICS AND BEHAVIOURS

SP1010 provides some updated exposure parameters for long-term inhalation rates¹⁰ and the consumption rates for homegrown produce¹¹ compared to those provided in SR3. This data was used to derived WSP's GACs.

The changes in inhalation rates do not apply to the allotment generic land use scenario, as these are based on the breathing rates for short-term exposure of light to moderate intensity activity which were derived from a study that was not updated in USEPA 2011, so the SR3 rates were retained.

¹⁰ USEPA, National Centre for Environmental Assessment 'Exposure Factors Handbook: 2011 Edition' EPA/600/R-09/052F. September 2011.

¹¹ National Diet and Nutrition Survey 2008/2009 to 2010/2011.

CHEMICAL DATA

PHYSICO-CHEMICAL PARAMETERS

Physico-chemical properties for the contaminants for which GACs have been derived have been obtained following critical review of the following hierarchy of data sources:

1. Environment Agency/Defra SGV reports where available;
2. Environment Agency '*Compilation of Data for Priority Organic Pollutants for Derivation of Soil Guideline Values*', Report SC050021/SR7, November 2008; and
3. Published fate and transport reviews within Nathanail et. al 2015 and CL:AIRE 2010.

Where appropriate, and where sufficient data is available, values were adjusted to reflect a UK soil temperature of 10°C (e.g. K_{aw}).

TOXICOLOGICAL DATA

Toxicological data for the derivation of minimal risk Health Criteria Values (HCV) for each contaminant was selected with due regard to the approach presented in SR2. Where appropriate, the following hierarchy of data sources was used:

1. UK toxicity reviews published by authoritative bodies including:
 - EA;
 - Public Health England (PHE);
 - Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT); and
 - Committee on Carcinogenicity of Chemicals in Food, Consumer Products and the Environment (COC).
2. Authoritative European sources such as European Food Standards Agency (EFSA)
3. International organisations including:
 - World Health Organisation (WHO); and
 - Joint FAO/WHO Expert Committee on Food Additives (JECFA).
4. Authoritative country-specific sources including:
 - United States Environmental Protection Agency (USEPA);
 - US Agency for Toxic Substances and Disease Registry (ATSDR);
 - US Integrated Risk Information System (IRIS); and
 - Netherlands National Institute for Public Health and the Environment (RIVM).

Factors such as the applicability of the data to human health (e.g. epidemiological vs. animal studies), the quality of the data, the level of uncertainty in the results and the age of the data were also taken into account in the final selection. Details for specific substances are available on request.

MEAN DAILY INTAKES

Estimations of background exposure for each threshold substance have been updated. In line with the SR2 approach, the exposure from non-threshold substances in the soil does not take into account exposure from other sources, and as such GACs were derived without consideration of the Mean Daily Intake (MDI) for those substances.

The data published by the EA in its series of TOX reports between 2002 and 2009 was evaluated to determine whether the values were considered to remain valid today. Values from these current UK published sources were not amended unless they were considered to be significantly different so that the GACs remained as comparable as possible with the revoked SGVs.

ORAL MEAN DAILY INTAKES

Oral MDI were generally estimated as the sum of exposure via the ingestion of food and drinking water using the default adult physiological parameters presented in Table 3.3 of SR2.

Data on the exposure of substances from food ingestion was generally obtained from UK Total Diet Studies (TDS) published by the Food Standards Agency (FSA) and its predecessor the Ministry of Agriculture, Fisheries and Food (MAFF) and from studies commissioned by COT. Where no UK-specific data was available, MDI were derived from the European Food Safety Authority (EFSA), Health Canada and US sources. This was a rare occurrence, and in these instances, the data was evaluated to determine its applicability to the UK.

Data on the concentrations of substances in tap water was obtained from a variety of sources. UK data was used where available, with preference given to Drinking Water Inspectorate (DWI) 2014 data from water company tap water testing (LOD, 1st and 99th percentile data is available). Where the substance was not included in tap water testing, other UK sources of information were considered including:

- DWI data from water company tap water testing from previous years;
- COT; and
- FSA.

Where UK data was not available, a number of other data sources were considered, largely WHO International Programme on Chemical Safety (IPCS) Concise International Chemical Assessment Documents (CICADs) and background documents for the development of Guidelines for Drinking Water Quality, using professional judgement on the relevance of the data to the UK. The final decision on the MDI from drinking water was made using professional judgement on the balance of relevance and probability, taking into account the detection limit where not detected, Koc and solubility, reduction in use of the substance, banned substances, tight controls (e.g. on explosives) and with due consideration to the SR2 instruction that “if no data or information in background exposure are available, background exposure should be assumed to be negligible and the MDI set to zero....”.

Data from other countries was generally not used because it was considered that the hydrogeology of these countries along with industrial practices were unlikely to be reflective of the UK.

INHALATION MEAN DAILY INTAKES

Inhalation MDIs were based on estimates of average daily exposure by the inhalation pathway and calculated using the default adult physiological parameters presented in Table 3.3 of SR2.

The inhalation MDIs were generally estimated using background exposure data from the UK, derived from Defra's UK-AIR: Air Information Resource¹², which provides ambient air quality data from a number of sites forming a UK-wide monitoring network. The MDIs for heavy metals were based on rolling annual average metal mass concentration data from Defra's UK Heavy Metals Monitoring Network from the period October 2009 to September 2010¹³.

Information for some substances was obtained from UK sources including Environment Agency TOX reports and data from the UK Expert Panel on Air Quality Standards (EPAQS). Where recent UK data was not available, data was sourced from the International Programme on Chemical Safety (IPCS), the World Health Organisation (WHO), the Agency for Toxic Substances and Diseases Registry (ATSDR), Health Canada, and various other peer-reviewed sources summarised by LQM/CIEH¹⁴.

For other substances, where no data or information on background exposure was available, background exposure was assumed to be negligible and the MDI set at 0.5*TDI in accordance with guidance in SR2.

PLANT UPTAKE

Soil to plant concentration factors are available in CLEA v1.071 for arsenic, cadmium, hexavalent chromium, lead, mercury, nickel and selenium. For all remaining inorganic chemicals, concentration factors were obtained using the PRISM model. Substance-specific correction factors have been selected in accordance with the guidance established within SR3. This is consistent to the approach utilised in the derivation of the LQM S4UL and the EIC/AGS/CL:AIRE GAC.

Where there is a lack of appropriate data to enable the derivation of specific soil to plant concentrations factors for organic chemicals, plant uptake was modelled within CLEA v1.071 using the generic equations recommended within SR3, as follows:

- Green Vegetables – Ryan et al. (1988);
- Root Vegetables – Trapp (2002);
- Tuber Vegetables – Trapp et al. (2007); and
- Tree Fruit – Trapp et al. (2003).

There are no suitable models available for modelling uptake for herbaceous fruit or shrub fruit. Exposure is considered negligible.

¹² Crown 2016 copyright Defra via uk-air.defra.gov.uk, licenced under the Open Government Licence (OGL).

¹³ Defra, 2013 Spreadsheet of historic data for multiple years for the Metals network. Available online at: <http://uk-air.defra.gov.uk/data/metals-data>. [Accessed 13/03/2016].

¹⁴ LQM/CIEH, 2015. The LQM/CIEH S4ULs for Human Health Risk Assessment.

SOIL SATURATION LIMITS

GACs are not limited to their theoretical soil saturation within CLEA, although where either the aqueous or the vapour-based saturation is exceeded, this is highlighted within the Workbook (compared with the lower of the two values). This affects pathways which depend on partitioning calculations so in reality this only affects the vapour pathways and is relevant to organic substances and other substances, such as elemental mercury, that have a significant volatile component. However, the Workbook highlights saturation for direct contact pathways to indicate to the user where further qualitative consideration of free phase contamination at the surface may be required.

Where the lower of the two saturation limits is exceeded and the vapour pathway is the only exposure route being considered, the chronic risks to human health are likely to be negligible. Further evaluation could be undertaken using an alternative model suitable for evaluating non-aqueous phase liquids (NAPLs), such as the Johnson & Ettinger (J&E) approach described in USEPA 2003. However, WSP considers that if NAPLs are suspected, given the known limitations and over-simplifications of J&E, soil vapour monitoring is a more accurate way of assessing potential risks.

Where the lower saturation limit is exceeded for the vapour pathway and a number of exposure routes are being considered, then the contribution from the NAPL via vapour inhalation to the overall exposure can be evaluated using the procedure provided in SR4. WSP would evaluate this as part of a DQRA process or through soil vapour monitoring on-site to determine site-specific soil vapour concentrations.

CHEMICAL SPECIFIC ASSUMPTIONS

CYANIDES

Cyanide has high acute toxicity, and short term exposure is an important consideration when assessing the risks from soils contaminated with cyanide. The primary risk to human receptors from free cyanide in soils is an acute risk.

There is no current UK guidance available for calculating acute risks from free cyanide. Consequently, GAC for acute exposure were derived using the algorithms presented in MADEP 1992¹⁵ and assuming a one-off ingestion of 10g of soil (this conservative value has been taken as an upper bound estimate for a one-off soil ingestion rate amongst children). Receptor body weights have been selected according to the critical receptor for each exposure scenario. The lowest of the chronic and acute GAC for each land use scenario were adopted by WSP.

LEAD

The SGV for lead was withdrawn by the EA in 2009, and in 2011 the EA withdrew their published TOX report in light of new scientific evidence. The C4SL for lead was derived using the latest scientific evidence from a large human dataset. As such, no chemical-specific margin was applied in the derivation of the C4SL for lead. It may be possible for WSP to derive a GAC for lead using the same dataset and applying a chemical-specific margin, but the value is likely to be lower than UK natural background concentrations. Therefore, WSP has adopted the toxicological data used to derive the C4SLs in deriving the GAC for lead until such time as alternative GACs are published by an authoritative body. The relative bioavailability was set at 100% in line with the approach taken for other GACs, whereas the C4SL assumes 60% for soil and 64% for airborne dust. Thus, the WSP GAC are lower than the C4SLs.

¹⁵ MADEP 'Background Documentation for the Development of an "Available Cyanide" Benchmark Concentration' 1992. http://www.mass.gov/dep/toxics/cn_soil.htm

POLYCYCLIC AROMATIC HYDROCARBONS

WSP's approach to the assessment of polycyclic aromatic hydrocarbons (PAHs) uses the surrogate marker approach. BaP was used as a surrogate marker for all genotoxic PAHs in line with the Health Protection Agency 2010¹⁶ recommendations and SP1010. This assumes that the PAH profile of the data is similar to that of the coal tars used in the Culp *et al* oral carcinogenicity study from which the toxicity data for BaP was produced. In reality, this profile has been shown by HPA to be applicable on the majority of contaminated sites based on assessment of sites across the country.

The alternative is the Toxic Equivalency Factor (TEF) approach which uses a reference compound and assigns TEFs for other compounds based on estimates of potency. Key uncertainties with this approach include the assumption that all compounds have the same toxic mechanism of action within the body and that no compounds with a greater potency than the reference compound are present. It is considered by the HPA that the TEF approach is likely to under predict the true carcinogenicity of PAHs and therefore favours the surrogate marker approach.

For these reasons, WSP considers that the adoption of BaP as a surrogate marker for genotoxic PAHs, as opposed to the TEF approach, is reasonable. In rare cases where the PAH profile may differ from the wide definitions of the Culp *et al* study the user should discuss their project with an experienced risk assessor. In addition, WSP has derived a GAC for naphthalene, which is commonly a risk driver due to its high volatility, relative to other PAH compounds.

TRIMETHYLBENZENES

The GAC for trimethylbenzenes can be used for the assessment of any individual isomer (1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene or 1,3,5-trimethylbenzene), or a mixture of the three isomers.

CHEMICAL GROUPS

For a number of chemical groups, the available toxicity data is for combinations of chemicals. Given that the physico-chemical parameters may differ between the chemicals, the GACs for the chemicals within the groups have been calculated and then the lowest GAC selected to represent the entire group. This was the approach taken by the EA for m-, o- and p-xylenes, and has also been adopted by WSP for:

- 2-chlorophenol, 2,4-dichlorophenol, 2,4,6-trichlorophenol and 2,3,4,6-tetrachlorophenol;
- 2-, 3- and 4-methylphenol (total cresols);
- aldrin and dieldrin; and
- α - and β -endosulphan.

¹⁶ HPA Contaminated Land Information Sheet 'Risk Assessment Approaches for Polycyclic Aromatic Hydrocarbons (PAHs) 2010

EXPOSURE TO VAPOURS

INHALATION OF MEASURED VAPOURS

WSP has derived a set of soil vapour GACs (GAC_{sv}) that allow for the assessment of measured site soil vapour concentrations, using J&E, in order to establish potential risks via indoor inhalation of vapours. This methodology enables a more robust assessment of exposure via the inhalation of soil vapours indoors than using CLEA-derived soil GAC, as it is based upon measured soil vapour concentrations beneath the site. It also allows for the assessment of vapours from all source terms (i.e. groundwater, soil or NAPL). Outdoor inhalation was not included. WSP considers that the indoor inhalation pathway is the significantly dominant risk-driver.

The generic land use scenarios within CLEA (residential and commercial) that were used to derive the soil GAC were used to define the receptor and building characteristics for the soil vapour GAC. Only residential and commercial generic land use scenarios include the indoor inhalation of vapours pathway.

The GAC_{sv} were derived for three different soil types; sand, sandy loam and clay, reflecting the importance of this parameter within the J&E model. A depth to contamination of 0.85 m below the base of the building foundation was assumed (i.e. 1 m below ground level). This differs from the depth assumed for the soil GAC (0.5 m bgl), but was selected by WSP as a reasonable worst case scenario.

It is acknowledged that the J&E commonly over-predicts indoor vapour concentrations. In particular, it will significantly over-predict vapour concentrations for suspended floor slabs, which many new builds are constructed with, it does not take into account lateral migration and assumes an infinite source of contamination at steady state conditions. In addition, it is common for soil gas/vapour wells to be installed with at least 1 m of plain riser at the surface and this equates to a total depth of 0.85 m below the building foundation plus a 0.15 m thick foundation, and so is more representative of the depth that samples will be taken from.

The TDSIs and IDs for each substance were converted from $\mu g kg^{-1} bw day^{-1}$ to $\mu g m^{-3}$ using the standard conversions quoted in Table 3.3 of SR2, thereby replacing the need to model C_{air} in the equation:

$$C_{air} = \alpha \cdot C_{vap} \cdot 1,000,000 cm^3 m^{-3}$$

Where:

C_{air} is the concentration of vapours within the building, $mg m^{-3}$

α is the steady state attenuation coefficient between soil and indoor air, dimensionless

C_{vap} is the soil vapour concentration, $mg cm^{-3}$

The target concentrations within indoor air for each substance (C_{air}) are a function of receptor inhalation rates and occupancy periods, as defined by the site conceptual exposure model (assuming standard CLEA occupancy periods and receptors).

The attenuation factor was calculated using J&E (Equation 10.4 in SR3) and the resulting C_{vap} is equivalent to the GAC_{sv} for the modelled exposure scenario.

Where reported soil vapour concentrations exceed the relevant saturated vapour concentration, free product may occur, and the user should discuss their project with an experienced risk assessor.

INHALATION OF GROUNDWATER-DERIVED VAPOURS

WSP has derived a set of groundwater GACs (GAC_{gw}) to evaluate the potential risks through the indoor inhalation of groundwater-derived vapours by first applying the approach described above for the derivation of the WSP GAC_{sv} to determine the acceptable concentration in soil vapour directly above the water table.

The depth to groundwater was assumed to be 1 m bgl (i.e. 0.85 m below the base of the building foundation). This depth was considered to be more representative of commonly encountered groundwater conditions than the 0.5 m below the base of the building foundation (i.e. 0.65 m bgl) that is used by CLEA for an unsaturated source present in the overlying soil.

The GAC_{gw} was then back-calculated from the GAC_{sv} using the air-water partition coefficient (K_{aw}) for each substance.

The WSP Groundwater Vapour GAC are protective against a dissolved phase contaminant source only. If the presence of NAPL is suspected, the risks from this source will need to be assessed. Where reported groundwater concentrations exceed the relevant solubility limit, free product may occur, and the user should discuss their project with an experienced risk assessor.

Appendix G

LABORATORY DATA

wsp



Unit 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US

Tel: (01244) 528700

Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

WSP PB LBH
WSP PB
4th Floor
6 Devonshire Square
London
EC2M 4YE

Attention: Will Allaway

CERTIFICATE OF ANALYSIS

Date of report Generation:	03 October 2019
Customer:	WSP PB LBH
Sample Delivery Group (SDG):	190925-62
Your Reference:	70031882
Location:	70031882-SGN Reading
Report No:	524142

We received 2 samples on Wednesday September 25, 2019 and 2 of these samples were scheduled for analysis which was completed on Thursday October 03, 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:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
20796544	BH301	ES	15.00 - 15.20	19/09/2019
20796537	BH301	ES	7.00 - 7.40	19/09/2019

Maximum Sample/Coolbox Temperature (°C) : 13.0

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: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524142
Superseded Report:

Results Legend



Test



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

20796544

BH301

ES

15.00 - 15.20

1kg TUB

250g Amber Jar (ALE210)

60g VOC (ALE215)

1kg TUB

250g Amber Jar (ALE210)

60g VOC (ALE215)

20796537

BH301

ES

7.00 - 7.40

S

S

S

S

S

S

Alkali Metals by iCap-OES (Soil)

All

NDPs: 0
Tests: 2

X

X

Ammoniacal N as NH4 in 2:1 extract

All

NDPs: 0
Tests: 2

X

X

Anions by Kone (soil)

All

NDPs: 0
Tests: 2

X

X

Asbestos ID in Solid Samples

All

NDPs: 0
Tests: 2

X

X

Boron Water Soluble

All

NDPs: 0
Tests: 2

X

X

Cyanide Comp/Free/Total/Thiocyanate

All

NDPs: 0
Tests: 2

X

X

Easily Liberated Sulphide

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

Hexavalent Chromium (s)

All

NDPs: 0
Tests: 2

X

X

Loss on Ignition in soils

All

NDPs: 0
Tests: 2

X

X

Metals in solid samples by OES

All

NDPs: 0
Tests: 2

X

X

NO3, NO2 and TON by KONE (s)

All

NDPs: 0
Tests: 2

X

X

PAH by GCMS

All

NDPs: 0
Tests: 2

X

X



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524142
Superseded Report:

Results Legend



Test


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)		20796544		20796537	
	Customer Sample Reference		BH301		BH301	
	AGS Reference		ES		ES	
	Depth (m)		15.00 - 15.20		7.00 - 7.40	
	Container		1kg TUB	250g Amber Jar (ALE210)	1kg TUB	250g Amber Jar (ALE210)
	Sample Type		S	S	S	S
pH	All	NDPs: 0 Tests: 2		X		X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 2		X		X
Sample description	All	NDPs: 0 Tests: 2		X		X
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 2		X		X
Total Organic Carbon	All	NDPs: 0 Tests: 2		X		X
TPH CWG GC (S)	All	NDPs: 0 Tests: 2		X		X
VOC MS (S)	All	NDPs: 0 Tests: 2			X	X



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62 **Client Reference:** 70031882 **Report Number:** 524142
Location: 70031882-SGN Reading **Order Number:** 70031882 **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	Inclusions	Inclusions 2		
20796537	BH301		7.00 - 7.40	Black	Dry Sample Received	Stones	Oil/Petroleum		
20796544	BH301		15.00 - 15.20	Cream	Chalk	None	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.



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524142
Superseded Report:

Results Legend		Customer Sample Ref.	BH301	BH301			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference					
M	mCERTS accredited.						
aq	Aqueous / settled sample.		15.00 - 15.20	7.00 - 7.40			
diss.filt	Dissolved / filtered sample.		Soil/Solid (S)	Soil/Solid (S)			
tot.unfilt	Total / unfiltered sample.		19/09/2019	19/09/2019			
*	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		25/09/2019	25/09/2019			
(F)	Trigger breach confirmed		190925-62	190925-62			
1-3+5@	Sample deviation (see appendix)		20796544	20796537			
			ES	ES			
Component	LOD/Units	Method					
Moisture Content Ratio (% of as received sample)	%	PM024	22	8.2			
Loss on ignition	<0.7 %	TM018	0.837	1.54			
Phenol	<0.01 mg/kg	TM062 (S)	0.0774	<0.1			
Cresols	<0.01 mg/kg	TM062 (S)	0.0516	<0.1			
Xylenols	<0.015 mg/kg	TM062 (S)	0.31	<0.15			
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	0.439	<0.035			
Fraction Organic Carbon (FOC)	<0.002	TM132	<0.002	0.00742			
pH	1 pH Units	TM133	9.05	8.3			
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6	<0.6			
Cyanide, Complex	<1 mg/kg	TM153	<1	2.21			
Sulphide, Easily liberated	<15 mg/kg	TM180	69.4	1190			
Arsenic	<0.6 mg/kg	TM181	<0.6	8.89			
Barium	<0.6 mg/kg	TM181	19.7	28.9			
Beryllium	<0.01 mg/kg	TM181	0.127	0.861			
Cadmium	<0.02 mg/kg	TM181	0.125	0.0415			
Chromium	<0.9 mg/kg	TM181	1.79	16			
Copper	<1.4 mg/kg	TM181	2.85	10.6			
Lead	<0.7 mg/kg	TM181	3.47	9.52			
Mercury	<0.14 mg/kg	TM181	<0.14	<0.14			
Nickel	<0.2 mg/kg	TM181	2.92	20.1			
Selenium	<1 mg/kg	TM181	<1	<1			
Vanadium	<0.2 mg/kg	TM181	3.75	29.2			
Zinc	<1.9 mg/kg	TM181	23.2	39.5			
Boron, water soluble	<1 mg/kg	TM222	<1	<1			
Calcium	<21 mg/kg	TM224	371000	138000			
Nitrite as NO ₂ , 2:1 water soluble	<0.1 mg/kg	TM243	<0.1	<0.1			
Water Soluble Sulphate as SO ₄ 2:1 Extract	<0.004 g/l	TM243	0.0329	0.0322			
Ammoniacal N as NH ₄ in 2:1 extract BRE	<0.0003 g/l	TM248	0.0642	0.012			



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524142
Superseded Report:

Semi Volatile Organic Compounds

Results Legend			Customer Sample Ref.	BH301	BH301			
#	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)							
Component	LOD/Units	Method	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref
Phenol	<0.1 mg/kg	TM157	15.00 - 15.20	Soil/Solid (S)	19/09/2019			190925-62
Pentachlorophenol	<0.1 mg/kg	TM157	7.00 - 7.40	Soil/Solid (S)	19/09/2019			20796537
n-Nitroso-n-dipropylamine	<0.1 mg/kg	TM157						ES
Nitrobenzene	<0.1 mg/kg	TM157						
Isophorone	<0.1 mg/kg	TM157						
Hexachloroethane	<0.1 mg/kg	TM157						
Hexachlorocyclopentadiene	<0.1 mg/kg	TM157						
Hexachlorobutadiene	<0.1 mg/kg	TM157						
Hexachlorobenzene	<0.1 mg/kg	TM157						
n-Dioctyl phthalate	<0.1 mg/kg	TM157						
Dimethyl phthalate	<0.1 mg/kg	TM157						
Diethyl phthalate	<0.1 mg/kg	TM157						
n-Dibutyl phthalate	<0.1 mg/kg	TM157						
Dibenzofuran	<0.1 mg/kg	TM157						
Carbazole	<0.1 mg/kg	TM157						
Butylbenzyl phthalate	<0.1 mg/kg	TM157						
bis(2-Ethylhexyl) phthalate	<0.1 mg/kg	TM157						
bis(2-Chloroethoxy)methane	<0.1 mg/kg	TM157						
bis(2-Chloroethyl)ether	<0.1 mg/kg	TM157						
Azobenzene	<0.1 mg/kg	TM157						
4-Nitrophenol	<0.1 mg/kg	TM157						
4-Nitroaniline	<0.1 mg/kg	TM157						
4-Methylphenol	<0.1 mg/kg	TM157						
4-Chlorophenylphenylether	<0.1 mg/kg	TM157						
4-Chloroaniline	<0.1 mg/kg	TM157						
4-Chloro-3-methylphenol	<0.1 mg/kg	TM157						
4-Bromophenylphenylether	<0.1 mg/kg	TM157						
3-Nitroaniline	<0.1 mg/kg	TM157						
2-Nitrophenol	<0.1 mg/kg	TM157						
2-Nitroaniline	<0.1 mg/kg	TM157						
2-Methylphenol	<0.1 mg/kg	TM157						
1,2,4-Trichlorobenzene	<0.1 mg/kg	TM157						



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 524142
Superseded Report:

Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	BH301	BH301			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference					
M	mCERTS accredited.						
aq	Aqueous / settled sample.		15.00 - 15.20	7.00 - 7.40			
diss.filt	Dissolved / filtered sample.		Soil/Solid (S)	Soil/Solid (S)			
tot.unfilt	Total / unfiltered sample.		19/09/2019	19/09/2019			
*	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		25/09/2019	25/09/2019			
(F)	Trigger breach confirmed		190925-62	190925-62			
1-3*5@	Sample deviation (see appendix)		20796544	20796537			
			ES	ES			
Component	LOD/Units	Method					
2-Chlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1			
2,6-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4-Dimethylphenol	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4-Dichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4,6-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1			
2,4,5-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1			
1,4-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1			
1,3-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1			
1,2-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1			
2-Chloronaphthalene	<0.1 mg/kg	TM157	<0.1	<0.1			
2-Methylnaphthalene	<0.1 mg/kg	TM157	<0.1	3.56			
Acenaphthylene	<0.1 mg/kg	TM157	1.02	3.7			
Acenaphthene	<0.1 mg/kg	TM157	<0.1	3.6			
Anthracene	<0.1 mg/kg	TM157	0.31	6.94			
Benzo(a)anthracene	<0.1 mg/kg	TM157	0.155	3.75			
Benzo(b)fluoranthene	<0.1 mg/kg	TM157	<0.1	2.34			
Benzo(k)fluoranthene	<0.1 mg/kg	TM157	<0.1	1.72			
Benzo(a)pyrene	<0.1 mg/kg	TM157	<0.1	3.02			
Benzo(g,h,i)perylene	<0.1 mg/kg	TM157	<0.1	1.25			
Chrysene	<0.1 mg/kg	TM157	0.142	2.9			
Fluoranthene	<0.1 mg/kg	TM157	0.4	10.6			
Fluorene	<0.1 mg/kg	TM157	0.335	8.4			
Indeno(1,2,3-cd)pyrene	<0.1 mg/kg	TM157	<0.1	2.54			
Phenanthrene	<0.1 mg/kg	TM157	0.697	20.4			
Pyrene	<0.1 mg/kg	TM157	0.477	10.4			
Naphthalene	<0.1 mg/kg	TM157	<0.1	3.41			
Dibenzo(a,h)anthracene	<0.1 mg/kg	TM157	<0.1	0.12			
Bis(2-chloroisopropyl) ether	<0.1 mg/kg	TM157	<0.1	<0.1			



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524142
Superseded Report:

VOC MS (S)

Results Legend			Customer Sample Ref.				
#	ISO17025 accredited.		Depth (m) 15.00 - 15.20 Sample Type Soil/Solid (S) Date Sampled 19/09/2019 Sampled Time 25/09/2019 Date Received 190925-62 SDG Ref 20796544 Lab Sample No.(s) 20796537 AGS Reference ES	BH301	BH301		
M	mCERIS 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					
Dibromofluoromethane**	%	TM116	116	107			
Toluene-d8**	%	TM116	99.5	93.9			
4-Bromofluorobenzene**	%	TM116	103	83.4			
Dichlorodifluoromethane	<0.006 mg/kg	TM116	<0.06 #	<0.06 #			
Chloromethane	<0.007 mg/kg	TM116	<0.07 #	<0.07 #			
Vinyl Chloride	<0.006 mg/kg	TM116	<0.06 #	<0.06 #			
Bromomethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Chloroethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Trichlorofluoromethane	<0.006 mg/kg	TM116	<0.06 #	<0.06 #			
1,1-Dichloroethene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Carbon Disulphide	<0.007 mg/kg	TM116	<0.07 #	0.0973 #			
Dichloromethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
trans-1,2-Dichloroethene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
1,1-Dichloroethane	<0.008 mg/kg	TM116	<0.08 #	<0.08 #			
cis-1,2-Dichloroethene	<0.006 mg/kg	TM116	<0.06 #	<0.06 #			
2,2-Dichloropropane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Bromochloromethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Chloroform	<0.008 mg/kg	TM116	<0.08 #	<0.08 #			
1,1,1-Trichloroethane	<0.007 mg/kg	TM116	<0.07 #	<0.07 #			
1,1-Dichloropropene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Carbontetrachloride	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
1,2-Dichloroethane	<0.005 mg/kg	TM116	<0.05 #	<0.05 #			
Benzene	<0.009 mg/kg	TM116	0.73 #	<0.09 #			
Trichloroethene	<0.009 mg/kg	TM116	<0.09 #	<0.09 #			
1,2-Dichloropropane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Dibromomethane	<0.009 mg/kg	TM116	<0.09 #	<0.09 #			
Bromodichloromethane	<0.007 mg/kg	TM116	<0.07 #	<0.07 #			
cis-1,3-Dichloropropene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
Toluene	<0.007 mg/kg	TM116	0.495 #	<0.07 #			
trans-1,3-Dichloropropene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			
1,1,2-Trichloroethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #			



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62 Client Reference: 70031882 Report Number: 524142
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report:

VOC MS (S)

Results Legend			Customer Sample Ref.	BH301 15.00 - 15.20 Soil/Solid (S) 19/09/2019 25/09/2019 190925-62 20796544 ES	BH301 7.00 - 7.40 Soil/Solid (S) 19/09/2019 25/09/2019 190925-62 20796537 ES			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference						
M	mCERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted - 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						
1,3-Dichloropropane	<0.007 mg/kg	TM116	<0.07 #	<0.07 #				
Tetrachloroethene	<0.005 mg/kg	TM116	<0.05 #	<0.05 #				
Dibromochloromethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
1,2-Dibromoethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
Chlorobenzene	<0.005 mg/kg	TM116	<0.05 #	<0.05 #				
1,1,1,2-Tetrachloroethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
Ethylbenzene	<0.004 mg/kg	TM116	0.161 #	1.5 #				
p/m-Xylene	<0.01 mg/kg	TM116	0.575 #	1.12 #				
o-Xylene	<0.01 mg/kg	TM116	0.326 #	0.889 #				
Styrene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
Bromoform	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
Isopropylbenzene	<0.005 mg/kg	TM116	<0.05 #	1.22 #				
1,1,2,2-Tetrachloroethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
1,2,3-Trichloropropane	<0.016 mg/kg	TM116	<0.16 #	<0.16 #				
Bromobenzene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
Propylbenzene	<0.01 mg/kg	TM116	<0.1 #	2.4 #				
2-Chlorotoluene	<0.009 mg/kg	TM116	<0.09 #	<0.09 #				
1,3,5-Trimethylbenzene	<0.008 mg/kg	TM116	0.197 #	3.47 #				
4-Chlorotoluene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
tert-Butylbenzene	<0.014 mg/kg	TM116	<0.14 #	<0.14 #				
1,2,4-Trimethylbenzene	<0.009 mg/kg	TM116	0.644 #	23.4 #				
sec-Butylbenzene	<0.01 mg/kg	TM116	<0.1	0.919				
4-Isopropyltoluene	<0.01 mg/kg	TM116	<0.1 #	2.41 #				
1,3-Dichlorobenzene	<0.008 mg/kg	TM116	<0.08 #	<0.08 #				
1,4-Dichlorobenzene	<0.005 mg/kg	TM116	<0.05 #	<0.05 #				
n-Butylbenzene	<0.011 mg/kg	TM116	<0.11	3.99				
1,2-Dichlorobenzene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
1,2-Dibromo-3-chloropropane	<0.014 mg/kg	TM116	<0.14 #	<0.14 #				
Tert-amyl methyl ether	<0.01 mg/kg	TM116	<0.1 #	<0.1 #				
1,2,4-Trichlorobenzene	<0.02 mg/kg	TM116	<0.2	<0.2				
Hexachlorobutadiene	<0.02 mg/kg	TM116	<0.2	<0.2				
Naphthalene	<0.013 mg/kg	TM116	11.9 #	23.4 #				



CERTIFICATE OF ANALYSIS

Validated

SDG:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

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. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	BH301ES 15.00 - 15.20 SOLID 19/09/2019 00:00:00 25/09/2019 12:16:00 190925-62 20796544 TM048	02/10/2019	Barbara Urbanek-Wals h	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	BH301ES 7.00 - 7.40 SOLID 19/09/2019 00:00:00 25/09/2019 12:16:00 190925-62 20796537 TM048	02/10/2019	Barbara Urbanek-Wals h	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62 **Client Reference:** 70031882 **Report Number:** 524142
Location: 70031882-SGN Reading **Order Number:** 70031882 **Superseded Report:**

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) 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
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	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
TM224	US EPA Method 6010B	Determination of Alkaline Metals by iCap 6500 Duo ICP-OES
TM243		Mixed Anions In Soils By Kone
TM248	In-House Method	Determination of Ammonium BRE (2:1 Extract) on solids

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: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524142
Superseded Report:

Test Completion Dates

Lab Sample No(s)	20796537	20796544
Customer Sample Ref.	BH301	BH301
AGS Ref.	ES	ES
Depth	7.00 - 7.40	15.00 - 15.20
Type	Soil/Solid (S)	Soil/Solid (S)
Alkali Metals by iCap-OES (Soil)	01-Oct-2019	01-Oct-2019
Ammoniacal N as NH4 in 2:1 extract	27-Sep-2019	27-Sep-2019
Anions by Kone (soil)	30-Sep-2019	30-Sep-2019
Asbestos ID in Solid Samples	02-Oct-2019	02-Oct-2019
Boron Water Soluble	01-Oct-2019	01-Oct-2019
Cyanide Comp/Free/Total/Thiocyanate	01-Oct-2019	01-Oct-2019
Easily Liberated Sulphide	01-Oct-2019	01-Oct-2019
EPH CWG (Aliphatic) GC (S)	01-Oct-2019	02-Oct-2019
EPH CWG (Aromatic) GC (S)	01-Oct-2019	02-Oct-2019
GRO by GC-FID (S)	02-Oct-2019	01-Oct-2019
Hexavalent Chromium (s)	30-Sep-2019	30-Sep-2019
Loss on Ignition in soils	30-Sep-2019	01-Oct-2019
Metals in solid samples by OES	02-Oct-2019	02-Oct-2019
NO3, NO2 and TON by KONE (s)	02-Oct-2019	02-Oct-2019
PAH by GCMS	02-Oct-2019	02-Oct-2019
pH	01-Oct-2019	01-Oct-2019
Phenols by HPLC (S)	03-Oct-2019	02-Oct-2019
Sample description	25-Sep-2019	25-Sep-2019
Semi Volatile Organic Compounds	27-Sep-2019	01-Oct-2019
Total Organic Carbon	01-Oct-2019	30-Sep-2019
TPH CWG GC (S)	02-Oct-2019	02-Oct-2019
VOC MS (S)	01-Oct-2019	01-Oct-2019



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 524142
Superseded Report:

ASSOCIATED AQC DATA

Alkali Metals by iCap-OES (Soil)

Component	Method Code	QC 2003
Calcium	TM224	97.36 80.29 : 119.71
Magnesium	TM224	95.34 81.99 : 118.01
Potassium	TM224	91.4 72.21 : 127.79
Sodium	TM224	93.55 77.90 : 122.10

Anions by Kone (soil)

Component	Method Code	QC 2094	QC 2009
Chloride (soluble)	TM243		139.9 77.23 : 120.97
Water Soluble Sulphate as SO4 2:1 Extract	TM243	121.96 75.60 : 131.10	106.54 75.60 : 131.10

Boron Water Soluble

Component	Method Code	QC 2020	QC 2037
Water Soluble Boron	TM222	99.0 86.05 : 109.75	107.0 86.05 : 109.75

Cyanide Comp/Free/Total/Thiocyanate

Component	Method Code	QC 2057
Free Cyanide	TM153	87.6 83.05 : 112.74
Thiocyanate	TM153	89.82 89.81 : 110.19
Total Cyanide	TM153	96.43 88.29 : 111.43

Easily Liberated Sulphide

Component	Method Code	QC 2011
Easily Liberated Sulphide	TM180	99.61 51.10 : 121.66

EPH CWG (Aliphatic) GC (S)



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 524142
Superseded Report:

EPH CWG (Aliphatic) GC (S)

Component	Method Code	QC 2013	QC 2000
Total Aliphatics >C12-C35	TM173	83.54 70.71 : 106.26	83.13 70.61 : 106.16

EPH CWG (Aromatic) GC (S)

Component	Method Code	QC 2013	QC 2000
Total Aromatics >EC12-EC35	TM173	73.33 65.82 : 105.00	68.67 67.75 : 104.04

GRO by GC-FID (S)

Component	Method Code	QC 2014	QC 2059
QC	TM089	90.37 72.28 : 114.54	90.43 74.55 : 125.46

Hexavalent Chromium (s)

Component	Method Code	QC 2003	QC 2040
Hexavalent Chromium	TM151	102.0 90.20 : 107.00	100.0 90.20 : 107.00

Loss on Ignition in soils

Component	Method Code	QC 2057	QC 2088
Loss on Ignition	TM018	92.89 87.56 : 104.24	95.97 87.56 : 104.24

Metals in solid samples by OES

Component	Method Code	QC 2003
Antimony	TM181	99.59 84.28 : 107.67
Arsenic	TM181	100.0 87.05 : 109.36
Barium	TM181	95.41 82.49 : 109.34



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62 Client Reference: 70031882 Report Number: 524142
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report:

Metals in solid samples by OES

		QC 2003
Beryllium	TM181	99.25 85.44 : 109.61
Boron	TM181	91.69 73.51 : 104.66
Cadmium	TM181	94.24 81.46 : 106.43
Chromium	TM181	92.49 82.26 : 104.55
Cobalt	TM181	90.88 86.54 : 106.87
Copper	TM181	91.37 82.40 : 105.45
Lead	TM181	94.37 78.24 : 104.05
Manganese	TM181	106.39 94.29 : 119.51
Mercury	TM181	91.79 83.74 : 105.34
Molybdenum	TM181	97.94 87.11 : 106.87
Nickel	TM181	91.2 81.92 : 102.18
Phosphorus	TM181	105.45 94.56 : 124.28
Selenium	TM181	99.61 86.28 : 110.48
Strontium	TM181	93.54 79.13 : 102.79
Thallium	TM181	99.12 82.94 : 111.86
Tin	TM181	99.62 90.25 : 108.86
Titanium	TM181	90.08 66.23 : 102.06
Vanadium	TM181	96.34 86.37 : 107.94
Zinc	TM181	98.15 84.68 : 113.99

NO3, NO2 and TON by KONE (s)

Component	Method Code	QC 2009
Nitrate/TON as N QC	TM243	106.0 53.00 : 147.00
Nitrite (soluble) as NO2	TM243	102.11 86.50 : 113.50

PAH by GCMS



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524142
Superseded Report:

PAH by GCMS

Component	Method Code	QC 2027
Acenaphthene	TM218	105.5 76.82 : 113.72
Acenaphthylene	TM218	104.5 75.95 : 108.85
Anthracene	TM218	103.5 76.67 : 109.58
Benz(a)anthracene	TM218	84.0 70.05 : 119.30
Benzo(a)pyrene	TM218	80.5 68.22 : 116.60
Benzo(b)fluoranthene	TM218	76.0 75.44 : 113.45
Benzo(ghi)perylene	TM218	80.0 70.79 : 114.76
Benzo(k)fluoranthene	TM218	81.5 81.43 : 115.17
Chrysene	TM218	81.5 75.94 : 114.39
Dibenzo(ah)anthracene	TM218	78.0 71.87 : 118.97
Fluoranthene	TM218	93.5 77.92 : 113.69
Fluorene	TM218	107.5 82.02 : 108.34
Indeno(123cd)pyrene	TM218	77.5 67.80 : 113.60
Naphthalene	TM218	103.5 88.41 : 116.04
Phenanthrene	TM218	106.0 78.26 : 113.22
Pyrene	TM218	94.5 74.86 : 116.81

pH

Component	Method Code	QC 2070
pH	TM133	99.88 97.69 : 101.15

Phenols by HPLC (S)

Component	Method Code	QC 2002	QC 2002
2,3,5 Trimethyl-Phenol by HPLC (S)	TM062 (S)	99.35 65.50 : 89.50	103.9 83.23 : 109.71
2-Isopropyl Phenol by HPLC (S)	TM062 (S)	98.25 86.25 : 116.25	97.66 76.34 : 104.11
Catechol by HPLC (S)	TM062 (S)	73.33 19.39 : 135.70	95.24 22.43 : 157.02
Cresols by HPLC (S)	TM062 (S)	97.7 81.00 : 112.20	97.49 85.60 : 112.00



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62 Client Reference: 70031882 Report Number: 524142
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report:

Phenols by HPLC (S)

		QC 2002	QC 2002
Napthol by HPLC (S)	TM062 (S)	101.43 57.50 : 102.50	111.43 75.62 : 124.38
Phenol by HPLC (S)	TM062 (S)	106.62 95.33 : 123.33	106.62 79.53 : 120.47
Resorcinol HPLC (S)	TM062 (S)	104.4 69.99 : 127.22	110.06 71.43 : 129.59
Xylenols by HPLC (S)	TM062 (S)	94.27 90.22 : 114.22	106.25 89.90 : 107.23

Semi Volatile Organic Compounds

Component	Method Code	QC 2082	QC 2021
4-Bromophenylphenylether (Soil)	TM157	91.5 66.75 : 125.25	95.0 66.75 : 125.25
Benzo(a)anthracene (Soil)	TM157	96.5 67.40 : 120.50	93.0 67.40 : 120.50
Hexachlorobutadiene (Soil)	TM157	97.5 68.25 : 126.75	93.5 68.25 : 126.75
Naphthalene (Soil)	TM157	95.0 67.55 : 125.45	92.5 67.55 : 125.45
Nitrobenzene (Soil)	TM157	93.5 66.50 : 123.50	88.5 66.50 : 123.50
Phenol (Soil)	TM157	100.0 69.92 : 114.02	94.0 69.92 : 114.02

Total Organic Carbon

Component	Method Code	QC 2097	QC 2011
Total Organic Carbon	TM132	81.25 69.88 : 102.67	89.45 69.88 : 102.67

VOC MS (S)

Component	Method Code	QC 2089
1,1,1,2-tetrachloroethane	TM116	100.6 79.10 : 119.66
1,1,1-Trichloroethane	TM116	94.0 87.51 : 115.37
1,1,2-Trichloroethane	TM116	105.6 75.16 : 112.70
1,1-Dichloroethane	TM116	102.8 89.44 : 121.71
1,2-Dichloroethane	TM116	119.0 86.58 : 129.62
1,4-Dichlorobenzene	TM116	107.6 84.04 : 124.40
2-Chlorotoluene	TM116	99.8 66.81 : 118.43
4-Chlorotoluene	TM116	96.8 65.88 : 114.76
Benzene	TM116	94.6 85.63 : 110.10



CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62 Client Reference: 70031882 Report Number: 524142
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report:

VOC MS (S)

		QC 2089
Carbon Disulphide	TM116	91.8 75.11 : 124.81
Carbontetrachloride	TM116	96.6 82.35 : 126.46
Chlorobenzene	TM116	101.4 82.88 : 122.42
Chloroform	TM116	104.6 91.34 : 123.04
Chloromethane	TM116	100.8 52.88 : 131.36
Cis-1,2-Dichloroethene	TM116	96.8 78.27 : 128.90
Dibromomethane	TM116	107.6 71.69 : 119.43
Dichloromethane	TM116	112.2 89.49 : 128.89
Ethylbenzene	TM116	86.2 70.95 : 113.07
Hexachlorobutadiene	TM116	83.6 7.32 : 139.00
Isopropylbenzene	TM116	83.8 52.15 : 132.52
Naphthalene	TM116	111.6 80.29 : 135.77
o-Xylene	TM116	87.0 68.16 : 107.61
p/m-Xylene	TM116	84.4 73.52 : 108.71
Sec-Butylbenzene	TM116	92.2 49.79 : 125.67
Tetrachloroethene	TM116	98.2 81.43 : 126.65
Toluene	TM116	89.0 85.50 : 114.89
Trichloroethene	TM116	91.4 79.80 : 112.33
Trichlorofluoromethane	TM116	102.4 88.86 : 128.82
Vinyl Chloride	TM116	99.0 69.66 : 136.55

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.

The figure detailed is the percentage recovery result for the AQC.

The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.



CERTIFICATE OF ANALYSIS

Validated

SDG:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Chromatogram

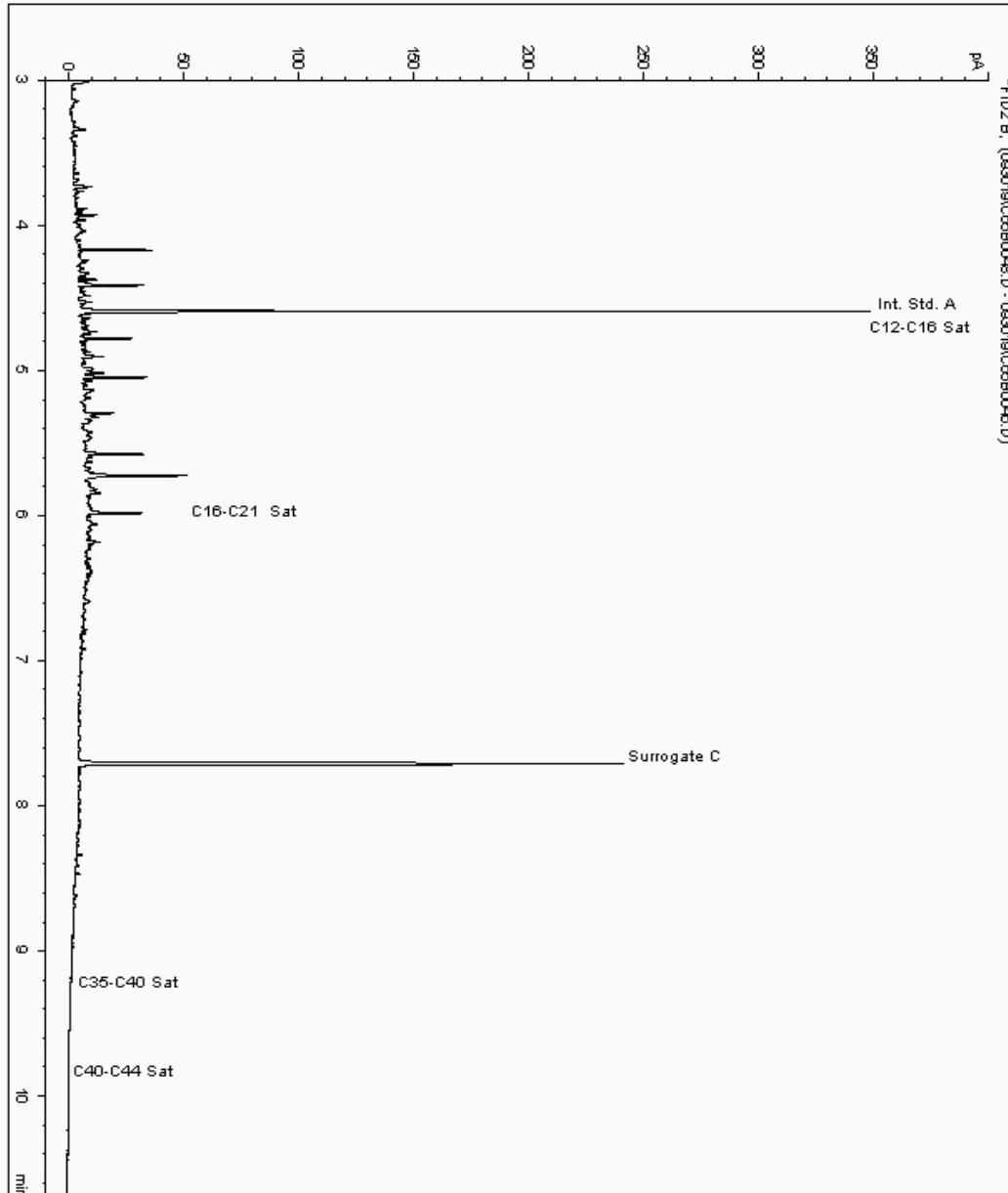
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 20799106
Sample ID : BH301

Depth : 7.00 - 7.40

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19542259-
Date Acquired : 01/10/2019 00:48:11 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Chromatogram

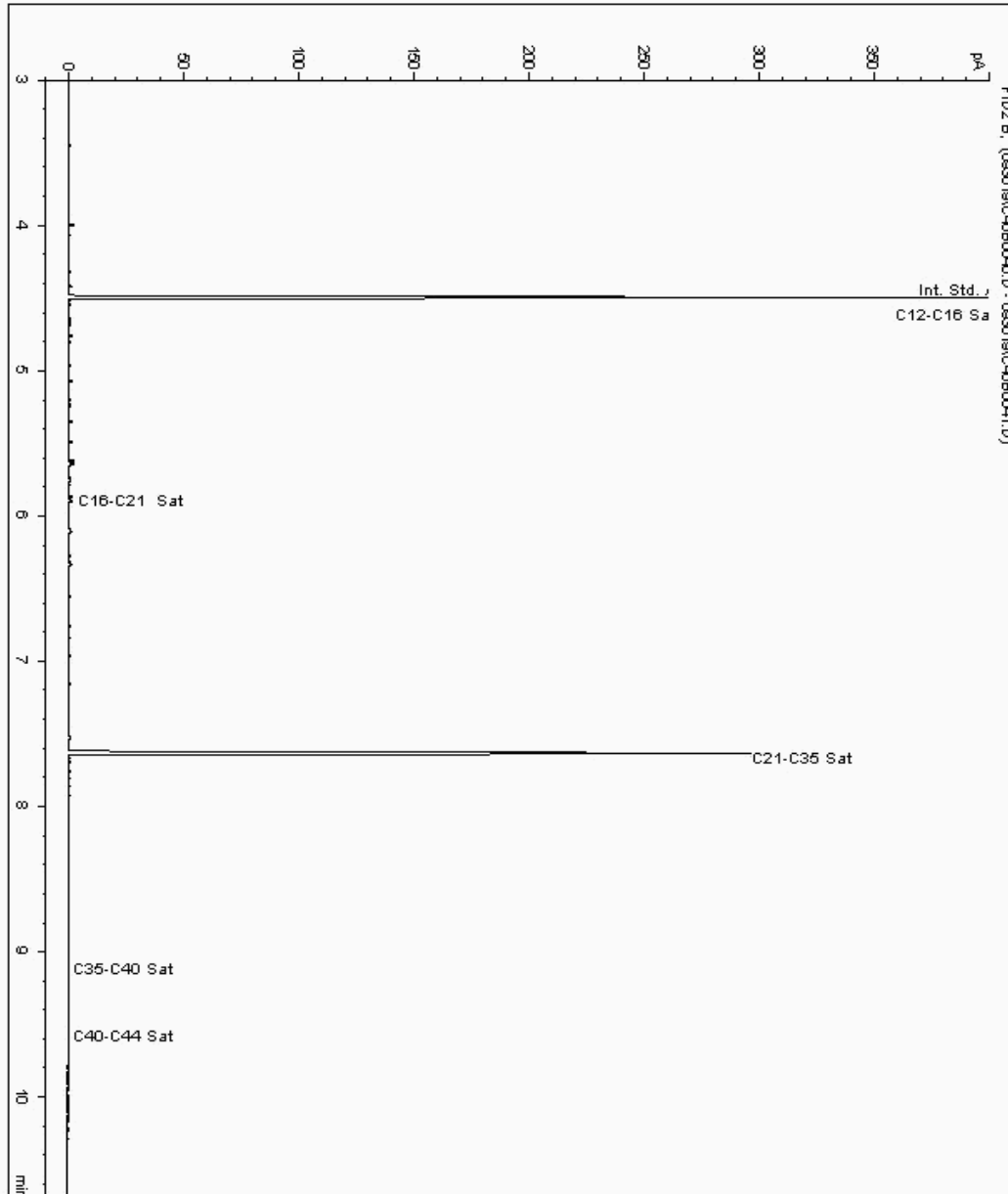
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 20799373
Sample ID : BH301

Depth : 15.00 - 15.20

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19542291-
Date Acquired : 01/10/2019 00:28:06 PM
Units : ppb
Dilution: BH301[15.00 - 15.20] ->





CERTIFICATE OF ANALYSIS

Validated

SDG:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Chromatogram

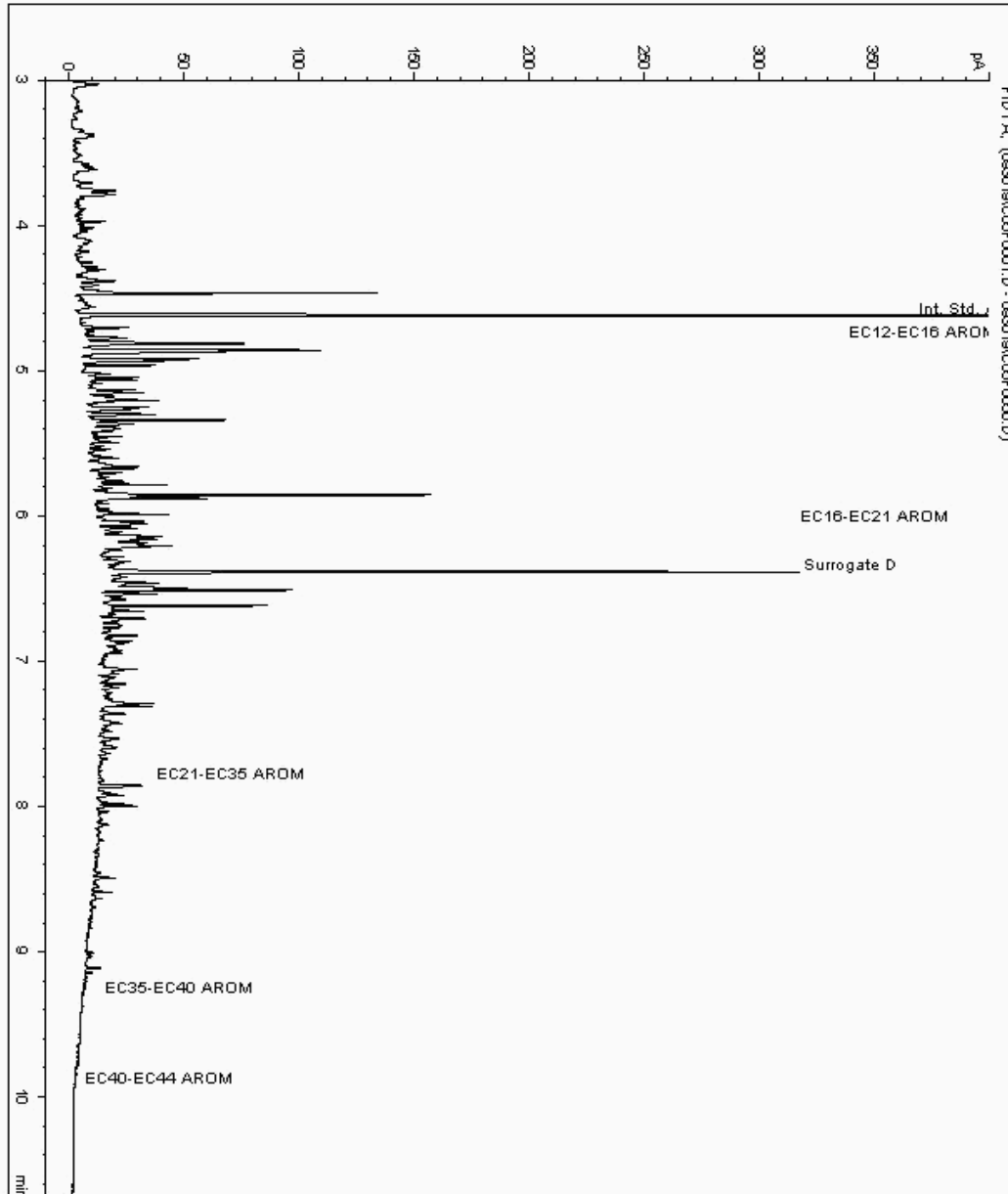
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 20799106
Sample ID : BH301

Depth : 7.00 - 7.40

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19542260-
Date Acquired : 01/10/2019 10:10:30 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Chromatogram

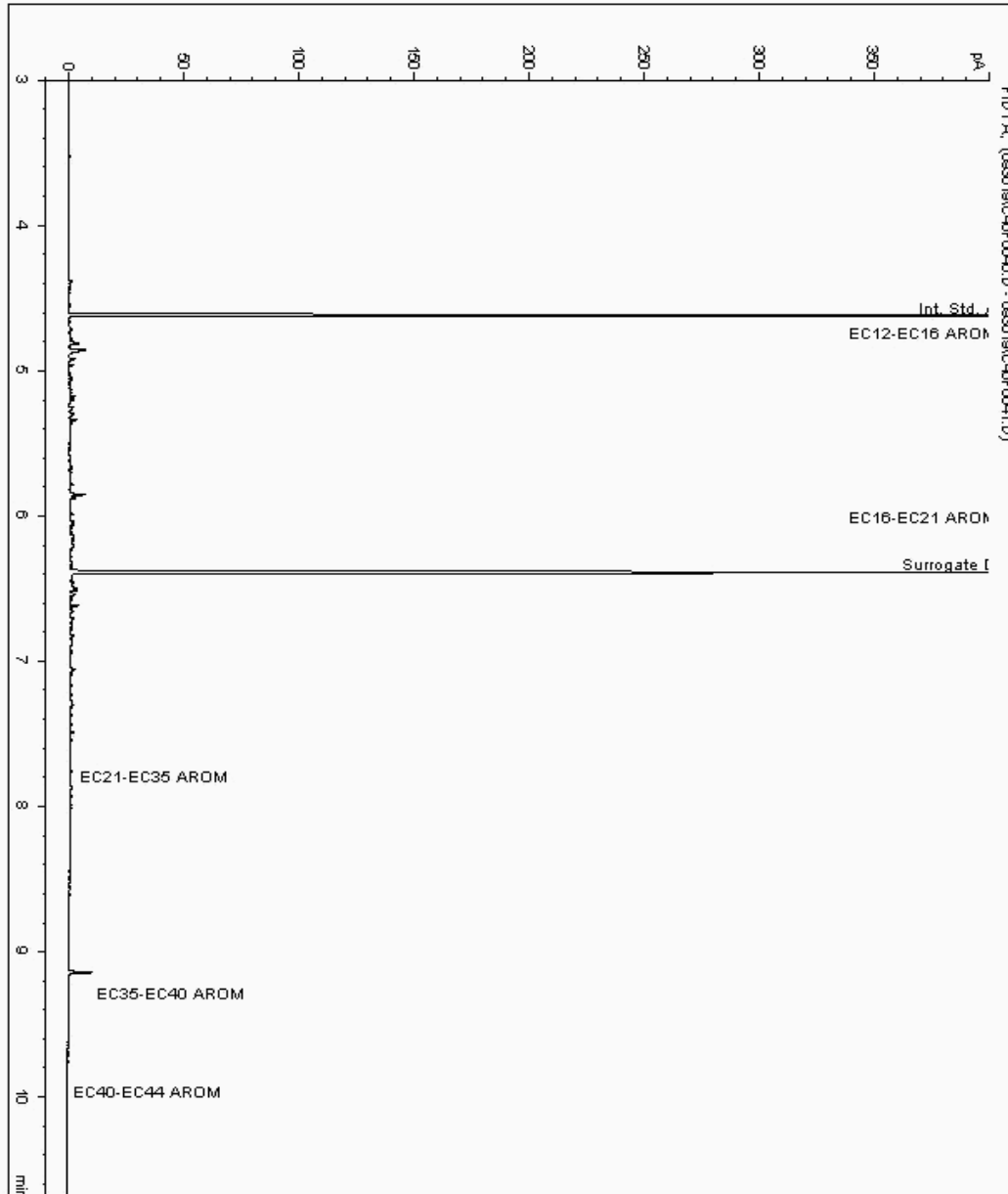
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 20799373
Sample ID : BH301

Depth : 15.00 - 15.20

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19542292-
Date Acquired : 01/10/2019 00:28:06 PM
Units : ppb
Dilution: BH301[15.00 - 15.20] ->





CERTIFICATE OF ANALYSIS

Validated

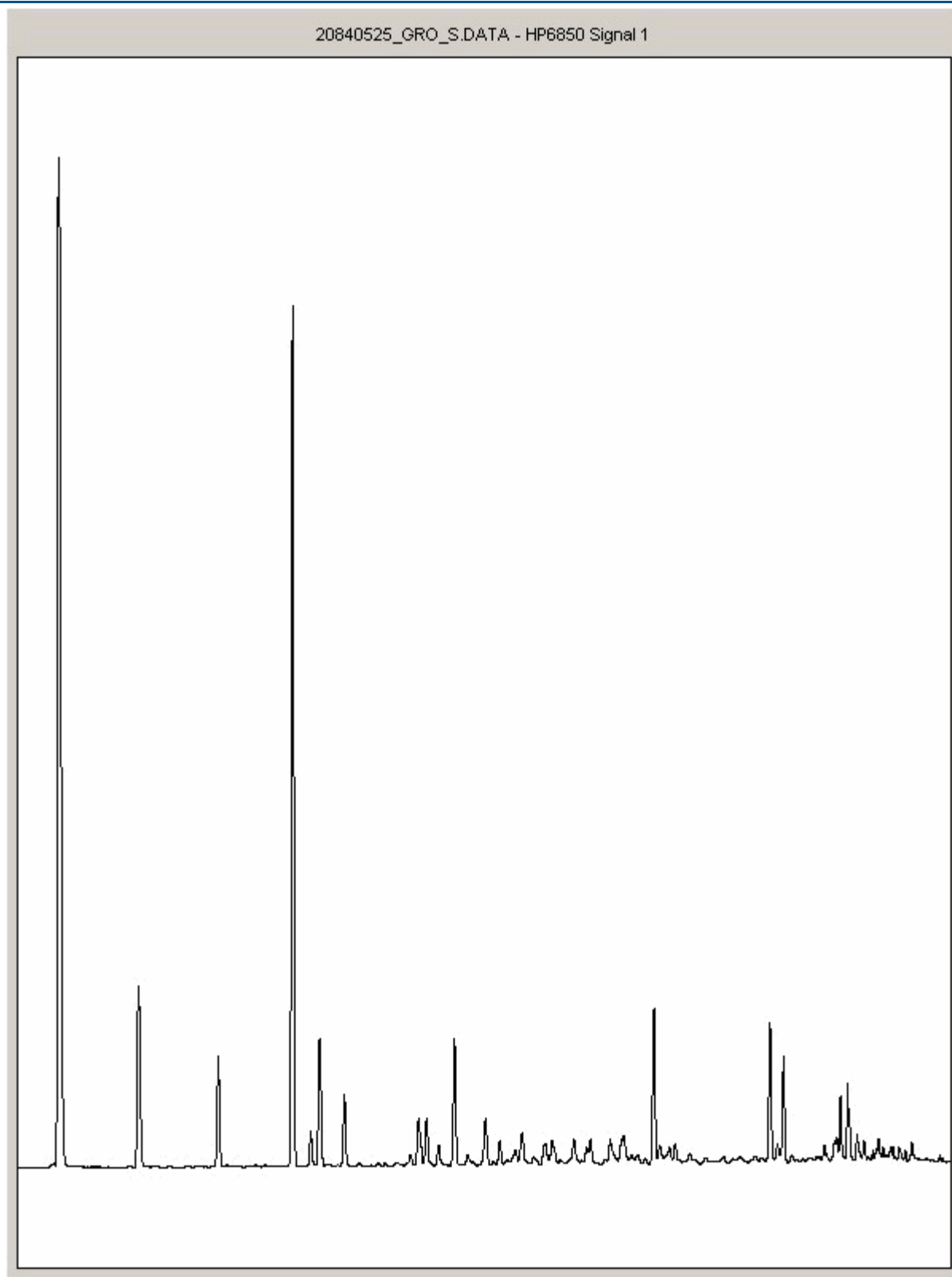
SDG:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20840525
Sample ID : BH301

Depth : 15.00 - 15.20





CERTIFICATE OF ANALYSIS

Validated

SDG: 190925-62
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

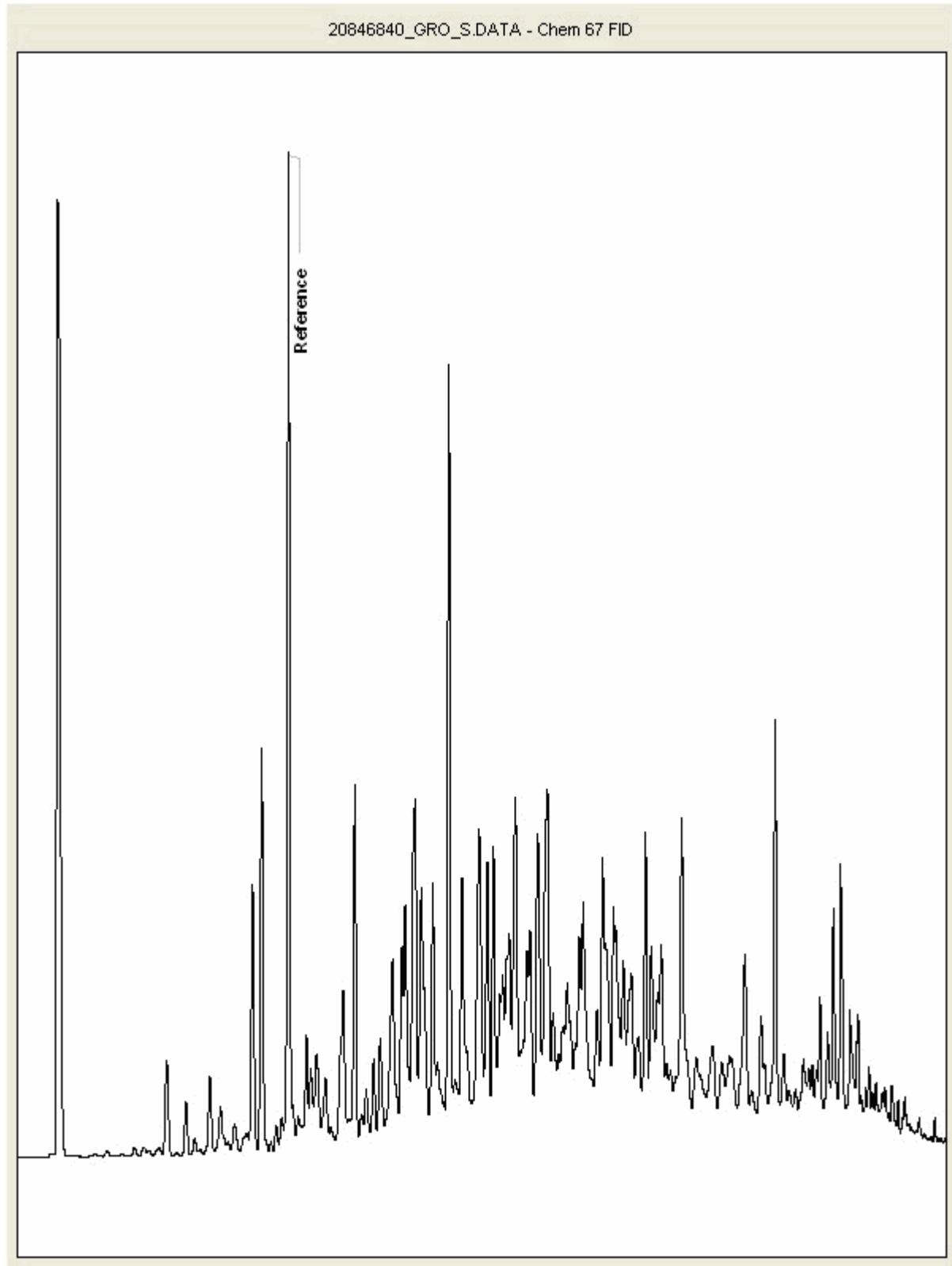
Report Number: 524142
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20846840
Sample ID : BH301

Depth : 7.00 - 7.40





CERTIFICATE OF ANALYSIS

SDG:	190925-62	Client Reference:	70031882	Report Number:	524142
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

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. 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.

3. 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.

4. 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.

5. 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.

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

7. Results relate only to the items tested.

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

9. **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.

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

11. 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.

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

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

14. 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.

15. 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.

16. 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.

17. **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.

18. 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

19. Asbestos

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

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.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil* (2107).

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.



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WSP PB LBH
WSP PB
4th Floor
6 Devonshire Square
London
EC2M 4YE

Attention: Will Allaway

CERTIFICATE OF ANALYSIS

Date of report Generation:	30 September 2019
Customer:	WSP PB LBH
Sample Delivery Group (SDG):	190920-142
Your Reference:	70031882
Location:	70031882-SGN Reading
Report No:	523538

This report has been revised and directly supersedes 523257 in its entirety.

We received 5 samples on Friday September 20, 2019 and 5 of these samples were scheduled for analysis which was completed on Monday September 30, 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: 190920-142 **Client Reference:** 70031882 **Report Number:** 523538
Location: 70031882-SGN Reading **Order Number:** 70031882 **Superseded Report:** 523257

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
20769098	SS301	ES	0.00 - 0.00	17/09/2019
20769103	SS302	ES	0.00 - 0.00	17/09/2019
20769108	SS303	ES	0.00 - 0.00	17/09/2019
20769113	SS304	ES	0.00 - 0.00	17/09/2019
20769118	SS305	ES	0.00 - 0.00	17/09/2019

Maximum Sample/Coolbox Temperature (°C) : 10.8

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: 190920-142 Client Reference: 70031882 Report Number: 523538
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 523257

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
20769098	SS301	ES	0.00 - 0.00	60g VOC (ALE215)	1kg TUB	S
20769103	SS302	ES	0.00 - 0.00	60g VOC (ALE215)	1kg TUB	S
20769108	SS303	ES	0.00 - 0.00	60g VOC (ALE215)	1kg TUB	S
20769113	SS304	ES	0.00 - 0.00	60g VOC (ALE215)	1kg TUB	S
20769118	SS305	ES	0.00 - 0.00	60g VOC (ALE215)	1kg TUB	S
Alkali Metals by iCap-OES (Soil)	All	NDPs: 0 Tests: 5				
Ammoniacal N as NH4 in 2:1 extract	All	NDPs: 0 Tests: 5				
Anions by Kone (soil)	All	NDPs: 0 Tests: 5				
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 5				
Boron Water Soluble	All	NDPs: 0 Tests: 5				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 5				
Easily Liberated Sulphide	All	NDPs: 0 Tests: 5				
EPH CWG (Aliphatic) GC (S)	All	NDPs: 0 Tests: 5				
EPH CWG (Aromatic) GC (S)	All	NDPs: 0 Tests: 5				
GRO by GC-FID (S)	All	NDPs: 0 Tests: 5				
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 5				
Loss on Ignition in soils	All	NDPs: 0 Tests: 5				
Metals in solid samples by OES	All	NDPs: 0 Tests: 5				
NO3, NO2 and TON by KONE (s)	All	NDPs: 0 Tests: 5				
PAH by GCMS	All	NDPs: 0 Tests: 5				



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142 Client Reference: 70031882 Report Number: 523538
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 523257

Results Legend



Test



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

Results Legend	Lab Sample No(s)		20769098	20769103	20769108	20769113	20769118
	Customer Sample Reference		SS301	SS302	SS303	SS304	SS305
	AGS Reference		ES	ES	ES	ES	ES
	Depth (m)		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
	Container		60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB	60g VOC (ALE215) 250g Amber Jar (ALE210) 1kg TUB
	Sample Type		S	S	S	S	S
			S	S	S	S	S
pH	All	NDPs: 0 Tests: 5	X	X	X	X	X
Phenols by HPLC (S)	All	NDPs: 0 Tests: 5	X	X	X	X	X
Sample description	All	NDPs: 0 Tests: 5	X	X	X	X	X
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 5	X	X	X	X	X
Total Organic Carbon	All	NDPs: 0 Tests: 5	X	X	X	X	X
TPH CWG GC (S)	All	NDPs: 0 Tests: 5	X	X	X	X	X
VOC MS (S)	All	NDPs: 0 Tests: 5	X	X	X	X	X



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142 **Client Reference:** 70031882 **Report Number:** 523538
Location: 70031882-SGN Reading **Order Number:** 70031882 **Superseded Report:** 523257

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
20769098	SS301	0.00 - 0.00	Dark Brown	Sandy Loam	Stones	Vegetation
20769103	SS302	0.00 - 0.00	Dark Brown	Sandy Loam	Vegetation	None
20769108	SS303	0.00 - 0.00	Dark Brown	Sandy Loam	Vegetation	None
20769113	SS304	0.00 - 0.00	Dark Brown	Sandy Loam	Stones	Vegetation
20769118	SS305	0.00 - 0.00	Dark Brown	Loamy Sand	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 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.



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 523538
Superseded Report: 523257

Results Legend		Customer Sample Ref.	SS301	SS302	SS303	SS304	SS305	
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
M	mCERIS accredited.		Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	
aq	Aqueous / settled sample.		17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
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		20/09/2019	20/09/2019	20/09/2019	20/09/2019	20/09/2019	
(F)	Trigger breach confirmed		190920-142	190920-142	190920-142	190920-142	190920-142	
1-3+5@	Sample deviation (see appendix)		20769098	20769103	20769108	20769113	20769118	
			ES	ES	ES	ES	ES	
Component	LOD/Units	Method						
Moisture Content Ratio (% of as received sample)	%	PM024	82	7.6	14	6.7	2.6	
Loss on ignition	<0.7 %	TM018	48.6	41.1	26.7	25.6	33.5	
			M	M	M	M	M	
Phenol	<0.01 mg/kg	TM062 (S)	1.76	0.866	0.766	<0.01	0.359	
			M	M	M	M	M	
Cresols	<0.01 mg/kg	TM062 (S)	2.64	0.509	0.162	0.0643	0.277	
			M	M	M	M	M	
Xylenols	<0.015 mg/kg	TM062 (S)	<0.015	<0.015	<0.015	0.0643	<0.015	
			M	M	M	M	M	
Phenols, Total Detected monohydric	<0.035 mg/kg	TM062 (S)	4.4	1.37	0.928	0.129	0.637	
			M	M	M	M	M	
Fraction Organic Carbon (FOC)	<0.002	TM132	0.179	0.224	0.15	0.161	0.126	
			#	#	#	#	#	
pH	1 pH Units	TM133	7.09	7.61	7.69	7.4	7.37	
			M	M	M	M	M	
Chromium, Hexavalent	<0.6 mg/kg	TM151	<0.6	<0.6	<0.6	<0.6	<0.6	
			#	#	#	#	#	
Cyanide, Complex	<1 mg/kg	TM153	122	7.16	3.14	7.3	5.45	
Sulphide, Easily liberated	<15 mg/kg	TM180	<15	<15	<15	<15	<15	
			M	M	M	M	M	
Arsenic	<0.6 mg/kg	TM181	19.6	18.4	11.3	12	11.4	
			M	M	M	M	M	
Barium	<0.6 mg/kg	TM181	211	424	196	207	115	
			#	#	#	#	#	
Beryllium	<0.01 mg/kg	TM181	0.479	0.526	0.707	1.69	0.531	
			M	M	M	M	M	
Cadmium	<0.02 mg/kg	TM181	0.643	0.511	0.443	0.395	0.563	
			M	M	M	M	M	
Chromium	<0.9 mg/kg	TM181	16	10.5	16.9	27.4	13.9	
			M	M	M	M	M	
Copper	<1.4 mg/kg	TM181	103	80.2	146	268	69.5	
			M	M	M	M	M	
Lead	<0.7 mg/kg	TM181	260	147	149	212	134	
			M	M	M	M	M	
Mercury	<0.14 mg/kg	TM181	6.42	<0.14	<0.14	<0.14	<0.14	
			M	M	M	M	M	
Nickel	<0.2 mg/kg	TM181	22.9	21.1	29.1	51.8	16.8	
			M	M	M	M	M	
Selenium	<1 mg/kg	TM181	<1	<1	<1	<1	<1	
			#	#	#	#	#	
Vanadium	<0.2 mg/kg	TM181	19.9	15.4	18.8	28.3	18.7	
			#	#	#	#	#	
Zinc	<1.9 mg/kg	TM181	424	442	667	990	351	
			M	M	M	M	M	
Boron, water soluble	<1 mg/kg	TM222	9.2	6.46	3.22	4.9	4.09	
			M	M	M	M	M	
Calcium	<21 mg/kg	TM224	34000	80000	42800	21100	37500	
Nitrite as NO ₂ , 2:1 water soluble	<0.1 mg/kg	TM243	2.76	27.5	7.59	0.44	3.24	
Water Soluble Sulphate as SO ₄ 2:1 Extract	<0.004 g/l	TM243	0.0396	0.005	0.0545	<0.004	<0.004	
			M	M	M	M	M	
Ammoniacal N as NH ₄ in 2:1 extract BRE	<0.0003 g/l	TM248	0.00898	0.00755	0.00402	0.00737	0.00843	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 523538
Superseded Report: 523257

Semi Volatile Organic Compounds

Results Legend			Customer Sample Ref.	SS301	SS302	SS303	SS304	SS305	
#	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)								
Component	LOD/Units	Method	Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
Phenol	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Pentachlorophenol	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
n-Nitroso-n-dipropylamine	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Nitrobenzene	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Isophorone	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Hexachloroethane	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Hexachlorocyclopentadiene	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Hexachlorobutadiene	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Hexachlorobenzene	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
n-Dioctyl phthalate	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Dimethyl phthalate	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Diethyl phthalate	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
n-Dibutyl phthalate	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Dibenzofuran	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Carbazole	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Butylbenzyl phthalate	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
bis(2-Ethylhexyl) phthalate	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
bis(2-Chloroethoxy)methane	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
bis(2-Chloroethyl)ether	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
Azobenzene	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
4-Nitrophenol	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
4-Nitroaniline	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
4-Methylphenol	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
4-Chlorophenylphenylether	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
4-Chloroaniline	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
4-Chloro-3-methylphenol	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
4-Bromophenylphenylether	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
3-Nitroaniline	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
2-Nitrophenol	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
2-Nitroaniline	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
2-Methylphenol	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
1,2,4-Trichlorobenzene	<0.1 mg/kg	TM157	Soil/Solid (S)	17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 523538
Superseded Report: 523257

Semi Volatile Organic Compounds

Results Legend			Customer Sample Ref.		SS301	SS302	SS303	SS304	SS305	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
M	mCERTS accredited.				Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	
aq	Aqueous / settled sample.				17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
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								
2-Chlorophenol	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2,6-Dinitrotoluene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2,4-Dinitrotoluene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2,4-Dimethylphenol	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2,4-Dichlorophenol	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2,4,6-Trichlorophenol	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2,4,5-Trichlorophenol	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
1,4-Dichlorobenzene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
1,3-Dichlorobenzene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
1,2-Dichlorobenzene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2-Chloronaphthalene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
2-Methylnaphthalene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
Acenaphthylene	<0.1 mg/kg	TM157			2.26	<0.2	<0.2	<0.5	0.514	
Acenaphthene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
Anthracene	<0.1 mg/kg	TM157			0.99	<0.2	<0.2	<0.5	<0.4	
Benzo(a)anthracene	<0.1 mg/kg	TM157			6.27	0.476	0.882	1.39	1.6	
Benzo(b)fluoranthene	<0.1 mg/kg	TM157			7.15	0.584	1.1	1.64	2.11	
Benzo(k)fluoranthene	<0.1 mg/kg	TM157			6.27	0.509	0.858	1.37	1.5	
Benzo(a)pyrene	<0.1 mg/kg	TM157			6.49	0.422	1.07	1.45	2.02	
Benzo(g,h,i)perylene	<0.1 mg/kg	TM157			6.88	0.444	0.858	1.24	1.58	
Chrysene	<0.1 mg/kg	TM157			6.55	0.563	0.951	1.46	1.63	
Fluoranthene	<0.1 mg/kg	TM157			12	0.995	1.51	2.26	2.62	
Fluorene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
Indeno(1,2,3-cd)pyrene	<0.1 mg/kg	TM157			7.87	0.487	1.03	1.27	2.33	
Phenanthrene	<0.1 mg/kg	TM157			4.4	0.465	0.522	0.621	0.914	
Pyrene	<0.1 mg/kg	TM157			11.4	0.941	1.58	2.2	2.79	
Naphthalene	<0.1 mg/kg	TM157			0.77	<0.2	<0.2	<0.5	<0.4	
Dibenzo(a,h)anthracene	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	
Bis(2-chloroisopropyl) ether	<0.1 mg/kg	TM157			<0.1	<0.2	<0.2	<0.5	<0.4	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 523538
Superseded Report: 523257

VOC MS (S)

Results Legend			Customer Sample Ref.	SS301	SS302	SS303	SS304	SS305	
#	ISO17025 accredited.		Depth (m) 0.00 - 0.00 Sample Type Soil/Solid (S) Date Sampled 17/09/2019 Sampled Time - Date Received 20/09/2019 SDG Ref 190920-142 Lab Sample No.(s) 20769098 AGS Reference ES	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
M	mCERTS accredited.			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	
aq	Aqueous / settled sample.			17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019	
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							
Dibromofluoromethane**	%	TM116		108	118	120	115	111	
Toluene-d8**	%	TM116		94.9	87.1	89.1	91.1	91.7	
4-Bromofluorobenzene**	%	TM116		76	70.5	80.9	75.8	73.3	
Dichlorodifluoromethane	<0.006 mg/kg	TM116		<0.12 M	<0.06 M	<0.06 M	<0.06 M	- M	
Chloromethane	<0.007 mg/kg	TM116		<0.14 #	<0.07 #	<0.07 #	<0.07 #	- #	
Vinyl Chloride	<0.006 mg/kg	TM116		<0.12 3 M	<0.06 M	<0.06 M	<0.06 M	- M	
Bromomethane	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
Chloroethane	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
Trichlorofluoromethane	<0.006 mg/kg	TM116		<0.12 M	<0.06 M	<0.06 M	<0.06 M	- M	
1,1-Dichloroethene	<0.01 mg/kg	TM116		<0.2 #	<0.1 #	<0.1 #	<0.1 #	- #	
Carbon Disulphide	<0.007 mg/kg	TM116		<0.14 M	<0.07 M	<0.07 M	<0.07 M	- M	
Dichloromethane	<0.01 mg/kg	TM116		<0.2 #	<0.1 #	<0.1 #	<0.1 #	- #	
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
trans-1,2-Dichloroethene	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
1,1-Dichloroethane	<0.008 mg/kg	TM116		<0.16 M	<0.08 M	<0.08 M	<0.08 M	- M	
cis-1,2-Dichloroethene	<0.006 mg/kg	TM116		<0.12 M	<0.06 M	<0.06 M	<0.06 M	- M	
2,2-Dichloropropane	<0.01 mg/kg	TM116		<0.2	<0.1	<0.1	<0.1	-	
Bromochloromethane	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
Chloroform	<0.008 mg/kg	TM116		<0.16 M	<0.08 M	<0.08 M	<0.08 M	- M	
1,1,1-Trichloroethane	<0.007 mg/kg	TM116		<0.14 M	<0.07 M	<0.07 M	<0.07 M	- M	
1,1-Dichloropropene	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
Carbontetrachloride	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
1,2-Dichloroethane	<0.005 mg/kg	TM116		<0.1 M	<0.05 M	<0.05 M	<0.05 M	- M	
Benzene	<0.009 mg/kg	TM116		<0.18 M	<0.09 M	<0.09 M	<0.09 M	- M	
Trichloroethene	<0.009 mg/kg	TM116		<0.18 #	<0.09 #	<0.09 #	<0.09 #	- #	
1,2-Dichloropropane	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
Dibromomethane	<0.009 mg/kg	TM116		<0.18 M	<0.09 M	<0.09 M	<0.09 M	- M	
Bromodichloromethane	<0.007 mg/kg	TM116		<0.14 M	<0.07 M	<0.07 M	<0.07 M	- M	
cis-1,3-Dichloropropene	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	
Toluene	<0.007 mg/kg	TM116		<0.14 M	<0.07 M	<0.07 M	<0.07 M	- M	
trans-1,3-Dichloropropene	<0.01 mg/kg	TM116		<0.2	<0.1	<0.1	<0.1	-	
1,1,2-Trichloroethane	<0.01 mg/kg	TM116		<0.2 M	<0.1 M	<0.1 M	<0.1 M	- M	



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 523538
Superseded Report: 523257

VOC MS (S)

Results Legend			Customer Sample Ref.		SS301	SS302	SS303	SS304	SS305	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Soil/Solid (S) 17/09/2019	0.00 - 0.00 Soil/Solid (S) 17/09/2019	0.00 - 0.00 Soil/Solid (S) 17/09/2019	0.00 - 0.00 Soil/Solid (S) 17/09/2019	0.00 - 0.00 Soil/Solid (S) 17/09/2019	0.00 - 0.00 Soil/Solid (S) 17/09/2019	
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								
1,3-Dichloropropane	<0.007 mg/kg	TM116	<0.14	M	<0.07	M	<0.07	M	<0.07	M
Tetrachloroethene	<0.005 mg/kg	TM116	<0.1	M	<0.05	M	<0.05	M	<0.05	M
Dibromochloromethane	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
1,2-Dibromoethane	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
Chlorobenzene	<0.005 mg/kg	TM116	<0.1	M	<0.05	M	<0.05	M	<0.05	M
1,1,1,2-Tetrachloroethane	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
Ethylbenzene	<0.004 mg/kg	TM116	<0.08	M	<0.04	M	<0.04	M	<0.04	M
p/m-Xylene	<0.01 mg/kg	TM116	<0.2	#	<0.1	#	<0.1	#	<0.1	#
o-Xylene	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
Styrene	<0.01 mg/kg	TM116	<0.2	#	<0.1	#	<0.1	#	<0.1	#
Bromoform	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
Isopropylbenzene	<0.005 mg/kg	TM116	<0.1	#	<0.05	#	<0.05	#	<0.05	#
1,1,2,2-Tetrachloroethane	<0.01 mg/kg	TM116	<0.2	#	<0.1	#	<0.1	#	<0.1	#
1,2,3-Trichloropropane	<0.016 mg/kg	TM116	<0.32	M	<0.16	M	<0.16	M	<0.16	M
Bromobenzene	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
Propylbenzene	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
2-Chlorotoluene	<0.009 mg/kg	TM116	<0.18	M	<0.09	M	<0.09	M	<0.09	M
1,3,5-Trimethylbenzene	<0.008 mg/kg	TM116	<0.16	M	<0.08	M	<0.08	M	<0.08	M
4-Chlorotoluene	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
tert-Butylbenzene	<0.014 mg/kg	TM116	<0.28	M	<0.14	M	<0.14	M	<0.14	M
1,2,4-Trimethylbenzene	<0.009 mg/kg	TM116	<0.18	#	<0.09	#	<0.09	#	<0.09	#
sec-Butylbenzene	<0.01 mg/kg	TM116	<0.2		<0.1		<0.1		<0.1	
4-Isopropyltoluene	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
1,3-Dichlorobenzene	<0.008 mg/kg	TM116	<0.16	M	<0.08	M	<0.08	M	<0.08	M
1,4-Dichlorobenzene	<0.005 mg/kg	TM116	<0.1	M	<0.05	M	<0.05	M	<0.05	M
n-Butylbenzene	<0.011 mg/kg	TM116	<0.22		<0.11		<0.11		<0.11	
1,2-Dichlorobenzene	<0.01 mg/kg	TM116	<0.2	M	<0.1	M	<0.1	M	<0.1	M
1,2-Dibromo-3-chloropropane	<0.014 mg/kg	TM116	<0.28	M	<0.14	M	<0.14	M	<0.14	M
Tert-amyl methyl ether	<0.01 mg/kg	TM116	<0.2	#	<0.1	#	<0.1	#	<0.1	#
1,2,4-Trichlorobenzene	<0.02 mg/kg	TM116	<0.4		<0.2		<0.2		<0.2	
Hexachlorobutadiene	<0.02 mg/kg	TM116	<0.4		<0.2		<0.2		<0.2	
Naphthalene	<0.013 mg/kg	TM116	<0.26	M	<0.13	M	<0.13	M	<0.13	M



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142 Client Reference: 70031882 Report Number: 523538
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 523257

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. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS301ES 0.00 - 0.00 SOLID 17/09/2019 00:00:00 20/09/2019 16:43:00 190920-142 20769098 TM048	27/09/19	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS302ES 0.00 - 0.00 SOLID 17/09/2019 00:00:00 20/09/2019 16:43:00 190920-142 20769103 TM048	27/09/19	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS303ES 0.00 - 0.00 SOLID 17/09/2019 00:00:00 20/09/2019 16:43:00 190920-142 20769108 TM048	27/09/19	Andrzej Ferfecki	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS304ES 0.00 - 0.00 SOLID 17/09/2019 00:00:00 20/09/2019 16:43:00 190920-142 20769113 TM048	27/09/2019	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Received SDG Original Sample Method Number	SS305ES 0.00 - 0.00 SOLID 17/09/2019 00:00:00 20/09/2019 16:43:00 190920-142 20769118 TM048	27/09/2019	Agnieszka Chelmowska	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142 **Client Reference:** 70031882 **Report Number:** 523538
Location: 70031882-SGN Reading **Order Number:** 70031882 **Superseded Report:** 523257

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
TM018	BS 1377: Part 3 1990	Determination of Loss on Ignition
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) 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
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM218	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
TM224	US EPA Method 6010B	Determination of Alkaline Metals by iCap 6500 Duo ICP-OES
TM243		Mixed Anions In Soils By Kone
TM248	In-House Method	Determination of Ammonium BRE (2:1 Extract) on solids

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: 190920-142
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 523538
Superseded Report: 523257

Test Completion Dates

Lab Sample No(s)	20769098	20769103	20769108	20769113	20769118
Customer Sample Ref.	SS301	SS302	SS303	SS304	SS305
AGS Ref.	ES	ES	ES	ES	ES
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Alkali Metals by iCap-OES (Soil)	27-Sep-2019	26-Sep-2019	27-Sep-2019	26-Sep-2019	27-Sep-2019
Ammoniacal N as NH4 in 2:1 extract	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019
Anions by Kone (soil)	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019
Asbestos ID in Solid Samples	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019
Boron Water Soluble	26-Sep-2019	27-Sep-2019	26-Sep-2019	27-Sep-2019	27-Sep-2019
Cyanide Comp/Free/Total/Thiocyanate	30-Sep-2019	30-Sep-2019	30-Sep-2019	30-Sep-2019	30-Sep-2019
Easily Liberated Sulphide	23-Sep-2019	27-Sep-2019	23-Sep-2019	27-Sep-2019	27-Sep-2019
EPH CWG (Aliphatic) GC (S)	27-Sep-2019	27-Sep-2019	27-Sep-2019	28-Sep-2019	27-Sep-2019
EPH CWG (Aromatic) GC (S)	27-Sep-2019	27-Sep-2019	27-Sep-2019	28-Sep-2019	27-Sep-2019
GRO by GC-FID (S)	26-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019
Hexavalent Chromium (s)	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019
Loss on Ignition in soils	26-Sep-2019	26-Sep-2019	26-Sep-2019	27-Sep-2019	27-Sep-2019
Metals in solid samples by OES	25-Sep-2019	27-Sep-2019	25-Sep-2019	27-Sep-2019	27-Sep-2019
NO3, NO2 and TON by KONE (s)	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019
PAH by GCMS	26-Sep-2019	26-Sep-2019	26-Sep-2019	26-Sep-2019	26-Sep-2019
pH	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019	27-Sep-2019
Phenols by HPLC (S)	29-Sep-2019	28-Sep-2019	28-Sep-2019	27-Sep-2019	28-Sep-2019
Sample description	21-Sep-2019	21-Sep-2019	21-Sep-2019	21-Sep-2019	21-Sep-2019
Semi Volatile Organic Compounds	27-Sep-2019	27-Sep-2019	27-Sep-2019	26-Sep-2019	27-Sep-2019
Total Organic Carbon	25-Sep-2019	26-Sep-2019	25-Sep-2019	26-Sep-2019	27-Sep-2019
TPH CWG GC (S)	27-Sep-2019	27-Sep-2019	27-Sep-2019	28-Sep-2019	27-Sep-2019
VOC MS (S)	27-Sep-2019	26-Sep-2019	26-Sep-2019	26-Sep-2019	26-Sep-2019



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 523538
Superseded Report: 523257

ASSOCIATED AQC DATA

Alkali Metals by iCap-OES (Soil)

Component	Method Code	QC 2093	QC 2009	QC 2020
Calcium	TM224	105.01 80.29 : 119.71	102.11 80.29 : 119.71	105.01 80.29 : 119.71
Magnesium	TM224	101.3 81.99 : 118.01	101.3 81.99 : 118.01	101.3 81.99 : 118.01
Potassium	TM224	100.0 72.21 : 127.79	106.05 72.21 : 127.79	103.18 72.21 : 127.79
Sodium	TM224	101.08 77.90 : 122.10	99.46 77.90 : 122.10	105.65 77.90 : 122.10

Anions by Kone (soil)

Component	Method Code	QC 2085	QC 2018	QC 2036	QC 2021
Chloride (soluble)	TM243	96.37 74.32 : 123.04	91.71 74.32 : 123.04	90.16 74.32 : 123.04	
Water Soluble Sulphate as SO ₄ 2:1 Extract	TM243	95.79 88.92 : 111.08	92.99 88.92 : 111.08	89.72 88.92 : 111.08	103.27 75.60 : 131.10

Boron Water Soluble

Component	Method Code	QC 2083	QC 2023	QC 2001
Water Soluble Boron	TM222	103.5 86.05 : 109.75	65.0 86.05 : 109.75	104.0 86.05 : 109.75

Cyanide Comp/Free/Total/Thiocyanate

Component	Method Code	QC 2008	QC 2065
Free Cyanide	TM153	87.3 83.05 : 112.74	84.3 83.05 : 112.74
Thiocyanate	TM153	88.02 89.81 : 110.19	87.43 89.81 : 110.19
Total Cyanide	TM153	93.57 88.29 : 111.43	94.29 88.29 : 111.43

Easily Liberated Sulphide

Component	Method Code	QC 2018
Easily Liberated Sulphide	TM180	105.12 51.10 : 121.66

EPH CWG (Aliphatic) GC (S)



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 523538
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EPH CWG (Aliphatic) GC (S)

Component	Method Code	QC 2007	QC 2041	QC 2023
Total Aliphatics >C12-C35	TM173	88.13 70.61 : 106.16	83.54 71.82 : 103.92	83.13 66.17 : 105.28

EPH CWG (Aromatic) GC (S)

Component	Method Code	QC 2007	QC 2041	QC 2023
Total Aromatics >EC12-EC35	TM173	83.33 67.75 : 104.04	80.0 68.32 : 103.07	89.33 65.78 : 102.90

GRO by GC-FID (S)

Component	Method Code	QC 2003	QC 2072
QC	TM089	80.66 72.28 : 114.54	87.8 72.28 : 114.54

Hexavalent Chromium (s)

Component	Method Code	QC 2054	QC 2081
Hexavalent Chromium	TM151	100.0 90.20 : 107.00	102.0 90.20 : 107.00

Loss on Ignition in soils

Component	Method Code	QC 2083	QC 2063
Loss on Ignition	TM018	98.34 87.56 : 104.24	98.34 87.56 : 104.24

Metals in solid samples by OES

Component	Method Code	QC 2093	QC 2009	QC 2020
Aluminium	TM181	100.88 77.84 : 119.01	97.35 77.84 : 119.01	99.12 77.84 : 119.01
Antimony	TM181	100.81 84.28 : 107.67	104.88 84.28 : 107.67	106.91 84.28 : 107.67
Arsenic	TM181	104.94 87.05 : 109.36	106.1 87.05 : 109.36	105.52 87.05 : 109.36



CERTIFICATE OF ANALYSIS

Validated

SDG: 190920-142 Client Reference: 70031882 Report Number: 523538
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 523257

Metals in solid samples by OES

		QC 2093	QC 2009	QC 2020
Barium	TM181	100.0 82.49 : 109.34	96.33 82.49 : 109.34	95.41 82.49 : 109.34
Beryllium	TM181	102.61 85.44 : 109.61	103.36 85.44 : 109.61	105.22 85.44 : 109.61
Boron	TM181	91.12 73.51 : 104.66	94.56 73.51 : 104.66	92.26 73.51 : 104.66
Cadmium	TM181	95.47 81.46 : 106.43	94.65 81.46 : 106.43	98.77 81.46 : 106.43
Chromium	TM181	96.96 82.26 : 104.55	95.54 82.26 : 104.55	95.74 82.26 : 104.55
Cobalt	TM181	94.03 86.54 : 106.87	95.91 86.54 : 106.87	95.91 86.54 : 106.87
Copper	TM181	98.06 82.40 : 105.45	95.77 82.40 : 105.45	97.71 82.40 : 105.45
Iron	TM181	103.17 82.95 : 110.58	96.03 82.95 : 110.58	100.0 82.95 : 110.58
Lead	TM181	93.69 78.24 : 104.05	97.3 78.24 : 104.05	99.77 78.24 : 104.05
Manganese	TM181	114.44 94.29 : 119.51	107.5 94.29 : 119.51	111.39 94.29 : 119.51
Mercury	TM181	96.14 83.74 : 105.34	98.31 83.74 : 105.34	97.34 83.74 : 105.34
Molybdenum	TM181	100.82 87.11 : 106.87	102.47 87.11 : 106.87	102.47 87.11 : 106.87
Nickel	TM181	94.87 81.92 : 102.18	96.09 81.92 : 102.18	96.33 81.92 : 102.18
Phosphorus	TM181	109.49 94.56 : 124.28	112.32 94.56 : 124.28	110.51 94.56 : 124.28
Selenium	TM181	101.57 86.28 : 110.48	104.31 86.28 : 110.48	104.31 86.28 : 110.48
Strontium	TM181	95.1 79.13 : 102.79	94.21 79.13 : 102.79	96.66 79.13 : 102.79
Thallium	TM181	102.65 82.94 : 111.86	106.64 82.94 : 111.86	103.54 82.94 : 111.86
Tin	TM181	103.04 90.25 : 108.86	105.32 90.25 : 108.86	104.56 90.25 : 108.86
Titanium	TM181	84.73 66.23 : 102.06	87.79 66.23 : 102.06	86.26 66.23 : 102.06
Vanadium	TM181	99.63 86.37 : 107.94	100.73 86.37 : 107.94	100.0 86.37 : 107.94
Zinc	TM181	101.03 84.68 : 113.99	102.87 84.68 : 113.99	103.49 84.68 : 113.99

NO3, NO2 and TON by KONE (s)

Component	Method Code	QC 2018	QC 2021
Nitrate/TON as N QC	TM243	106.29 53.00 : 147.00	
Nitrite (soluble) as NO2	TM243	101.05 86.50 : 113.50	98.95 86.50 : 113.50

PAH by GCMS



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SDG: 190920-142 Client Reference: 70031882 Report Number: 523538
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PAH by GCMS

Component	Method Code	QC 2037	QC 2066	QC 2017	QC 2067
Acenaphthene	TM218	98.0 80.97 : 105.99	98.0 80.97 : 105.99	108.0 76.82 : 113.72	99.5 80.97 : 105.99
Acenaphthylene	TM218	96.0 80.24 : 105.29	97.0 80.24 : 105.29	108.0 75.95 : 108.85	96.5 80.24 : 105.29
Anthracene	TM218	97.5 73.72 : 109.23	99.0 73.72 : 109.23	104.5 76.67 : 109.58	94.0 73.72 : 109.23
Benz(a)anthracene	TM218	95.0 79.72 : 116.84	102.0 79.72 : 116.84	96.0 70.05 : 119.30	97.0 79.72 : 116.84
Benzo(a)pyrene	TM218	96.0 69.58 : 110.26	102.0 69.58 : 110.26	93.5 68.22 : 116.60	100.5 69.58 : 110.26
Benzo(b)fluoranthene	TM218	88.0 77.35 : 112.97	98.5 77.35 : 112.97	90.0 75.44 : 113.45	94.0 77.35 : 112.97
Benzo(ghi)perylene	TM218	93.0 77.68 : 107.38	101.0 77.68 : 107.38	94.0 70.79 : 114.76	96.5 77.68 : 107.38
Benzo(k)fluoranthene	TM218	88.5 82.61 : 111.93	91.5 82.61 : 111.93	87.5 81.43 : 115.17	99.5 82.61 : 111.93
Chrysene	TM218	90.5 80.28 : 111.42	93.0 80.28 : 111.42	93.5 75.94 : 114.39	93.0 80.28 : 111.42
Dibenzo(ah)anthracene	TM218	95.5 79.17 : 106.41	97.0 79.17 : 106.41	89.5 71.87 : 118.97	95.5 79.17 : 106.41
Fluoranthene	TM218	92.0 79.07 : 112.75	97.0 79.07 : 112.75	98.5 77.92 : 113.69	91.5 79.07 : 112.75
Fluorene	TM218	98.0 80.52 : 110.90	98.5 80.52 : 110.90	106.5 82.02 : 108.34	97.5 80.52 : 110.90
Indeno(123cd)pyrene	TM218	91.0 76.97 : 113.36	94.5 76.97 : 113.36	84.5 67.80 : 113.60	98.0 76.97 : 113.36
Naphthalene	TM218	95.0 83.50 : 110.02	97.0 83.50 : 110.02	109.0 88.41 : 116.04	97.5 83.50 : 110.02
Phenanthrene	TM218	99.5 79.34 : 111.91	99.5 79.34 : 111.91	106.0 78.26 : 113.22	96.5 79.34 : 111.91
Pyrene	TM218	93.0 74.43 : 114.36	98.0 74.43 : 114.36	101.5 74.86 : 116.81	93.0 74.43 : 114.36

pH

Component	Method Code	QC 2074	QC 2072
pH	TM133	99.53 97.69 : 101.15	99.3 97.69 : 101.15

Phenols by HPLC (S)

Component	Method Code	QC 2044	QC 2076	QC 2099
2,3,5 Trimethyl-Phenol by HPLC (S)	TM062 (S)	105.84 65.50 : 89.50	105.84 65.50 : 89.50	101.95 65.50 : 89.50
2-Isopropyl Phenol by HPLC (S)	TM062 (S)	100.58 86.25 : 116.25	105.26 86.25 : 116.25	100.0 86.25 : 116.25
Catechol by HPLC (S)	TM062 (S)	64.76 19.39 : 135.70	49.52 19.39 : 135.70	66.67 19.39 : 135.70
Cresols by HPLC (S)	TM062 (S)	102.92 81.00 : 112.20	110.02 81.00 : 112.20	102.51 81.00 : 112.20



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SDG: 190920-142 Client Reference: 70031882 Report Number: 523538
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 523257

Phenols by HPLC (S)

		QC 2044	QC 2076	QC 2099
Napthol by HPLC (S)	TM062 (S)	100.71 57.50 : 102.50	99.29 57.50 : 102.50	97.86 57.50 : 102.50
Phenol by HPLC (S)	TM062 (S)	105.96 95.33 : 123.33	113.91 95.33 : 123.33	104.64 95.33 : 123.33
Resorcinol HPLC (S)	TM062 (S)	109.43 69.99 : 127.22	112.58 69.99 : 127.22	105.66 69.99 : 127.22
Xylenols by HPLC (S)	TM062 (S)	97.29 90.22 : 114.22	99.69 90.22 : 114.22	95.52 90.22 : 114.22

Semi Volatile Organic Compounds

Component	Method Code	QC 2055	QC 2082
4-Bromophenylphenylether (Soil)	TM157	95.5 66.75 : 125.25	91.5 66.75 : 125.25
Benzo(a)anthracene (Soil)	TM157	98.0 67.40 : 120.50	96.5 67.40 : 120.50
Hexachlorobutadiene (Soil)	TM157	100.5 68.25 : 126.75	97.5 68.25 : 126.75
Naphthalene (Soil)	TM157	98.5 67.55 : 125.45	95.0 67.55 : 125.45
Nitrobenzene (Soil)	TM157	96.0 66.50 : 123.50	93.5 66.50 : 123.50
Phenol (Soil)	TM157	103.0 69.92 : 114.02	100.0 69.92 : 114.02

Total Organic Carbon

Component	Method Code	QC 2068	QC 2022	QC 2041
Total Organic Carbon	TM132	79.69 69.88 : 102.67	82.81 69.88 : 102.67	84.77 69.88 : 102.67

VOC MS (S)

Component	Method Code	QC 2011	QC 2082
1,1,1,2-tetrachloroethane	TM116	99.6 77.56 : 115.55	106.8 77.56 : 115.55
1,1,1-Trichloroethane	TM116	105.0 73.73 : 118.05	105.2 73.73 : 118.05
1,1,2-Trichloroethane	TM116	99.2 77.12 : 116.04	96.0 77.12 : 116.04
1,1-Dichloroethane	TM116	120.2 74.46 : 129.15	118.0 74.46 : 129.15
1,2-Dichloroethane	TM116	117.6 92.38 : 131.65	114.6 92.38 : 131.65
1,4-Dichlorobenzene	TM116	109.2 72.76 : 126.34	111.4 72.76 : 126.34
2-Chlorotoluene	TM116	102.8 72.40 : 116.20	110.6 72.40 : 116.20
4-Chlorotoluene	TM116	96.8 66.90 : 112.46	104.2 66.90 : 112.46
Benzene	TM116	106.0 89.71 : 111.93	104.8 89.71 : 111.93



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Validated

SDG: 190920-142 Client Reference: 70031882 Report Number: 523538
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 523257

VOC MS (S)

		QC 2011	QC 2082
Carbon Disulphide	TM116	106.4 74.91 : 122.14	114.6 74.91 : 122.14
Carbontetrachloride	TM116	104.2 80.31 : 124.50	106.8 80.31 : 124.50
Chlorobenzene	TM116	101.8 75.00 : 115.53	110.2 75.00 : 115.53
Chloroform	TM116	114.6 87.40 : 122.49	116.8 87.40 : 122.49
Chloromethane	TM116	119.0 65.05 : 142.63	127.0 65.05 : 142.63
Cis-1,2-Dichloroethene	TM116	109.6 80.67 : 126.72	112.4 80.67 : 126.72
Dibromomethane	TM116	99.4 67.80 : 121.75	100.0 67.80 : 121.75
Dichloromethane	TM116	120.4 81.11 : 133.25	120.0 81.11 : 133.25
Ethylbenzene	TM116	95.8 75.92 : 110.41	100.8 75.92 : 110.41
Hexachlorobutadiene	TM116	86.0 12.82 : 152.73	78.2 12.82 : 152.73
Isopropylbenzene	TM116	102.2 54.21 : 117.17	103.2 54.21 : 117.17
Naphthalene	TM116	101.2 80.86 : 128.81	107.2 80.86 : 128.81
o-Xylene	TM116	91.0 69.99 : 108.74	95.8 69.99 : 108.74
p/m-Xylene	TM116	91.1 68.32 : 108.91	96.6 68.32 : 108.91
Sec-Butylbenzene	TM116	103.6 44.91 : 118.40	110.4 44.91 : 118.40
Tetrachloroethene	TM116	100.8 76.95 : 121.02	113.2 76.95 : 121.02
Toluene	TM116	94.4 74.24 : 107.42	93.8 74.24 : 107.42
Trichloroethene	TM116	96.2 77.61 : 111.54	99.6 77.61 : 111.54
Trichlorofluoromethane	TM116	114.6 84.55 : 133.27	123.4 84.55 : 133.27
Vinyl Chloride	TM116	124.0 70.29 : 138.58	131.0 70.29 : 138.58

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.

The figure detailed is the percentage recovery result for the AQC.

The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.



CERTIFICATE OF ANALYSIS

Validated

SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

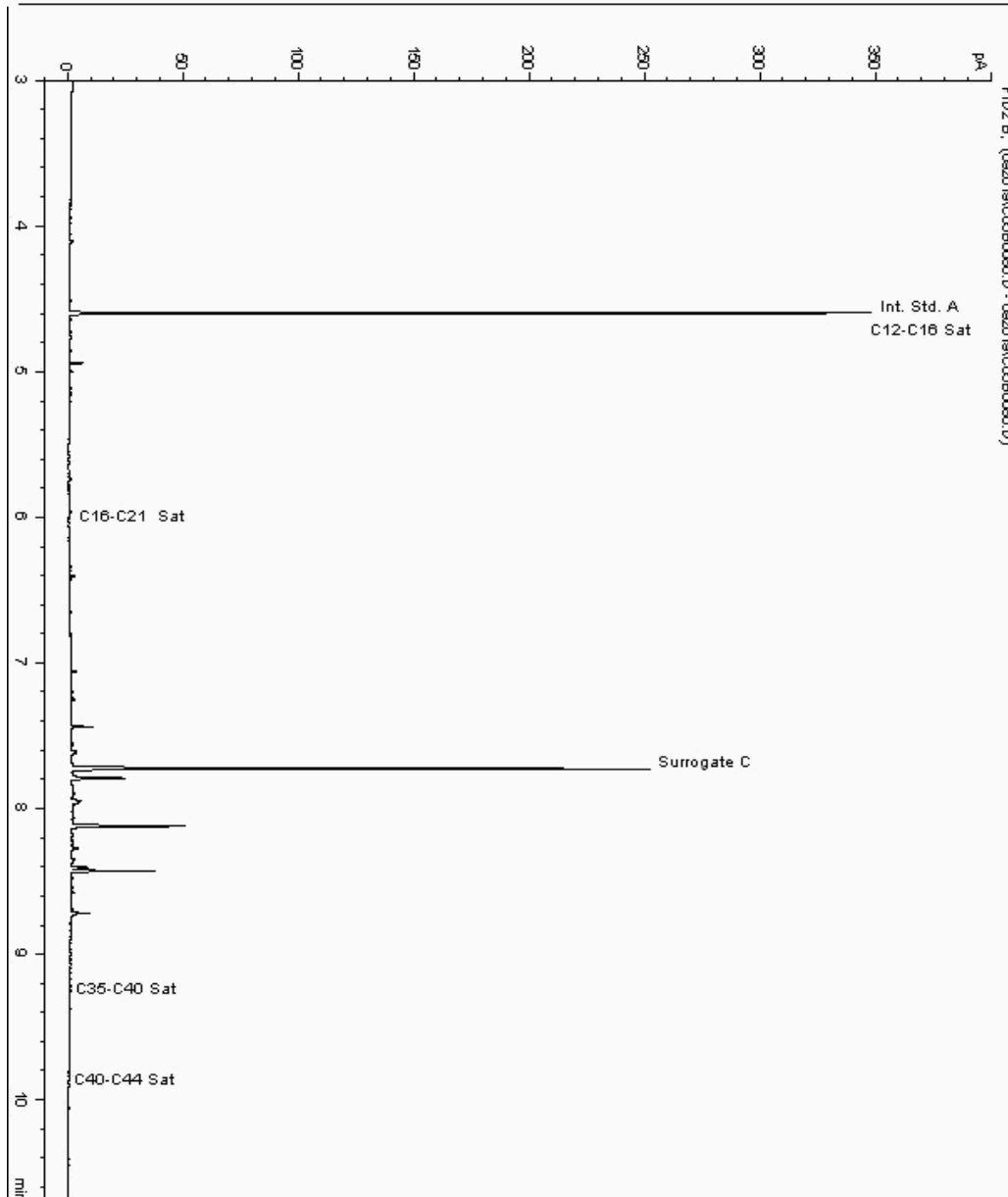
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 20773489
Sample ID : SS301

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19514714-
Date Acquired : 27/09/2019 10:27:11 PM
Units : ppb
Dilution: SS301[0.00 - 0.00] ->





CERTIFICATE OF ANALYSIS

Validated

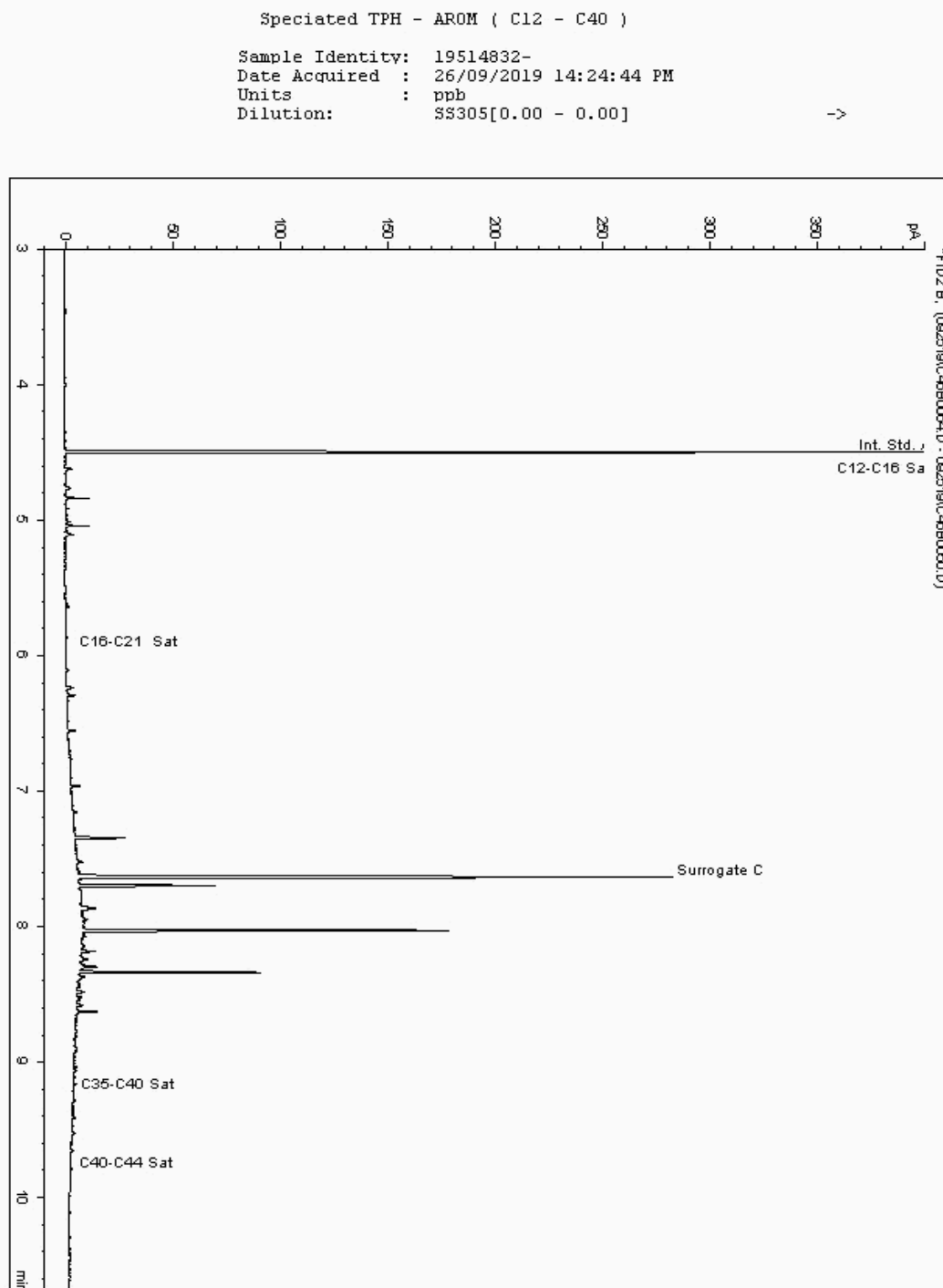
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 20773621
Sample ID : SS305

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

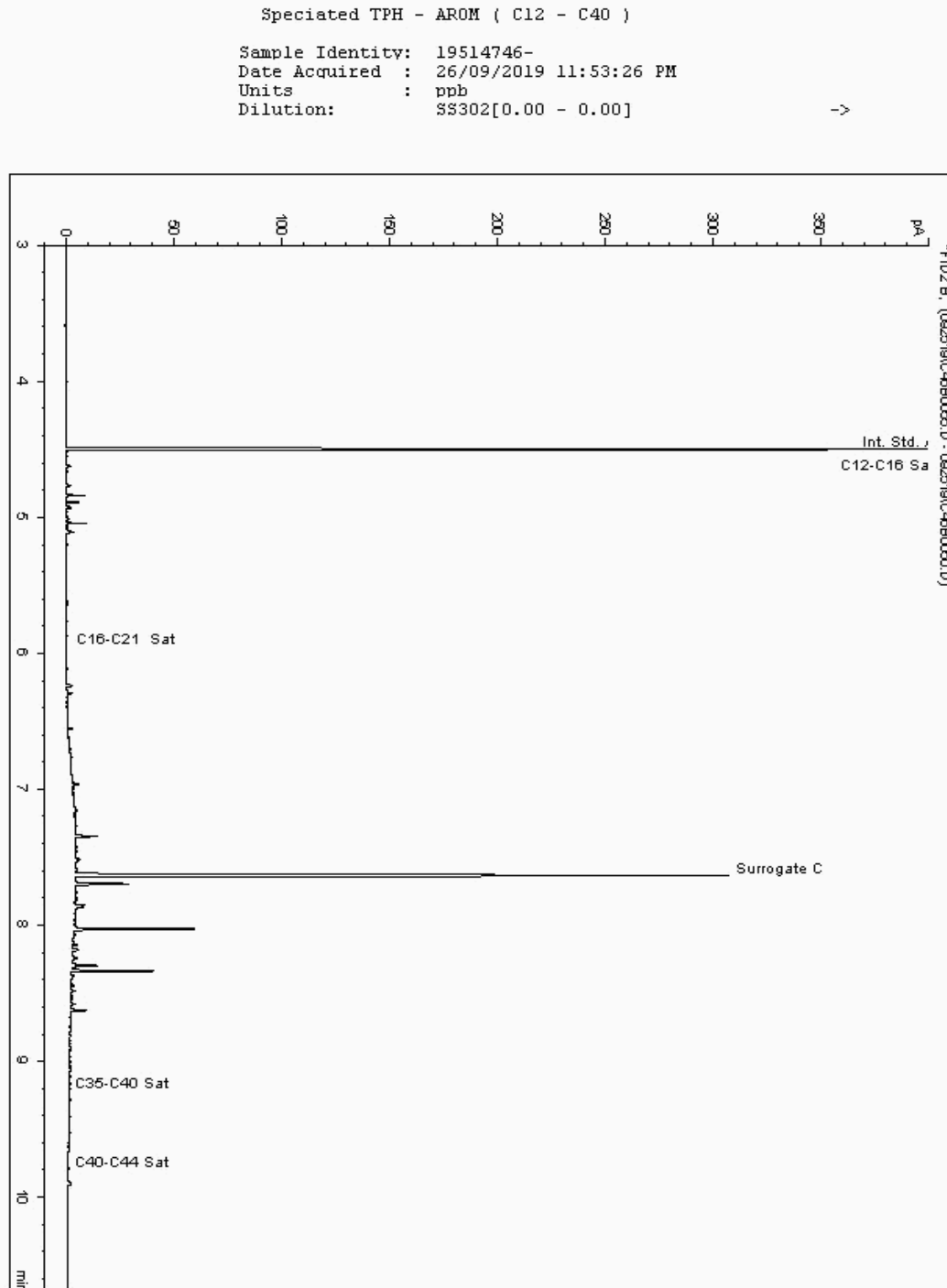
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 20773731
Sample ID : SS302

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

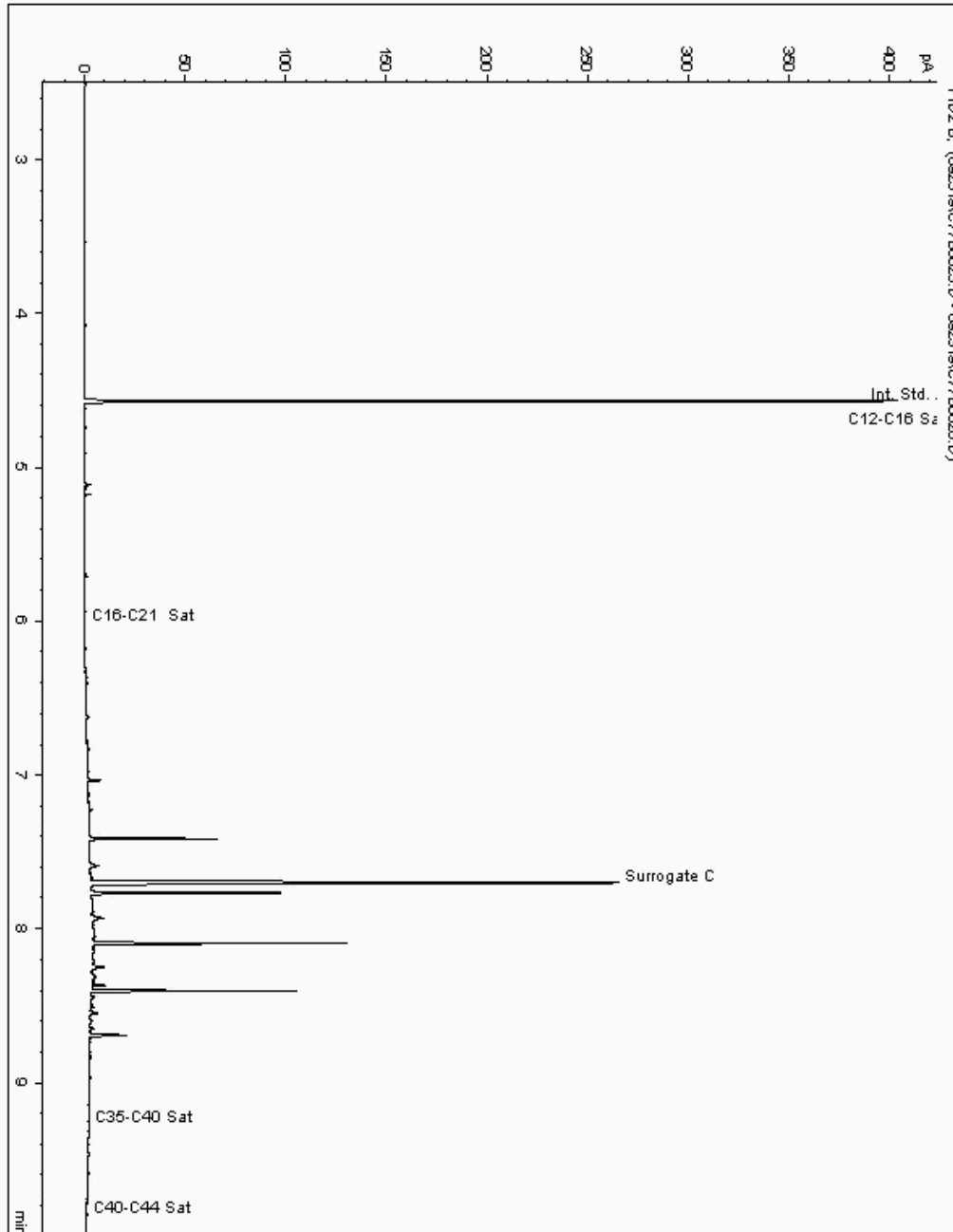
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 20773808
Sample ID : SS304

Depth : 0.00 - 0.00

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

Sample Identity: 19514803-
Date Acquired : 9/27/2019 11:29:40 AM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.040





CERTIFICATE OF ANALYSIS

Validated

SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: EPH CWG (Aliphatic) GC (S)

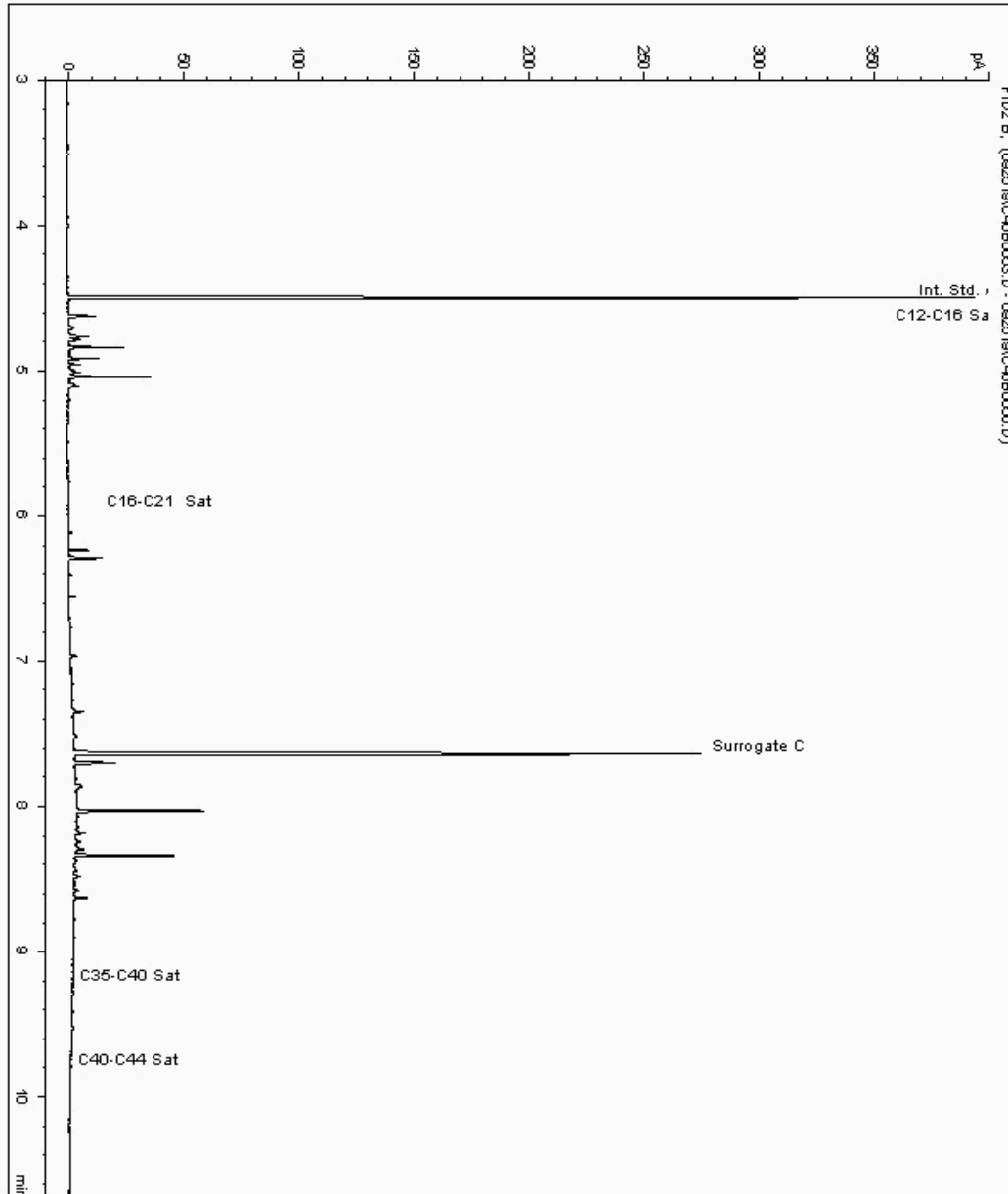
Sample No : 20773868
Sample ID : SS303

Depth : 0.00 - 0.00

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19514774-
Date Acquired : 26/09/2019 11:20:44 PM
Units : ppb
Dilution: SS303[0.00 - 0.00]

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CERTIFICATE OF ANALYSIS

Validated

SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

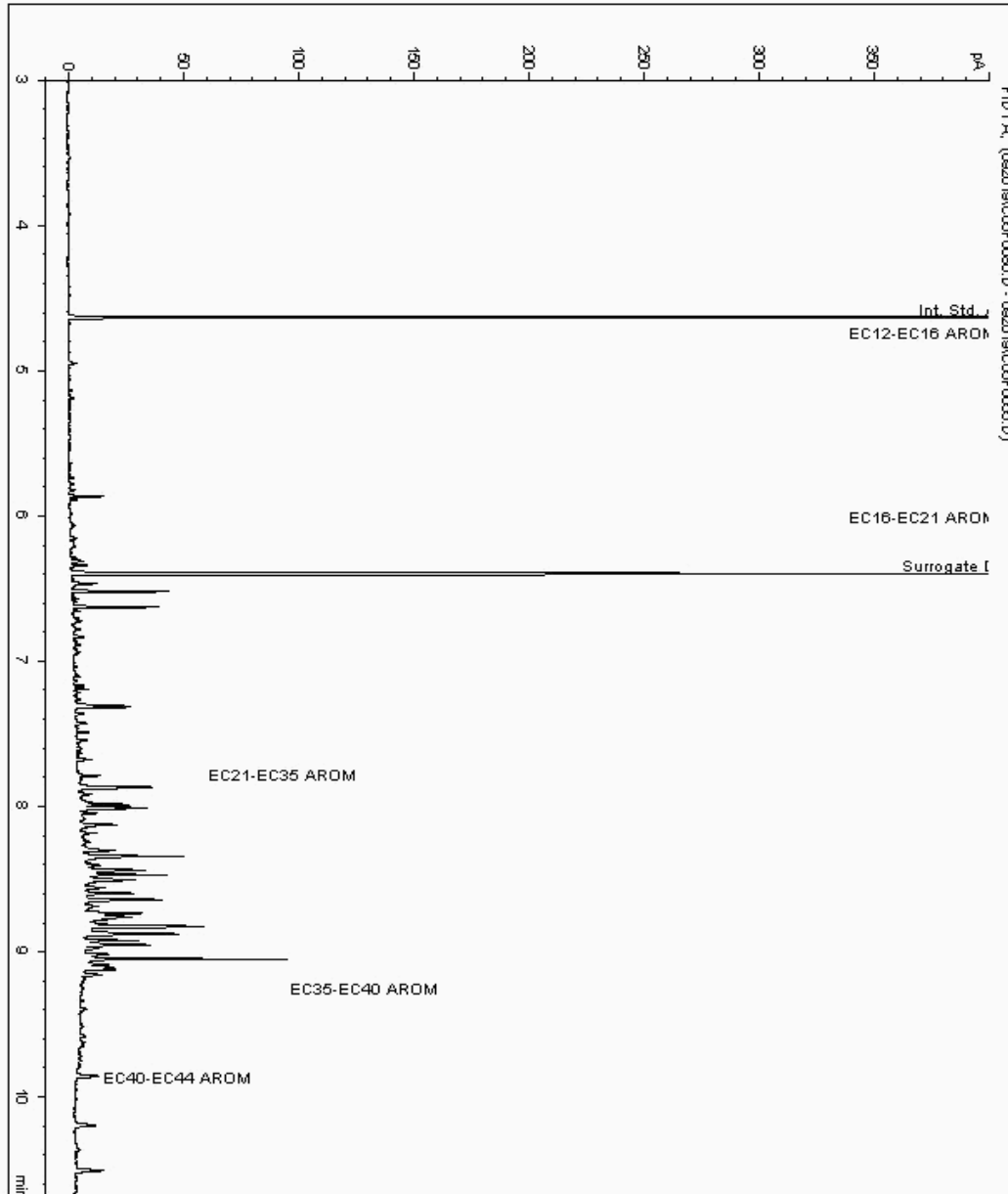
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 20773489
Sample ID : SS301

Depth : 0.00 - 0.00

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19514715-
Date Acquired : 27/09/2019 10:27:10 PM
Units : ppb
Dilution: SS301[0.00 - 0.00] ->





CERTIFICATE OF ANALYSIS

Validated

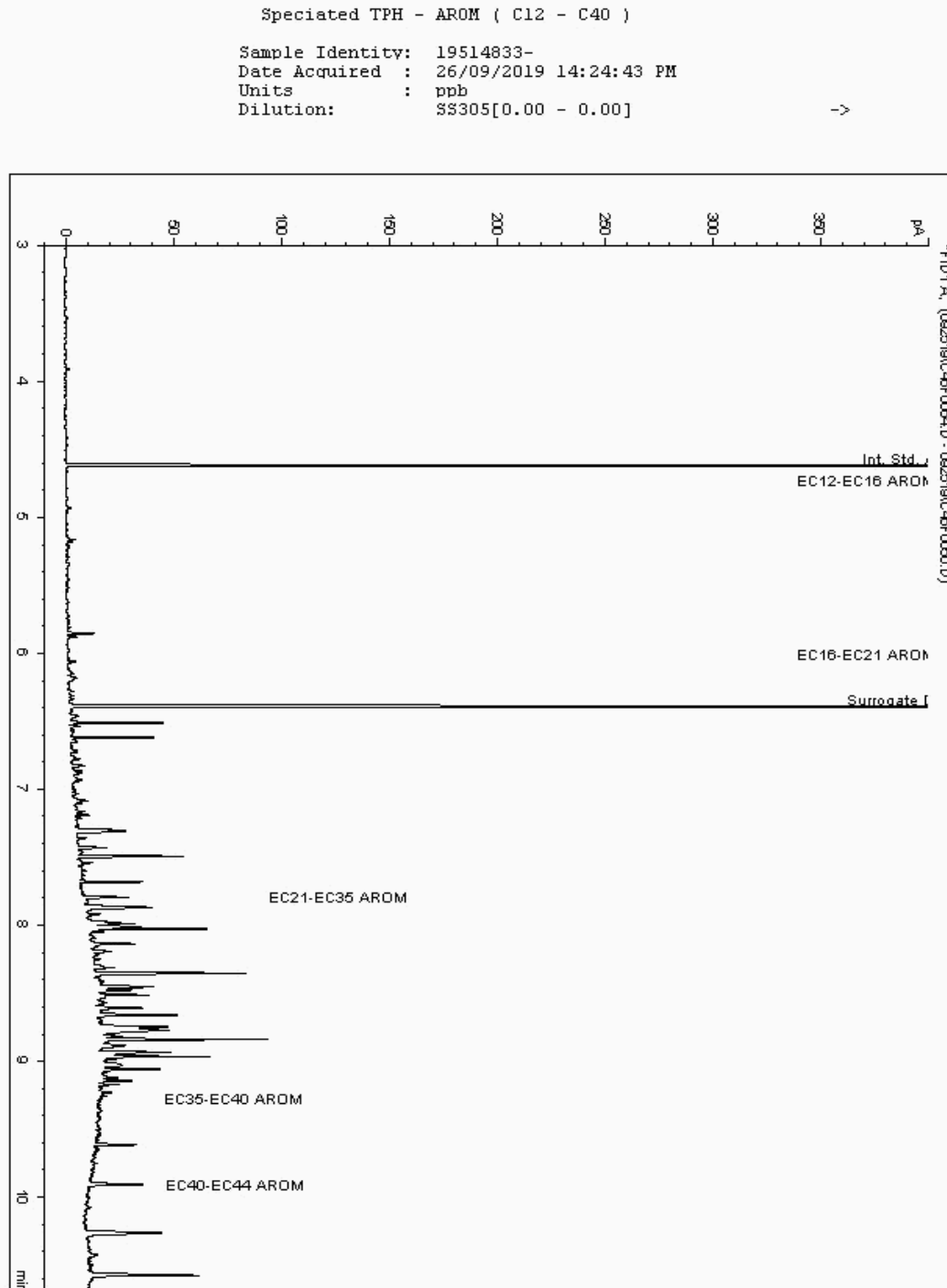
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 20773621
Sample ID : SS305

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

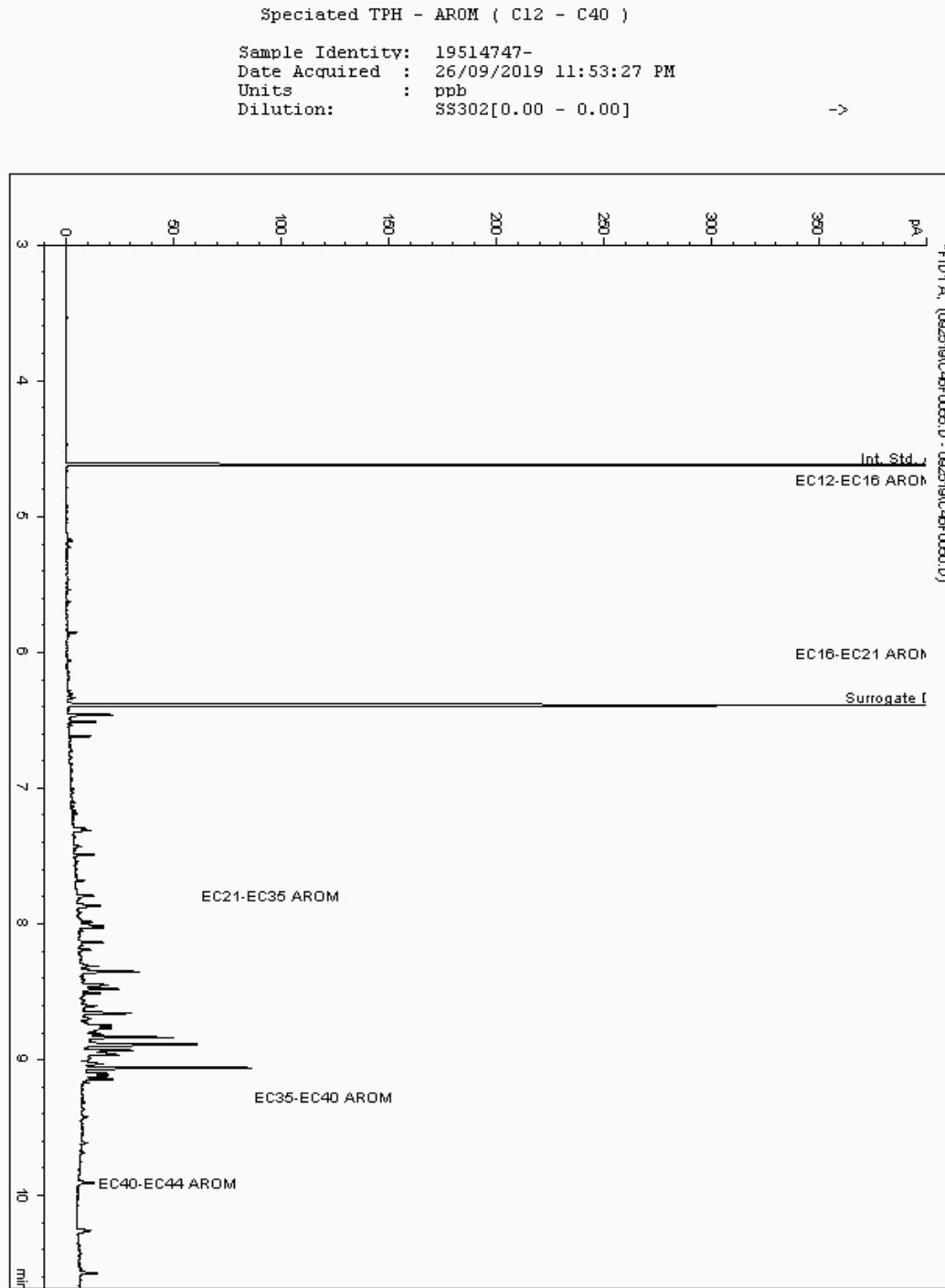
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 20773731
Sample ID : SS302

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

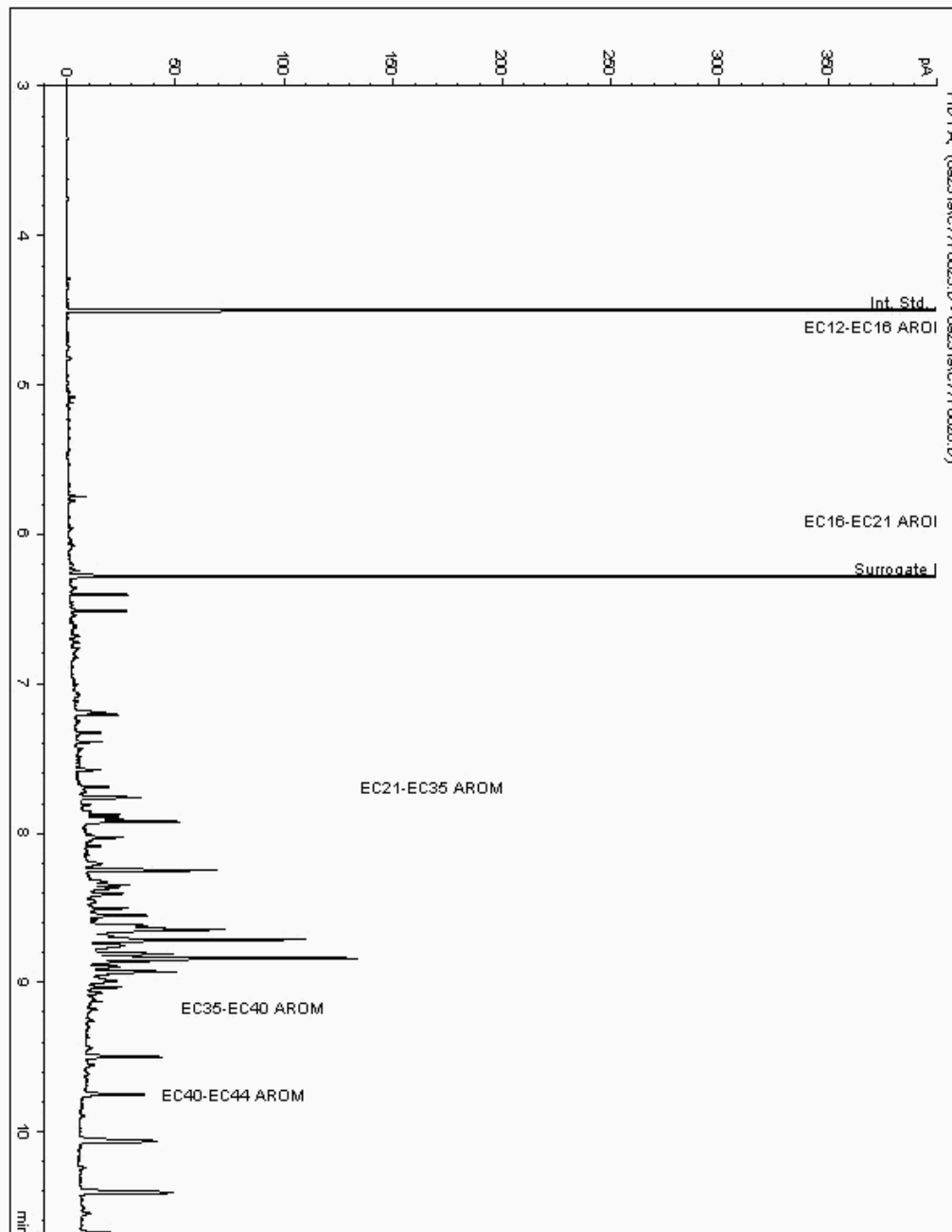
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 20773808
Sample ID : SS304

Depth : 0.00 - 0.00

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19514804-
Date Acquired : 9/27/2019 11:29:40 AM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

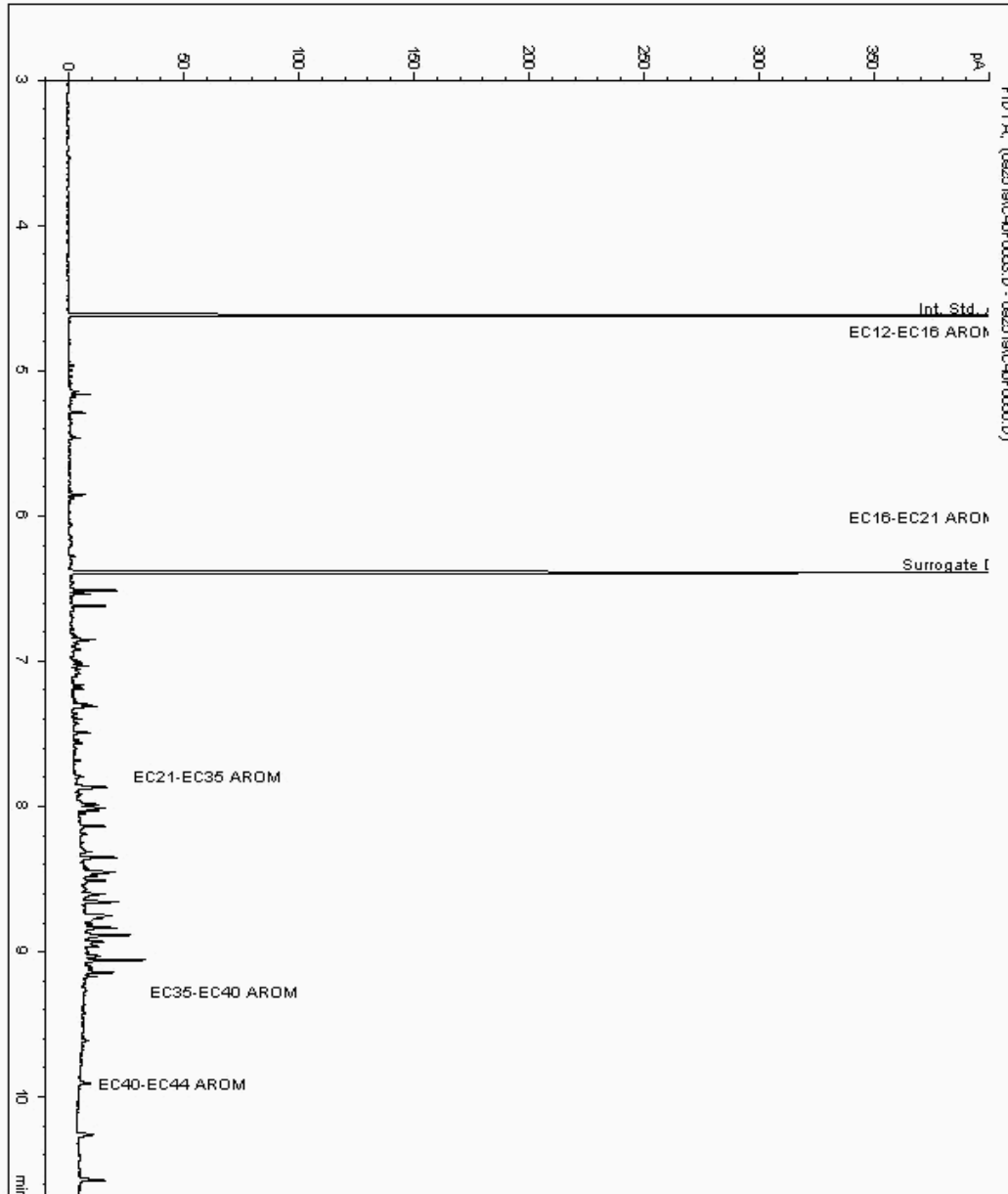
Sample No : 20773868
Sample ID : SS303

Depth : 0.00 - 0.00

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19514775-
Date Acquired : 26/09/2019 11:20:44 PM
Units : ppb
Dilution: SS303[0.00 - 0.00]

->





CERTIFICATE OF ANALYSIS

Validated

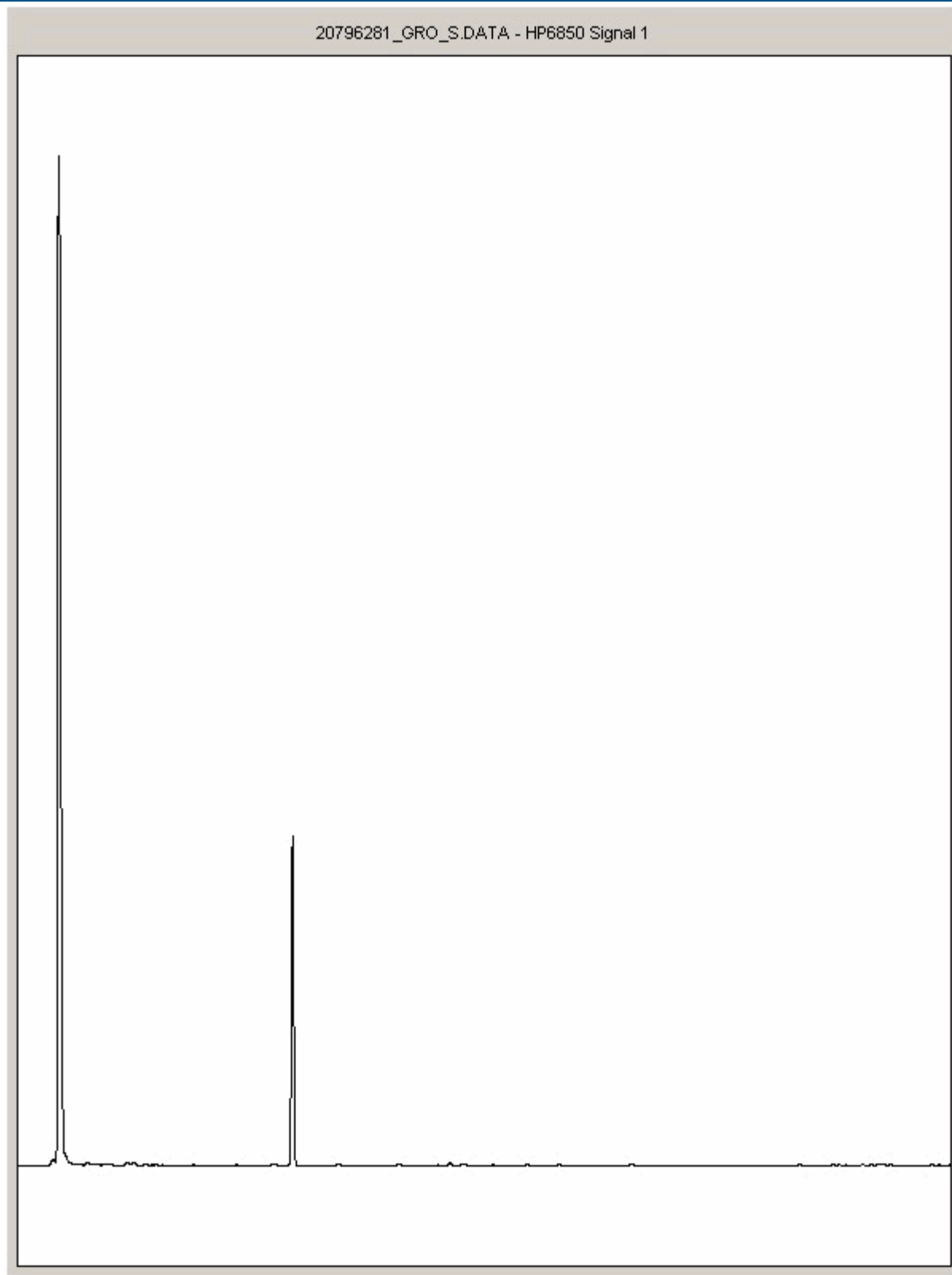
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20796281
Sample ID : SS301

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

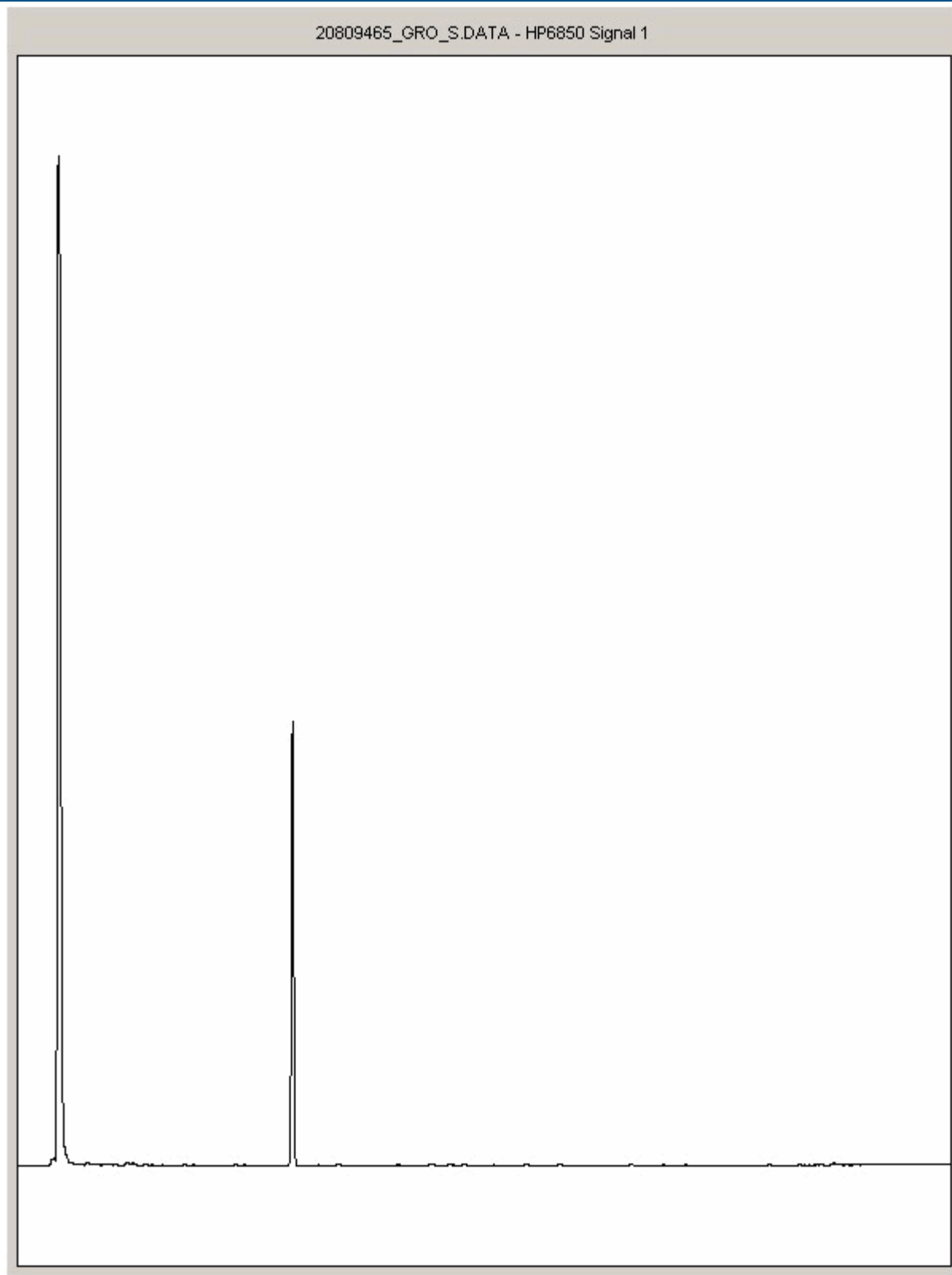
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20809465
Sample ID : SS304

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

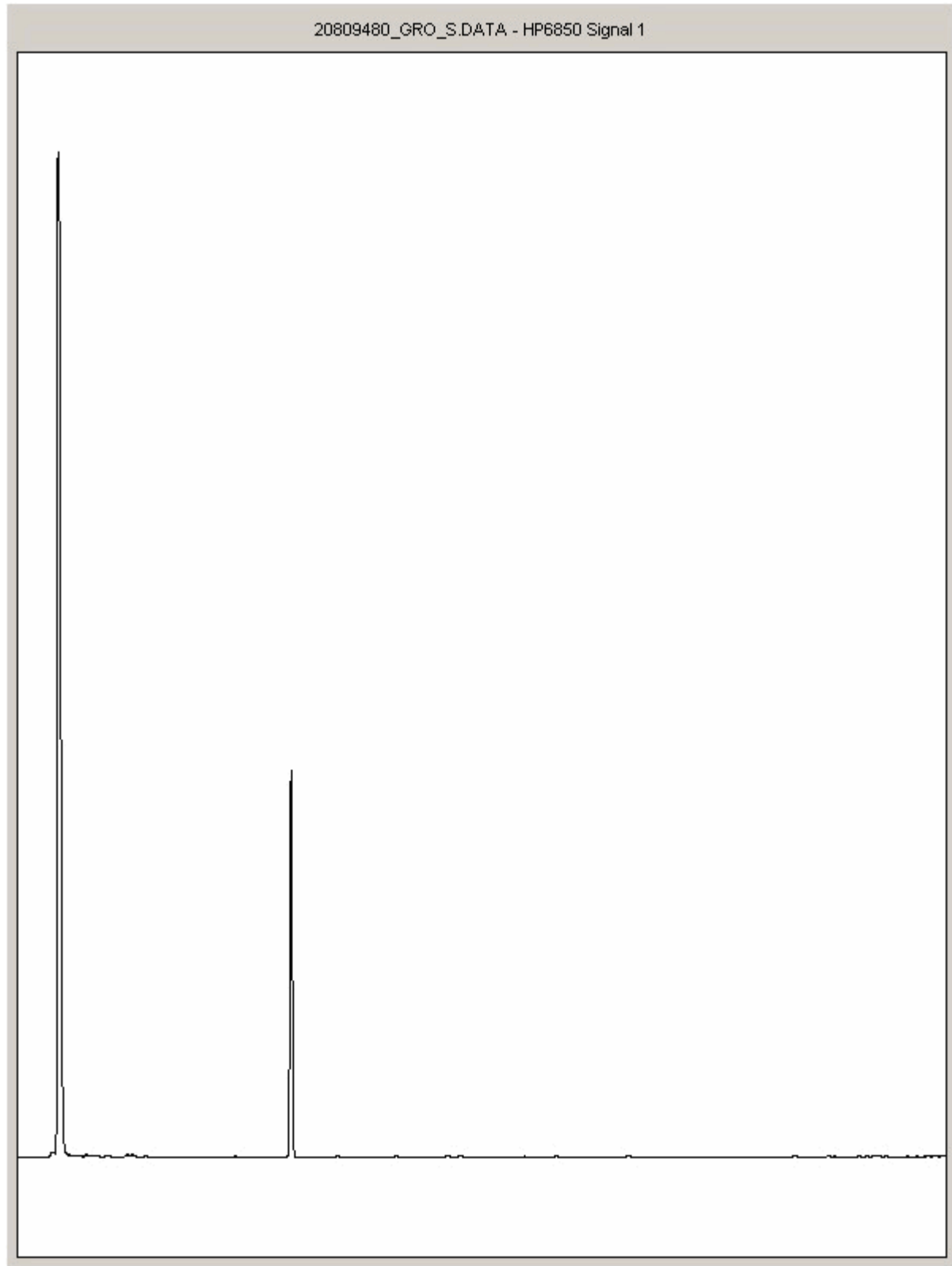
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20809480
Sample ID : SS302

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

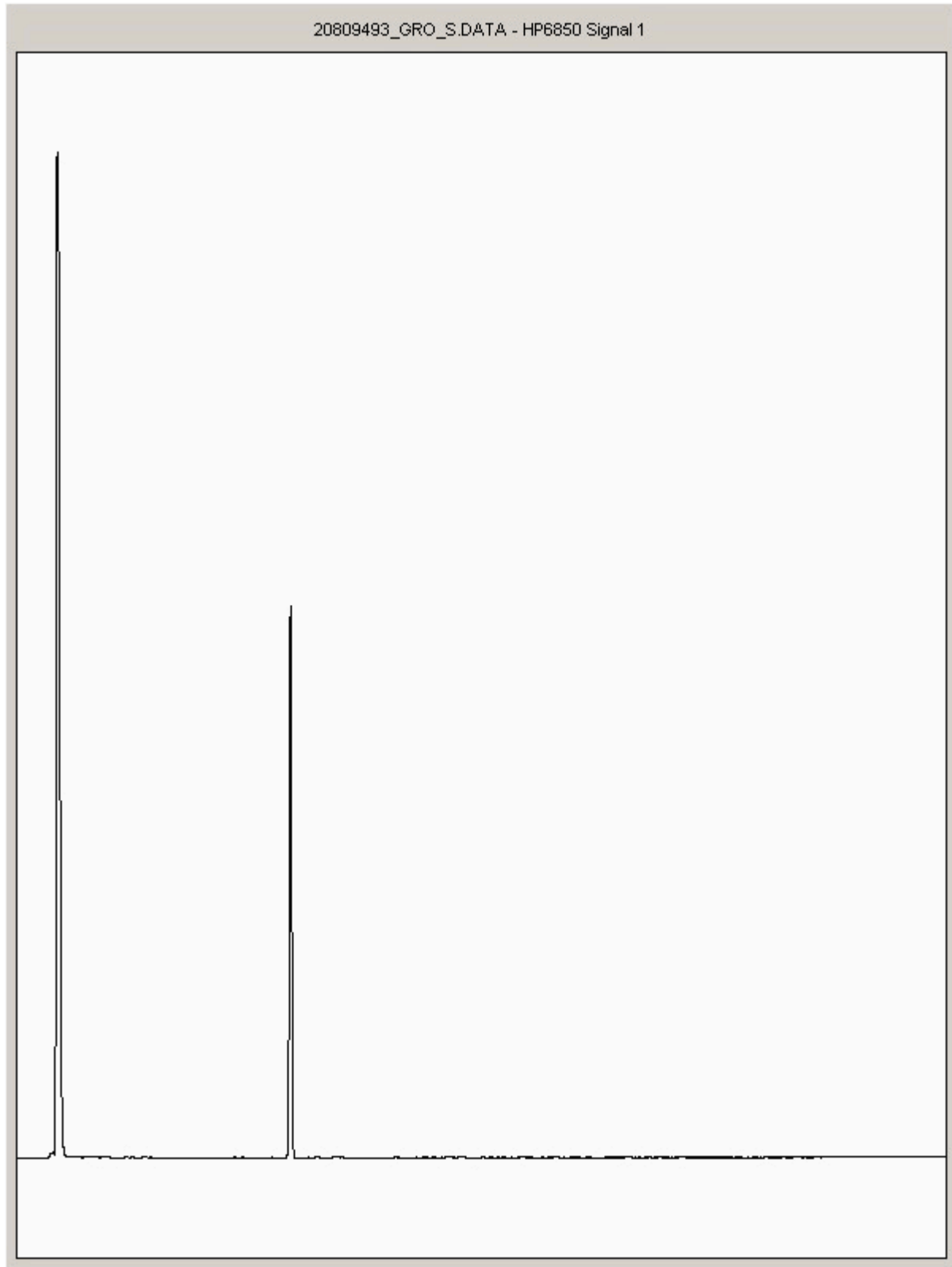
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20809493
Sample ID : SS303

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

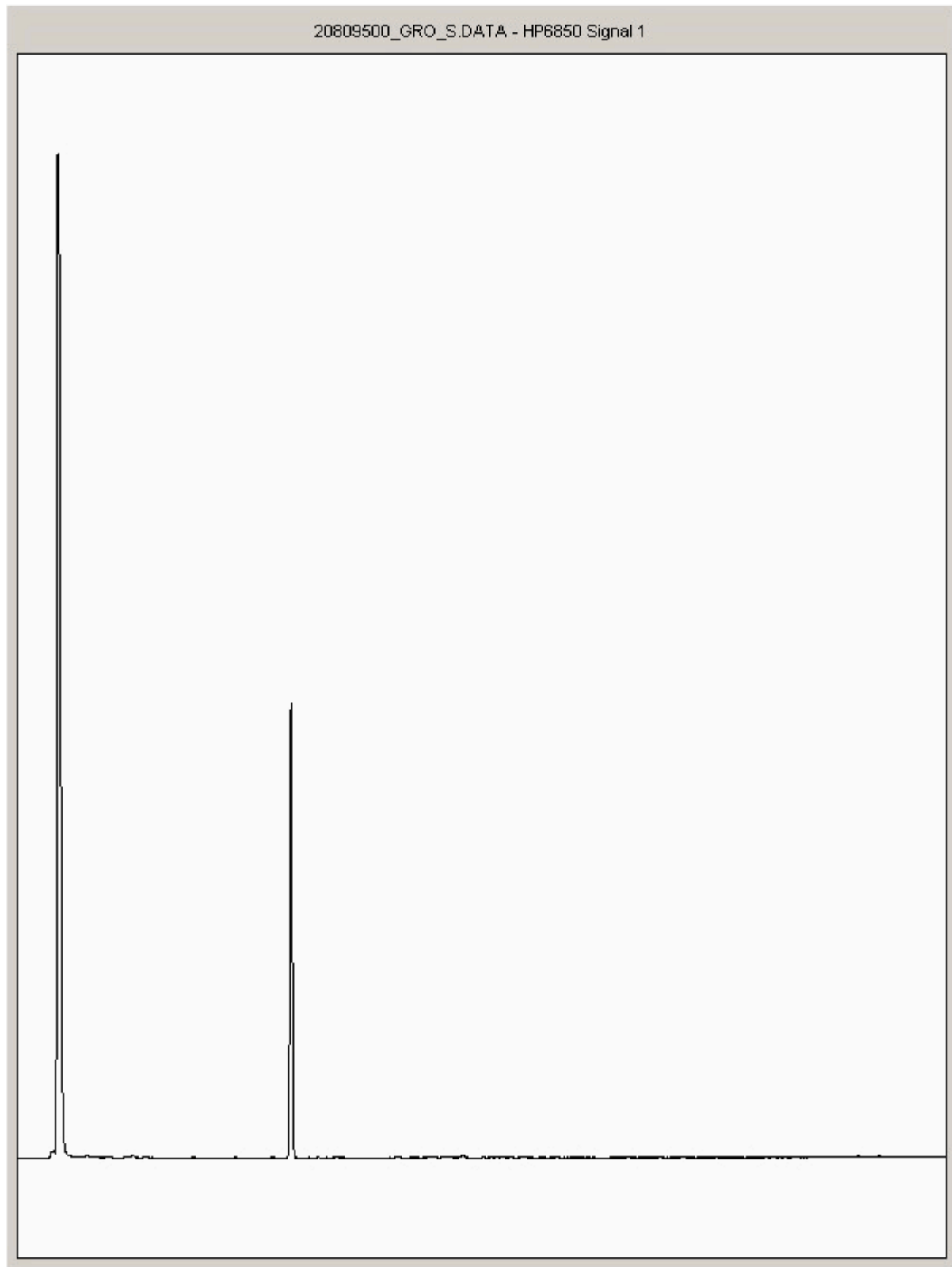
SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20809500
Sample ID : SS305

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG:	190920-142	Client Reference:	70031882	Report Number:	523538
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	523257

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. 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.

3. 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.

4. 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.

5. 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.

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

7. Results relate only to the items tested.

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

9. **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.

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

11. 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.

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

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

14. 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.

15. 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.

16. 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.

17. **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.

18. 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

19. Asbestos

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

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.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil* (2107).

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.



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email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

WSP PB LBH
WSP PB
4th Floor
6 Devonshire Square
London
EC2M 4YE

Attention: Will Allaway

CERTIFICATE OF ANALYSIS

Date of report Generation:	03 October 2019
Customer:	WSP PB LBH
Sample Delivery Group (SDG):	190926-16
Your Reference:	70031882
Location:	70031882-SGN Reading
Report No:	524090

We received 1 sample on Thursday September 26, 2019 and 1 of these samples were scheduled for analysis which was completed on Thursday October 03, 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:	190926-16	Client Reference:	70031882	Report Number:	524090
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
20803860	BH302A	ES	5.70 - 5.80	23/09/2019

Maximum Sample/Coolbox Temperature (°C) : 12.2

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: 190926-16
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524090
Superseded Report:

Results Legend



Test


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)

20803860

Customer
Sample Reference

BH302A

AGS Reference

ES

Depth (m)

5.70 - 5.80

Container

250g Amber Jar
(ALE210)

60g VOC
(ALE215)

Sample Type

S

S

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

PAH by GCMS

All

NDPs: 0
Tests: 1

X

Sample description

All

NDPs: 0
Tests: 1

X

TPH CWG GC (S)

All

NDPs: 0
Tests: 1

X

VOC MS (S)

All

NDPs: 0
Tests: 1

X



CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524090
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
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Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
20803860	BH302A	5.70 - 5.80	Black	N/A	Stones	Oil/Petroleum

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.



CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16 **Client Reference:** 70031882 **Report Number:** 524090
Location: 70031882-SGN Reading **Order Number:** 70031882 **Superseded Report:**

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
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
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID
TM218	Shaker extraction - EPA method 3546.	The determination of PAH in soil samples by GC-MS

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:	190926-16	Client Reference:	70031882	Report Number:	524090
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

Test Completion Dates

Lab Sample No(s)	20803860
Customer Sample Ref.	BH302A
AGS Ref.	ES
Depth	5.70 - 5.80
Type	Soil/Solid (S)

EPH CWG (Aliphatic) GC (S)	01-Oct-2019
EPH CWG (Aromatic) GC (S)	01-Oct-2019
GRO by GC-FID (S)	03-Oct-2019
PAH by GCMS	01-Oct-2019
Sample description	26-Sep-2019
TPH CWG GC (S)	03-Oct-2019
VOC MS (S)	01-Oct-2019



CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 524090
Superseded Report:

ASSOCIATED AQC DATA

EPH CWG (Aliphatic) GC (S)

Component	Method Code	QC 2048
Total Aliphatics >C12-C35	TM173	77.29 70.76 : 104.69

EPH CWG (Aromatic) GC (S)

Component	Method Code	QC 2048
Total Aromatics >EC12-EC35	TM173	80.0 68.16 : 102.29

GRO by GC-FID (S)

Component	Method Code	QC 2083
QC	TM089	90.82 74.55 : 125.46

PAH by GCMS

Component	Method Code	QC 2096
Acenaphthene	TM218	88.5 80.97 : 105.99
Acenaphthylene	TM218	88.0 80.24 : 105.29
Anthracene	TM218	92.0 73.72 : 109.23
Benz(a)anthracene	TM218	94.5 79.72 : 116.84
Benzo(a)pyrene	TM218	97.0 69.58 : 110.26
Benzo(b)fluoranthene	TM218	90.5 77.35 : 112.97
Benzo(ghi)perylene	TM218	92.5 77.68 : 107.38
Benzo(k)fluoranthene	TM218	97.0 82.61 : 111.93
Chrysene	TM218	96.5 80.28 : 111.42
Dibenzo(ah)anthracene	TM218	98.5 79.17 : 106.41
Fluoranthene	TM218	92.0 79.07 : 112.75
Fluorene	TM218	91.0 80.52 : 110.90



CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16 Client Reference: 70031882 Report Number: 524090
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report:

PAH by GCMS

		QC 2096
Indeno(123cd)pyrene	TM218	93.0 76.97 : 113.36
Naphthalene	TM218	90.5 83.50 : 110.02
Phenanthrene	TM218	92.5 79.34 : 111.91
Pyrene	TM218	94.0 74.43 : 114.36

VOC MS (S)

Component	Method Code	QC 2058
1,1,1,2-tetrachloroethane	TM116	101.0 77.47 : 121.29
1,1,1-Trichloroethane	TM116	110.0 88.88 : 119.66
1,1,2-Trichloroethane	TM116	92.2 75.16 : 112.70
1,1-Dichloroethane	TM116	113.4 77.84 : 124.12
1,2-Dichloroethane	TM116	116.6 86.58 : 129.62
1,4-Dichlorobenzene	TM116	104.0 82.59 : 123.23
2-Chlorotoluene	TM116	97.6 66.81 : 118.43
4-Chlorotoluene	TM116	96.0 65.88 : 114.76
Benzene	TM116	105.6 93.16 : 123.63
Carbon Disulphide	TM116	111.6 75.11 : 124.81
Carbontetrachloride	TM116	112.4 82.35 : 126.46
Chlorobenzene	TM116	103.6 82.88 : 122.42
Chloroform	TM116	109.2 82.52 : 123.25
Chloromethane	TM116	122.8 55.37 : 133.35
Cis-1,2-Dichloroethene	TM116	106.2 78.27 : 128.90
Dibromomethane	TM116	97.2 77.47 : 121.29
Dichloromethane	TM116	111.2 81.68 : 125.21
Ethylbenzene	TM116	99.6 83.56 : 122.99
Hexachlorobutadiene	TM116	73.2 7.32 : 139.00
Isopropylbenzene	TM116	100.6 52.15 : 132.52
Naphthalene	TM116	100.2 79.29 : 125.59



CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16 Client Reference: 70031882 Report Number: 524090
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report:

VOC MS (S)

		QC 2058
o-Xylene	TM116	95.2 68.16 : 107.61
p/m-Xylene	TM116	96.1 77.41 : 112.71
Sec-Butylbenzene	TM116	90.8 44.71 : 117.87
Tetrachloroethene	TM116	112.2 81.43 : 126.65
Toluene	TM116	95.4 87.82 : 116.21
Trichloroethene	TM116	101.2 79.80 : 112.33
Trichlorofluoromethane	TM116	124.2 80.52 : 132.12
Vinyl Chloride	TM116	128.6 58.08 : 128.58

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.

The figure detailed is the percentage recovery result for the AQC.

The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.



CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524090
Superseded Report:

Chromatogram

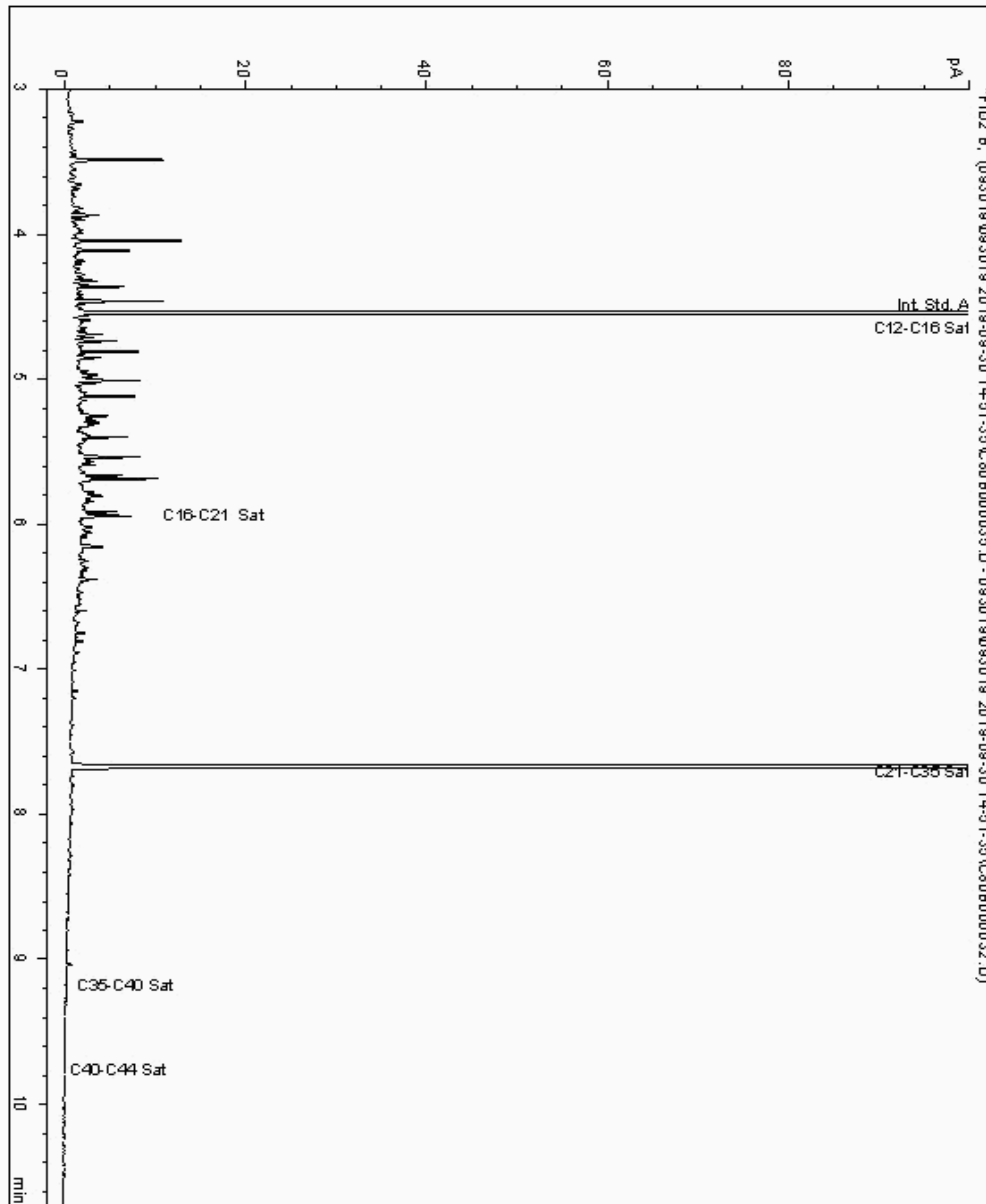
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 20805293
Sample ID : BH302A

Depth : 5.70 - 5.80

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

Sample Identity: 19546070-
Date Acquired : 01/10/19 01:18:33
Units : ppb
Dilution :
CF : 1
Multiplier : 1.020





CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 524090
Superseded Report:

Chromatogram

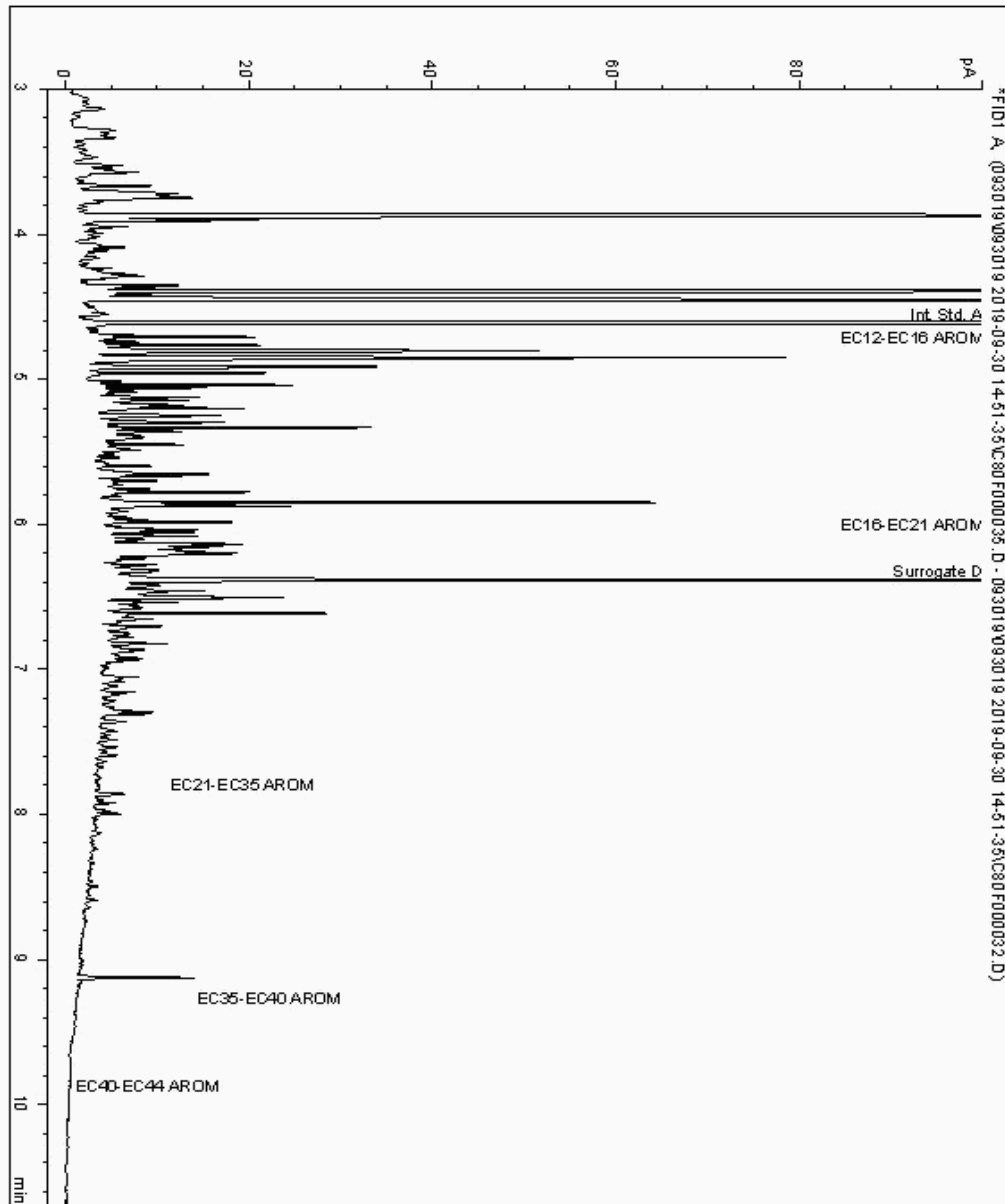
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 20805293
Sample ID : BH302A

Depth : 5.70 - 5.80

Speciated TPH - AROMS (C12 - C44)

Sample Identity: 19546071-
Date Acquired : 01/10/19 01:18:33
Units : ppb
Dilution :
CF : 1
Multiplier : 1.020





CERTIFICATE OF ANALYSIS

Validated

SDG: 190926-16
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

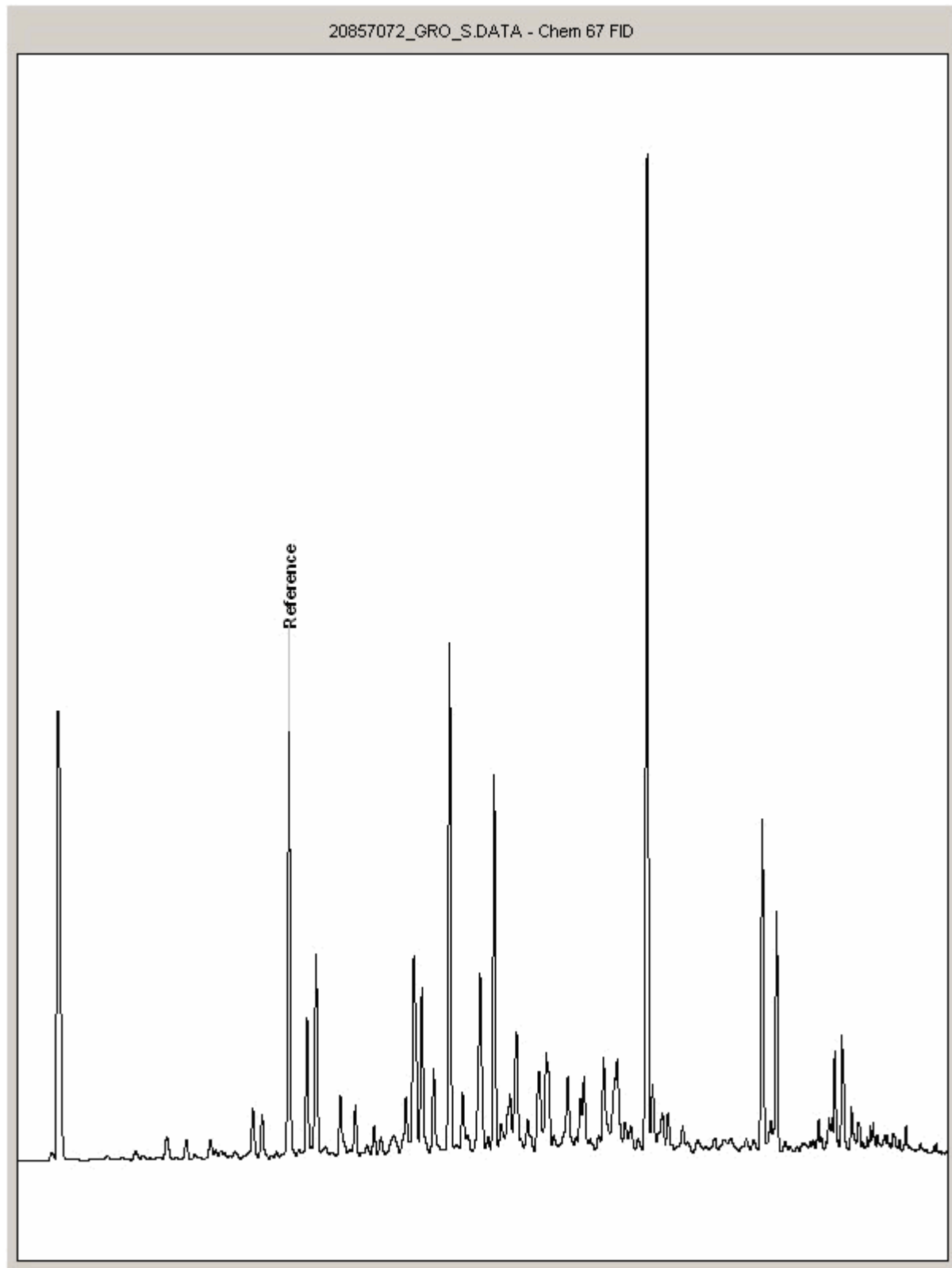
Report Number: 524090
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 20857072
Sample ID : BH302A

Depth : 5.70 - 5.80





CERTIFICATE OF ANALYSIS

SDG:	190926-16	Client Reference:	70031882	Report Number:	524090
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	

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. 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.

3. 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.

4. 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.

5. 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.

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

7. Results relate only to the items tested.

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

9. **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.

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

11. 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.

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

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

14. 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.

15. 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.

16. 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.

17. **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.

18. 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

19. Asbestos

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

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.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil* (2107).

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.



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Website: www.alsenvironmental.co.uk

WSP PB LBH
WSP PB
4th Floor
6 Devonshire Square
London
EC2M 4YE

Attention: Will Allaway

CERTIFICATE OF ANALYSIS

Date of report Generation:	16 October 2019
Customer:	WSP PB LBH
Sample Delivery Group (SDG):	191003-100
Your Reference:	70031882
Location:	70031882-SGN Reading
Report No:	525583

This report has been revised and directly supersedes 525526 in its entirety.

We received 14 samples on Thursday October 03, 2019 and 14 of these samples were scheduled for analysis which was completed on Wednesday October 16, 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: 191003-100 Client Reference: 70031882 Report Number: 525583
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 525526

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
20863439	BH101	EW20190930	1.00 - 3.60	30/09/2019
20863553	BH104	EW20191001	1.00 - 4.50	01/10/2019
20863567	BH106	EW20191001	9.00	01/10/2019
20863577	BH107	EW20191001	9.00	01/10/2019
20863587	BH201	EW20190930	5.00 - 7.00	30/09/2019
20863617	BH204	EW20191001	5.00 - 7.00	01/10/2019
20863459	BH301	EW20191001	12.00 - 16.00	01/10/2019
20863480	BH303	EW20191001	8.00	01/10/2019
20863529	BH103A	EW20191001	1.00 - 4.50	01/10/2019
20863469	BH302A	EW20191001	10.00 - 19.00	01/10/2019
20863512	BH102B	EW20191001	1.00 - 4.50	01/10/2019
20863599	BH203C	EW20191001	5.30 - 7.30	01/10/2019
20863501	Downstream	/2019 20191001 30/09-01/10 monitr	0.00 - 0.00	01/10/2019
20863490	Upstream	/2019 20191001 30/09-01/10 monitr	0.00 - 0.00	01/10/2019

Maximum Sample/Coolbox Temperature (°C) : 8.6

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: 191003-100
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 525583
Superseded Report: 525526

Results Legend



Test

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

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	
	20863577		BH107		EW2019100	1	9.00	330ml plastic bottle (ALE503)	GW			
	20863567		BH106		EW2019100	1	9.00	0.5l glass bottle (ALE227)	GW			
	20863553		BH104		EW2019100	1	1.00 - 4.50	NaOH (ALE245)	GW			
	20863439		BH101		EW2019093	0	1.00 - 3.60	NaOH (ALE245)	GW			
								330ml plastic bottle (ALE503)	GW			
								0.5l glass bottle (ALE227)	GW			
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 14										
Anions by Kone (w)	All	NDPs: 0 Tests: 14										
Determination of Dissolved Gases	All	NDPs: 0 Tests: 14										
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 14										
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 14										
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 14										
Ferric Iron	All	NDPs: 0 Tests: 14										
Ferrous Iron	All	NDPs: 0 Tests: 14										
GRO by GC-FID (W)	All	NDPs: 0 Tests: 14										
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 14										
Low Level Cyanide (W)	All	NDPs: 0 Tests: 14										
Mercury Dissolved	All	NDPs: 0 Tests: 14										
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 14										
pH Value of Filtered Water	All	NDPs: 0 Tests: 14										
Phenols by HPLC (W)	All	NDPs: 0 Tests: 14										



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 525583
Superseded Report: 525526

Results Legend



Test

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

Results Legend	Lab Sample No(s)		20863459		20863480		20863529		20863512
	Customer Sample Reference		BH301		BH303		BH103A		BH102B
	AGS Reference		EW2019100 1		EW2019100 1		EW2019100 1		EW2019100 1
	Depth (m)		12.00 - 16.00		8.00		1.00 - 4.50		1.00 - 4.50
	Container		Vial (ALE297) NaOH (ALE245)	330ml plastic bottle (ALE503) 0.5l glass bottle (ALE227)	Vial (ALE297) NaOH (ALE245)	330ml plastic bottle (ALE503) 0.5l glass bottle (ALE227)	Vial (ALE297) NaOH (ALE245)	330ml plastic bottle (ALE503) 0.5l glass bottle (ALE227)	Vial (ALE297) NaOH (ALE245)
	Sample Type		GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 14							
Anions by Kone (w)	All	NDPs: 0 Tests: 14							
Determination of Dissolved Gases	All	NDPs: 0 Tests: 14							
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 14							
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 14							
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 14							
Ferric Iron	All	NDPs: 0 Tests: 14							
Ferrous Iron	All	NDPs: 0 Tests: 14							
GRO by GC-FID (W)	All	NDPs: 0 Tests: 14							
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 14							
Low Level Cyanide (W)	All	NDPs: 0 Tests: 14							
Mercury Dissolved	All	NDPs: 0 Tests: 14							
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 14							
pH Value of Filtered Water	All	NDPs: 0 Tests: 14							
Phenols by HPLC (W)	All	NDPs: 0 Tests: 14							



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100 Client Reference: 70031882 Report Number: 525583
Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 525526

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														
						NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	330ml plastic bottle (ALE503)	H2SO4 (ALE244)	NaOH (ALE245)	H2SO4 (ALE244)	330ml plastic bottle (ALE503)	0.5l glass bottle (ALE227)	Vial (ALE297)	NaOH (ALE245)	H2SO4 (ALE244)	330ml plastic bottle (ALE503)	0.5l glass bottle (ALE227)
20863512	BH102B	EW2019100 1	1.00 - 4.50	0.5l glass bottle (ALE227)	GW														
20863469	BH302A	EW2019100 1	10.00 - 19.00	Vial (ALE297)	GW														
20863529	BH103A	EW2019100 1	1.00 - 4.50	Vial (ALE297)	GW														
20863480	BH303	EW2019100 1	8.00	Vial (ALE297)	GW														
20863459	BH301	EW2019100 1	12.00 - 16.00	Vial (ALE297)	GW														
						NaOH (ALE245)	Vial (ALE297)	0.5l glass bottle (ALE227)	330ml plastic bottle (ALE503)	H2SO4 (ALE244)	NaOH (ALE245)	H2SO4 (ALE244)	330ml plastic bottle (ALE503)	0.5l glass bottle (ALE227)	Vial (ALE297)	NaOH (ALE245)	H2SO4 (ALE244)	330ml plastic bottle (ALE503)	0.5l glass bottle (ALE227)
						GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 14																	
Total Metals by ICP-MS	All	NDPs: 0 Tests: 14																	
TPH CWG (W)	All	NDPs: 0 Tests: 14																	
VOC MS (W)	All	NDPs: 0 Tests: 14																	



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100 Client Reference: 70031882 Report Number: 525583
 Location: 70031882-SGN Reading Order Number: 70031882 Superseded Report: 525526

Results Legend



Test



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)

20863490

Customer Sample Reference

Upstream

AGS Reference

EW01/10/20
19
20191
001

Depth (m)

0.00 - 0.00

Container

Vial (ALE297)
NaOH (ALE245)

Sample Type

SW

Determination of Dissolved Gases

All

NDPs: 0
Tests: 14

X

GRO by GC-FID (W)

All

NDPs: 0
Tests: 14

X

Low Level Cyanide (W)

All

NDPs: 0
Tests: 14

X

VOC MS (W)

All

NDPs: 0
Tests: 14

X



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

Results Legend			Customer Sample Ref.		BH101	BH104	BH106	BH107	BH201	BH204
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		1.00 - 3.60	1.00 - 4.50	9.00	9.00	5.00 - 7.00	5.00 - 7.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				30/09/2019	01/10/2019	01/10/2019	01/10/2019	30/09/2019	01/10/2019
diss.filt	Dissolved / filtered sample.				03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019
tot.unfilt	Total / unfiltered sample.				191003-100	191003-100	191003-100	191003-100	191003-100	191003-100
Subcontracted - refer to subcontractor report for accreditation status.					20863439	20863553	20863577	20863577	20863587	20863617
** % 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					EW20190930	EW20191001	EW20191001	EW20191001	EW20190930	EW20191001
(F) Trigger breach confirmed										
1.3+5@ Sample deviation (see appendix)										
Component	LOD/Units	Method								
Ammoniacal Nitrogen as NH4	<300 µg/l	TM099			<300 #	37700 #	11200 #	<300 #	7050 #	<300 #
Iron, Ferric	<50 µg/l	TM125			<50 #	22600 #	<50 #	<50 #	8330 #	<50 #
Iron, Ferrous	<100 µg/l	TM125			<100 2 #	227 2 #	<100 2 #	<100 2 #	116 2 #	<100 2 #
Arsenic (diss.filt)	<0.5 µg/l	TM152			<0.5 #	69.3 #	0.54 #	<0.5 #	23.3 #	<0.5 #
Barium (diss.filt)	<0.2 µg/l	TM152			26.6 #	79.2 #	39.7 #	42.3 #	74.3 #	70.5 #
Beryllium (diss.filt)	<0.1 µg/l	TM152			<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Boron (diss.filt)	<10 µg/l	TM152			17.4 #	397 #	184 #	156 #	142 #	132 #
Cadmium (diss.filt)	<0.08 µg/l	TM152			<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #	<0.08 #
Chromium (diss.filt)	<1 µg/l	TM152			9.02 #	<1 #	<1 #	2.36 #	1.16 #	<1 #
Copper (diss.filt)	<0.3 µg/l	TM152			3.62 #	<0.3 #	0.752 #	0.453 #	2.49 #	<0.3 #
Manganese (tot.unfilt)	<1 µg/l	TM152			4.09 2 #	4270 2 #	485 2 #	<1 2 #	734 2 #	17.4 2 #
Lead (diss.filt)	<0.2 µg/l	TM152			<0.2 #	0.445 #	<0.2 #	<0.2 #	14.9 #	<0.2 #
Nickel (diss.filt)	<0.4 µg/l	TM152			1.72 #	2.19 #	23.7 #	2.15 #	1.76 #	1.75 #
Selenium (diss.filt)	<1 µg/l	TM152			1.93 #	<1 #	<1 #	1.2 #	<1 #	1.04 #
Vanadium (diss.filt)	<1 µg/l	TM152			<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Zinc (diss.filt)	<1 µg/l	TM152			<1 #	2.17 #	4.28 #	<1 #	6.9 #	1.1 #
Iron (Dis.Filt)	<19 µg/l	TM152			43.6 #	22800 #	30.4 #	<19 #	8450 #	21.8 #
Hardness, Total as CaCO3	<650 µg/l	TM152			260000 #	895000 #	430000 #	391000 #	398000 #	359000 #
Mercury (diss.filt)	<0.01 µg/l	TM183			<0.01 #	<0.01 #	<0.01 #	<0.01 #	0.0179 #	<0.01 #
Chloride	<2000 µg/l	TM184			4700 #	45100 #	86000 #	45800 #	33200 #	45800 #
Nitrate as N	<67.7 µg/l	TM184			4320 #	<67.7 #	3130 #	10300 #	<67.7 #	7360 #
Sulphate as %SO4	<0.0002 %	TM184			0.00192 #	0.0408 #	0.00592 #	0.00592 #	0.0103 #	0.00491 #
Methane, dissolved	<1 µg/l	TM223			<2.18 #	43.9 #	14.5 #	1.28 #	113 #	1.85 #
Ethene, dissolved	<1 µg/l	TM223			<1 #	<1 #	<1 #	<1 #	63.6 #	<1 #
Ethane, dissolved	<1 µg/l	TM223			<1 #	<1 #	<1 #	<1 #	1.22 #	<1 #
Carbon dioxide, dissolved	<1300 µg/l	TM223			12600 #	136000 #	33900 #	25100 #	23400 #	23700 #
Propane, dissolved	<1 µg/l	TM223			<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chromium, Hexavalent	<30 µg/l	TM241			<30 #	<30 #	<30 #	<30 #	<30 #	<30 #
pH (diss.filt)	1 pH Units	TM256			7.84 #	6.98 #	7.4 #	7.47 #	7.97 @	7.4 #
Resorcinol	<10 µg/l	TM259			<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Catechol	<10 µg/l	TM259			<10 #	<10 #	<10 #	<10 #	<10 #	<10 #
Phenol	<2 µg/l	TM259			<2 #	<2 #	<2 #	<2 #	<2 #	<2 #



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

Results Legend			Customer Sample Ref.		BH301	BH303	BH103A	BH302A	BH102B	BH203C
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		12.00 - 16.00	8.00	1.00 - 4.50	10.00 - 19.00	1.00 - 4.50	5.30 - 7.30
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019
Subcontracted - refer to subcontractor report for accreditation status.					191003-100	191003-100	191003-100	191003-100	191003-100	191003-100
** % 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					20863459	20863480	20863529	20863469	20863512	20863599
(F) Trigger breach confirmed					EW20191001	EW20191001	EW20191001	EW20191001	EW20191001	EW20191001
1.3+5@ Sample deviation (see appendix)										
Component	LOD/Units	Method								
Ammoniacal Nitrogen as NH4	<300 µg/l	TM099	11400	#	1070	#	7350	#	134000	#
Iron, Ferric	<50 µg/l	TM125	<50	#	<50	#	<50	#	146	#
Iron, Ferrous	<100 µg/l	TM125	<100	2 #	<100	2 #	<100	2 #	341	2 #
Arsenic (diss.filt)	<0.5 µg/l	TM152	4.54	2 #	<0.5	2 #	2.29	2 #	26.4	#
Barium (diss.filt)	<0.2 µg/l	TM152	50.3	2 #	41.5	2 #	37.6	2 #	84.2	#
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1	2 #	<0.1	2 #	<0.1	2 #	<0.1	#
Boron (diss.filt)	<10 µg/l	TM152	63.9	2 #	127	2 #	20.4	2 #	77.4	#
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	2 #	<0.08	2 #	<0.08	2 #	<0.08	#
Chromium (diss.filt)	<1 µg/l	TM152	<1	2 #	<1	2 #	<1	2 #	1.29	#
Copper (diss.filt)	<0.3 µg/l	TM152	<0.3	2 #	<0.3	2 #	3.24	2 #	<0.3	#
Manganese (tot.unfilt)	<1 µg/l	TM152	3690	#	290	#	135	#	638	2 #
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2	2 #	<0.2	2 #	<0.2	2 #	<0.2	#
Nickel (diss.filt)	<0.4 µg/l	TM152	6.2	2 #	10.7	2 #	1.45	2 #	22.9	#
Selenium (diss.filt)	<1 µg/l	TM152	23.5	2 #	<1	2 #	<1	2 #	6.96	#
Vanadium (diss.filt)	<1 µg/l	TM152	<1	2 #	<1	2 #	<1	2 #	4	#
Zinc (diss.filt)	<1 µg/l	TM152	31.4	2 #	5.12	2 #	31.3	2 #	1.7	#
Iron (Dis.Filt)	<19 µg/l	TM152	21.6	2 #	<19	2 #	28.6	2 #	487	#
Hardness, Total as CaCO3	<650 µg/l	TM152	176000	2	383000	2	239000	2	231000	1000000
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	2 #	<0.01	2 #	<0.01	2 #	0.013	#
Chloride	<2000 µg/l	TM184	40900	#	40200	#	11600	#	275000	#
Nitrate as N	<67.7 µg/l	TM184	2260		6010		4930		<67.7	2870
Sulphate as %SO4	<0.0002 %	TM184	0.00647	#	0.00715	#	0.00718	#	0.00472	0.0786
Methane, dissolved	<1 µg/l	TM223	419		6.3		2.35		4620	8.47
Ethene, dissolved	<1 µg/l	TM223	<1		<1		<1		<19.1	<1
Ethane, dissolved	<1 µg/l	TM223	1.17		<1		<1		<20.5	<1
Carbon dioxide, dissolved	<1300 µg/l	TM223	19200		31000		14300		47900	34400
Propane, dissolved	<1 µg/l	TM223	<1		<1		<1		9.04	<1
Chromium, Hexavalent	<30 µg/l	TM241	<30	#	<30	#	<30	#	<30	<30
pH (diss.filt)	1 pH Units	TM256	8.07		7.46		7.62		7.69	7.77
Resorcinol	<10 µg/l	TM259	<10		<10		<10		320	<10
Catechol	<10 µg/l	TM259	<10		<10		<10		270	<10
Phenol	<2 µg/l	TM259	<2	#	<2	#	<2	#	3050	<2



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

Results Legend			Customer Sample Ref.	Downstream		Upstream					
#	ISO17025 accredited.			0.00 - 0.00		0.00 - 0.00					
M	mCERTS accredited.			Surface Water (SW)		Surface Water (SW)					
aq	Aqueous / settled sample.			01/10/2019		01/10/2019					
diss.filt	Dissolved / filtered sample.			-		-					
tot.unfilt	Total / unfiltered sample.			03/10/2019		03/10/2019					
*	Subcontracted - refer to subcontractor report for accreditation status.			191003-100		191003-100					
**	% 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			20863501		20863490					
(F)	Trigger breach confirmed			EW01/10/2019 20191001		EW01/10/2019 20191001					
1-3+5@	Sample deviation (see appendix)			30/09-01/10		30/09-01/10					
Component	LOD/Units	Method									
Ammoniacal Nitrogen as NH4	<300 µg/l	TM099	396 #		<300 #						
Iron, Ferric	<50 µg/l	TM125	<50		<50						
Iron, Ferrous	<100 µg/l	TM125	<100 2 #		<100 2 #						
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.69 2 #		0.655 #						
Barium (diss.filt)	<0.2 µg/l	TM152	22.6 2 #		22.5 #						
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1 2 #		<0.1 #						
Boron (diss.filt)	<10 µg/l	TM152	34.8 2 #		30.1 #						
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08 2 #		0.293 #						
Chromium (diss.filt)	<1 µg/l	TM152	<1 2 #		7.27 #						
Copper (diss.filt)	<0.3 µg/l	TM152	1.33 2 #		1.25 #						
Manganese (tot.unfilt)	<1 µg/l	TM152	15.2 2 #		19 2 #						
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2 2 #		<0.2 #						
Nickel (diss.filt)	<0.4 µg/l	TM152	1.55 2 #		1.48 #						
Selenium (diss.filt)	<1 µg/l	TM152	<1 2 #		<1 #						
Vanadium (diss.filt)	<1 µg/l	TM152	<1 2 #		<1 #						
Zinc (diss.filt)	<1 µg/l	TM152	8.84 2 #		7.76 #						
Iron (Dis.Filt)	<19 µg/l	TM152	40.3 2 #		26.1 #						
Hardness, Total as CaCO3	<650 µg/l	TM152	288000 2		288000						
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 2		<0.01						
Chloride	<2000 µg/l	TM184	38700 #		37900 #						
Nitrate as N	<67.7 µg/l	TM184	5510		5320						
Sulphate as %SO4	<0.0002 %	TM184	0.00272 #		0.00269 #						
Methane, dissolved	<1 µg/l	TM223	4.2		3.6						
Ethene, dissolved	<1 µg/l	TM223	<1		<1						
Ethane, dissolved	<1 µg/l	TM223	<1		<1						
Carbon dioxide, dissolved	<1300 µg/l	TM223	5530		6360						
Propane, dissolved	<1 µg/l	TM223	<1		<1						
Chromium, Hexavalent	<30 µg/l	TM241	<30		<30						
pH (diss.filt)	1 pH Units	TM256	7.99		8						
Resorcinol	<10 µg/l	TM259	<10		<10						
Catechol	<10 µg/l	TM259	<10		<10						
Phenol	<2 µg/l	TM259	<2		<2						



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH101	BH104	BH106	BH107	BH201	BH204
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		1.00 - 3.60	1.00 - 4.50	9.00	9.00	5.00 - 7.00	5.00 - 7.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				30/09/2019	01/10/2019	01/10/2019	01/10/2019	30/09/2019	01/10/2019
dis.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
Subcontracted - refer to subcontractor report for accreditation status.					03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019
** % 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					191003-100	191003-100	191003-100	191003-100	191003-100	191003-100
(F) Trigger breach confirmed					20863439	20863553	20863577	20863587	20863617	20863617
1.3+5@ Sample deviation (see appendix)					EW20190930	EW20191001	EW20191001	EW20191001	EW20190930	EW20191001
Component	LOD/Units	Method								
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2-Chlorophenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2-Methylphenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2-Nitroaniline (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
2-Nitrophenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
3-Nitroaniline (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
4-Chloroaniline (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
4-Methylphenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
4-Nitroaniline (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
4-Nitrophenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
Azobenzene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
Acenaphthylene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
Acenaphthene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
Anthracene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<4	#	<8	#	<4	#	<4	#
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	#	<2	#



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH101	BH104	BH106	BH107	BH201	BH204
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		1.00 - 3.60	1.00 - 4.50	9.00	9.00	5.00 - 7.00	5.00 - 7.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				30/09/2019	01/10/2019	01/10/2019	01/10/2019	30/09/2019	01/10/2019
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019
Subcontracted - refer to subcontractor report for accreditation status.					191003-100	191003-100	191003-100	191003-100	191003-100	191003-100
% 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					20863439	20863553	20863567	20863577	20863587	20863617
(F) Trigger breach confirmed					EW20190930	EW20191001	EW20191001	EW20191001	EW20190930	EW20191001
1-3*5@ Sample deviation (see appendix)										
Component	LOD/Units	Method								
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Carbazole (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Chrysene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Dibenzofuran (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Diethyl phthalate (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<10	#	<20	#	<10	<5	<10	<5
Fluoranthene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Fluorene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Pentachlorophenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Hexachloroethane (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Nitrobenzene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Naphthalene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Isophorone (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1
Pyrene (aq)	<1 µg/l	TM176	<2	#	<4	#	<2	<1	<2	<1



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 525583
Superseded Report: 525526

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH301	BH303	BH103A	BH302A	BH102B	BH203C
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH301	12.00 - 16.00 Ground Water (GW) 01/10/2019 03/10/2019 191003-100 20863459 EW20191001	8.00 Ground Water (GW) 01/10/2019 03/10/2019 191003-100 20863480 EW20191001	1.00 - 4.50 Ground Water (GW) 01/10/2019 03/10/2019 191003-100 20863529 EW20191001	10.00 - 19.00 Ground Water (GW) 01/10/2019 03/10/2019 191003-100 20863469 EW20191001	1.00 - 4.50 Ground Water (GW) 01/10/2019 03/10/2019 191003-100 20863512 EW20191001	5.30 - 7.30 Ground Water (GW) 01/10/2019 03/10/2019 191003-100 20863599 EW20191001
M	Aqueous / settled sample.									
aq	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								
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		22.5 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2-Chlorophenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		265 #	<1 #	<2 #	23.8 #	<2 #	<1 #	◆ #
2-Methylphenol (aq)	<1 µg/l	TM176		29.9 #	<1 #	<2 #	1030 #	<2 #	<1 #	◆ #
2-Nitroaniline (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
2-Nitrophenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
3-Nitroaniline (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
4-Chloroaniline (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
4-Methylphenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	524 #	<2 #	<1 #	◆ #
4-Nitroaniline (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
4-Nitrophenol (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
Azobenzene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
Acenaphthylene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
Acenaphthene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	2.34 #	<1 #	◆ #
Anthracene (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<40 #	<2 #	<4 #	<20 #	<4 #	<2 #	◆ #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<20 #	<1 #	<2 #	<10 #	<2 #	<1 #	◆ #



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH301	BH303	BH103A	BH302A	BH102B	BH203C
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		12.00 - 16.00	8.00	1.00 - 4.50	10.00 - 19.00	1.00 - 4.50	5.30 - 7.30
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019	03/10/2019
+	Subcontracted - refer to subcontractor report for accreditation status.				191003-100	191003-100	191003-100	191003-100	191003-100	191003-100
**	% 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				20863459	20863480	20863529	20863469	20863512	20863599
(F)	Trigger breach confirmed				EW20191001	EW20191001	EW20191001	EW20191001	EW20191001	EW20191001
1-3+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Carbazole (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Chrysene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Dibenzofuran (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Diethyl phthalate (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<100	#	<5	#	<10	<50	<10	<5 ◆ #
Fluoranthene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Fluorene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Pentachlorophenol (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Phenol (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	783	<2	<1 ◆ #
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Hexachloroethane (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Nitrobenzene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Naphthalene (aq)	<1 µg/l	TM176	2110	#	<1	#	<2	13.9	<2	<1 ◆ #
Isophorone (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Phenanthrene (aq)	<1 µg/l	TM176	36.6	#	<1	#	<2	<10	<2	<1 ◆ #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #
Pyrene (aq)	<1 µg/l	TM176	<20	#	<1	#	<2	<10	<2	<1 ◆ #



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 525583
Superseded Report: 525526

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	Downstream		Upstream						
#	ISO17025 accredited.			Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00 Surface Water (SW) 01/10/2019		0.00 - 0.00 Surface Water (SW) 01/10/2019					
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										
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #								
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #								
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #								
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #								
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #								
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #								
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #								
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #								
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #								
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #								
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #	<1 #								
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
4-Chloroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #								
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #	<1 #								
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #								
4-Nitrophenol (aq)	<1 µg/l	TM176	<1 #	<1 #								
Azobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #								
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #	<1 #								
Acenaphthene (aq)	<1 µg/l	TM176	<1 #	<1 #								
Anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #								
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #	<1 #								
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #	<1 #								
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #	<2 #								
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #								



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN ReadingClient Reference: 70031882
Order Number: 70031882Report Number: 525583
Superseded Report: 525526

SVOC MS (W) - Aqueous

Results Legend		Customer Sample Ref.	Downstream	Upstream			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00			
M	mCERTS accredited.		Surface Water (SW)	Surface Water (SW)			
aq	Aqueous / settled sample.		01/10/2019	01/10/2019			
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.		03/10/2019	03/10/2019			
*	Subcontracted - refer to subcontractor report for accreditation status.		191003-100	191003-100			
**	% 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		20863501	20863490			
(F)	Trigger breach confirmed		EW01/10/2019 20191001	EW01/10/2019 20191001			
1-3+5@	Sample deviation (see appendix)		30/09-01/10	30/09-01/10			
Component	LOD/Units	Method					
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Carbazole (aq)	<1 µg/l	TM176	<1 #	<1 #			
Chrysene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #	<1 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #			
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #	<5 #			
Fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Fluorene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1			
Phenol (aq)	<1 µg/l	TM176	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #	<1 #			
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #	<1 #			
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Naphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Isophorone (aq)	<1 µg/l	TM176	<1 #	<1 #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #			
Pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #			



CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Table of Results - Appendix

Method No	Reference	Description
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM125	DIN 38405 D17	Determination of Total/Ferrous Iron
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	ASTM D-1945-91	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM279		Determination of Low Level Easily Liberatable (Free) Cyanides and Total Cyanides in Waters using the Skalar SANS+ System Segmented Flow Analyser

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: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

Test Completion Dates

Lab Sample No(s)
Customer Sample Ref.

AGS Ref.
Depth
Type

	20863439	20863553	20863567	20863577	20863587	20863617	20863459	20863480	20863529	20863469
	BH101	BH104	BH106	BH107	BH201	BH204	BH301	BH303	BH103A	BH302A
	EW20190930	EW20191001	EW20191001	EW20191001	EW20190930	EW20191001	EW20191001	EW20191001	EW20191001	EW20191001
	1.00 - 3.60	1.00 - 4.50	9.00	9.00	5.00 - 7.00	5.00 - 7.00	12.00 - 16.00	8.00	1.00 - 4.50	10.00 - 19.00
	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	09-Oct-2019	04-Oct-2019	09-Oct-2019	04-Oct-2019	09-Oct-2019	04-Oct-2019	09-Oct-2019	04-Oct-2019	09-Oct-2019	04-Oct-2019
Anions by Kone (w)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
Determination of Dissolved Gases	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019
Dissolved Metals by ICP-MS	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019
EPH CWG (Aliphatic) Aqueous GC (W)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
EPH CWG (Aromatic) Aqueous GC (W)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
Ferric Iron	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019
Ferrous Iron	13-Oct-2019	04-Oct-2019	13-Oct-2019	04-Oct-2019	13-Oct-2019	04-Oct-2019	13-Oct-2019	04-Oct-2019	13-Oct-2019	04-Oct-2019
GRO by GC-FID (W)	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019
Hexavalent Chromium (w)	07-Oct-2019	04-Oct-2019	11-Oct-2019	04-Oct-2019	07-Oct-2019	04-Oct-2019	11-Oct-2019	04-Oct-2019	11-Oct-2019	04-Oct-2019
Low Level Cyanide (W)	10-Oct-2019	04-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	04-Oct-2019	10-Oct-2019	10-Oct-2019
Mercury Dissolved	07-Oct-2019	04-Oct-2019	08-Oct-2019	07-Oct-2019	08-Oct-2019	04-Oct-2019	08-Oct-2019	04-Oct-2019	07-Oct-2019	04-Oct-2019
Nitrite by Kone (w)	07-Oct-2019	04-Oct-2019	07-Oct-2019	04-Oct-2019	07-Oct-2019	04-Oct-2019	10-Oct-2019	04-Oct-2019	07-Oct-2019	07-Oct-2019
PAH Spec MS - Aqueous (W)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019	11-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
pH Value of Filtered Water	09-Oct-2019	04-Oct-2019	14-Oct-2019	04-Oct-2019	14-Oct-2019	04-Oct-2019	14-Oct-2019	04-Oct-2019	14-Oct-2019	04-Oct-2019
Phenols by HPLC (W)	11-Oct-2019	11-Oct-2019	11-Oct-2019	12-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	12-Oct-2019	11-Oct-2019	10-Oct-2019
SVOC MS (W) - Aqueous	11-Oct-2019	11-Oct-2019	11-Oct-2019	07-Oct-2019	11-Oct-2019	07-Oct-2019	09-Oct-2019	07-Oct-2019	11-Oct-2019	11-Oct-2019
Total Metals by ICP-MS	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019
TPH CWG (W)	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019	11-Oct-2019
VOC MS (W)	09-Oct-2019	10-Oct-2019	09-Oct-2019	09-Oct-2019	09-Oct-2019	09-Oct-2019	10-Oct-2019	09-Oct-2019	09-Oct-2019	10-Oct-2019

Lab Sample No(s)
Customer Sample Ref.

AGS Ref.
Depth
Type

	20863512	20863599	20863501	20863490
	BH102B	BH203C	Downstream	Upstream
	EW20191001	EW20191001	1001	3001
	1.00 - 4.50	5.30 - 7.30	0.00 - 0.00	0.00 - 0.00
	Ground Water	Ground Water	Surface Water	Surface Water
Ammoniacal Nitrogen	09-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019
Anions by Kone (w)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
Determination of Dissolved Gases	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019
Dissolved Metals by ICP-MS	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019
EPH CWG (Aliphatic) Aqueous GC (W)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
EPH CWG (Aromatic) Aqueous GC (W)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
Ferric Iron	14-Oct-2019	14-Oct-2019	14-Oct-2019	14-Oct-2019
Ferrous Iron	13-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019
GRO by GC-FID (W)	14-Oct-2019	11-Oct-2019	14-Oct-2019	11-Oct-2019
Hexavalent Chromium (w)	11-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019
Low Level Cyanide (W)	14-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019
Mercury Dissolved	07-Oct-2019	04-Oct-2019	07-Oct-2019	04-Oct-2019
Nitrite by Kone (w)	10-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019
PAH Spec MS - Aqueous (W)	10-Oct-2019	10-Oct-2019	10-Oct-2019	10-Oct-2019
pH Value of Filtered Water	14-Oct-2019	04-Oct-2019	04-Oct-2019	04-Oct-2019
Phenols by HPLC (W)	12-Oct-2019	11-Oct-2019	10-Oct-2019	11-Oct-2019
SVOC MS (W) - Aqueous	11-Oct-2019	16-Oct-2019	07-Oct-2019	07-Oct-2019
Total Metals by ICP-MS	15-Oct-2019	15-Oct-2019	15-Oct-2019	15-Oct-2019
TPH CWG (W)	14-Oct-2019	11-Oct-2019	14-Oct-2019	11-Oct-2019
VOC MS (W)	09-Oct-2019	09-Oct-2019	09-Oct-2019	09-Oct-2019



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

Report Number: 525583
Superseded Report: 525526

ASSOCIATED AQC DATA

Ammoniacal Nitrogen

Component	Method Code	QC 2045	QC 2071	QC 2028
Ammoniacal Nitrogen as N	TM099	101.6 93.14 : 108.60	101.6 93.14 : 108.60	98.0 93.14 : 108.60

Anions by Kone (w)

Component	Method Code	QC 2082	QC 2004	QC 2019
Chloride	TM184	105.0 92.93 : 115.43	106.0 92.93 : 115.43	106.0 92.93 : 115.43
Sulphate (soluble)	TM184	99.6 90.53 : 113.03	100.4 90.53 : 113.03	100.8 90.53 : 113.03
TON as NO3	TM184	102.0 96.26 : 111.21	103.0 96.26 : 111.21	103.5 96.26 : 111.21

Determination of Dissolved Gases

Component	Method Code	QC 2075	QC 2046	QC 2074	QC 2006
Carbon Dioxide Dissolved Raw	TM223	52.0 93.80 : 109.40	51.4 93.80 : 109.40	52.0 101.00 : 108.20	52.0 93.80 : 109.40
Ethane Dissolved Raw	TM223	93.49 80.04 : 105.85	93.63 80.04 : 105.85	96.15 89.48 : 93.82	92.97 80.04 : 105.85
Methane Dissolved Raw	TM223	89.4 70.05 : 104.83	89.46 70.05 : 104.83	90.66 89.76 : 93.14	88.71 70.05 : 104.83
Propane Dissolved Raw	TM223	91.93 76.90 : 105.07	92.15 76.90 : 105.07	94.8 93.54 : 97.20	91.37 76.90 : 105.07

Dissolved Metals by ICP-MS

Component	Method Code	QC 2088
Aluminium	TM152	110.67 93.15 : 113.42
Antimony	TM152	111.5 88.37 : 130.57
Arsenic	TM152	104.0 92.62 : 113.52
Barium	TM152	102.17 93.15 : 115.52
Beryllium	TM152	107.67 85.23 : 107.63
Bismuth	TM152	103.17 92.62 : 115.02
Boron	TM152	108.33 86.31 : 120.88
Cadmium	TM152	103.5 93.85 : 111.65
Calcium	TM152	110.0 89.20 : 126.91
Chromium	TM152	101.0 92.22 : 109.85
Cobalt	TM152	97.33 85.01 : 114.87



CERTIFICATE OF ANALYSIS

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SDG: 191003-100 Client Reference: 70031882 Report Number: 525583
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Dissolved Metals by ICP-MS

		QC 2088
Copper	TM152	102.67 89.87 : 119.73
Iron	TM152	102.0 93.02 : 113.86
Lead	TM152	105.67 91.11 : 116.98
Lithium	TM152	111.67 86.01 : 115.79
Magnesium	TM152	105.33 89.60 : 116.61
Manganese	TM152	102.17 93.97 : 112.46
Molybdenum	TM152	96.33 89.07 : 110.96
Nickel	TM152	101.0 93.70 : 112.15
Phosphorus	TM152	101.67 89.24 : 114.18
Potassium	TM152	109.33 97.98 : 117.40
Selenium	TM152	106.17 91.69 : 117.12
Silver	TM152	104.33 96.95 : 117.30
Sodium	TM152	104.67 92.42 : 113.24
Strontium	TM152	103.67 92.14 : 116.24
Tellurium	TM152	98.33 89.88 : 111.78
Thallium	TM152	96.0 86.08 : 122.48
Tin	TM152	108.5 91.00 : 109.00
Titanium	TM152	103.5 86.17 : 105.17
Tungsten	TM152	133.33 77.61 : 132.31
Uranium	TM152	102.83 86.97 : 115.76
Vanadium	TM152	100.33 89.61 : 115.48
Zinc	TM152	102.0 87.51 : 116.26

EPH CWG (Aliphatic) Aqueous GC (W)

Component	Method Code	QC 2056	QC 2066
Total Aliphatics >C10-C40	TM174	88.61 68.59 : 134.82	101.49 68.59 : 134.82



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SDG: 191003-100
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EPH CWG (Aromatic) Aqueous GC (W)

Component	Method Code	QC 2066	QC 2085
Total Aromatics >EC10-EC40	TM174	72.2 60.75 : 129.09	81.95 60.75 : 129.09

Ferrous Iron

Component	Method Code	QC 2003	QC 2077	QC 2081
Ferrous Iron	TM125	98.67 95.67 : 101.67	98.0 95.67 : 101.67	99.0 95.67 : 101.67

GRO by GC-FID (W)

Component	Method Code	QC 2076
Benzene by GC	TM245	112.5 76.38 : 121.90
Ethylbenzene by GC	TM245	110.5 74.02 : 123.14
m & p Xylene by GC	TM245	113.5 74.03 : 123.21
MTBE GC-FID	TM245	107.5 76.82 : 121.46
o Xylene by GC	TM245	111.0 74.37 : 122.75
QC	TM245	107.16 63.32 : 125.20
Toluene by GC	TM245	111.0 75.75 : 124.83

Hexavalent Chromium (w)

Component	Method Code	QC 2094	QC 2044	QC 2054	QC 2052
Hexavalent Chromium	TM241	95.8 94.17 : 106.17	97.0 94.17 : 106.17	102.0 94.17 : 106.17	99.0 94.17 : 106.17

Low Level Cyanide (W)

Component	Method Code	QC 2007	QC 2005
Free Cyanide - Low Level	TM279	104.0 93.50 : 111.50	98.75 93.50 : 111.50
Total Cyanide - Low Level	TM279	95.75 76.58 : 119.24	95.0 76.58 : 119.24

Mercury Dissolved



CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100 Client Reference: 70031882 Report Number: 525583
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Mercury Dissolved

Component	Method Code	QC 2098	QC 2005	QC 2010	QC 2074	QC 2038
Mercury Dissolved (CVAf)	TM183	95.8 76.80 : 117.12	90.4 75.00 : 111.00	94.0 75.00 : 111.00	106.0 75.00 : 111.00	102.0 76.80 : 117.12

PAH Spec MS - Aqueous (W)

Component	Method Code	QC 2082	QC 2017	QC 2090	QC 2019
Acenaphthene by GCMS	TM178	112.0 97.20 : 118.80	111.2 97.20 : 118.80	103.2 88.80 : 117.60	110.8 97.20 : 118.80
Acenaphthylene by GCMS	TM178	111.6 91.60 : 120.40	112.4 91.60 : 120.40	109.6 91.66 : 114.36	110.4 91.60 : 120.40
Anthracene by GCMS	TM178	110.0 92.40 : 114.00	107.2 92.40 : 114.00	104.4 97.60 : 107.20	108.0 92.40 : 114.00
Benz(a)anthracene by GCMS	TM178	109.6 92.40 : 114.00	110.0 92.40 : 114.00	108.8 87.31 : 114.17	108.4 92.40 : 114.00
Benzo(a)pyrene by GCMS	TM178	107.6 94.00 : 118.00	109.6 94.00 : 118.00	107.2 90.00 : 114.00	113.2 94.00 : 118.00
Benzo(b)fluoranthene by GCMS	TM178	111.2 90.80 : 117.20	110.8 90.80 : 117.20	97.6 88.00 : 114.40	111.2 90.80 : 117.20
Benzo(ghi)perylene by GCMS	TM178	108.4 93.20 : 114.80	103.6 93.20 : 114.80	102.8 96.80 : 113.60	102.0 93.20 : 114.80
Benzo(k)fluoranthene by GCMS	TM178	103.6 96.00 : 120.00	112.4 96.00 : 120.00	97.2 92.80 : 116.80	110.8 96.00 : 120.00
Chrysene by GCMS	TM178	110.4 98.40 : 120.00	106.8 98.40 : 120.00	102.0 100.00 : 121.60	110.4 98.40 : 120.00
Dibenzo(ah)anthracene by GCMS	TM178	106.8 89.20 : 118.00	101.6 89.20 : 118.00	97.2 88.00 : 114.40	97.6 89.20 : 118.00
Fluoranthene by GCMS	TM178	115.2 98.80 : 120.40	112.0 98.80 : 120.40	105.6 93.49 : 118.20	113.2 98.80 : 120.40
Fluorene by GCMS	TM178	113.2 98.40 : 120.00	112.4 98.40 : 120.00	108.4 94.39 : 118.66	112.0 98.40 : 120.00
Indeno(123cd)pyrene by GCMS	TM178	112.4 93.20 : 117.20	110.0 93.20 : 117.20	106.4 90.40 : 114.40	111.2 93.20 : 117.20
Naphthalene by GCMS	TM178	111.6 97.60 : 124.00	114.0 97.60 : 124.00	105.2 99.60 : 121.20	109.6 97.60 : 124.00
Phenanthrene by GCMS	TM178	112.4 96.40 : 118.00	109.6 96.40 : 118.00	102.4 99.20 : 116.00	105.6 96.40 : 118.00
Pyrene by GCMS	TM178	112.4 98.00 : 117.20	111.2 98.00 : 117.20	110.0 96.40 : 115.60	113.2 98.00 : 117.20

pH Value of Filtered Water

Component	Method Code	QC 2088	QC 2079
pH Value of Filtered Water	TM256	101.48 99.73 : 102.16	101.35 99.73 : 102.16

Phenols by HPLC (W)



CERTIFICATE OF ANALYSIS

Validated

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Phenols by HPLC (W)

Component	Method Code	QC 2013	QC 2075	QC 2088	QC 2096	QC 2048
2,3,5 Trimethyl-Phenol by HPLC (W)	TM259	97.0 93.10 : 108.70	99.0 78.51 : 104.18	94.0 93.10 : 108.70	97.0 78.51 : 104.18	97.0 93.10 : 108.70
2-Isopropyl Phenol by HPLC (W)	TM259	107.0 90.00 : 114.00	97.0 84.55 : 110.90	103.0 90.00 : 114.00	96.0 84.55 : 110.90	111.0 90.00 : 114.00
Cresols by HPLC (W)	TM259	95.0 90.02 : 130.15	101.0 93.00 : 121.00	96.0 90.02 : 130.15	97.0 93.00 : 121.00	98.0 90.02 : 130.15
Napthol by HPLC (W)	TM259	96.0 89.00 : 131.00	91.0 82.00 : 124.00	97.0 89.00 : 131.00	92.0 82.00 : 124.00	102.0 89.00 : 131.00
Phenol by HPLC (W)	TM259	104.0 85.89 : 109.89	103.0 86.80 : 112.60	105.0 85.89 : 109.89	99.0 86.80 : 112.60	105.0 85.89 : 109.89
Xylenols by HPLC (W)	TM259	103.0 98.67 : 108.67	102.33 94.74 : 115.71	103.0 98.67 : 108.67	100.0 94.74 : 115.71	105.67 98.67 : 108.67

SVOC MS (W) - Aqueous

Component	Method Code	QC 2075	QC 2072	QC 2072	QC 2093	QC 2043
4-Bromophenylphenylether	TM176	81.6 55.76 : 105.20	90.4 54.83 : 128.37	88.0 55.76 : 105.20	88.8 55.76 : 105.20	92.0 54.83 : 128.37
Benzo(a)anthracene	TM176	80.8 59.28 : 107.76	89.6 54.87 : 126.25	92.0 59.28 : 107.76	89.6 59.28 : 107.76	96.0 54.87 : 126.25
Benzo(a)pyrene	TM176	78.88 54.40 : 105.76	88.0 63.49 : 110.43	86.4 54.40 : 105.76	84.8 54.40 : 105.76	91.2 63.49 : 110.43
Butylbenzyl phthalate	TM176	88.8 49.84 : 109.84	86.4 53.46 : 140.94	96.8 49.84 : 109.84	98.4 49.84 : 109.84	100.8 53.46 : 140.94
Hexachlorobutadiene	TM176	76.08 48.64 : 95.68	81.6 48.65 : 103.13	82.4 48.64 : 95.68	80.0 48.64 : 95.68	84.0 48.65 : 103.13
Naphthalene	TM176	88.8 63.04 : 111.04	90.4 63.39 : 113.89	94.4 63.04 : 111.04	94.4 63.04 : 111.04	92.0 63.39 : 113.89
Nitrobenzene	TM176	84.0 59.92 : 108.40	84.8 53.26 : 113.46	91.2 59.92 : 108.40	94.4 59.92 : 108.40	92.0 53.26 : 113.46
Phenol	TM176	51.44 38.16 : 63.60	52.56 38.50 : 101.50	55.84 38.16 : 63.60	54.08 38.16 : 63.60	57.44 38.50 : 101.50

Total Metals by ICP-MS

Component	Method Code	QC 2029
Aluminium	TM152	104.33 89.90 : 110.02
Antimony	TM152	121.17 80.45 : 122.65
Arsenic	TM152	100.17 85.20 : 116.13
Barium	TM152	101.5 92.02 : 112.48
Beryllium	TM152	96.33 86.15 : 118.35
Bismuth	TM152	100.5 93.28 : 110.08
Boron	TM152	101.0 86.68 : 117.67
Cadmium	TM152	102.17 92.07 : 109.87
Calcium	TM152	102.67 81.38 : 119.09



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Location: 70031882-SGN Reading**Client Reference:** 70031882
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Total Metals by ICP-MS

		QC 2029
Chromium	TM152	98.5 90.87 : 108.50
Cobalt	TM152	94.67 84.39 : 114.26
Copper	TM152	99.17 84.61 : 114.08
Iron	TM152	100.67 92.05 : 112.89
Lead	TM152	101.0 85.65 : 113.58
Lithium	TM152	100.33 89.26 : 119.04
Magnesium	TM152	99.33 88.20 : 114.65
Manganese	TM152	101.33 90.63 : 109.13
Molybdenum	TM152	97.0 87.00 : 108.89
Nickel	TM152	97.67 88.26 : 111.14
Phosphorus	TM152	97.0 90.52 : 115.47
Potassium	TM152	103.33 86.97 : 112.46
Selenium	TM152	100.83 88.44 : 113.86
Silver	TM152	102.17 95.12 : 112.92
Sodium	TM152	99.33 84.47 : 113.44
Strontium	TM152	99.67 90.72 : 114.82
Tellurium	TM152	102.67 86.97 : 108.87
Thallium	TM152	99.0 80.92 : 114.72
Tin	TM152	103.33 93.70 : 111.83
Titanium	TM152	94.33 90.08 : 111.18
Uranium	TM152	97.83 90.58 : 113.28
Vanadium	TM152	97.67 88.43 : 114.30
Zinc	TM152	96.0 86.52 : 115.27

VOC MS (W)



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SDG: 191003-100
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VOC MS (W)

Component	Method Code	QC 2098	QC 2039	QC 2006	QC 2059
1,1,1,2-Tetrachloroethane	TM208	92.5 79.47 : 113.27	88.5 81.85 : 113.65	95.0 79.47 : 113.27	100.5 78.82 : 115.90
1,1,1-Trichloroethane	TM208	91.5 81.01 : 112.00	88.5 85.82 : 113.33	94.5 81.01 : 112.00	100.5 79.61 : 114.35
1,1-Dichloroethane	TM208	91.5 82.09 : 116.41	91.0 79.60 : 118.57	94.0 82.09 : 116.41	96.0 79.99 : 118.57
1,2-Dichloroethane	TM208	89.5 80.28 : 123.63	92.5 77.72 : 133.33	93.0 80.28 : 123.63	94.5 79.35 : 124.02
2-Chlorotoluene	TM208	96.0 78.99 : 111.63	93.5 82.89 : 116.61	100.0 78.99 : 111.63	103.5 79.67 : 114.74
4-Chlorotoluene	TM208	97.0 79.41 : 112.80	96.0 79.46 : 115.88	101.0 79.41 : 112.80	103.0 80.15 : 113.42
Benzene	TM208	93.5 87.46 : 118.30	96.5 81.22 : 118.60	97.0 87.46 : 118.30	100.5 84.37 : 119.68
Bromomethane	TM208	83.5 69.44 : 111.02	89.5 79.31 : 116.90	83.0 69.44 : 111.02	87.5 68.41 : 115.99
Carbontetrachloride	TM208	91.5 81.73 : 114.22	91.5 86.16 : 119.10	94.5 81.73 : 114.22	100.0 79.73 : 118.91
Chlorobenzene	TM208	98.0 84.54 : 112.32	96.5 87.25 : 116.65	100.5 84.54 : 112.32	104.0 89.49 : 115.83
Chloroform	TM208	92.5 83.67 : 118.08	93.0 83.01 : 121.64	95.0 83.67 : 118.08	97.5 82.31 : 120.71
Chloromethane	TM208	86.5 60.45 : 118.08	88.5 65.28 : 130.05	85.0 60.45 : 118.08	87.0 62.46 : 124.98
Cis-1,2-Dichloroethene	TM208	94.0 83.95 : 112.60	94.5 85.03 : 112.75	96.0 83.95 : 112.60	98.5 83.75 : 118.91
Dichloromethane	TM208	92.0 81.65 : 120.83	94.5 78.23 : 120.65	94.5 81.65 : 120.83	97.0 81.20 : 120.83
Ethylbenzene	TM208	91.0 83.09 : 113.06	89.0 79.55 : 110.51	93.5 83.09 : 113.06	96.5 80.54 : 112.31
Hexachlorobutadiene	TM208	77.5 66.83 : 108.27	74.5 67.63 : 111.28	78.0 66.83 : 108.27	88.0 59.76 : 107.25
o-Xylene	TM208	94.5 78.40 : 110.68	95.5 85.06 : 114.91	96.5 78.40 : 110.68	102.5 79.22 : 112.31
p/m-Xylene	TM208	93.5 82.64 : 112.12	91.25 84.45 : 113.50	94.75 82.64 : 112.12	100.0 79.85 : 111.06
Tert-butyl methyl ether	TM208	92.0 68.23 : 127.69	78.5 70.18 : 125.95	93.0 68.23 : 127.69	99.0 70.94 : 119.66
Tetrachloroethene	TM208	91.5 81.10 : 112.63	88.0 80.43 : 115.53	92.5 81.10 : 112.63	95.5 84.41 : 112.73
Toluene	TM208	93.5 84.64 : 119.32	92.5 79.88 : 116.83	95.5 84.64 : 119.32	96.5 81.59 : 111.56
Trichloroethene	TM208	91.0 81.17 : 111.80	91.0 82.30 : 112.45	93.0 81.17 : 111.80	97.0 79.53 : 112.32
Vinyl Chloride	TM208	83.5 72.73 : 123.40	85.0 71.34 : 122.34	81.0 72.73 : 123.40	84.5 68.68 : 119.35

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis .

The figure detailed is the percentage recovery result for the AQC .

The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control .



CERTIFICATE OF ANALYSIS

Validated

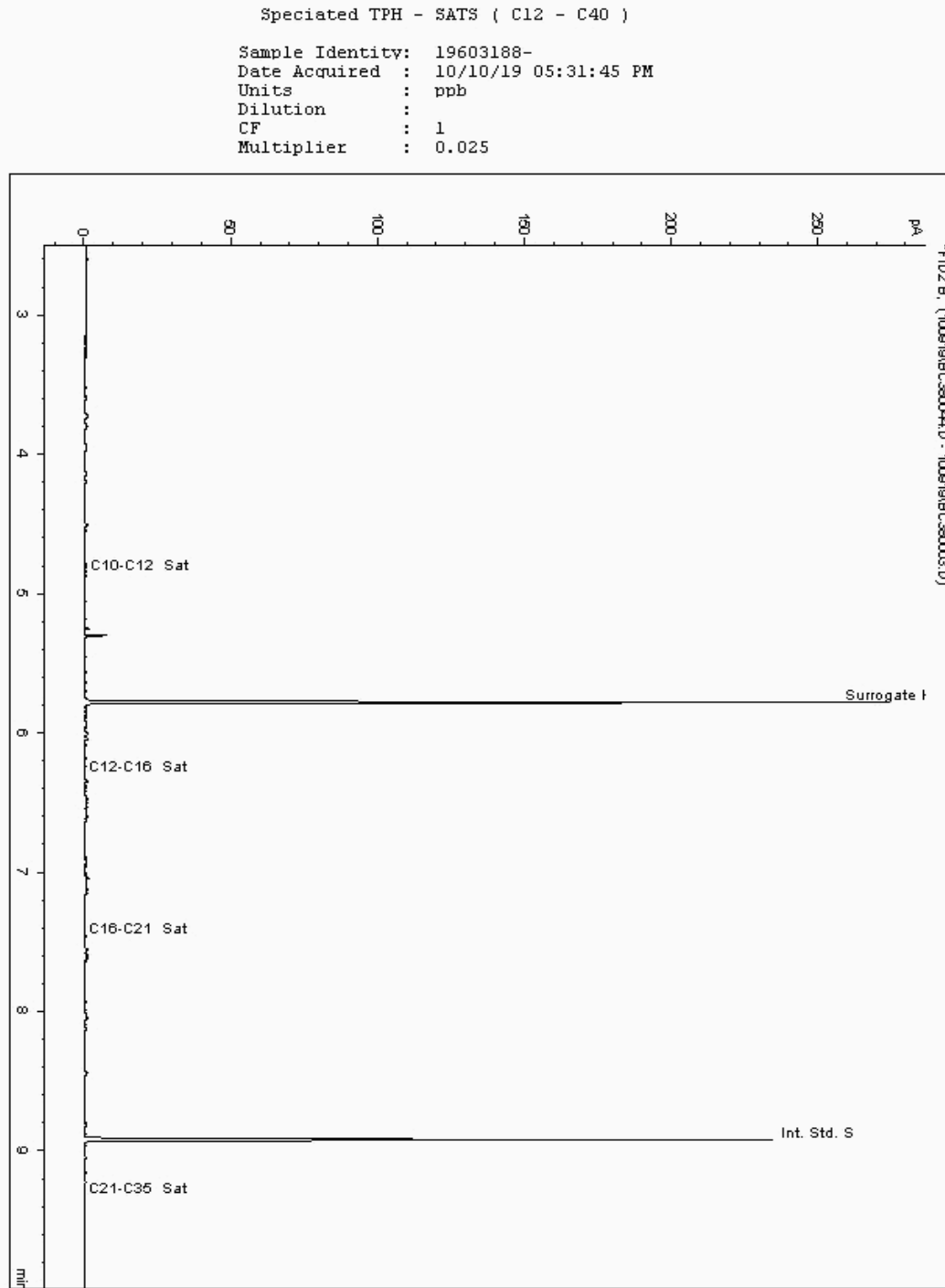
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Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865657
Sample ID : BH104

Depth : 1.00 - 4.50





CERTIFICATE OF ANALYSIS

Validated

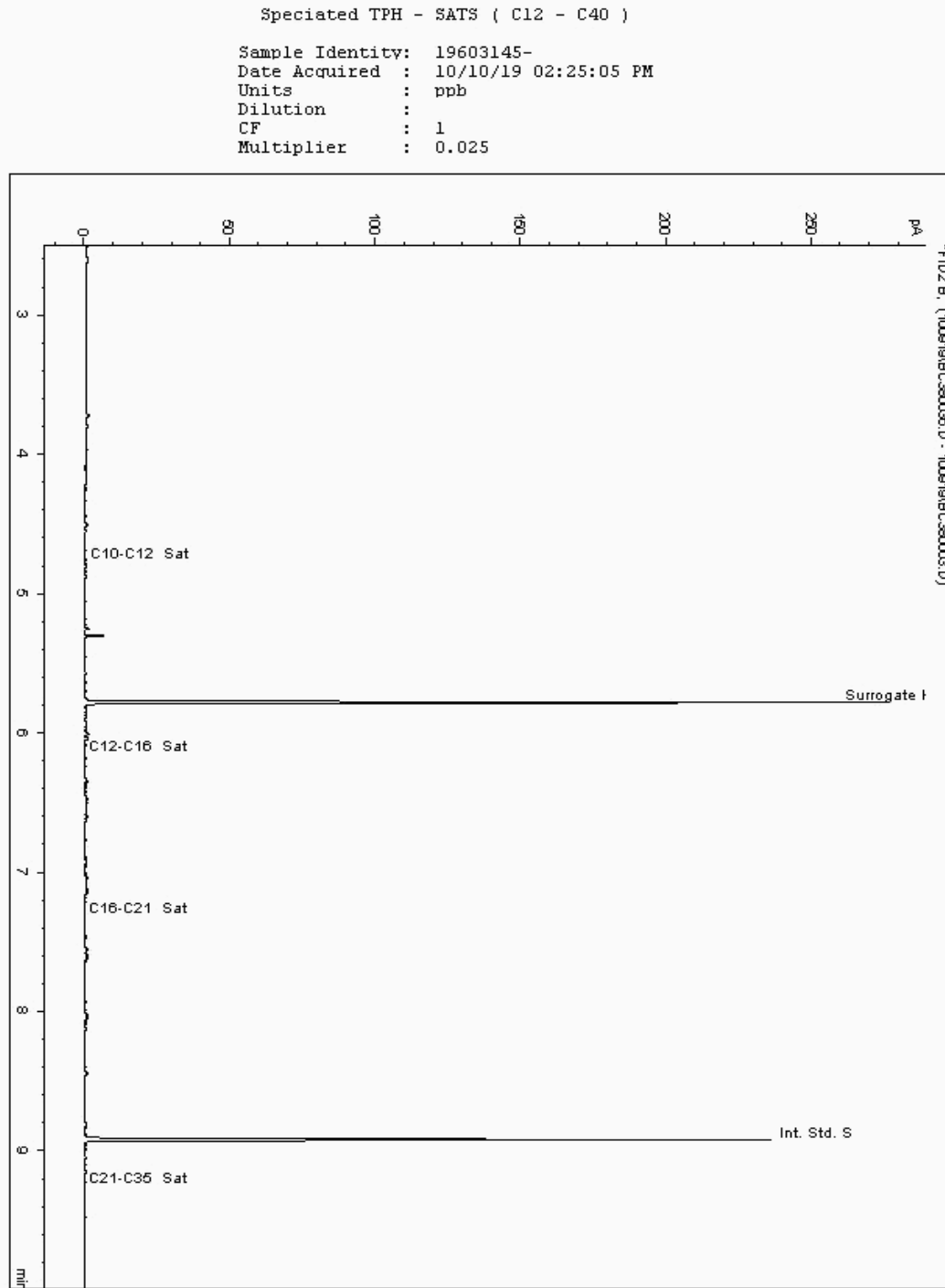
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865658
Sample ID : Upstream

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

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SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

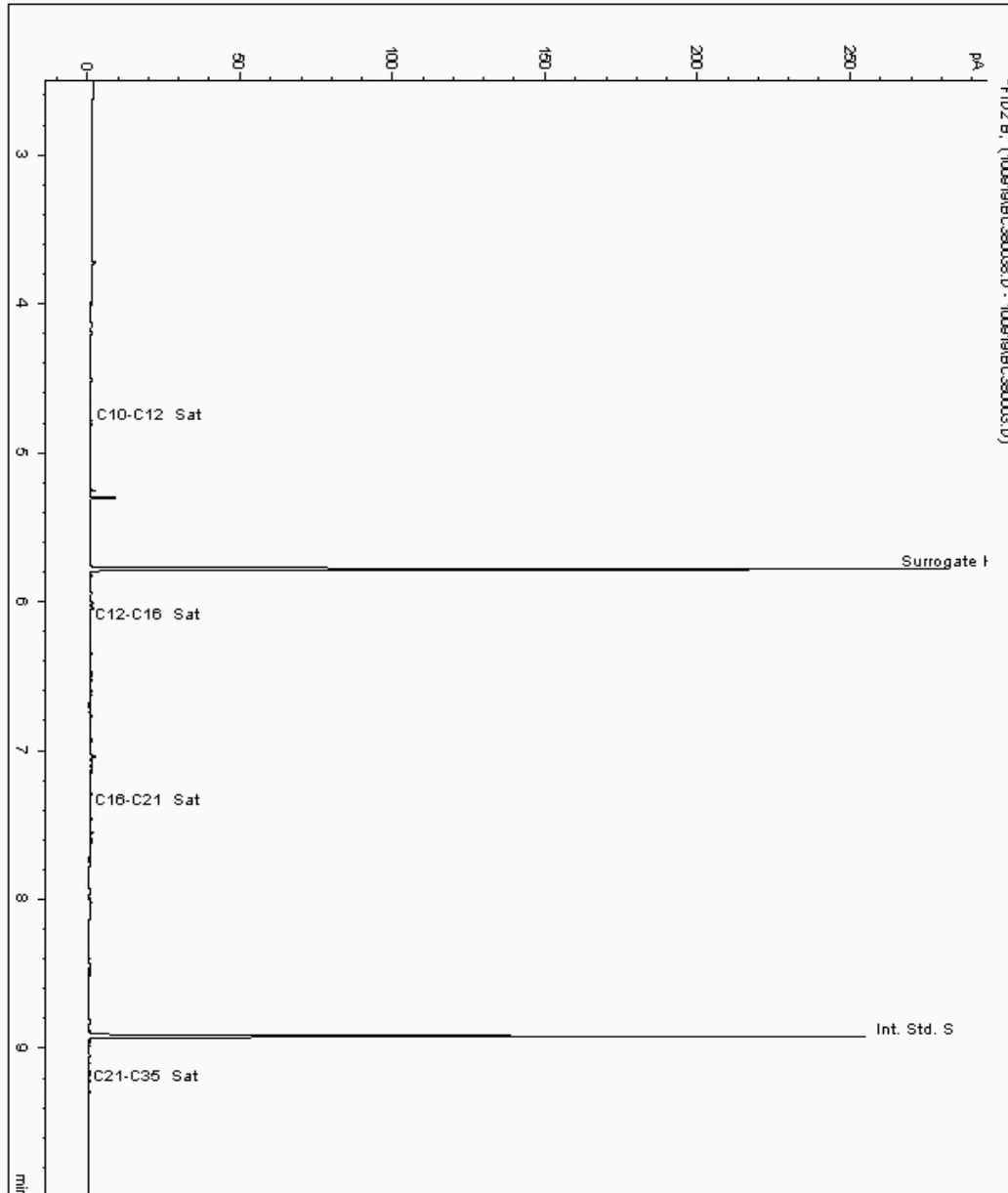
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865666
Sample ID : BH303

Depth : 8.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19603138-
Date Acquired : 10/10/19 03:12:03 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

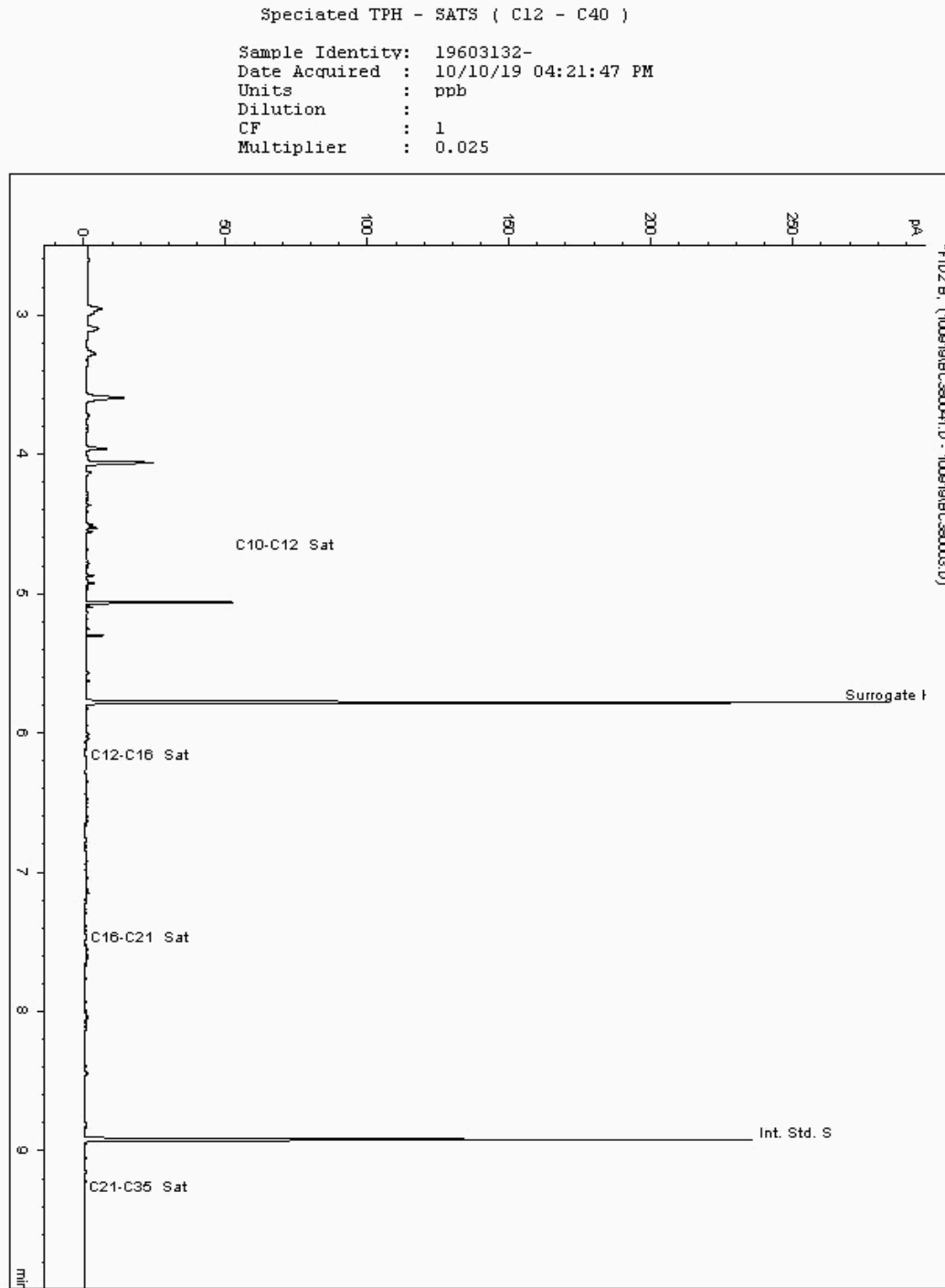
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865745
Sample ID : BH302A

Depth : 10.00 - 19.00





CERTIFICATE OF ANALYSIS

Validated

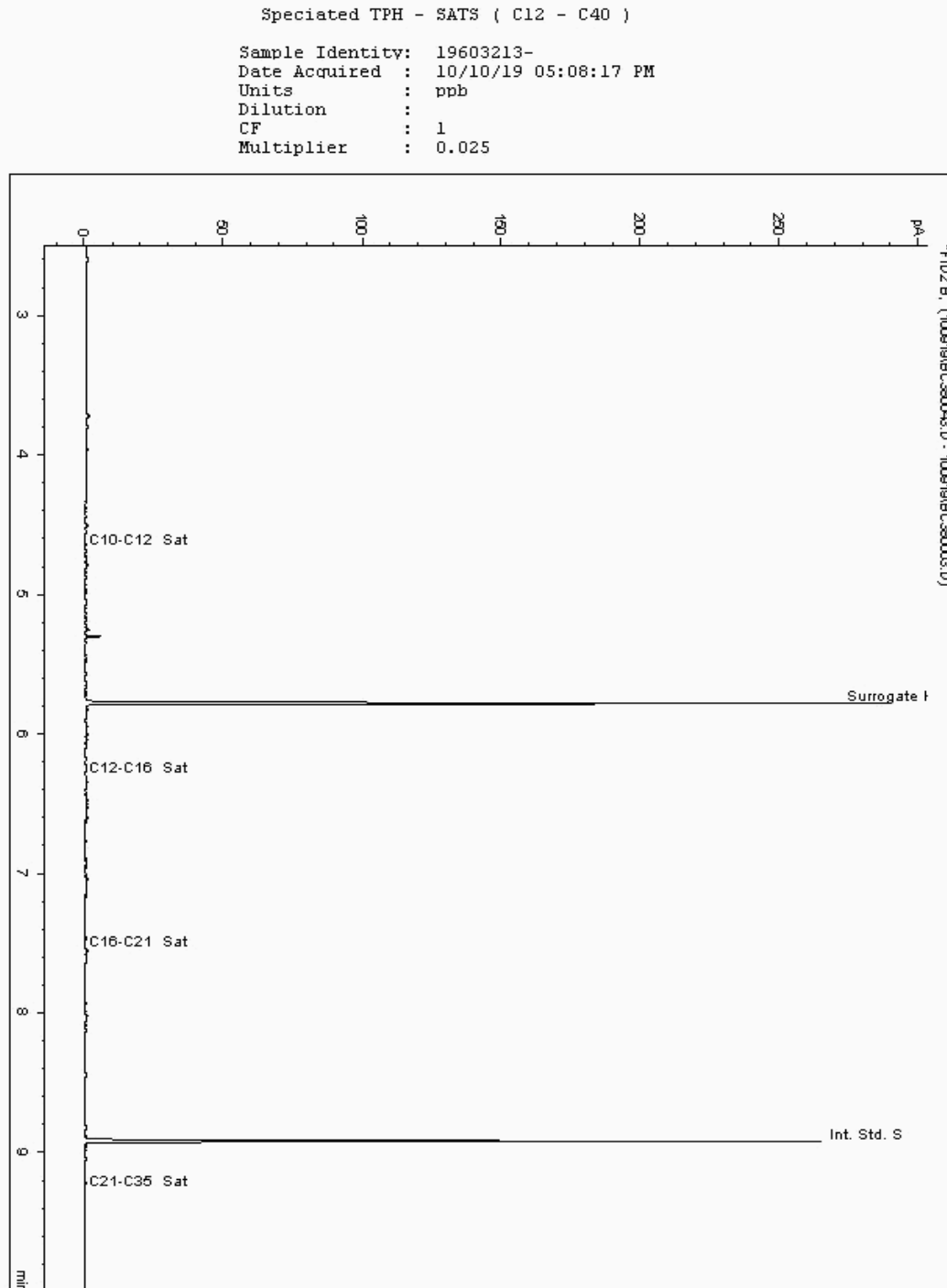
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Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865766
Sample ID : BH203C

Depth : 5.30 - 7.30





CERTIFICATE OF ANALYSIS

Validated

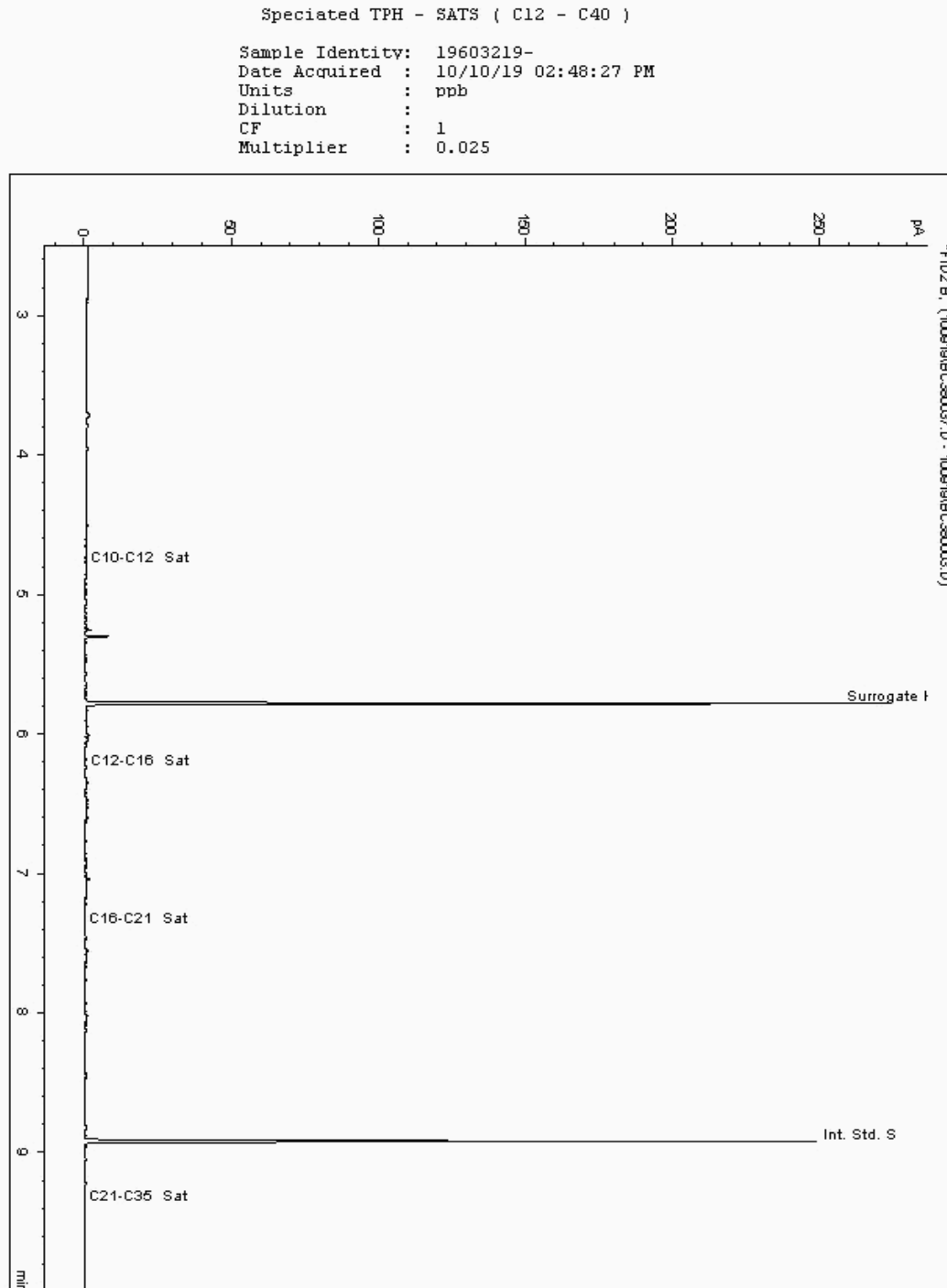
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865775
Sample ID : BH204

Depth : 5.00 - 7.00





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

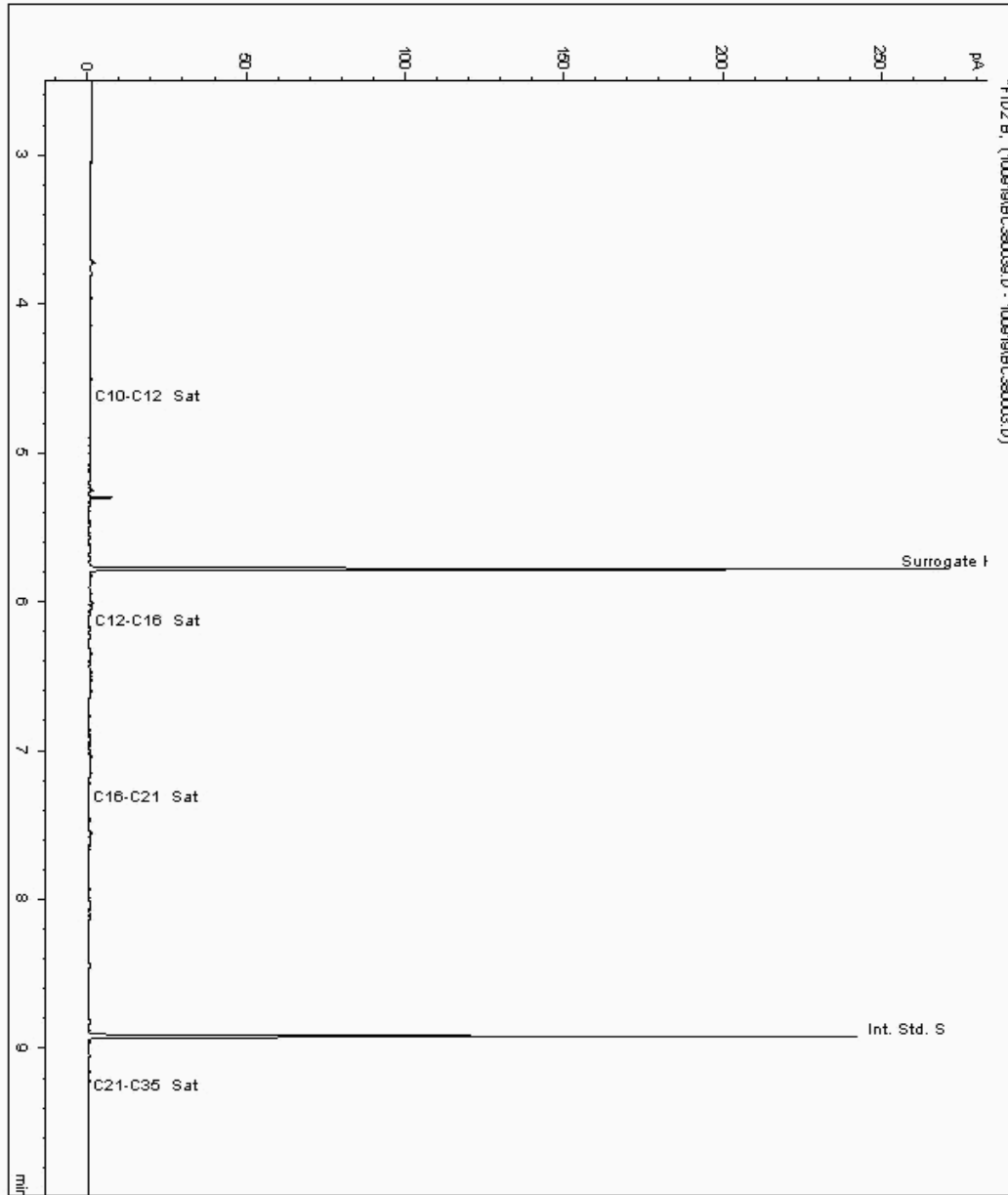
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865778
Sample ID : BH107

Depth : 9.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19603201-
Date Acquired : 10/10/19 03:35:25 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

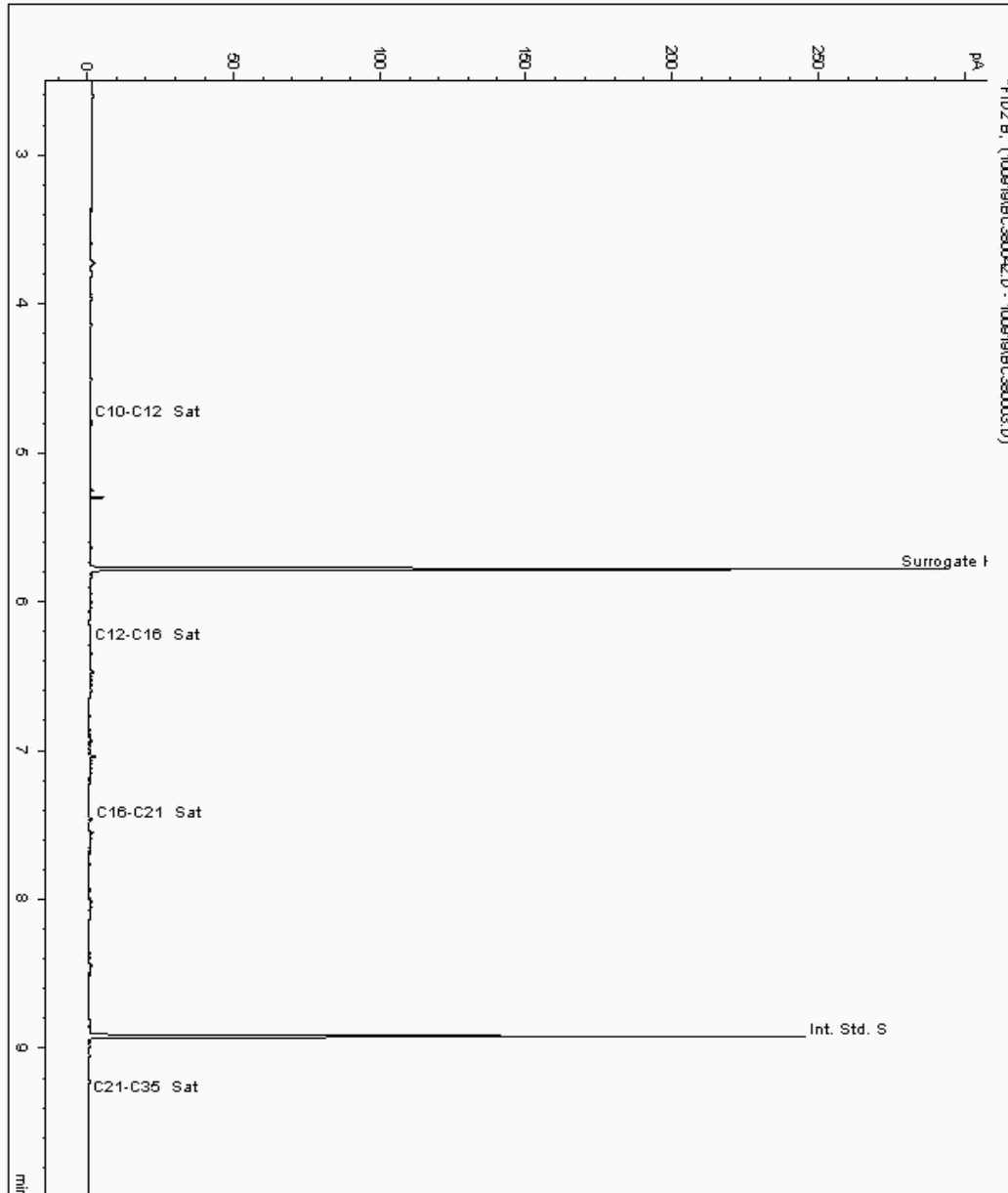
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20865783
Sample ID : Downstream

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19603151-
Date Acquired : 10/10/19 04:45:05 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

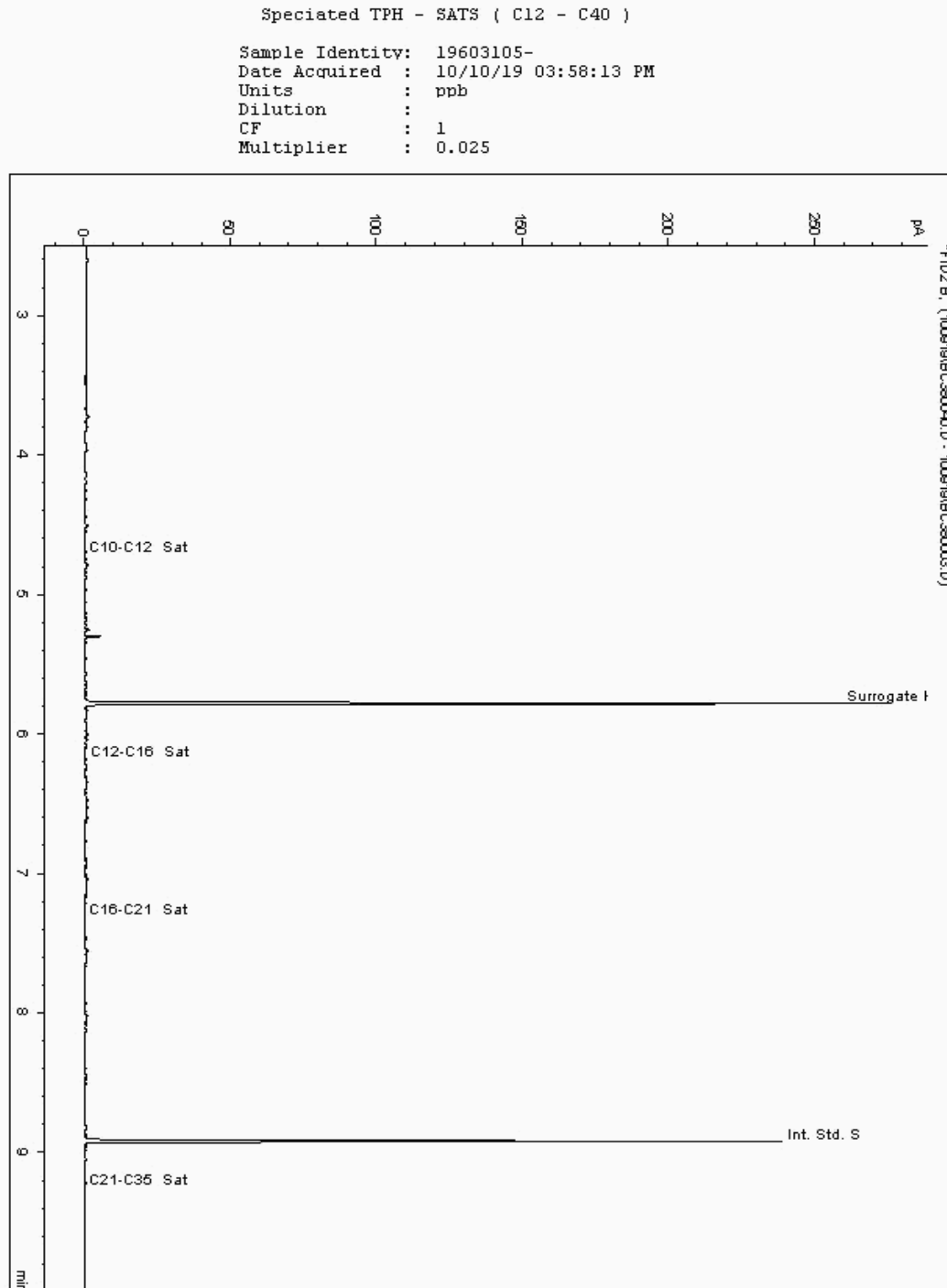
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20875565
Sample ID : BH101

Depth : 1.00 - 3.60





CERTIFICATE OF ANALYSIS

Validated

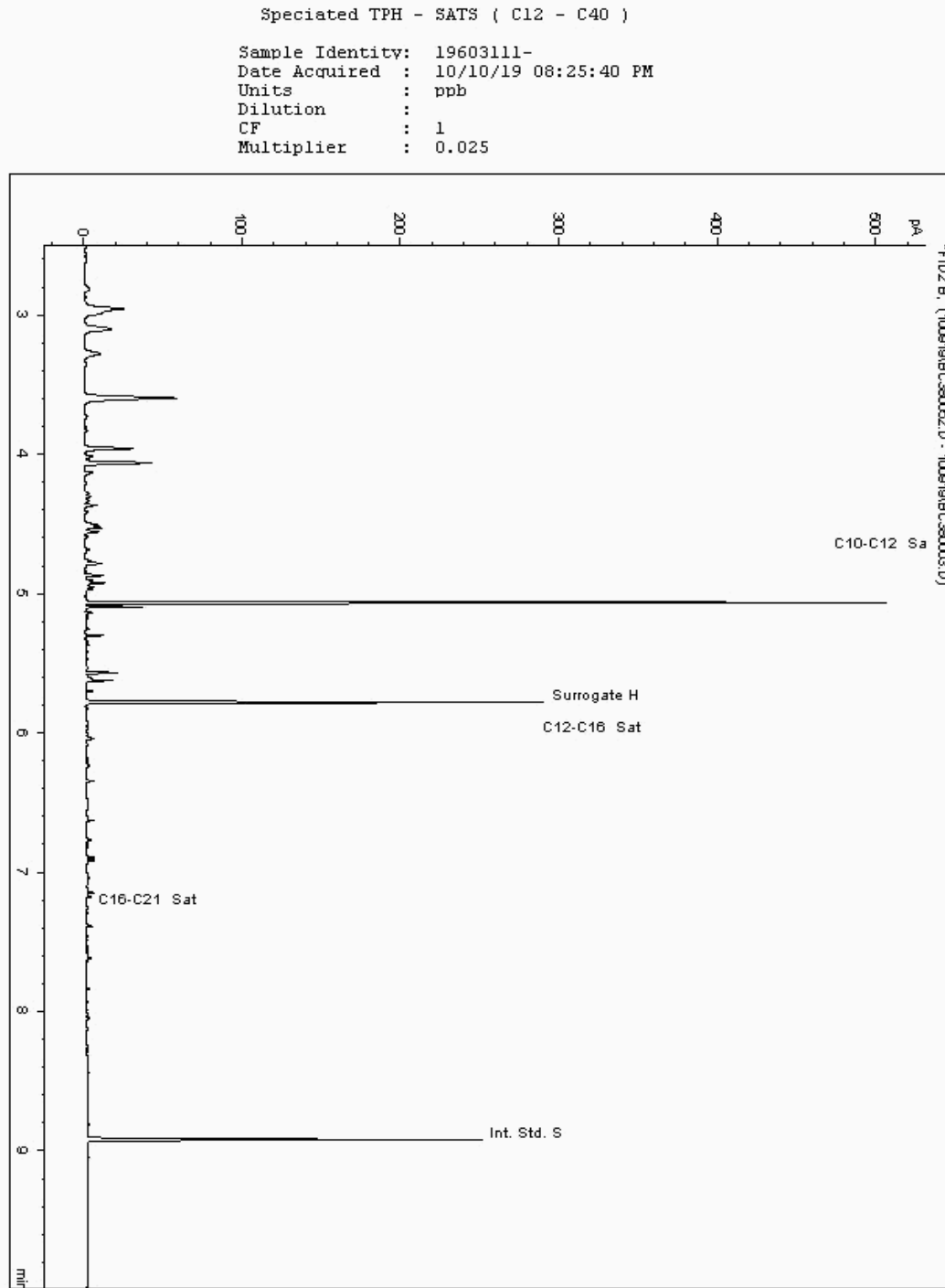
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Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20875567
Sample ID : BH301

Depth : 12.00 - 16.00





CERTIFICATE OF ANALYSIS

Validated

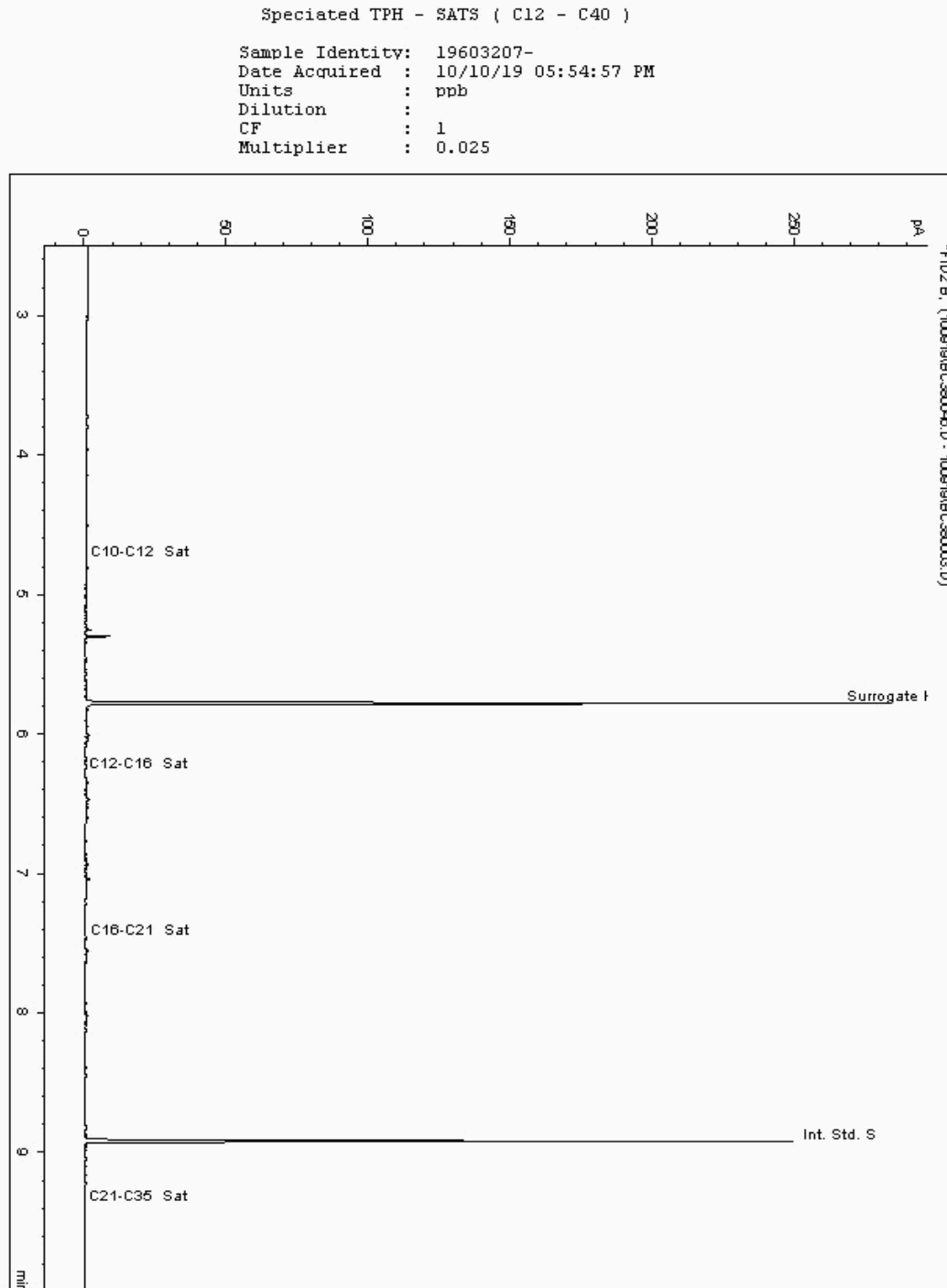
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20875574
Sample ID : BH201

Depth : 5.00 - 7.00





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

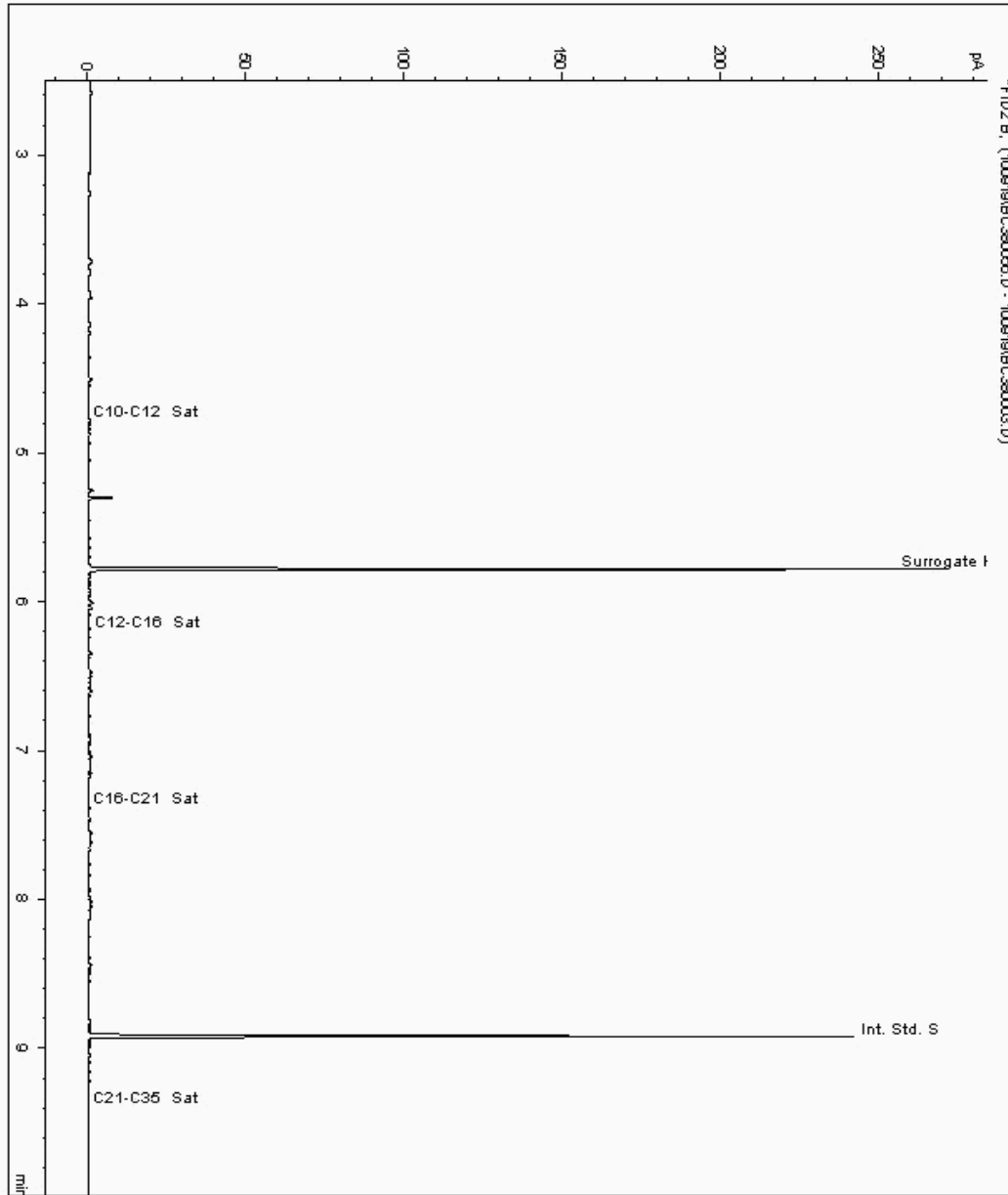
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20886087
Sample ID : BH102B

Depth : 1.00 - 4.50

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19603157-
Date Acquired : 10/10/19 09:50:49 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.033





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

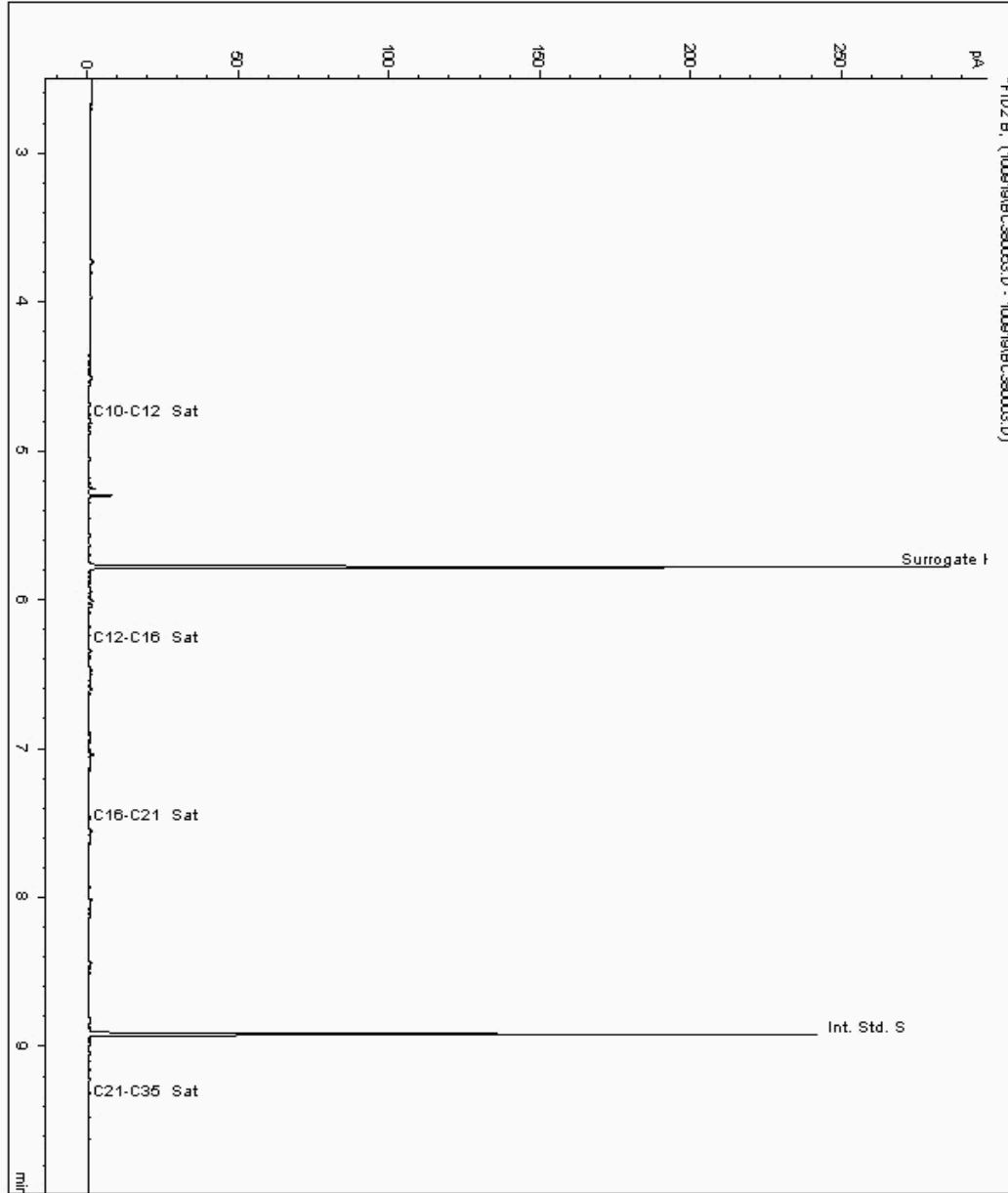
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20886289
Sample ID : BH103A

Depth : 1.00 - 4.50

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19603167-
Date Acquired : 10/10/19 08:47:02 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.033





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

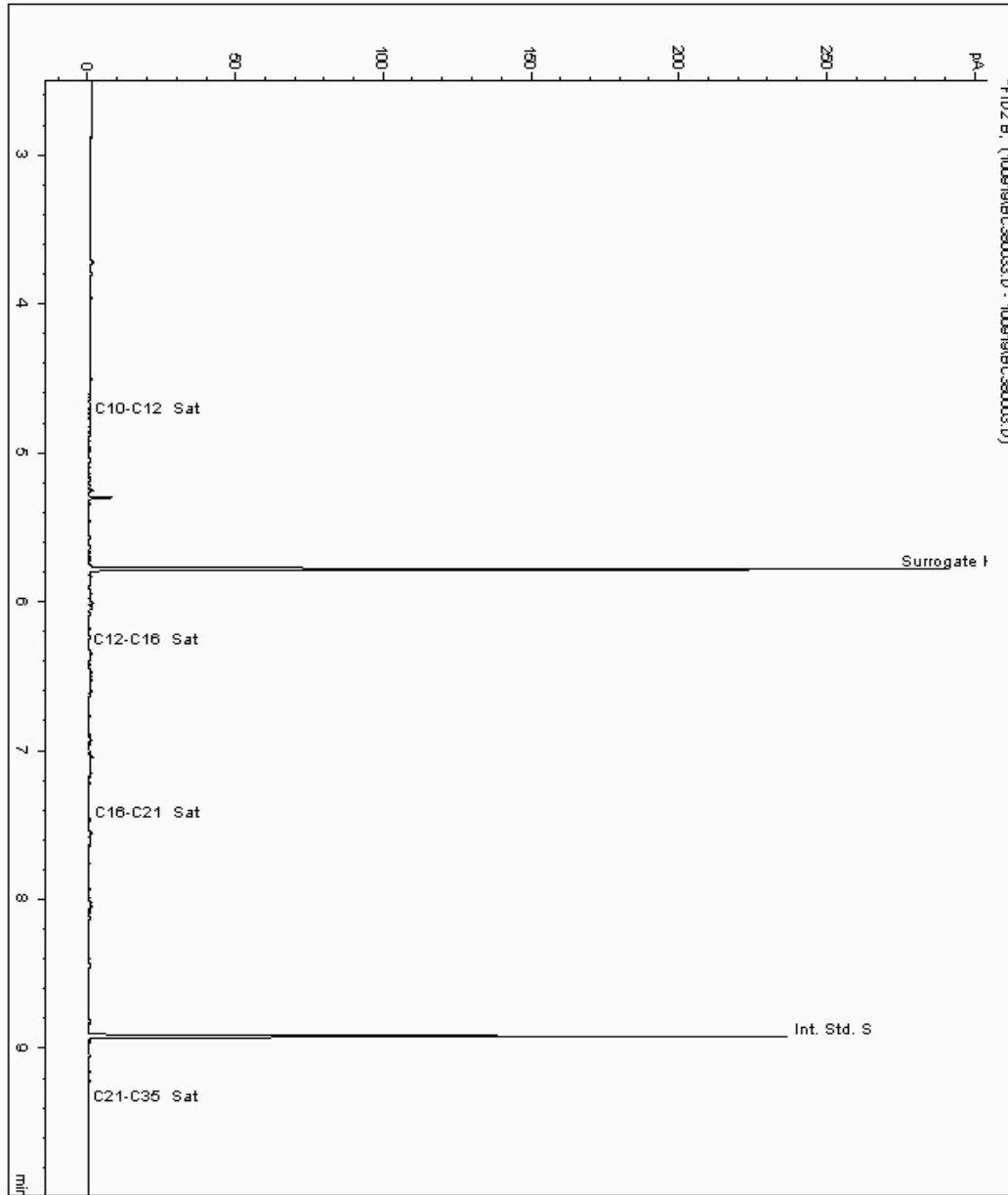
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 20886314
Sample ID : BH106

Depth : 9.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 19603194-
Date Acquired : 10/10/19 01:15:43 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

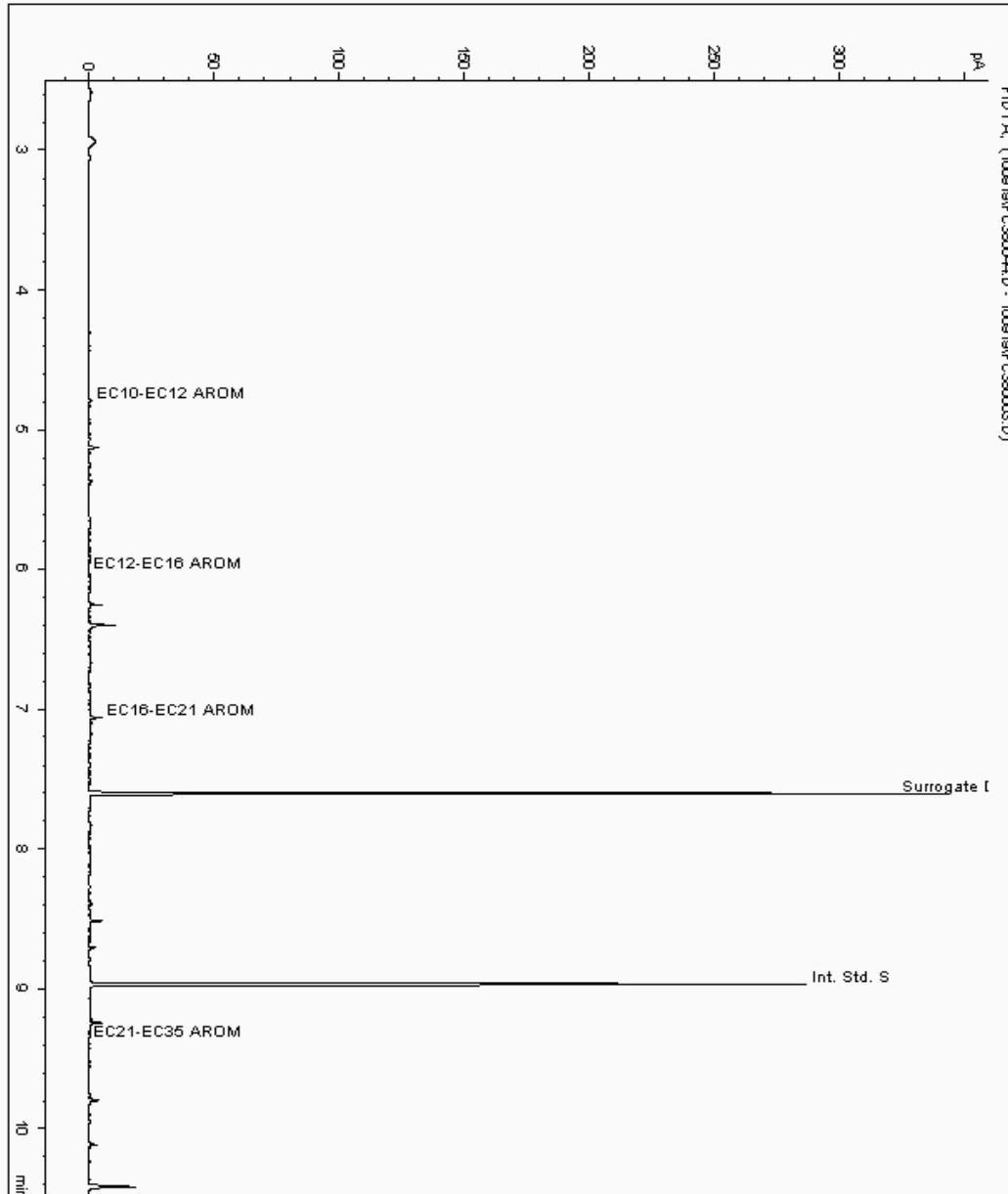
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865657
Sample ID : BH104

Depth : 1.00 - 4.50

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19603189-
Date Acquired : 10/10/19 05:31:45 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

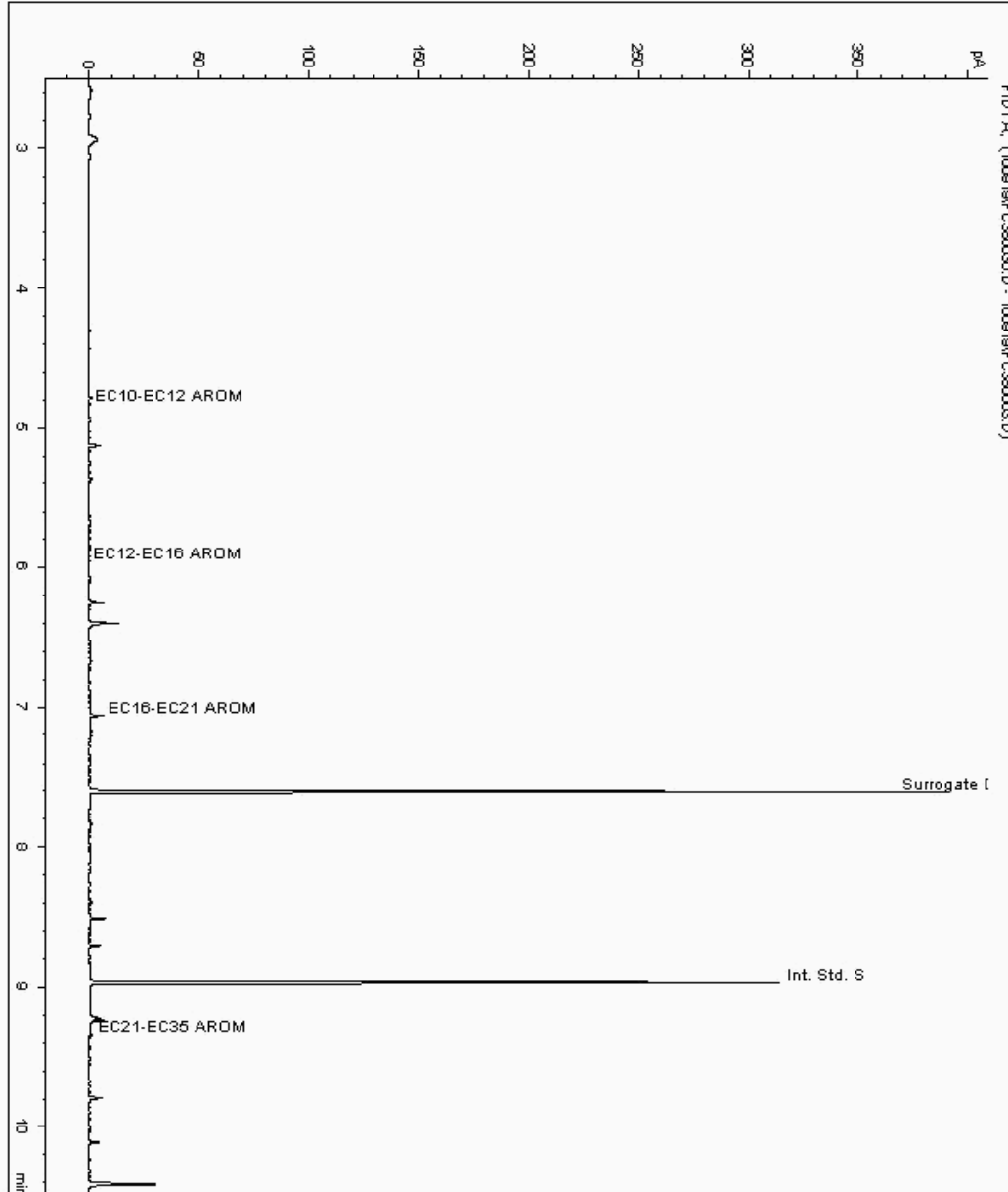
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865658
Sample ID : Upstream

Depth : 0.00 - 0.00

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19603146-
Date Acquired : 10/10/19 02:25:04 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

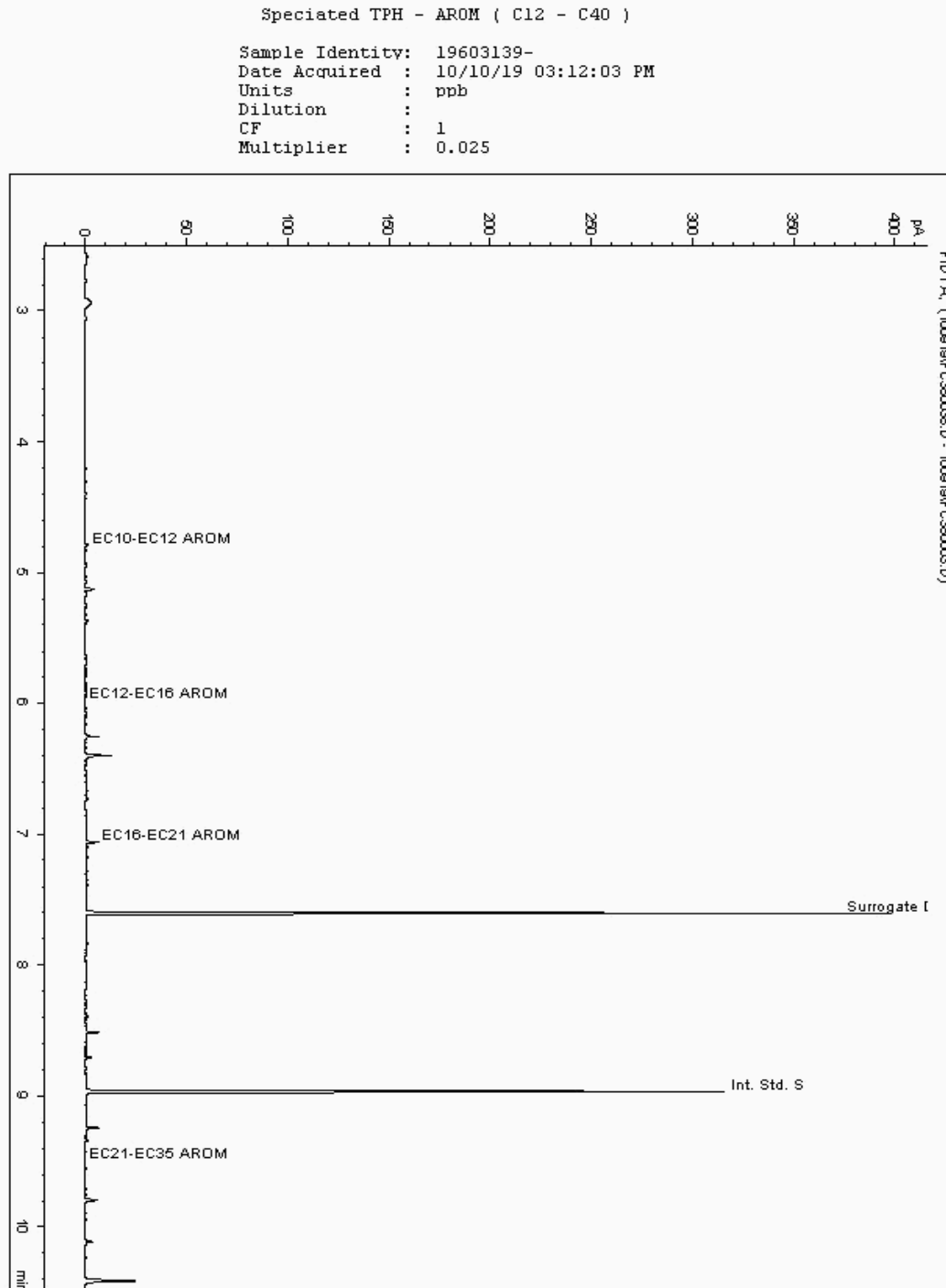
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865666
Sample ID : BH303

Depth : 8.00





CERTIFICATE OF ANALYSIS

Validated

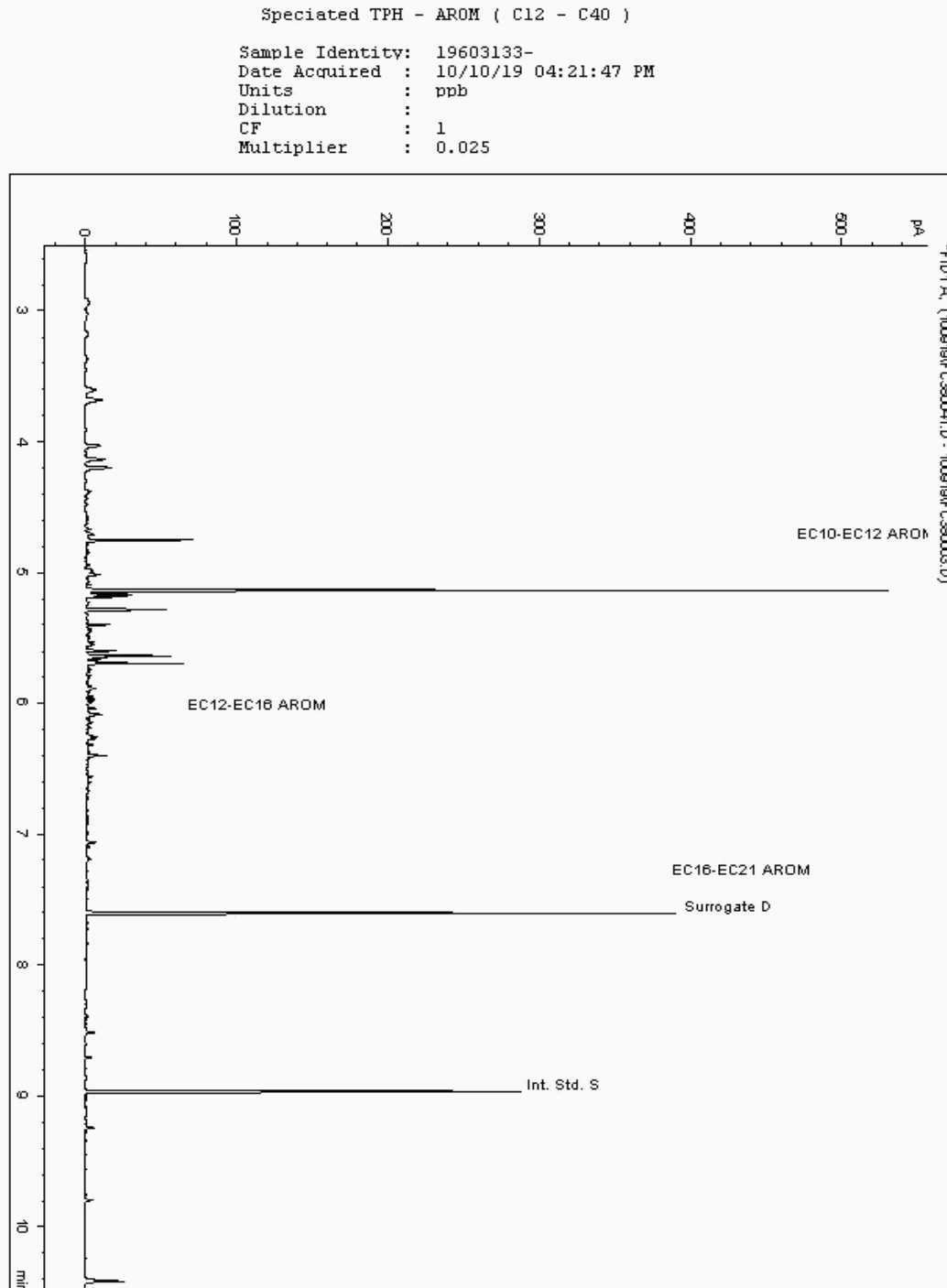
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865745
Sample ID : BH302A

Depth : 10.00 - 19.00





CERTIFICATE OF ANALYSIS

Validated

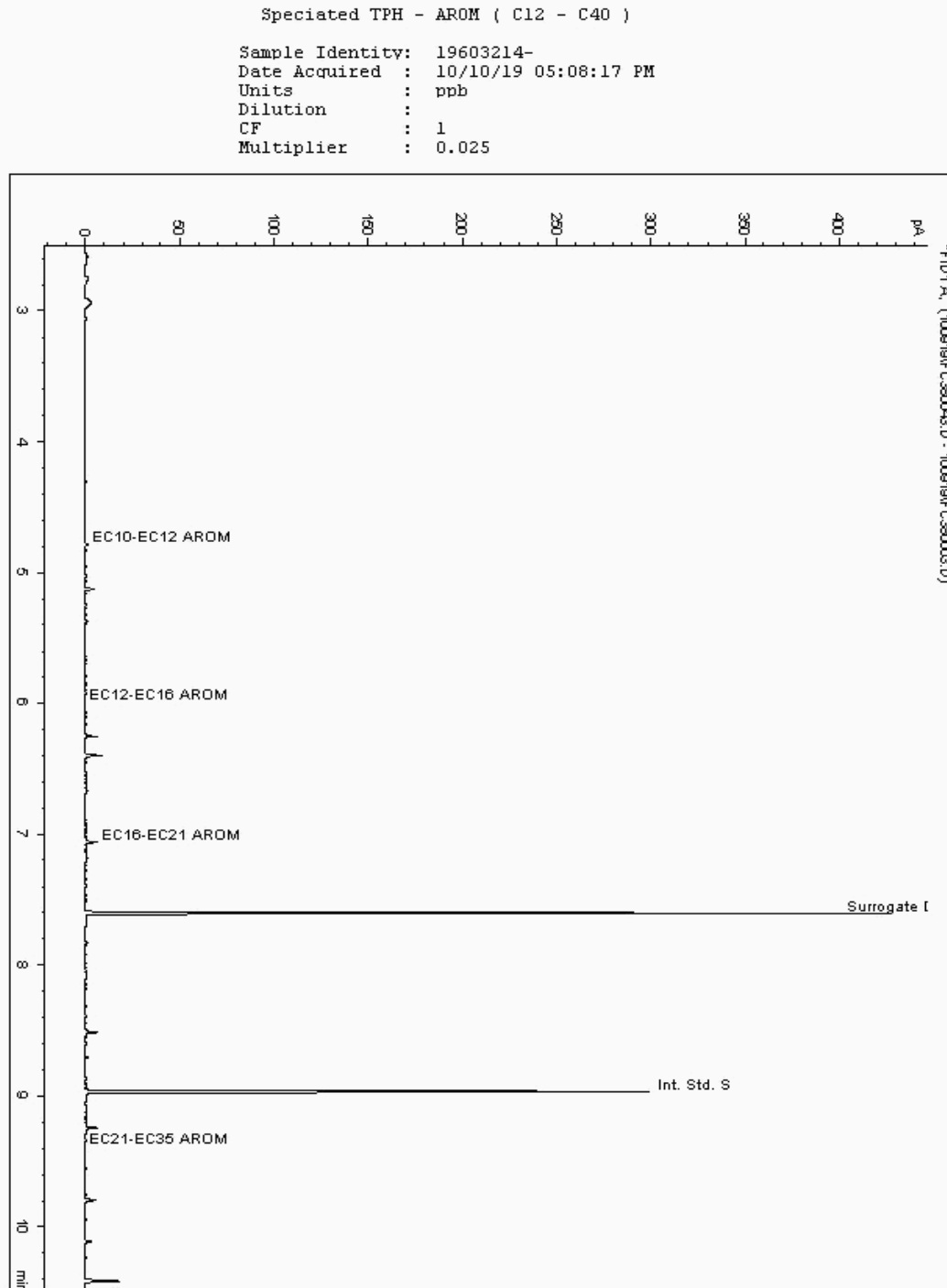
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865766
Sample ID : BH203C

Depth : 5.30 - 7.30





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

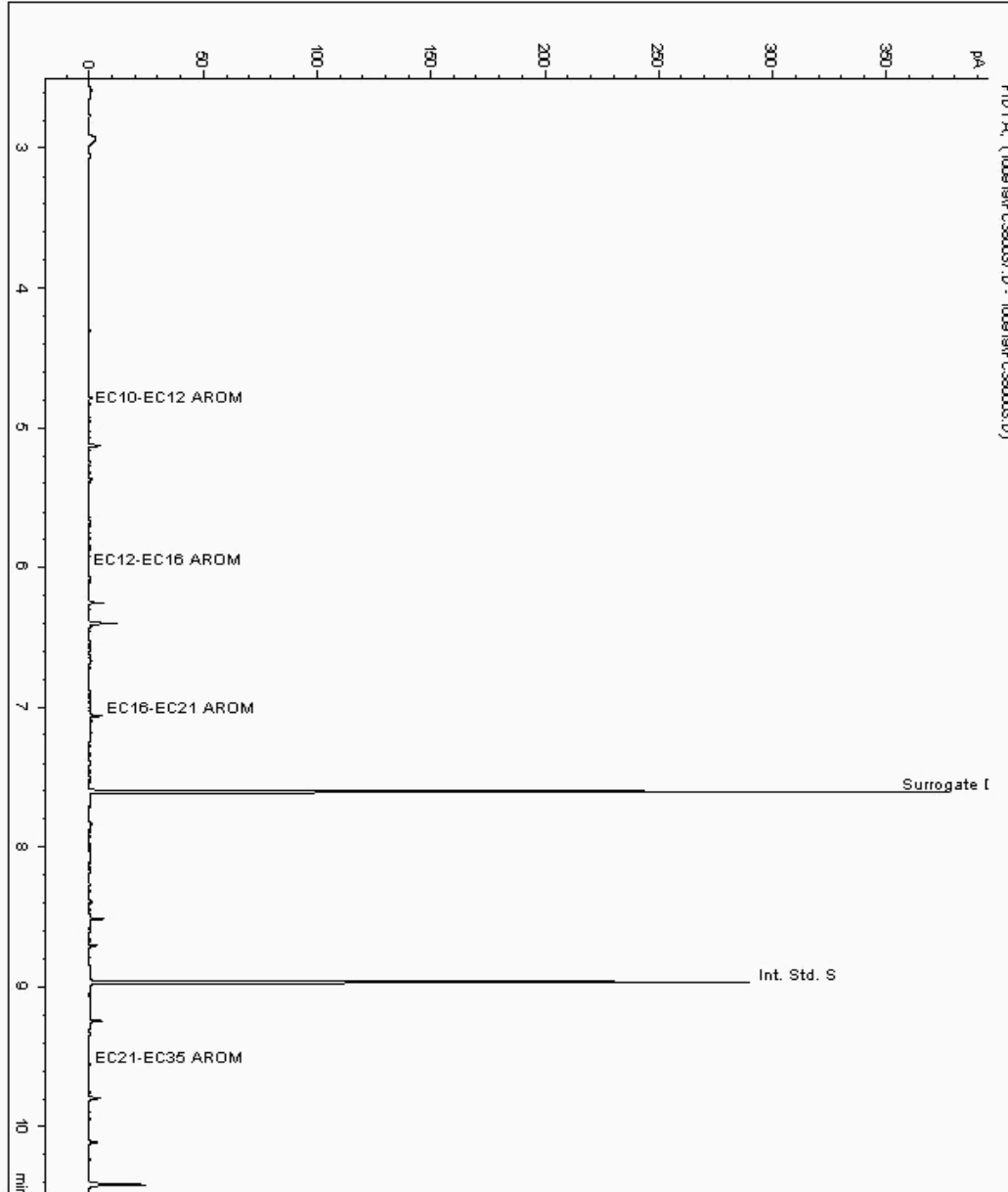
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865775
Sample ID : BH204

Depth : 5.00 - 7.00

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19603220-
Date Acquired : 10/10/19 02:48:27 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

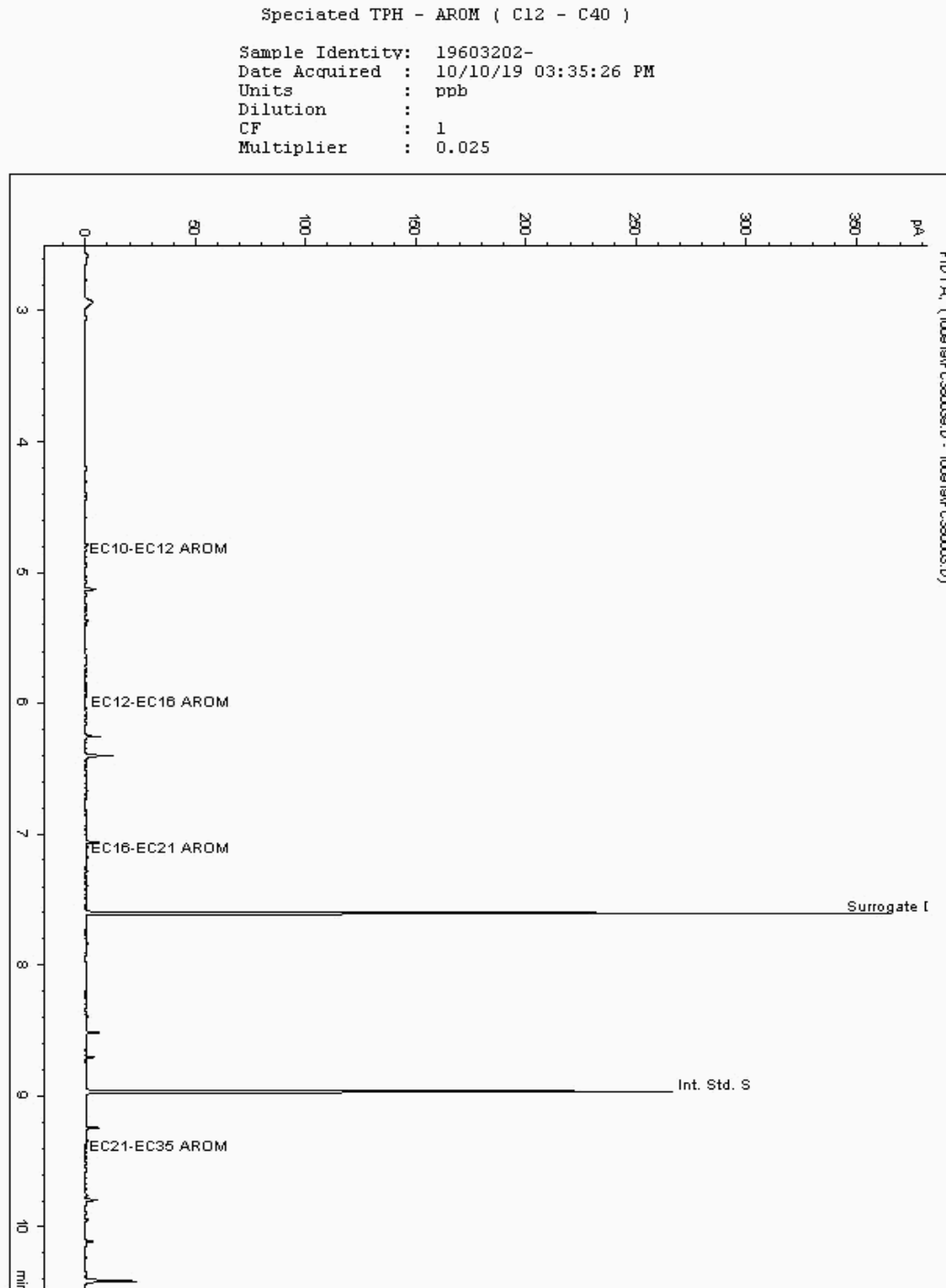
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865778
Sample ID : BH107

Depth : 9.00





CERTIFICATE OF ANALYSIS

Validated

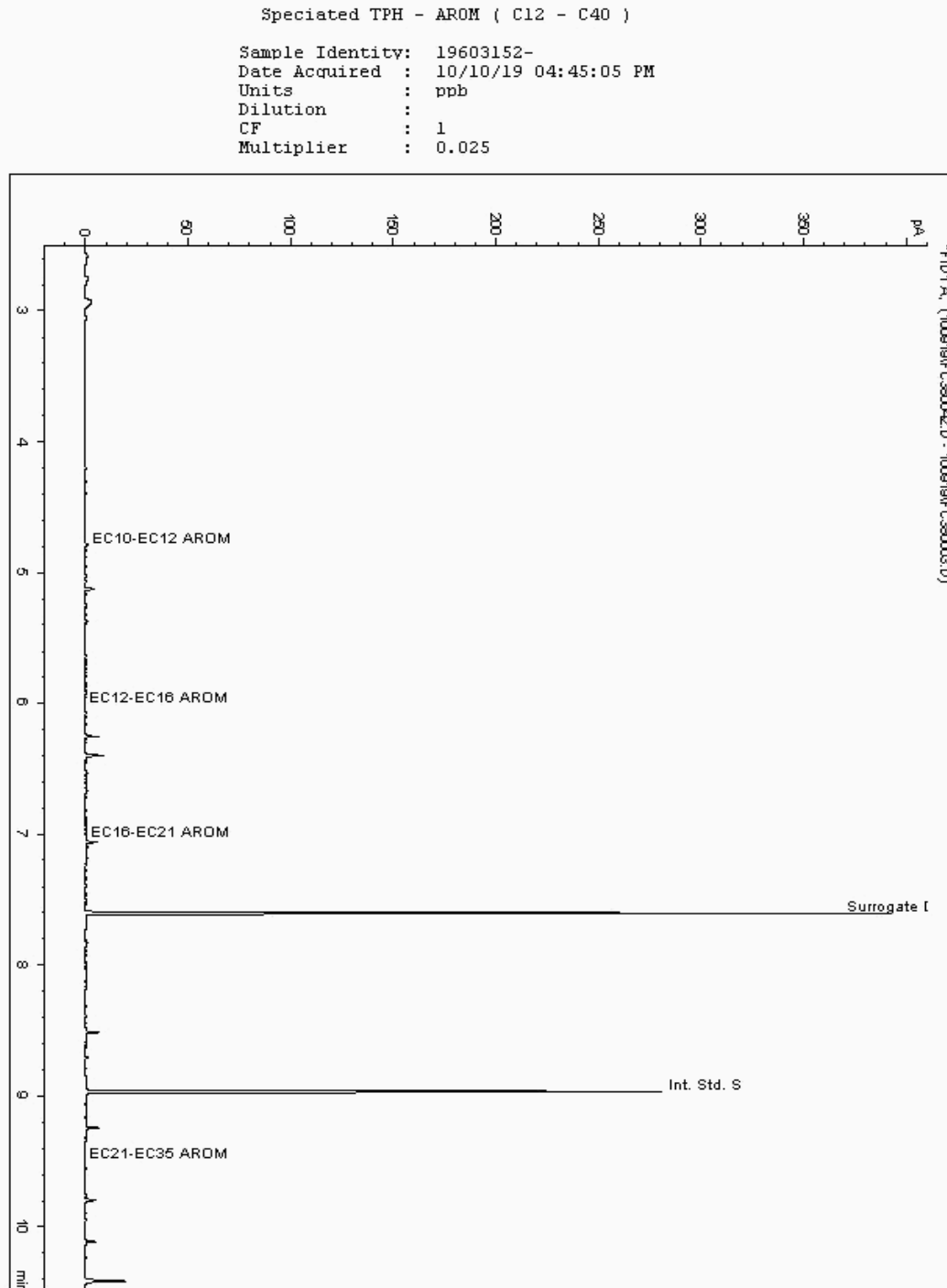
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20865783
Sample ID : Downstream

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

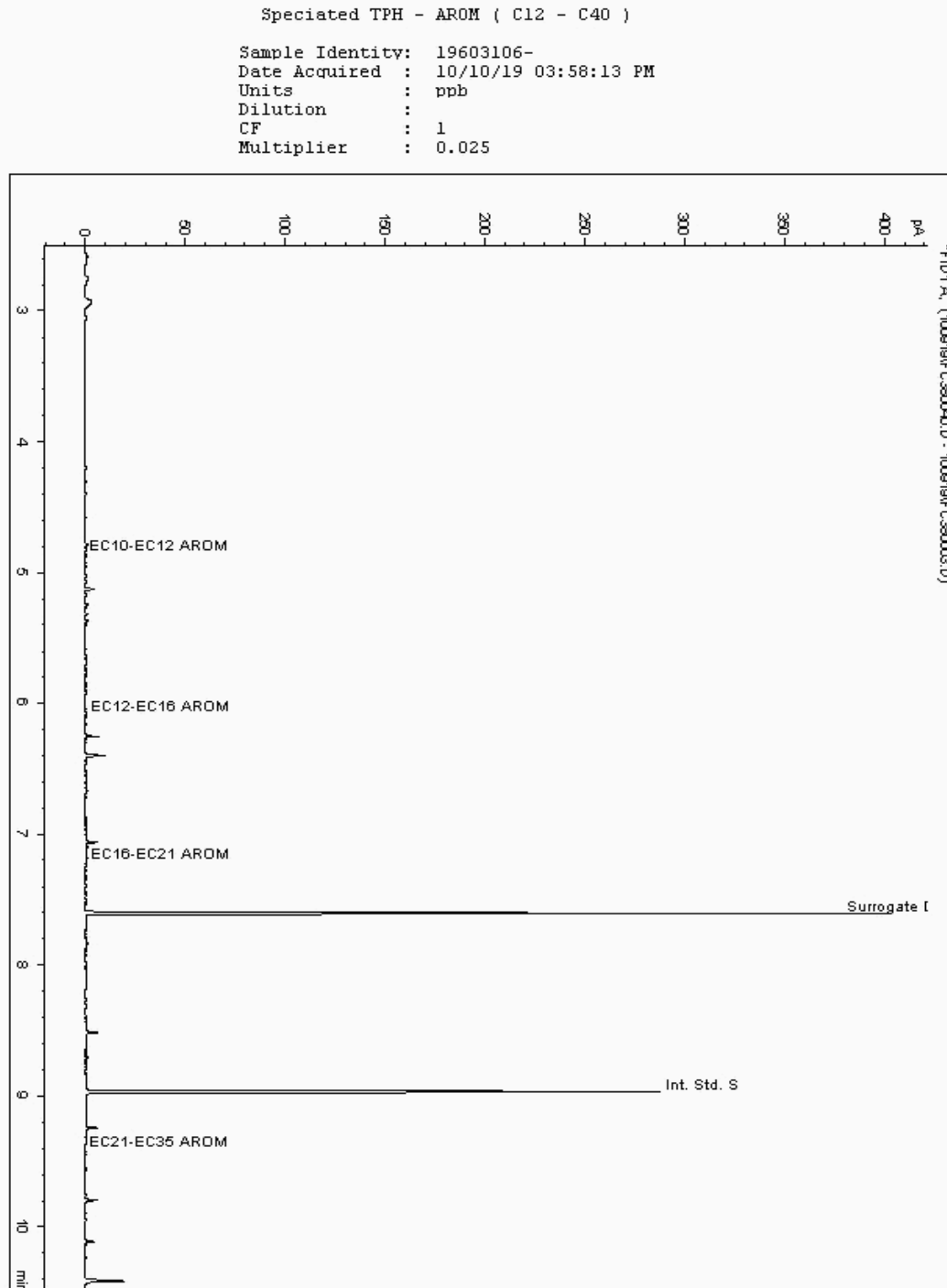
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20875565
Sample ID : BH101

Depth : 1.00 - 3.60





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

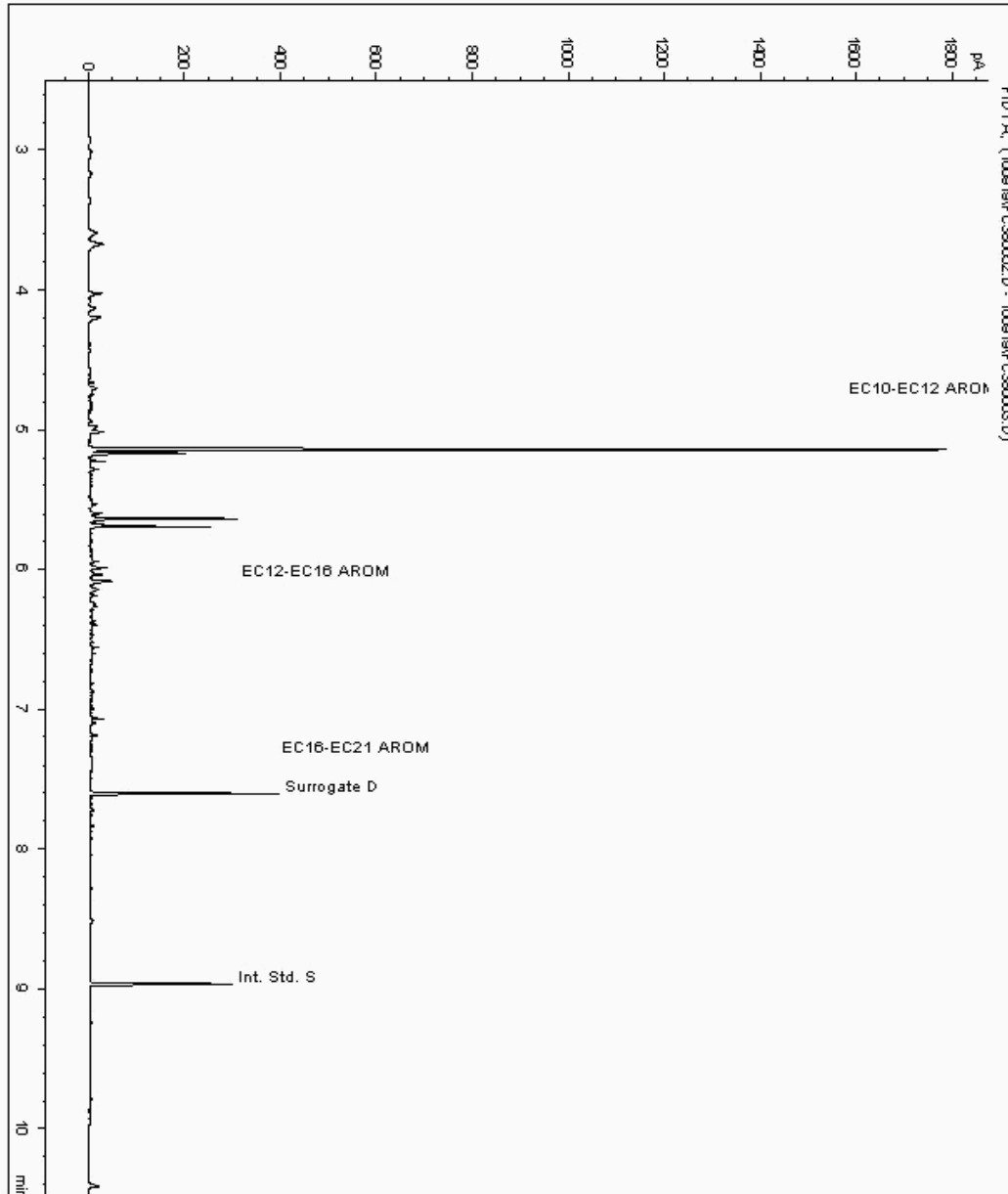
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20875567
Sample ID : BH301

Depth : 12.00 - 16.00

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19603112-
Date Acquired : 10/10/19 08:25:40 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

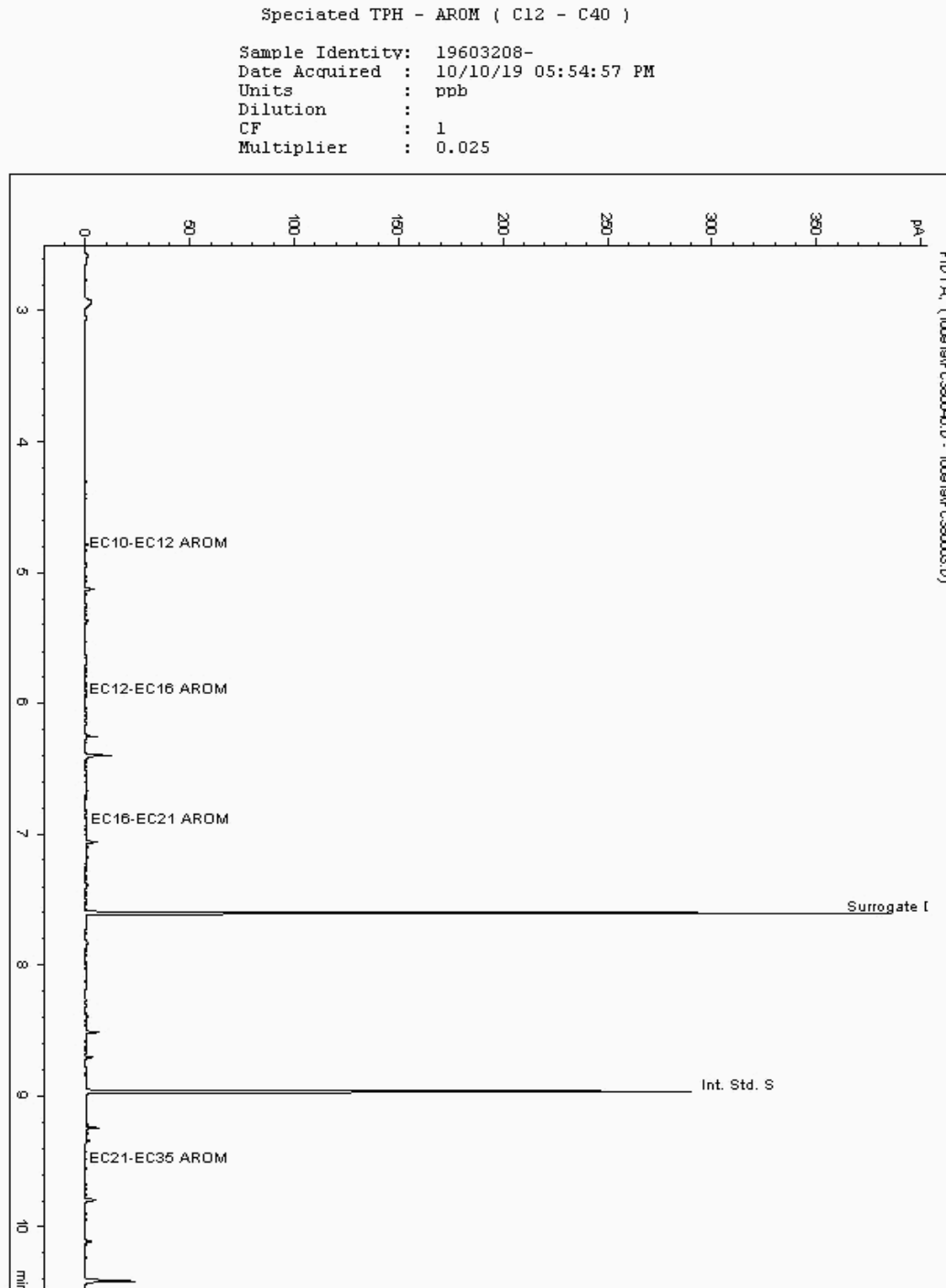
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20875574
Sample ID : BH201

Depth : 5.00 - 7.00





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

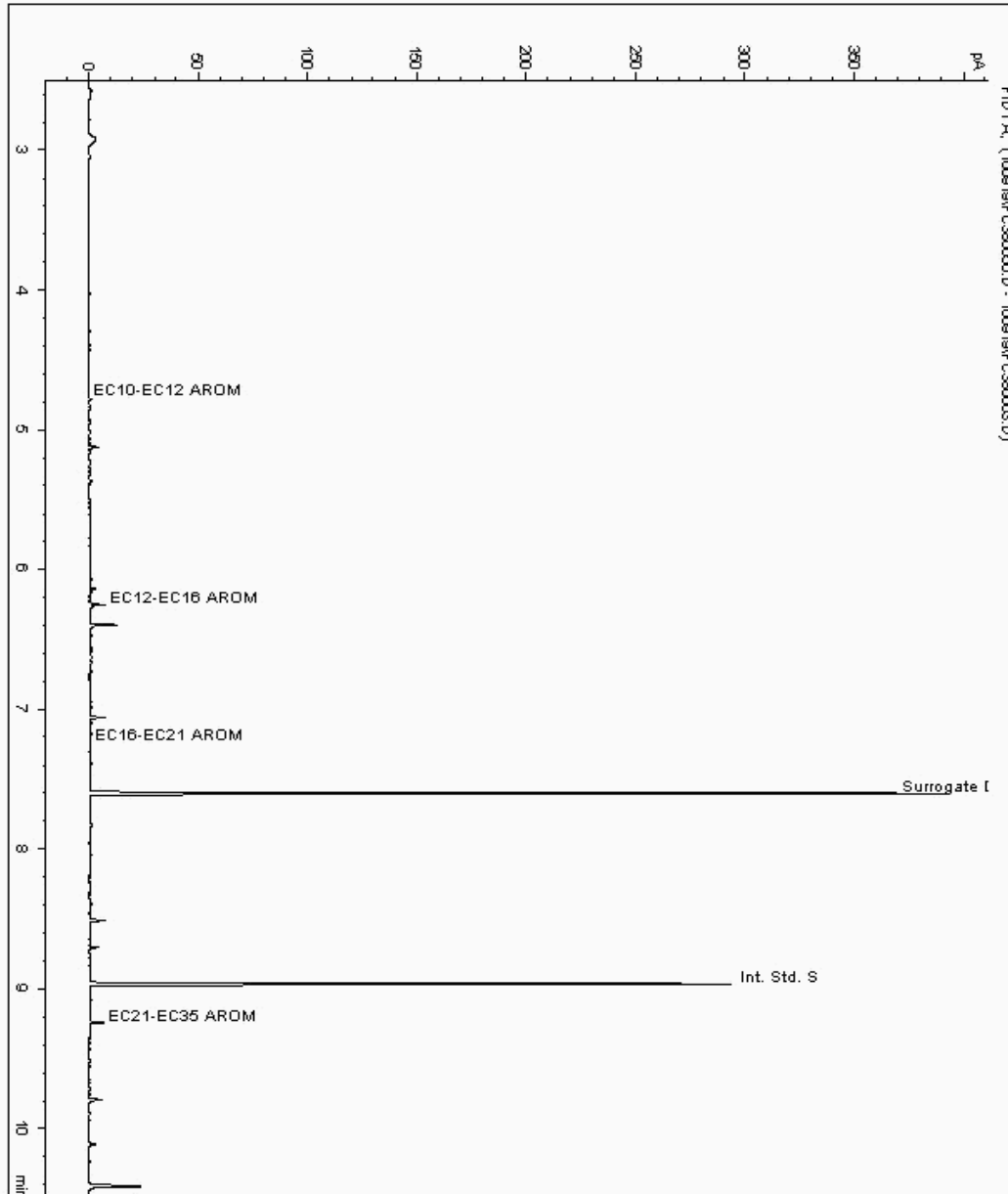
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20886087
Sample ID : BH102B

Depth : 1.00 - 4.50

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19603158-
Date Acquired : 10/10/19 09:50:49 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.033





CERTIFICATE OF ANALYSIS

Validated

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

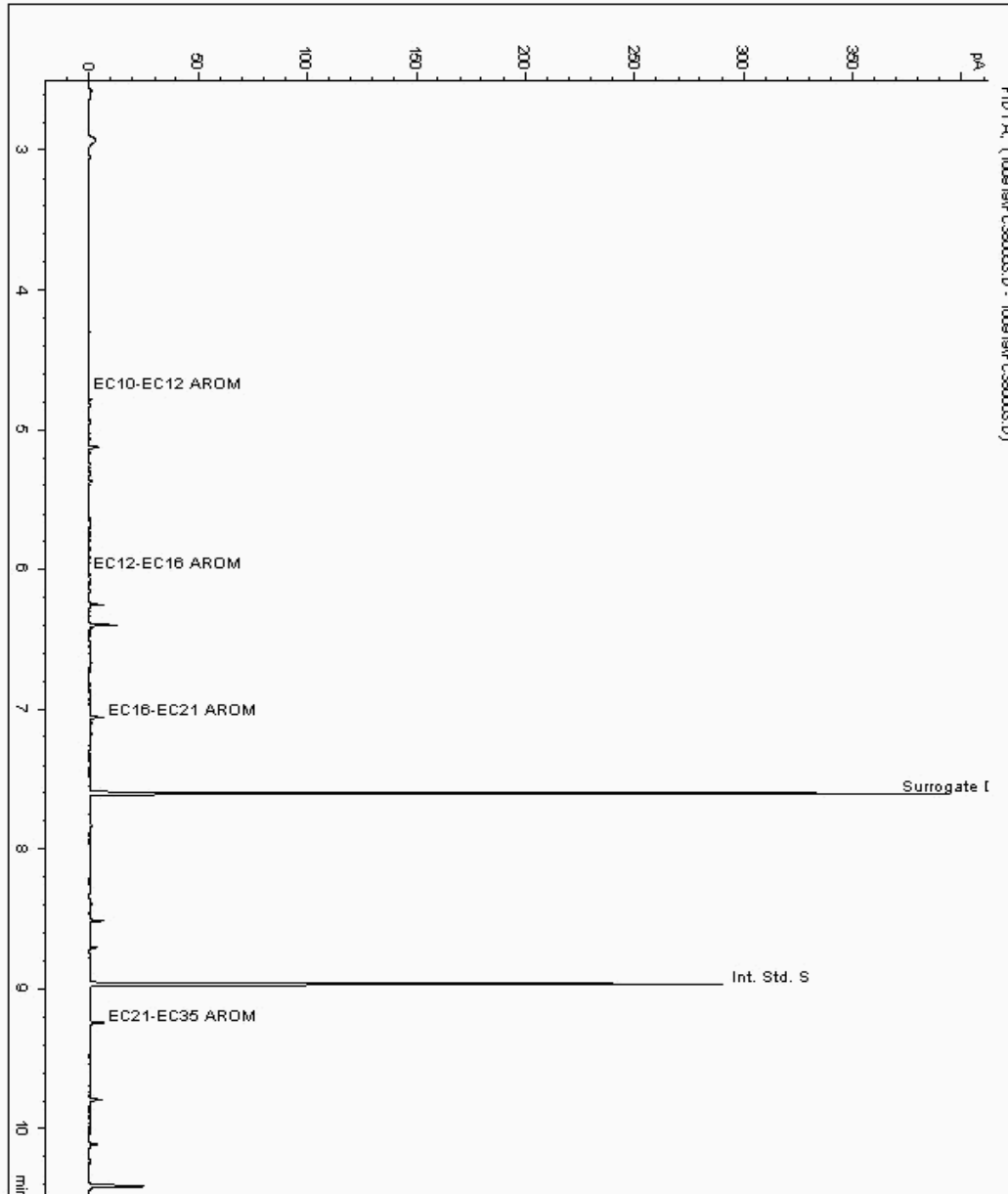
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20886289
Sample ID : BH103A

Depth : 1.00 - 4.50

Speciated TPH - AROM (C12 - C40)

Sample Identity: 19603168-
Date Acquired : 10/10/19 08:47:02 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.033





CERTIFICATE OF ANALYSIS

Validated

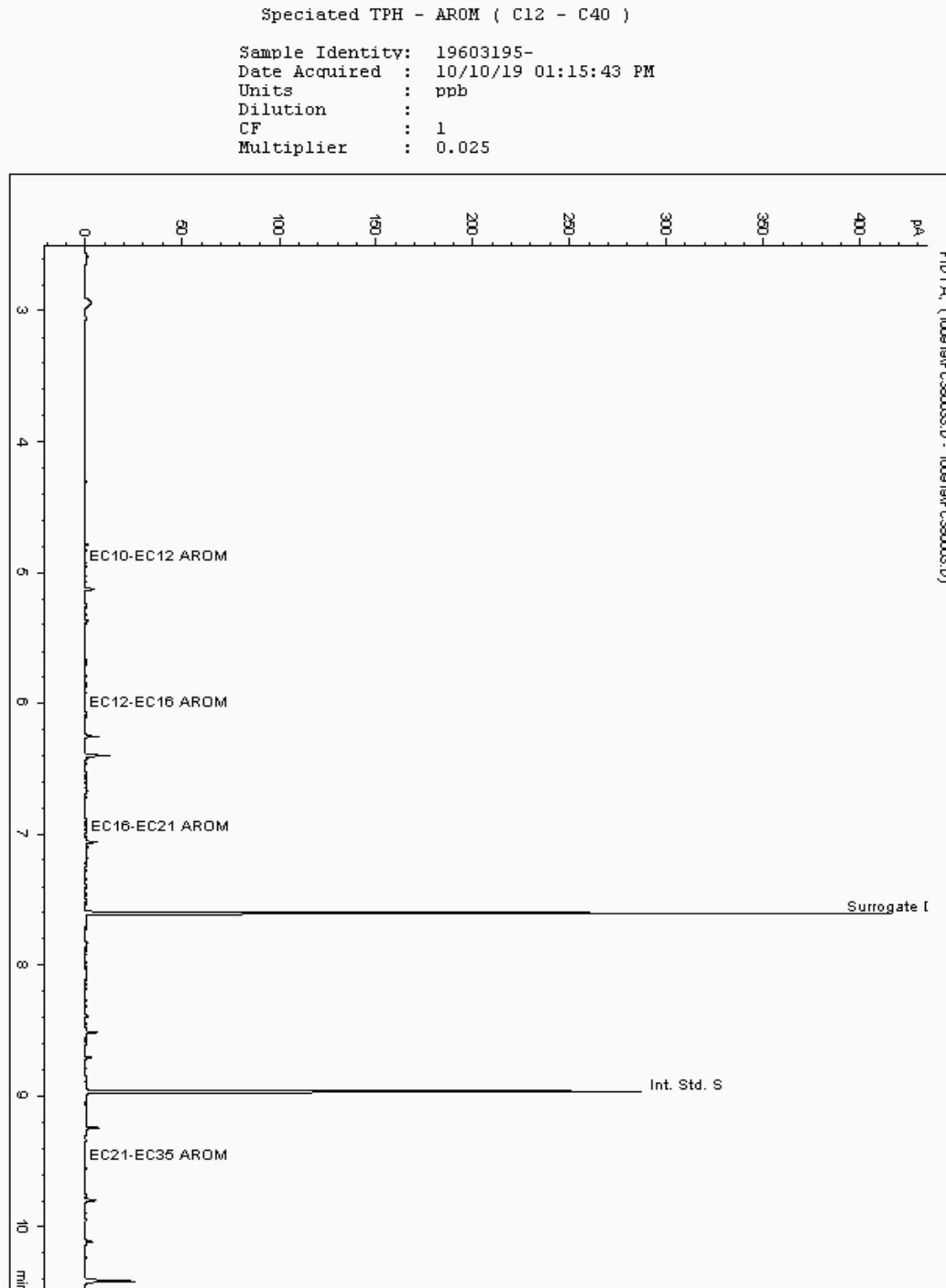
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 20886314
Sample ID : BH106

Depth : 9.00





CERTIFICATE OF ANALYSIS

Validated

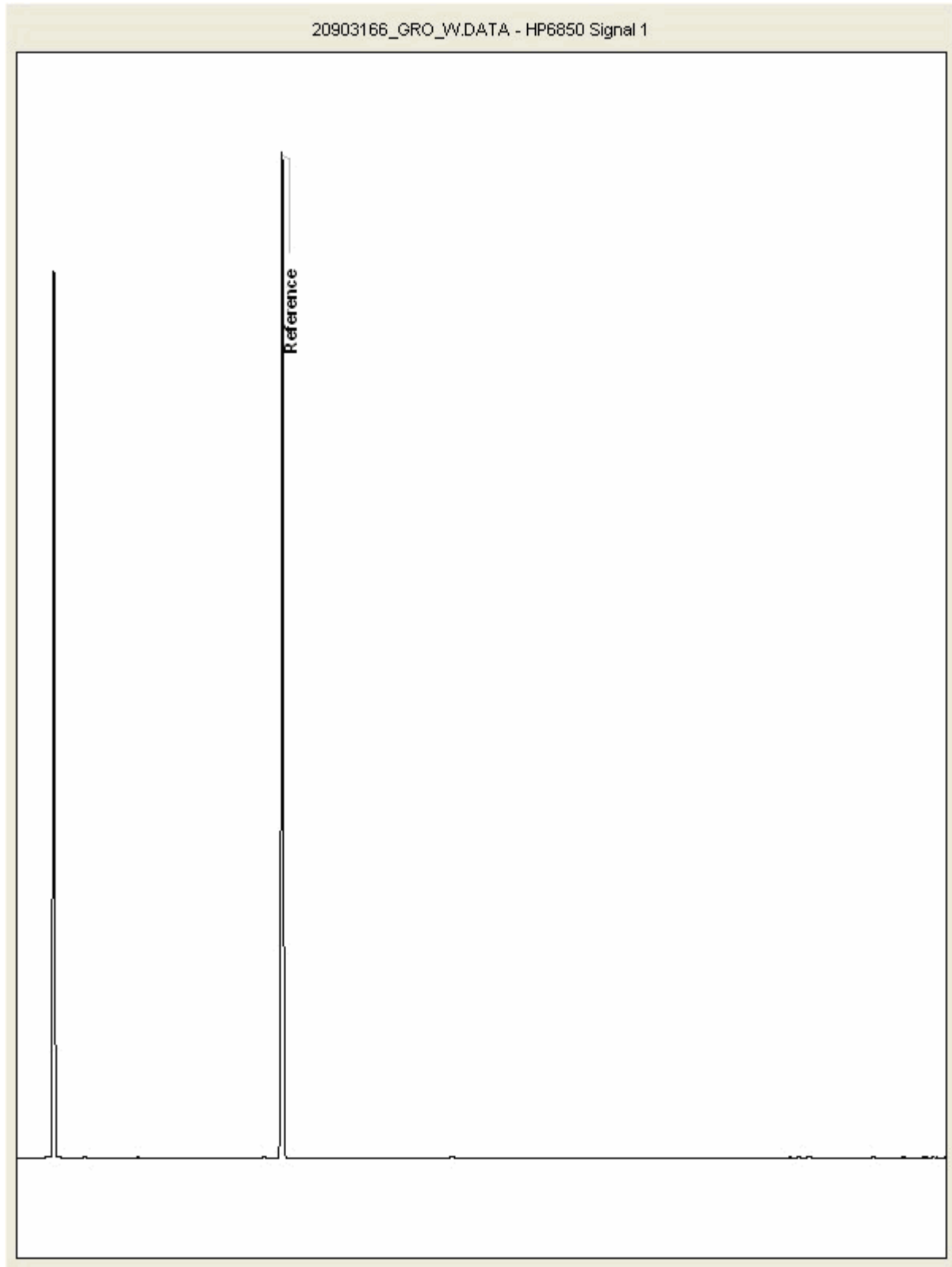
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20903166
Sample ID : Upstream

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

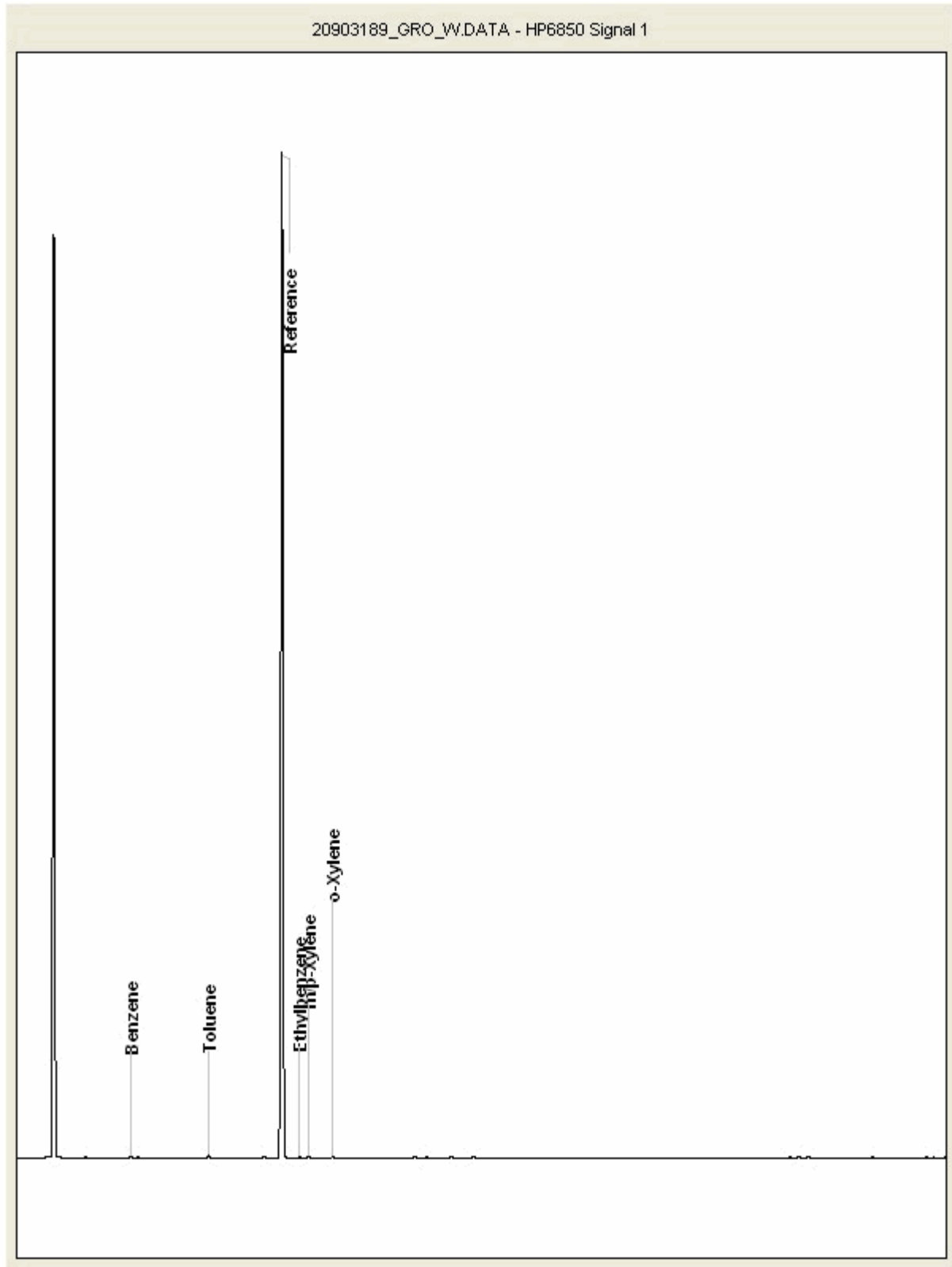
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Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20903189
Sample ID : BH303

Depth : 8.00





CERTIFICATE OF ANALYSIS

Validated

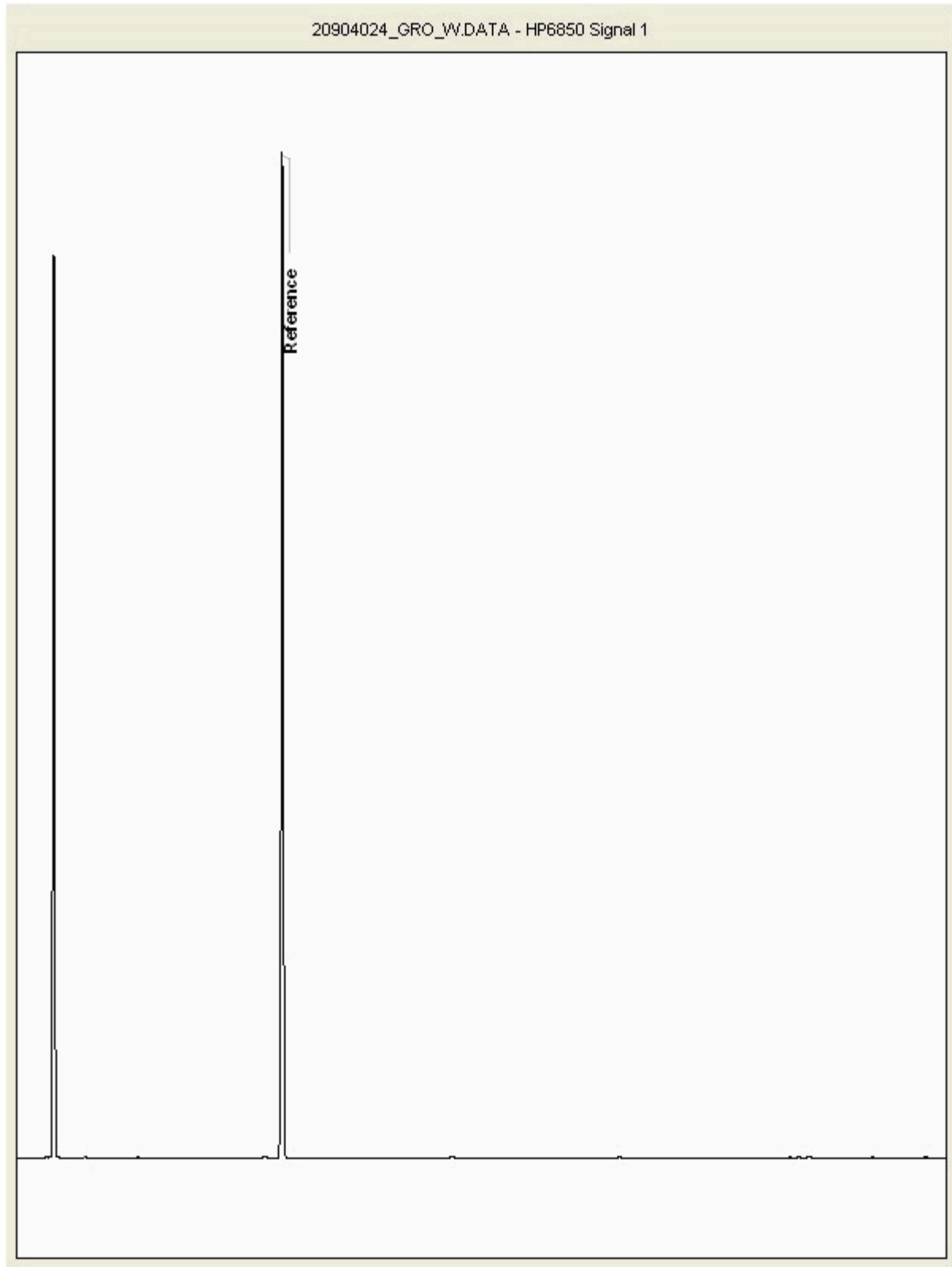
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904024
Sample ID : BH103A

Depth : 1.00 - 4.50





CERTIFICATE OF ANALYSIS

Validated

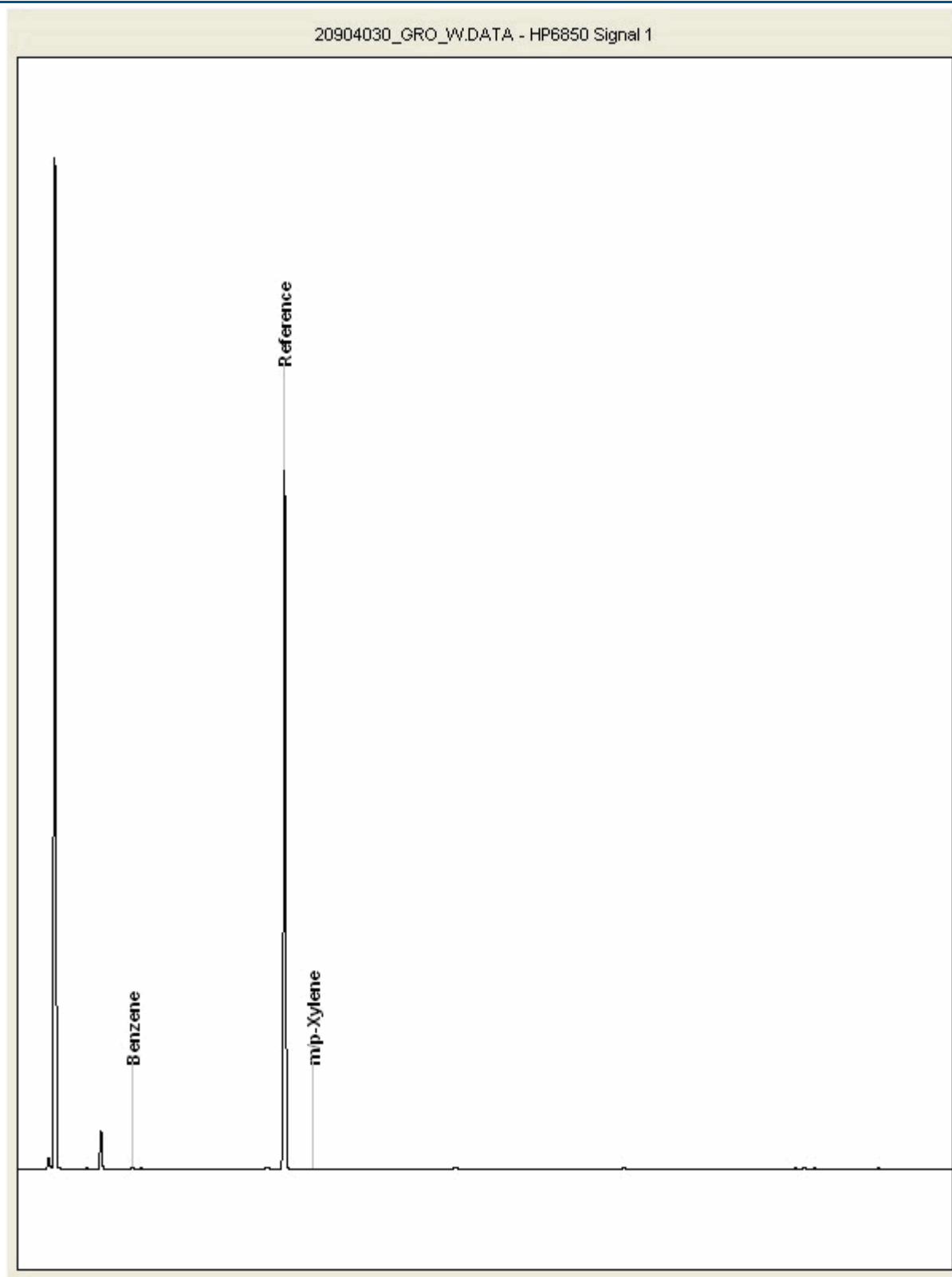
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904030
Sample ID : BH201

Depth : 5.00 - 7.00





CERTIFICATE OF ANALYSIS

Validated

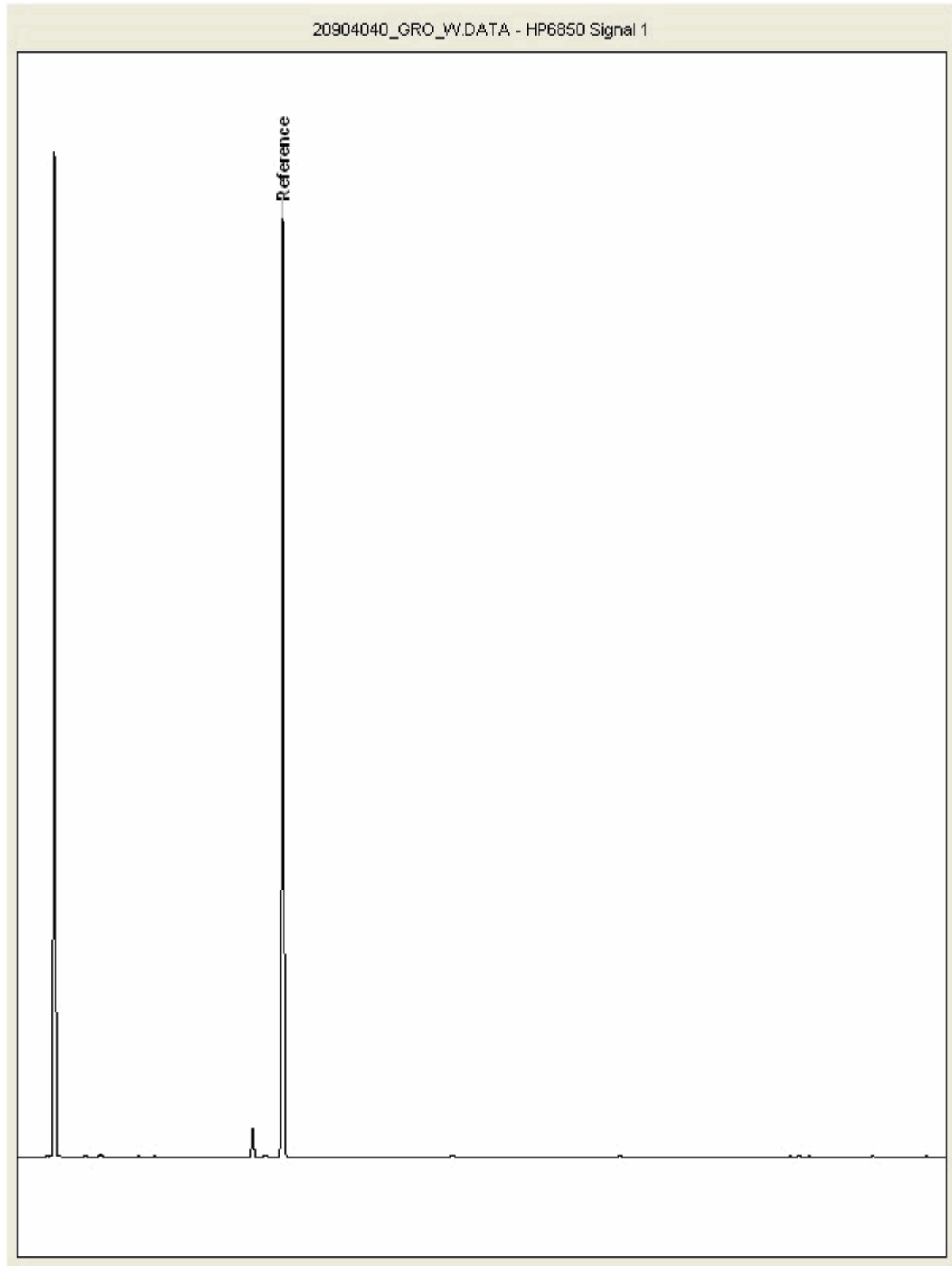
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904040
Sample ID : BH101

Depth : 1.00 - 3.60





CERTIFICATE OF ANALYSIS

Validated

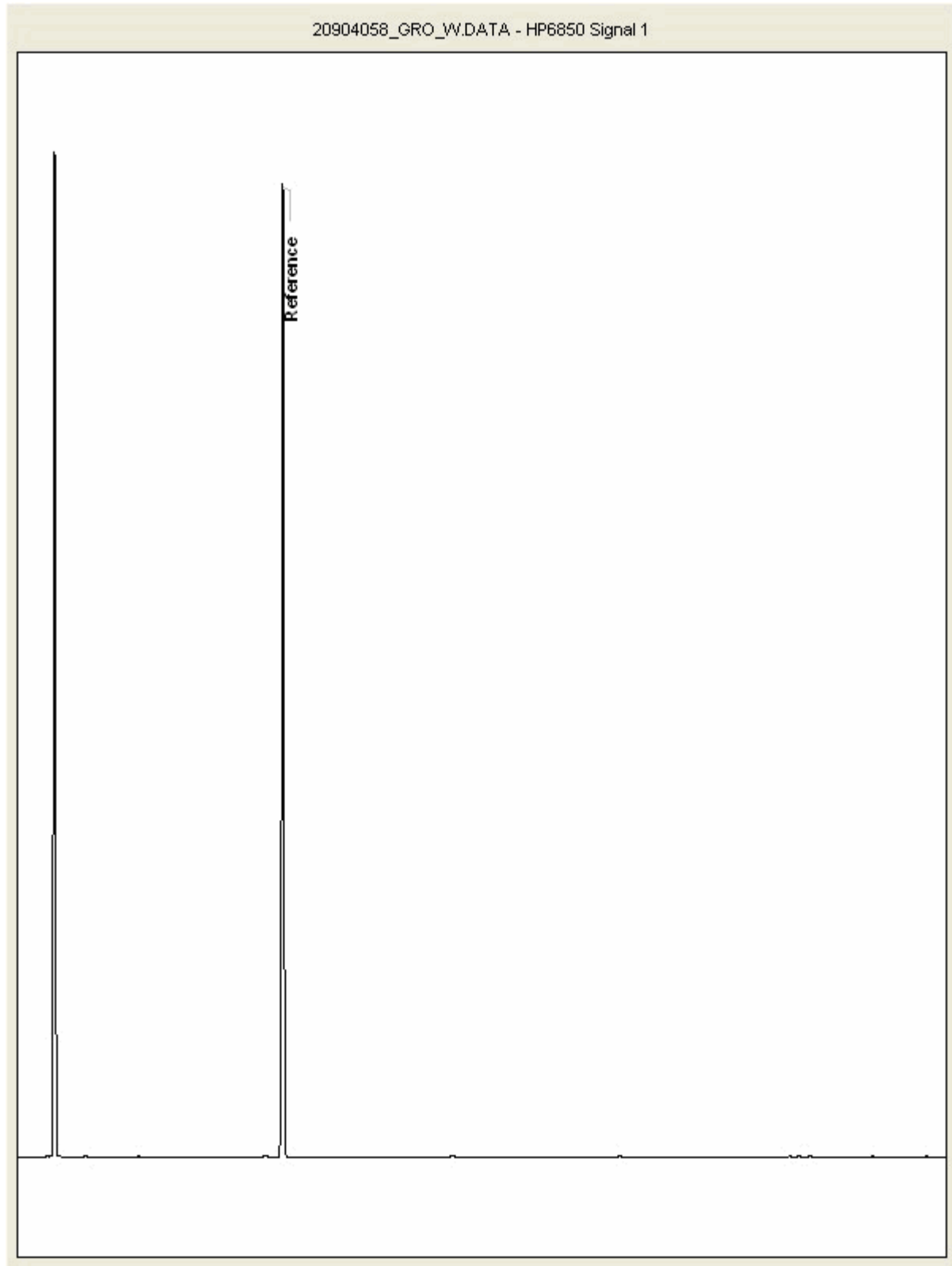
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904058
Sample ID : BH203C

Depth : 5.30 - 7.30





CERTIFICATE OF ANALYSIS

Validated

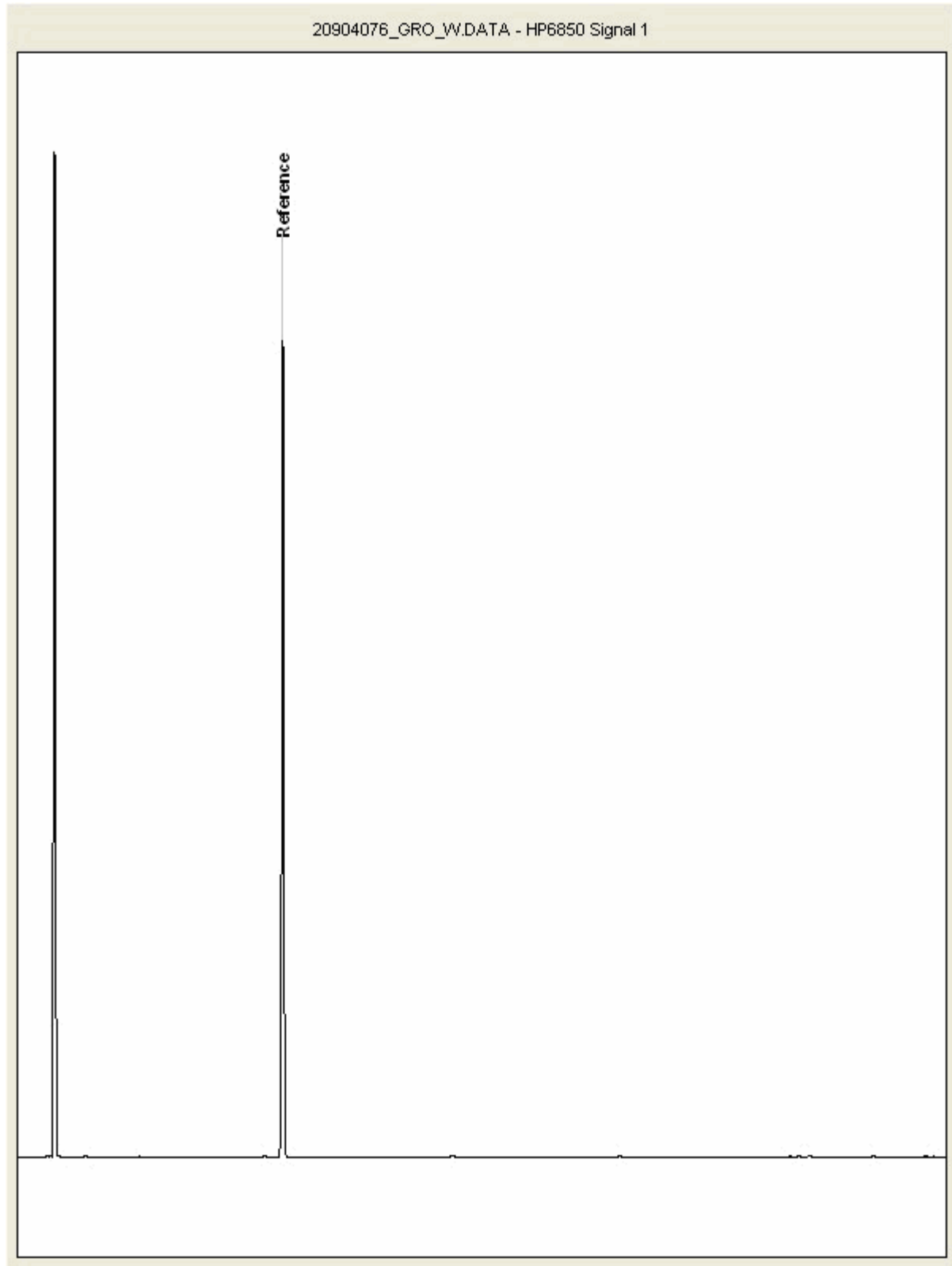
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904076
Sample ID : BH204

Depth : 5.00 - 7.00





CERTIFICATE OF ANALYSIS

Validated

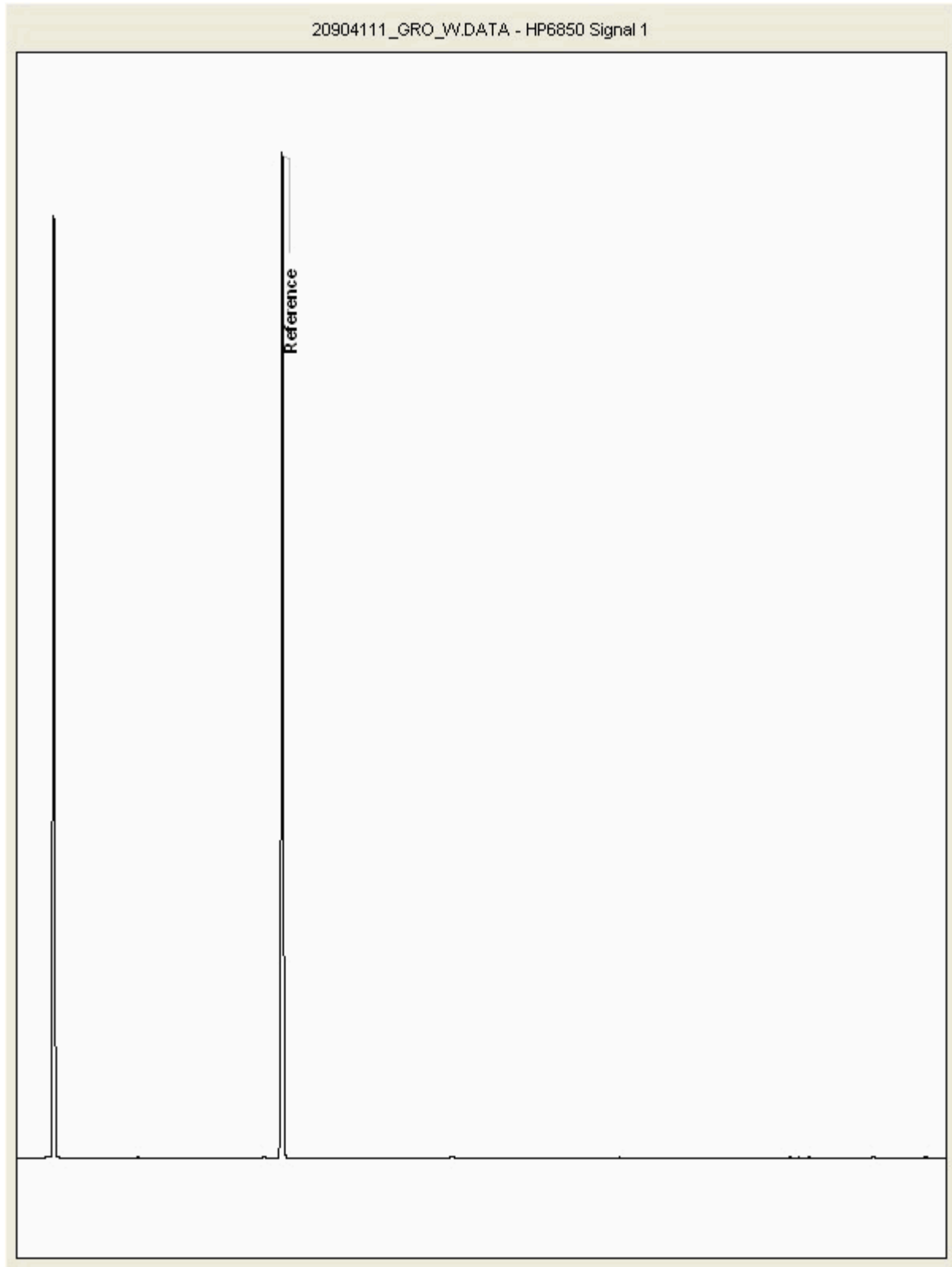
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904111
Sample ID : BH107

Depth : 9.00





CERTIFICATE OF ANALYSIS

Validated

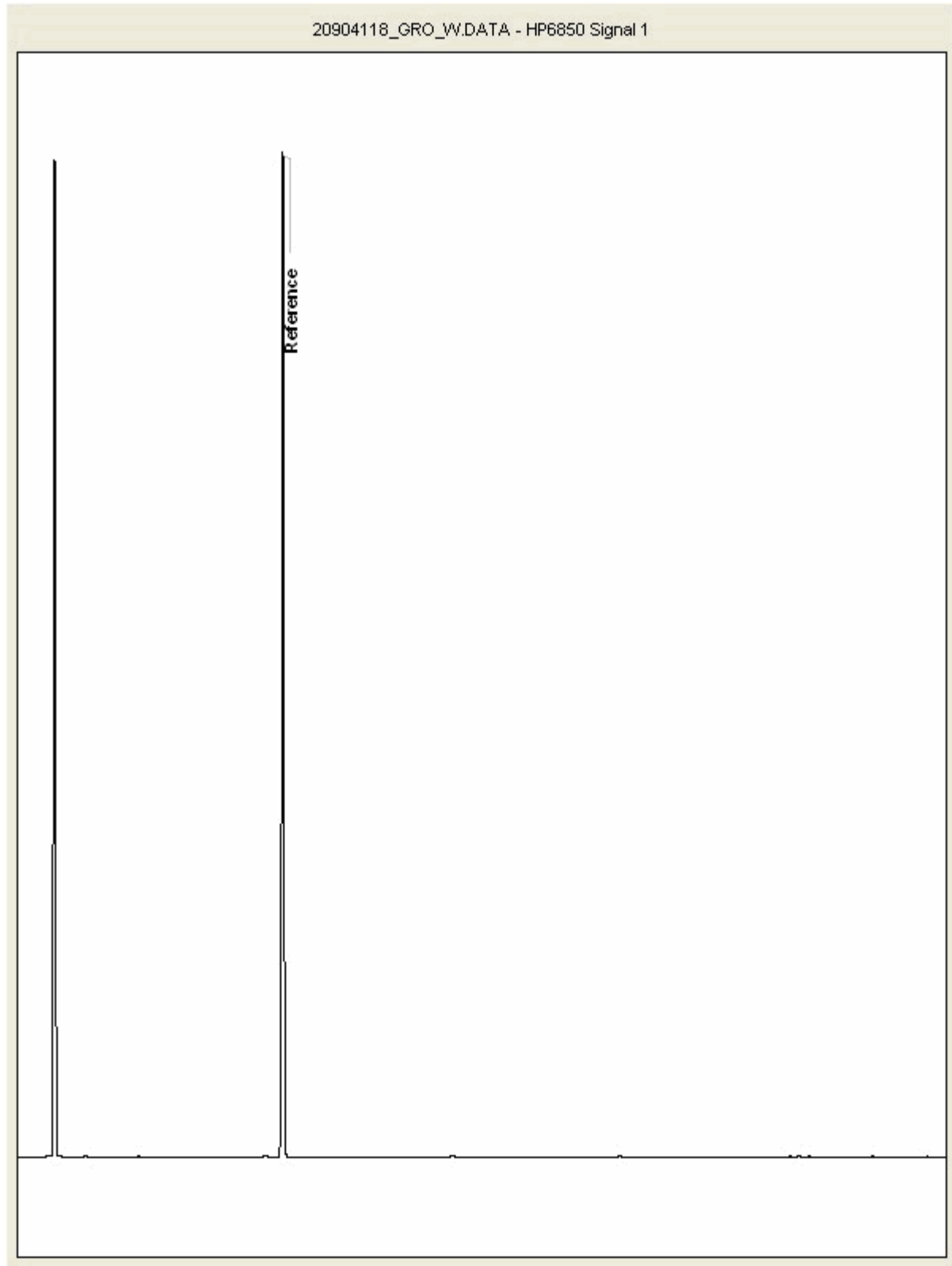
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904118
Sample ID : BH106

Depth : 9.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

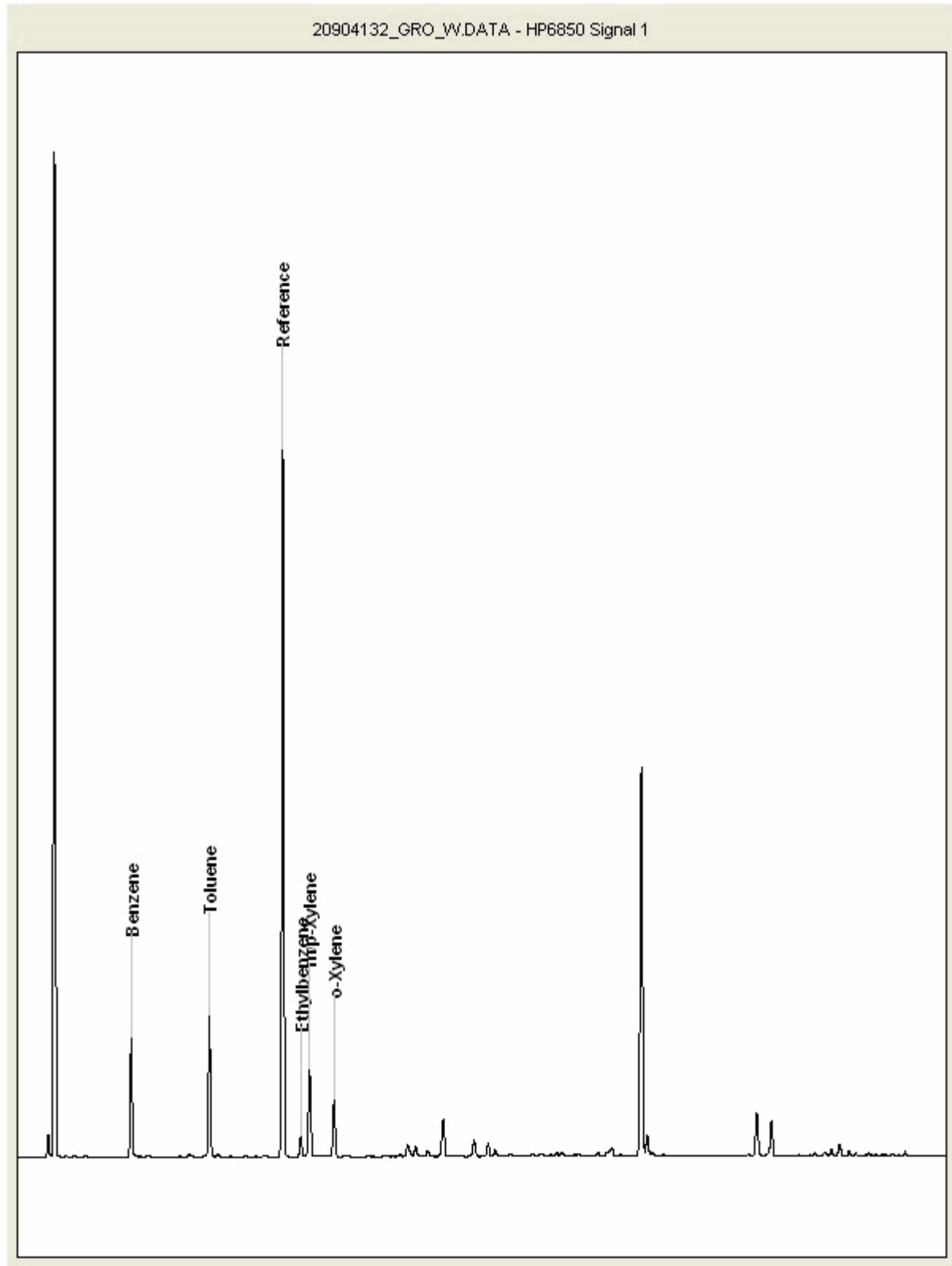
Report Number: 525583
Superseded Report: 525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904132
Sample ID : BH301

Depth : 12.00 - 16.00





CERTIFICATE OF ANALYSIS

Validated

SDG: 191003-100
Location: 70031882-SGN Reading

Client Reference: 70031882
Order Number: 70031882

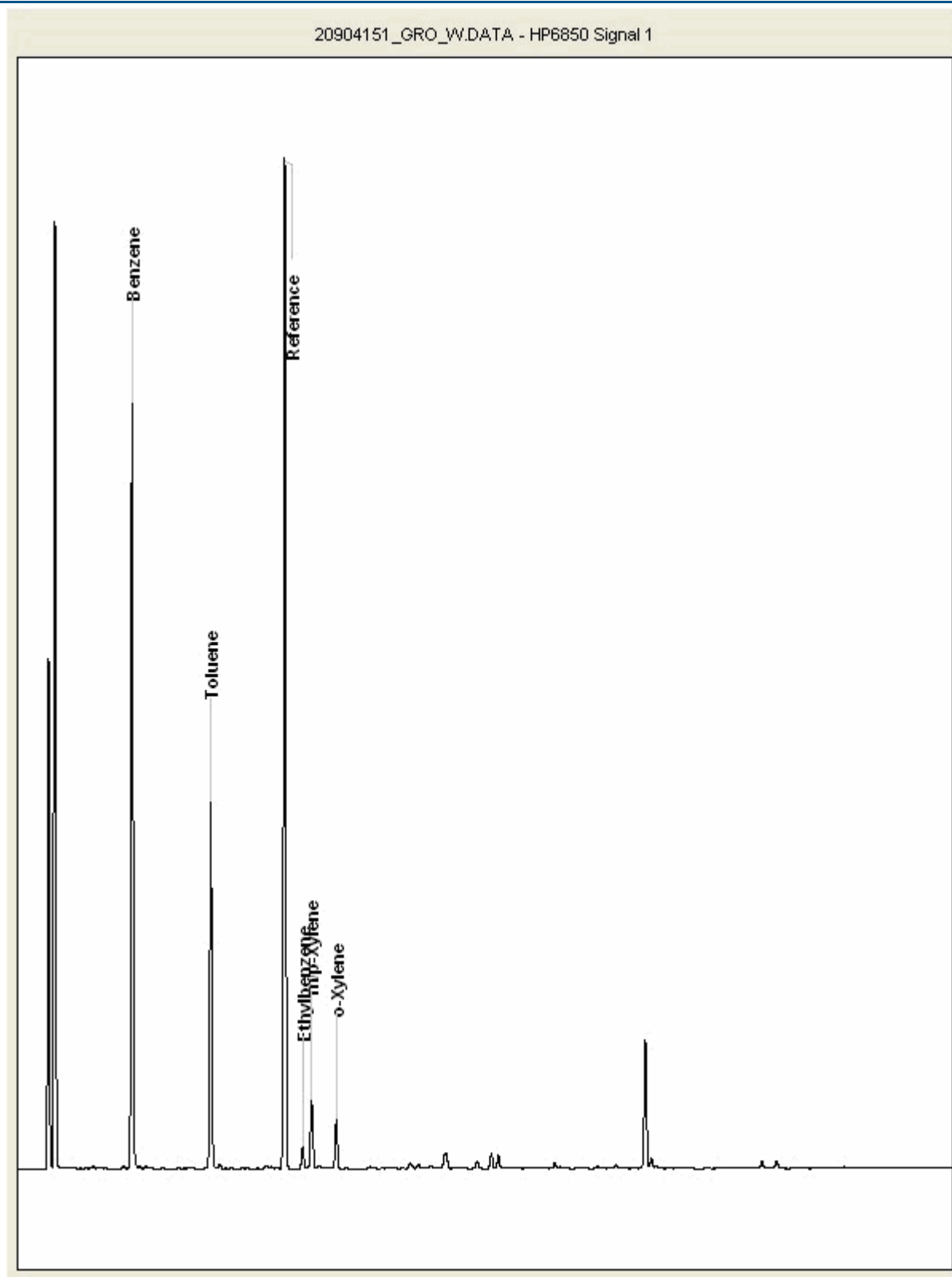
Report Number: 525583
Superseded Report: 525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904151
Sample ID : BH302A

Depth : 10.00 - 19.00





CERTIFICATE OF ANALYSIS

Validated

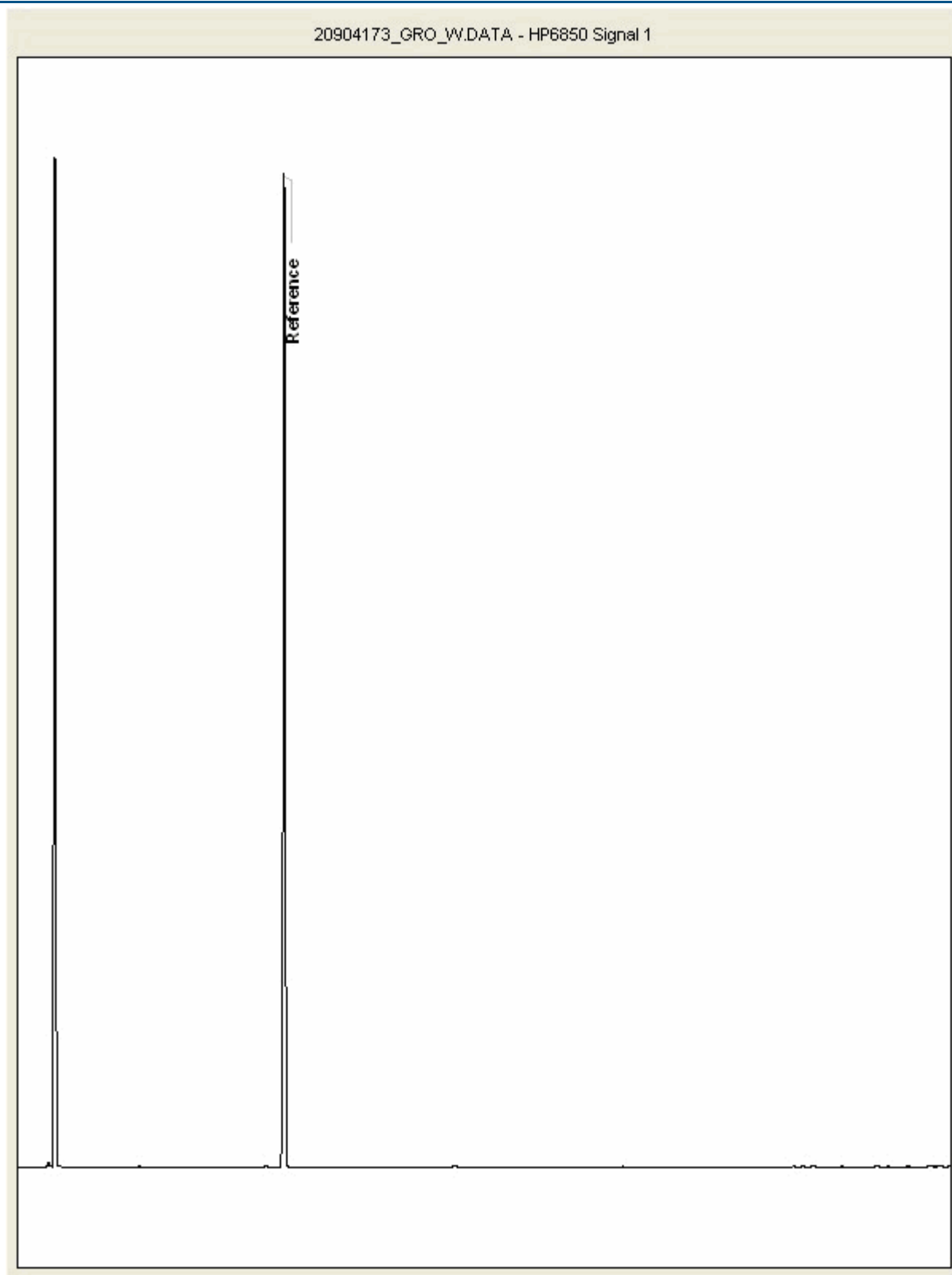
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20904173
Sample ID : BH104

Depth : 1.00 - 4.50





CERTIFICATE OF ANALYSIS

Validated

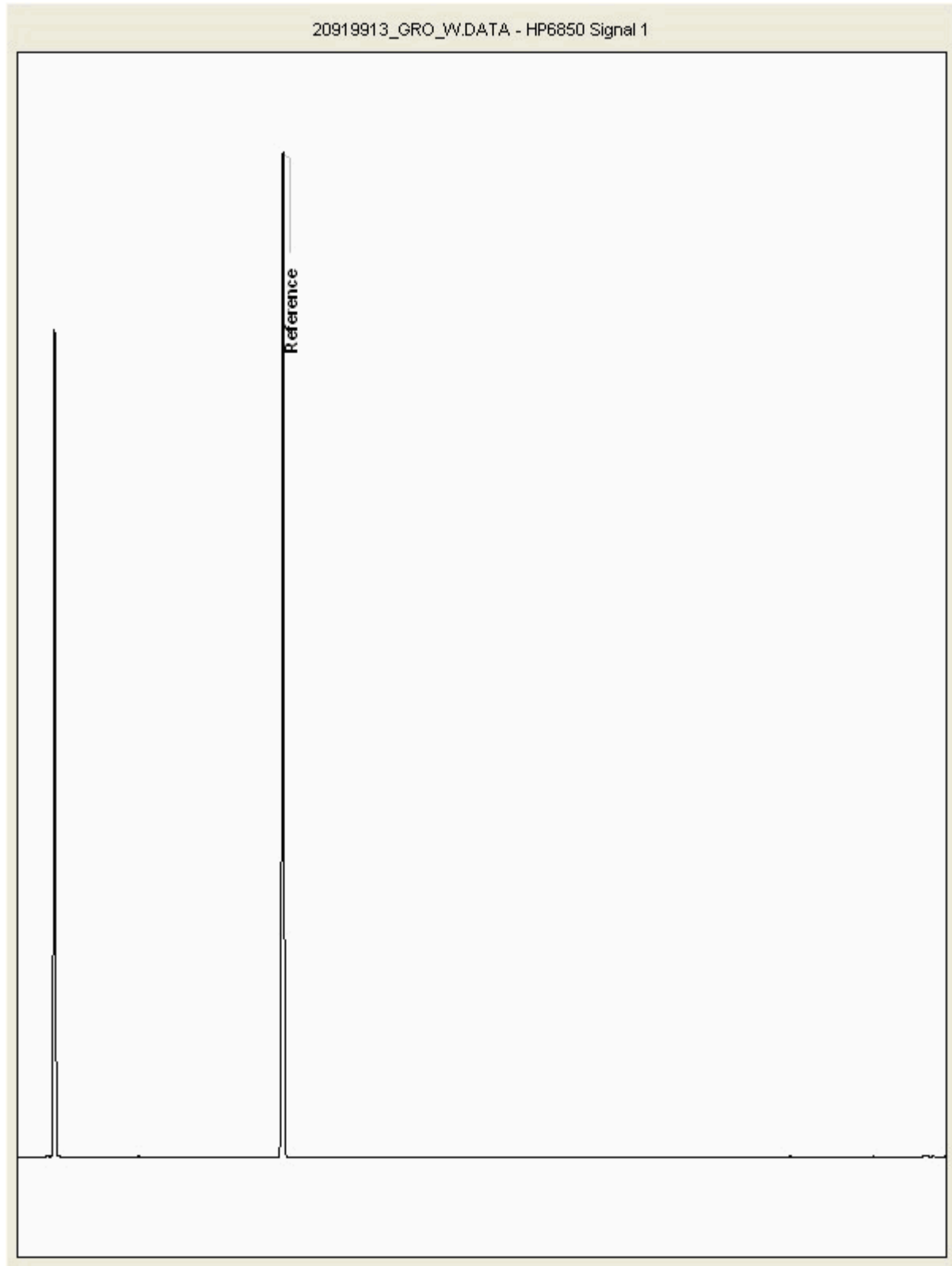
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20919913
Sample ID : Downstream

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

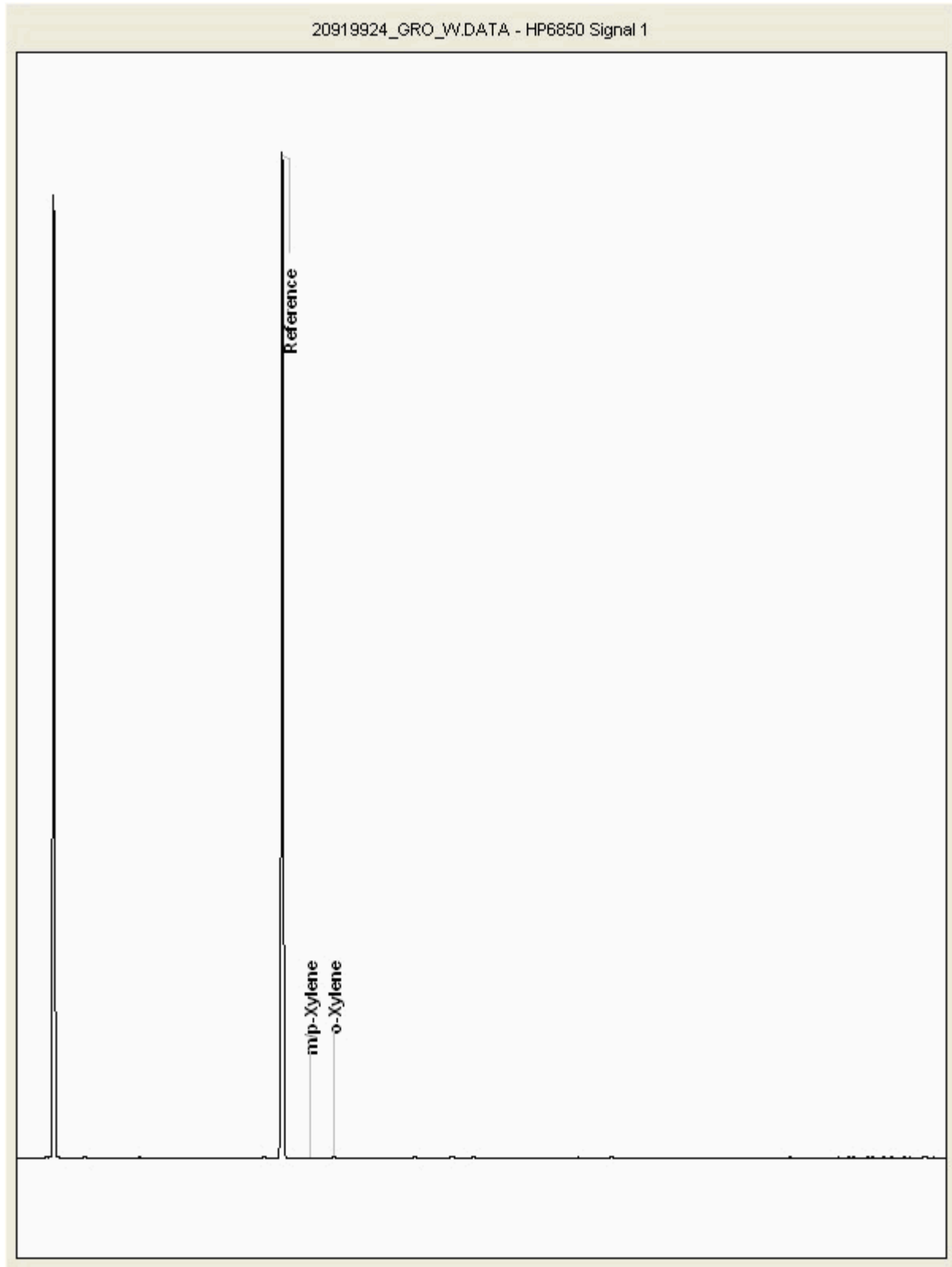
SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 20919924
Sample ID : BH102B

Depth : 1.00 - 4.50





CERTIFICATE OF ANALYSIS

SDG:	191003-100	Client Reference:	70031882	Report Number:	525583
Location:	70031882-SGN Reading	Order Number:	70031882	Superseded Report:	525526

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. 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.

3. 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.

4. 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.

5. 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.

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

7. Results relate only to the items tested.

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

9. **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.

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

11. 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.

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

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

14. 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.

15. 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.

16. 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.

17. **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.

18. 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

19. Asbestos

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

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.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil* (2107).

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.



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Website: www.alsenvironmental.co.uk

WSP PB BBC
3rd Floor, Kings Orchard,
1 Queen Street
Bristol
Gloucestershire
BS2 0HQ

Attention: Emma Waite

CERTIFICATE OF ANALYSIS

Date of report Generation:	21 February 2020
Customer:	WSP PB BBC
Sample Delivery Group (SDG):	200212-130
Your Reference:	70031882
Location:	Reading Gasholder No. 4
Report No:	542448

This report has been revised and directly supersedes 542387 in its entirety.

We received 6 samples on Wednesday February 12, 2020 and 6 of these samples were scheduled for analysis which was completed on Friday February 21, 2020. 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:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
21673758	BH101	EW100220	0.00 - 0.00	10/02/2020
21673798	BH201	EW100220	0.00 - 0.00	10/02/2020
21673784	BH202	EW100220	0.00 - 0.00	10/02/2020
21673771	BH301	EW100220	0.00 - 0.00	10/02/2020
21673745	BH302A	EW100220	0.00 - 0.00	10/02/2020
21673812	WS206	EW100220	0.00 - 0.00	10/02/2020

Maximum Sample/Coolbox Temperature (°C) : 4.8

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: 200212-130 Client Reference: 70031882 Report Number: 542448
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542387

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)		21673758	21673798	21673784
	Customer Sample Reference		BH101	BH201	BH202
	AGS Reference		EW100220	EW100220	EW100220
	Depth (m)		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
	Container		HCl Filtered (ALE250)	HCl Filtered (ALE250)	HCl Filtered (ALE250)
	Sample Type		500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 6			
Anions by Kone (w)	All	NDPs: 0 Tests: 6			
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 6			
Determination of Dissolved Gases	All	NDPs: 0 Tests: 6			
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 6			
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 6			
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 6			
Ferric Iron	All	NDPs: 0 Tests: 6			
Ferrous Iron	All	NDPs: 0 Tests: 6			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6			
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6			
Low Level Phenols by HPLC (W)	All	NDPs: 0 Tests: 5			
Mercury Dissolved	All	NDPs: 0 Tests: 6			
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6			
pH Value of Filtered Water	All	NDPs: 0 Tests: 6			



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130 Client Reference: 70031882 Report Number: 542448
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542387

Results Legend



Test



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

Results Legend	Lab Sample No(s)		21673758	21673798	21673784
	Customer Sample Reference		BH101	BH201	BH202
	AGS Reference		EW100220	EW100220	EW100220
	Depth (m)		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
	Container		HCl Filtered (ALE250)	HCl Filtered (ALE250)	HCl Filtered (ALE250)
	Sample Type		GW	GW	GW
			500ml Plastic (ALE208)	500ml Plastic (ALE208)	500ml Plastic (ALE208)
Phenols by HPLC (W)	All	NDPs: 0 Tests: 1			
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6	X	X	X
Total Metals by ICP-MS	All	NDPs: 0 Tests: 6			
TPH CWG (W)	All	NDPs: 0 Tests: 6			
VOC MS (W)	All	NDPs: 0 Tests: 6	X	X	X



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130 Client Reference: 70031882 Report Number: 542448
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542387

Results Legend



Test



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)

21673812

Customer Sample Reference

WS206

AGS Reference

EW100220

Depth (m)

0.00 - 0.00

Container

Vial (ALE297)
NaOH (ALE245)
HNO3 Unfiltered (ALE204)
HNO3 Filtered (ALE204)
HCl Filtered (ALE250)
500ml Plastic (ALE208)
250ml Amber Gl. PTFE/PE (ALE227)
0.5l glass bottle (ALE227)

Sample Type

GW

Ammoniacal Nitrogen

All

NDPs: 0
Tests: 6

X

Anions by Kone (w)

All

NDPs: 0
Tests: 6

X

Cyanide
Comp/Free/Total/Thiocyanate

All

NDPs: 0
Tests: 6

X

Determination of Dissolved Gases

All

NDPs: 0
Tests: 6

X

Dissolved Metals by ICP-MS

All

NDPs: 0
Tests: 6

X

EPH CWG (Aliphatic) Aqueous GC (W)

All

NDPs: 0
Tests: 6

X

EPH CWG (Aromatic) Aqueous GC (W)

All

NDPs: 0
Tests: 6

X

Ferric Iron

All

NDPs: 0
Tests: 6

X

Ferrous Iron

All

NDPs: 0
Tests: 6

X

GRO by GC-FID (W)

All

NDPs: 0
Tests: 6

X

Hexavalent Chromium (w)

All

NDPs: 0
Tests: 6

X

Low Level Phenols by HPLC (W)

All

NDPs: 0
Tests: 5

X

Mercury Dissolved

All

NDPs: 0
Tests: 6

X

PAH Spec MS - Aqueous (W)

All

NDPs: 0
Tests: 6

X

pH Value of Filtered Water

All

NDPs: 0
Tests: 6

X



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130 Client Reference: 70031882 Report Number: 542448
 Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542387

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)

21673812

Customer Sample Reference

WS206

AGS Reference

EW100220

Depth (m)

0.00 - 0.00

Container

Vial (ALE297)
 NaOH (ALE245)
 HNO3 Unfiltered (ALE204)
 HNO3 Filtered (ALE204)
 HCl Filtered (ALE250)
 500ml Plastic (ALE208)
 250ml Amber Gl. PTFE/PE (ALE227)
 0.5l glass bottle (ALE227)

Sample Type

GW

SVOC MS (W) - Aqueous

All

NDPs: 0
 Tests: 6

X

Total Metals by ICP-MS

All

NDPs: 0
 Tests: 6

X

TPH CWG (W)

All

NDPs: 0
 Tests: 6

X

VOC MS (W)

All

NDPs: 0
 Tests: 6

X



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542448
Superseded Report: 542387

Results Legend			Customer Sample Ref.		BH101	BH201	BH202	BH301	BH302A	WS206
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERIS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020
diss.filt	Dissolved / filtered sample.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
tot.unfilt	Total / unfiltered sample.				200212-130	200212-130	200212-130	200212-130	200212-130	200212-130
Subcontracted - refer to subcontractor report for accreditation status.					21673758	21673798	21673784	21673771	21673745	21673812
** % 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					EW100220	EW100220	EW100220	EW100220	EW100220	EW100220
(F) Trigger breach confirmed										
1.3+5@ Sample deviation (see appendix)										
Component	LOD/Units	Method								
Ammoniacal Nitrogen as NH4	<300 µg/l	TM099	<300	2 #	6930	2 #	130000	2 #	53600	2 #
Iron, Ferric	<50 µg/l	TM125	<50		410		1030		95	369
Iron, Ferrous	<100 µg/l	TM125	<100	#	6450	#	1340	#	277	271
Arsenic (diss.filt)	<0.5 µg/l	TM152	0.511	#	20	#	9.39	#	8.98	1.11
Barium (diss.filt)	<0.2 µg/l	TM152	16.4	#	68.4	#	41.5	#	51.6	37.2
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1	#	<0.1	#	<0.1	#	<0.1	<0.1
Boron (diss.filt)	<10 µg/l	TM152	<10	#	147	#	142	#	74.6	140
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	#	<0.08	#	<0.08	#	<0.08	<0.08
Chromium (diss.filt)	<1 µg/l	TM152	1.04	#	<1	#	2.01	#	<1	13
Copper (diss.filt)	<0.3 µg/l	TM152	2.77	#	<0.3	#	<0.3	#	<0.3	0.955
Manganese (tot.unfilt)	<1 µg/l	TM152	17.8	#	631	#	1270	#	132	1400
Lead (diss.filt)	<0.2 µg/l	TM152	<0.2	#	<0.2	#	<0.2	#	1.26	<0.2
Nickel (diss.filt)	<0.4 µg/l	TM152	0.817	#	1.22	#	1.36	#	4.05	5.89
Selenium (diss.filt)	<1 µg/l	TM152	1.51	#	<1	#	<1	#	1.38	2.13
Vanadium (diss.filt)	<1 µg/l	TM152	<1	#	<1	#	2.07	#	<1	<1
Zinc (diss.filt)	<1 µg/l	TM152	4.22	#	<1	#	<1	#	2.06	6.25
Iron (Dis.Filt)	<19 µg/l	TM152	<19	#	6860	#	2370	#	372	640
Hardness, Total as CaCO3	<650 µg/l	TM152	172000		344000		329000		260000	1530000
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	#	<0.01	#	<0.01	#	<0.01	<0.01
Chloride	<2000 µg/l	TM184	3500	#	34800	#	11400	#	81400	21900
Nitrate as N	<67.7 µg/l	TM184	1170		<67.7		<67.7		<67.7	343
Sulphate as %SO4	<0.0002 %	TM184	0.0009	#	0.00857	#	0.00526	#	0.00671	0.122
Methane, dissolved	<1 µg/l	TM223	<2.2		418		7670		1800	6.18
Ethene, dissolved	<1 µg/l	TM223	<1		59.5		<19.1		<19.1	<1
Ethane, dissolved	<1 µg/l	TM223	<1		6.87		29.4		<20.5	1.32
Carbon dioxide, dissolved	<1300 µg/l	TM223	8090		20000		116000		49500	63900
Propane, dissolved	<1 µg/l	TM223	<1		<1		5.94		2.67	<1
Cyanide, Total	<50 µg/l	TM227	<50	#	<50	#	1450	#	500	310
Cyanide, Free	<50 µg/l	TM227	<50	#	<50	#	<50	#	<50	<50
Cyanide, Complex	<50 µg/l	TM227	<50		<50		1450		500	310
Chromium, Hexavalent	<30 µg/l	TM241	<30	#	<30	#	<30	#	<30	<30
Resorcinol (low level)	<0.5 µg/l	TM255	<0.5		<5		<5		<5	<0.5



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542448
Superseded Report: 542387

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH101	BH201	BH202	BH301	BH302A	WS206
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	BH101	0.00 - 0.00 Ground Water (GW) 10/02/2020 12/02/2020 200212-130 21673758 EW100220	0.00 - 0.00 Ground Water (GW) 10/02/2020 12/02/2020 200212-130 21673798 EW100220	0.00 - 0.00 Ground Water (GW) 10/02/2020 12/02/2020 200212-130 21673784 EW100220	0.00 - 0.00 Ground Water (GW) 10/02/2020 12/02/2020 200212-130 21673771 EW100220	0.00 - 0.00 Ground Water (GW) 10/02/2020 12/02/2020 200212-130 21673745 EW100220	0.00 - 0.00 Ground Water (GW) 10/02/2020 12/02/2020 200212-130 21673812 EW100220
M	Aqueous / settled sample.									
aq	Dissolved / filtered sample.									
dis.filt	Total / unfiltered sample.									
tot.unfilt	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								
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	11.6 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	85.5 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	415 #	9.6 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	187 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	4.32 #	<4 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<8 #	<8 #	<2 #	<2 #	2.64 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<4 #	<4 #	<1 #	<1 #	<1 #



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130
Location: Reading Gasholder No. 4Client Reference: 70031882
Order Number: 70031882-3EXReport Number: 542448
Superseded Report: 542387

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH101	BH201	BH202	BH301	BH302A	WS206
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
+	Subcontracted - refer to subcontractor report for accreditation status.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
**	% 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				200212-130	200212-130	200212-130	200212-130	200212-130	200212-130
(F)	Trigger breach confirmed				21673758	21673798	21673784	21673771	21673745	21673812
1-3+5@	Sample deviation (see appendix)				EW100220	EW100220	EW100220	EW100220	EW100220	EW100220
Component	LOD/Units	Method								
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Carbazole (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	4.43	<1	#
Chrysene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Dibenzofuran (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	#	<5	#	<20	#	<5	#
Fluoranthene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Fluorene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	5.13	<1	#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Phenol (aq)	<1 µg/l	TM176	<1	#	<1	#	14	265	5.53	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Hexachloroethane (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Nitrobenzene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Naphthalene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	454	<1	#
Isophorone (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Phenanthrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	4.2	<1	#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#
Pyrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<4	#	<1	#



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542448
Superseded Report: 542387

VOC MS (W)

Results Legend			Customer Sample Ref.		BH101	BH201	BH202	BH301	BH302A	WS206
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
+	Subcontracted - refer to subcontractor report for accreditation status.				200212-130	200212-130	200212-130	200212-130	200212-130	200212-130
**	% 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				21673758	21673798	21673784	21673771	21673745	21673812
(F)	Trigger breach confirmed				EW100220	EW100220	EW100220	EW100220	EW100220	EW100220
1-3+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Dibromofluoromethane**	%	TM208			114	113	114	119	114	108
Toluene-d8**	%	TM208			107	98.8	97.3	97.5	97.8	98.7
4-Bromofluorobenzene**	%	TM208			99.4	101	102	95.5	99.4	97.5
Dichlorodifluoromethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Chloromethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Vinyl chloride	<1 µg/l	TM208			<1	192	2.69	<1	<1	31.7
Bromomethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Chloroethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Trichlorofluoromethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
1,1-Dichloroethene	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Carbon disulphide	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Dichloromethane	<3 µg/l	TM208			<3	<3	<3	<3	<3	<3
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene	<1 µg/l	TM208			1.52	<1	<1	<1	<1	4.87
1,1-Dichloroethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	<1 µg/l	TM208			138	917	3.33	2.53	3.06	1100
2,2-Dichloropropane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Bromochloromethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Chloroform	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
1,1-Dichloropropene	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Carbontetrachloride	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
1,2-Dichloroethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Benzene	<1 µg/l	TM208			<1	14.4	400	248	216	2.12
Trichloroethene	<1 µg/l	TM208			25.7	<1	<1	<1	<1	41.3
1,2-Dichloropropane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Dibromomethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Bromodichloromethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
Toluene	<1 µg/l	TM208			<1	<1	8.94	23.5	21.2	<1
trans-1,3-Dichloropropene	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	<1 µg/l	TM208			<1	<1	<1	<1	<1	<1



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542448
Superseded Report: 542387

VOC MS (W)

Results Legend			Customer Sample Ref.		BH101	BH201	BH202	BH301	BH302A	WS206
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020	10/02/2020
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.									
+	Subcontracted - refer to subcontractor report for accreditation status.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
**	% 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				200212-130	200212-130	200212-130	200212-130	200212-130	200212-130
(F)	Trigger breach confirmed				21673758	21673798	21673784	21673771	21673745	21673812
1-3+5@	Sample deviation (see appendix)				EW100220	EW100220	EW100220	EW100220	EW100220	EW100220
Component	LOD/Units	Method								
1,3-Dichloropropane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	#
Tetrachloroethene	<1 µg/l	TM208	568	#	<1	#	<1	#	<1	284
Dibromochloromethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,2-Dibromoethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Chlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Ethylbenzene	<1 µg/l	TM208	<1	#	<1	#	185	#	<1	<1
m,p-Xylene	<1 µg/l	TM208	<1	#	<1	#	58.2	#	19.4	<1
o-Xylene	<1 µg/l	TM208	<1	#	<1	#	53	#	11.8	<1
Styrene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Bromoform	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Isopropylbenzene	<1 µg/l	TM208	<1	#	<1	#	14.9	#	<1	<1
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,2,3-Trichloropropane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Bromobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Propylbenzene	<1 µg/l	TM208	<1	#	<1	#	8.81	#	<1	<1
2-Chlorotoluene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1	#	<1	#	36	#	1.51	<1
4-Chlorotoluene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
tert-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1	#	<1	#	214	#	3.03	<1
sec-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
4-iso-Propyltoluene	<1 µg/l	TM208	<1	#	<1	#	6.25	#	<1	<1
1,3-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,4-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
n-Butylbenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,2-Dichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Hexachlorobutadiene	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	#	<1	#	<1	#	<1	<1
Naphthalene	<1 µg/l	TM208	<1	#	<1	#	122	#	80.9	<1



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-130 **Client Reference:** 70031882 **Report Number:** 542448
Location: Reading Gasholder No. 4 **Order Number:** 70031882-3EX **Superseded Report:** 542387

Table of Results - Appendix

Method No	Reference	Description
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM125	DIN 38405 D17	Determination of Total/Ferrous Iron
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	ASTM D-1945-91	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM255		Determination of Low Level Phenols in Waters and Leachates by HPLC
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC

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: 200212-130

Client Reference: 70031882

Report Number: 542448

Location: Reading Gasholder No. 4

Order Number: 70031882-3EX

Superseded Report: 542387

Test Completion Dates

Lab Sample No(s)
Customer Sample Ref.

AGS Ref.
Depth
Type

	21673758	21673798	21673784	21673771	21673745	21673812
	BH101	BH201	BH202	BH301	BH302A	WS206
	EW100220	EW100220	EW100220	EW100220	EW100220	EW100220
	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water
Ammoniacal Nitrogen	17-Feb-2020	17-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	17-Feb-2020
Anions by Kone (w)	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020
Cyanide Comp/Free/Total/Thiocyanate	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020
Determination of Dissolved Gases	20-Feb-2020	20-Feb-2020	20-Feb-2020	20-Feb-2020	20-Feb-2020	20-Feb-2020
Dissolved Metals by ICP-MS	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020
EPH CWG (Aliphatic) Aqueous GC (W)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
EPH CWG (Aromatic) Aqueous GC (W)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
Ferric Iron	14-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	14-Feb-2020	14-Feb-2020
Ferrous Iron	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020
GRO by GC-FID (W)	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020
Hexavalent Chromium (w)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
Low Level Phenols by HPLC (W)	17-Feb-2020	17-Feb-2020	17-Feb-2020		17-Feb-2020	17-Feb-2020
Mercury Dissolved	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020
Nitrite by Kone (w)	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020
PAH Spec MS - Aqueous (W)	18-Feb-2020	18-Feb-2020	21-Feb-2020	19-Feb-2020	19-Feb-2020	18-Feb-2020
pH Value of Filtered Water	17-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020
Phenols by HPLC (W)				19-Feb-2020		
SVOC MS (W) - Aqueous	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
Total Metals by ICP-MS	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020
TPH CWG (W)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
VOC MS (W)	14-Feb-2020	18-Feb-2020	18-Feb-2020	17-Feb-2020	14-Feb-2020	18-Feb-2020



CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

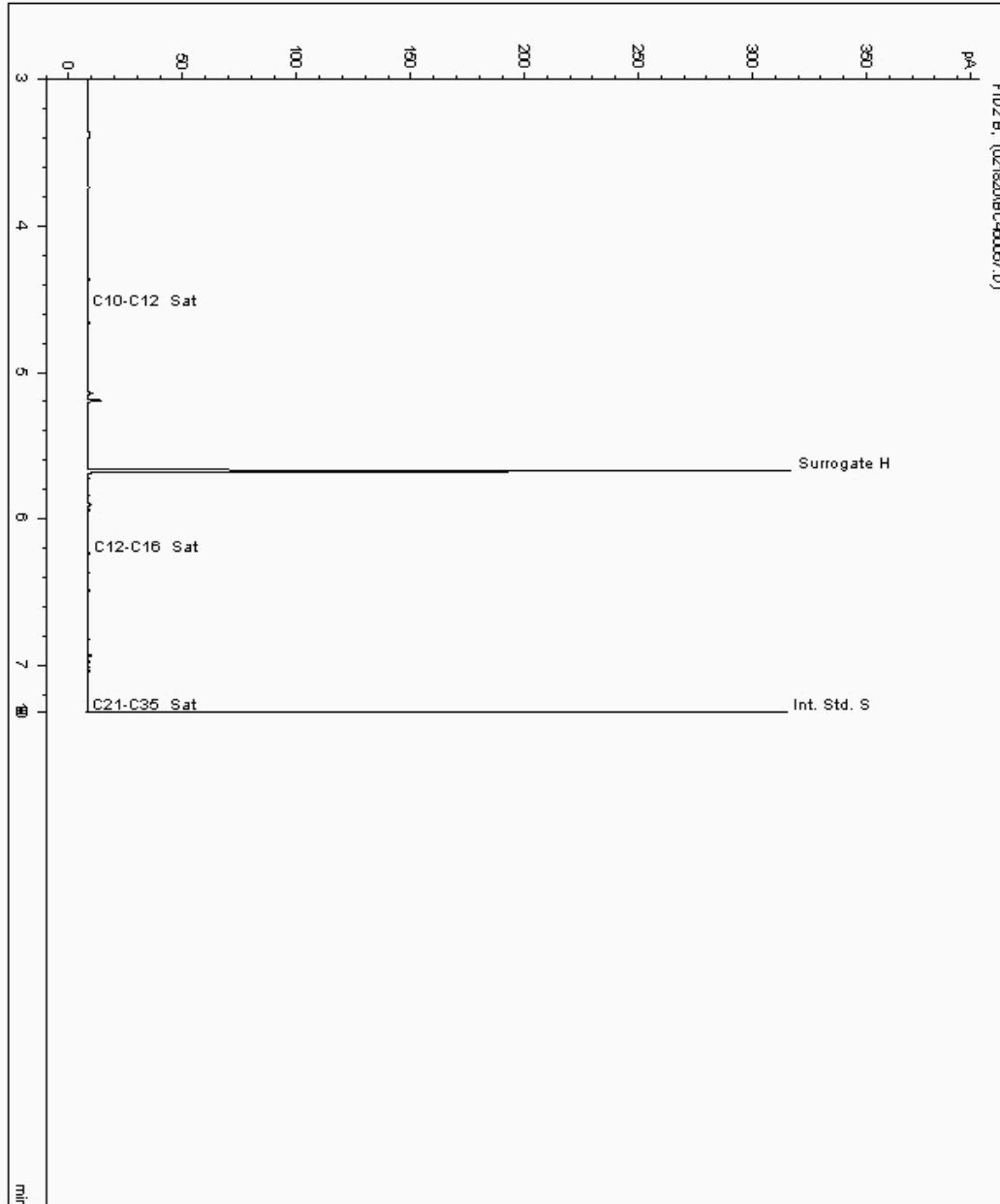
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676597
Sample ID : BH101

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353456-
Date Acquired : 19/02/2020 07:49:13 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

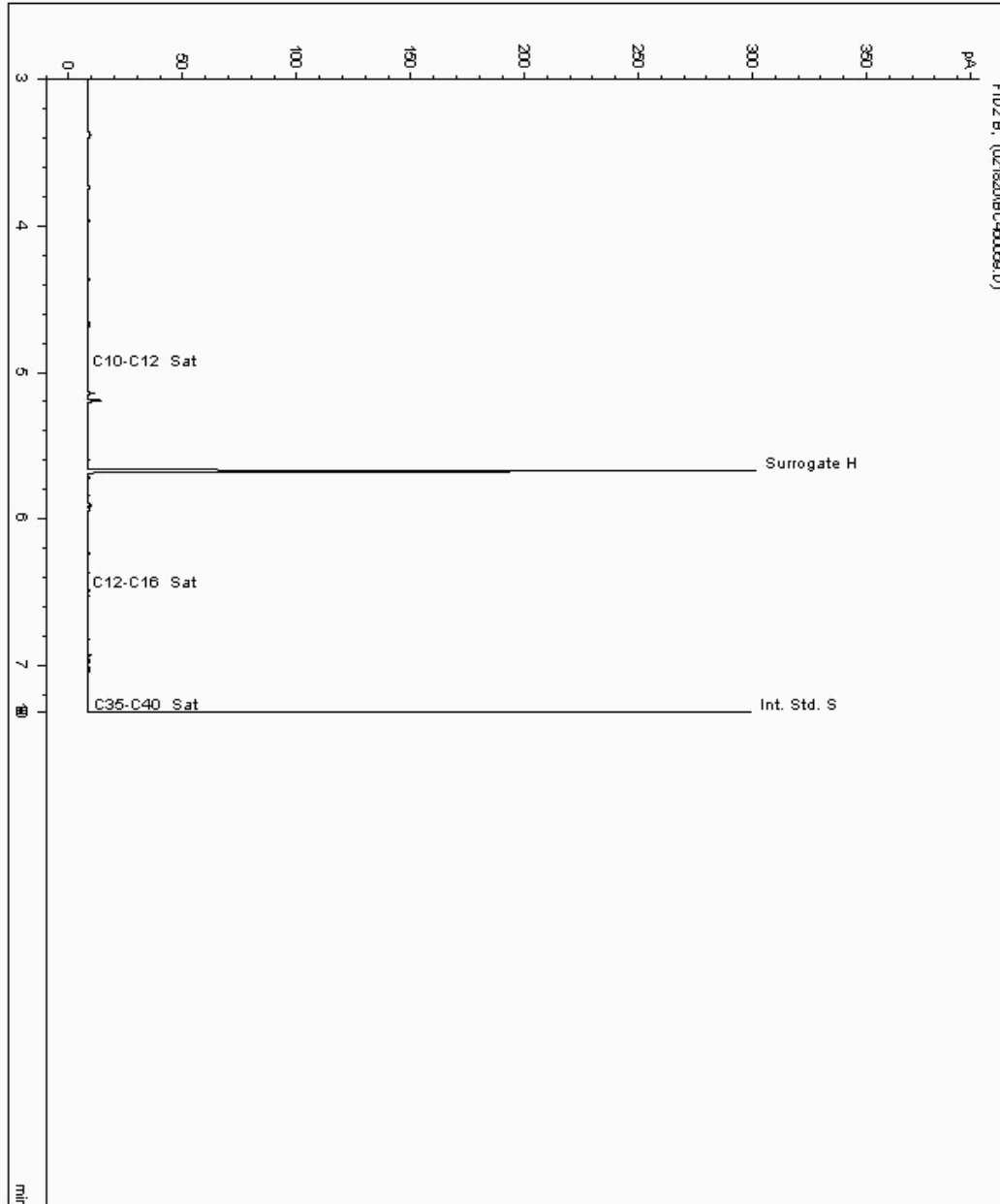
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676602
Sample ID : WS206

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353548-
Date Acquired : 19/02/2020 08:35:06 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

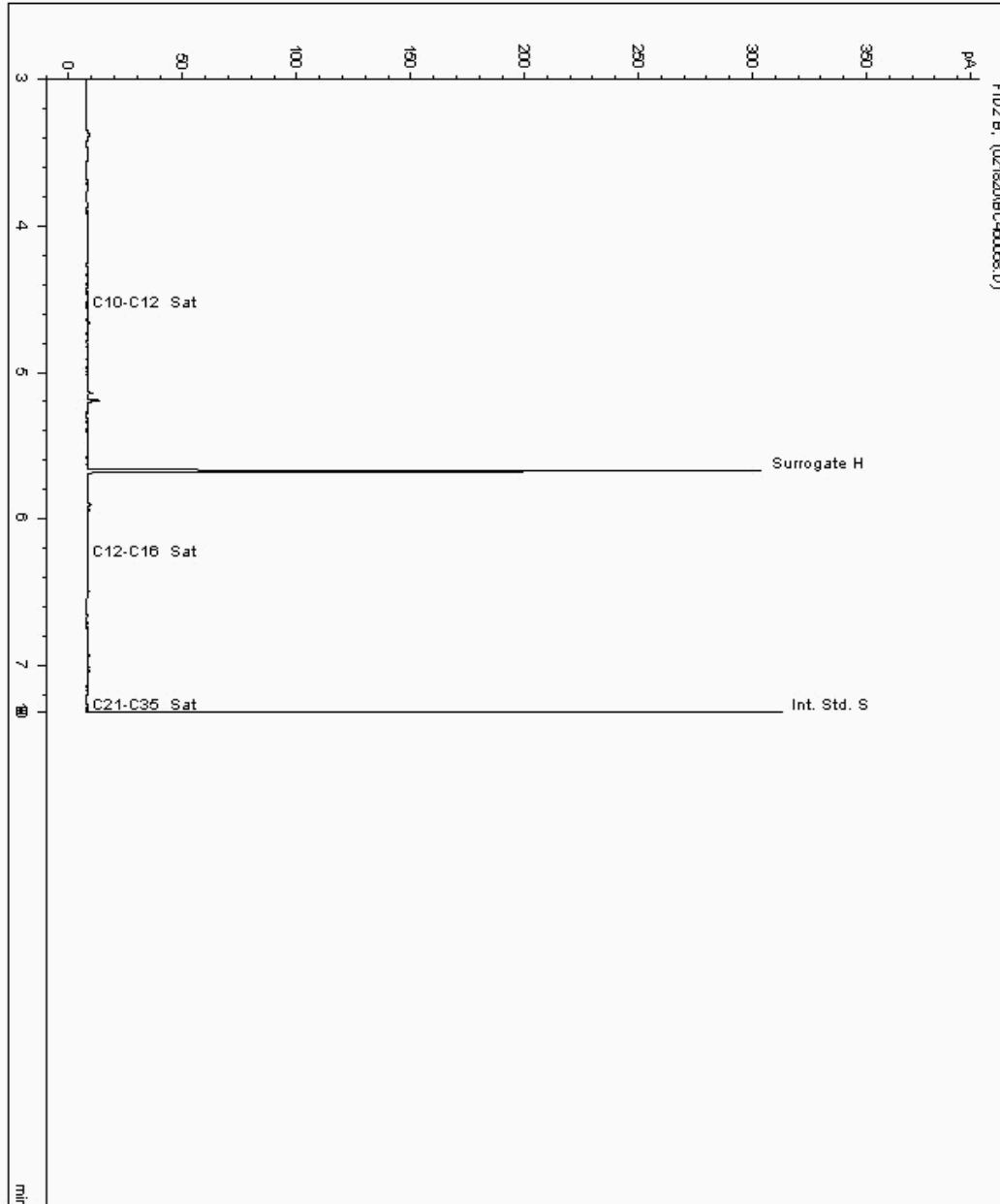
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676610
Sample ID : BH201

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353525-
Date Acquired : 19/02/2020 08:12:14 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

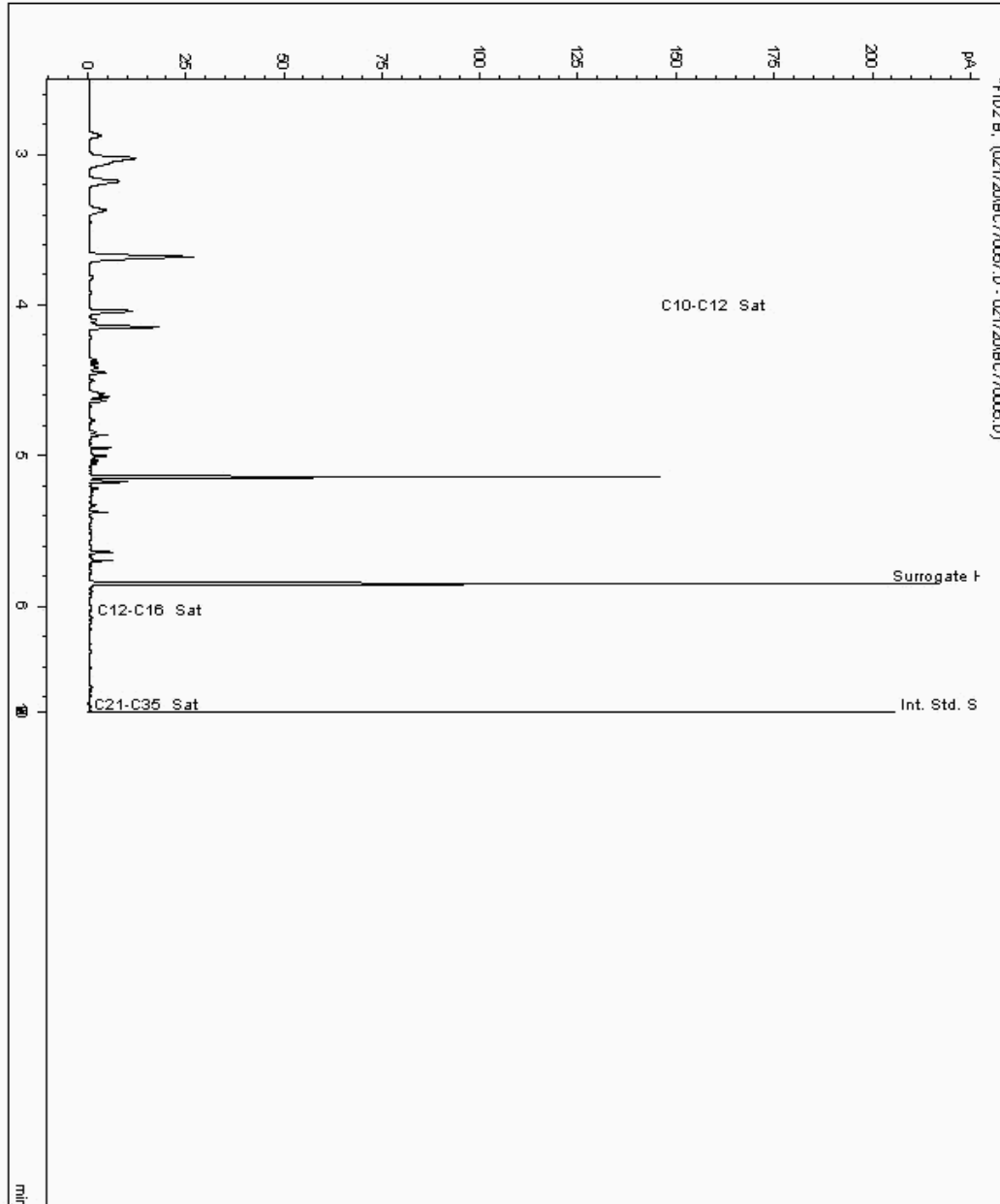
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676843
Sample ID : BH301

Depth : 0.00 - 0.00

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

Sample Identity: 20353479-
Date Acquired : 2/18/2020 8:41:51 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

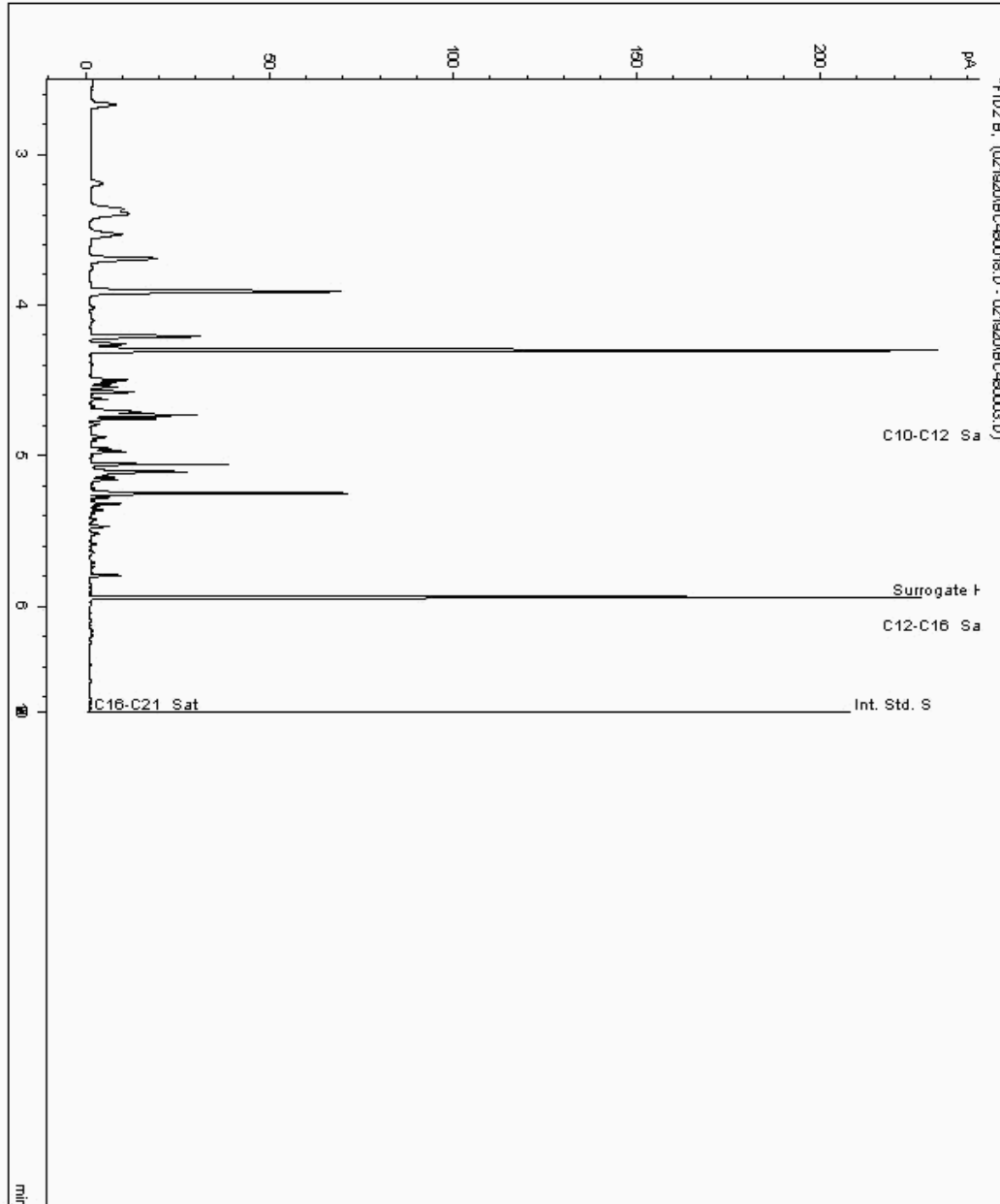
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676853
Sample ID : BH202

Depth : 0.00 - 0.00

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

Sample Identity: 20353502-
Date Acquired : 19/02/2020 14:36:09 PM
Units : ppb
Dilution : SE BH202[0.00 - 0.00] ->
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

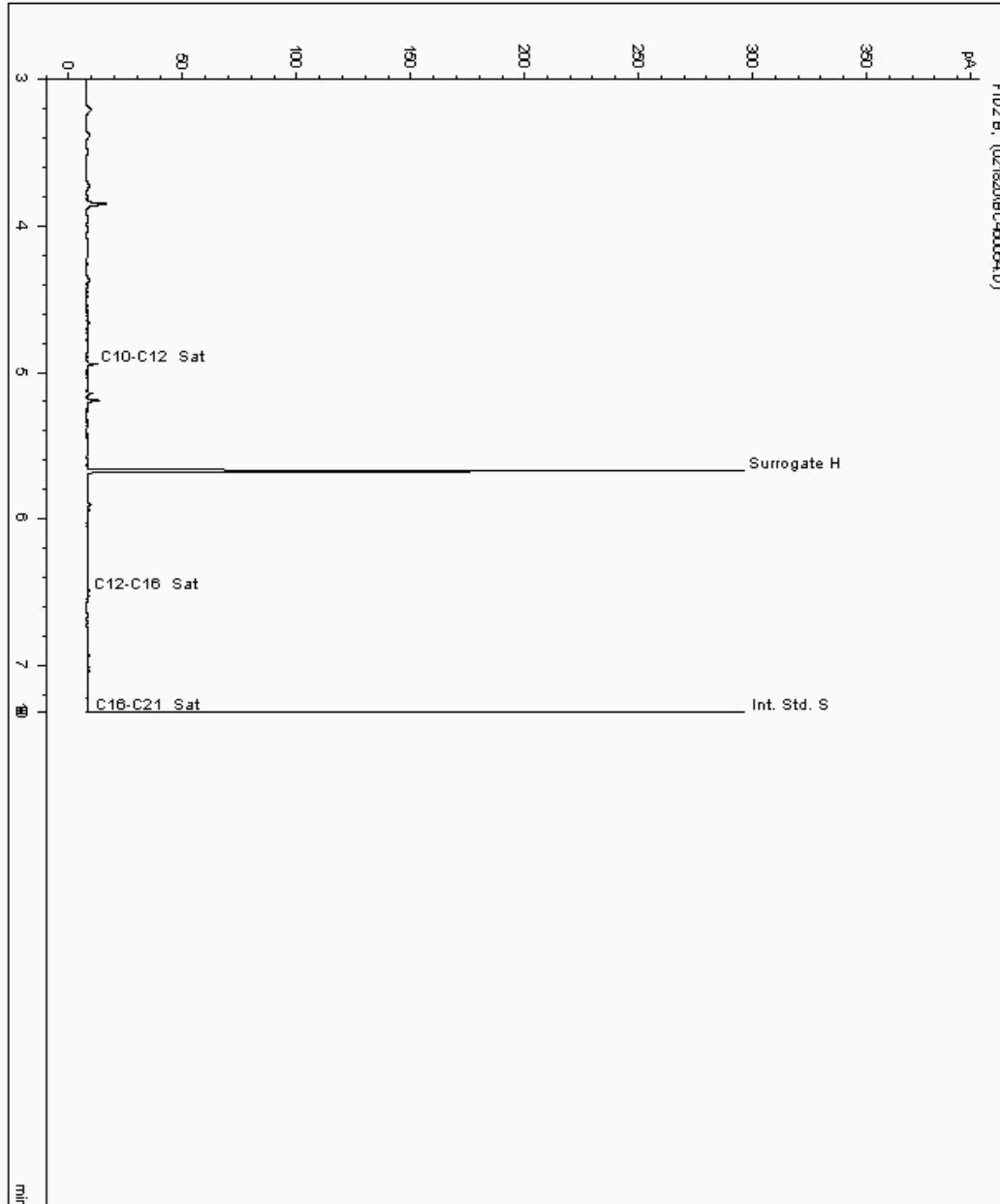
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676860
Sample ID : BH302A

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353433-
Date Acquired : 19/02/2020 06:40:42 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

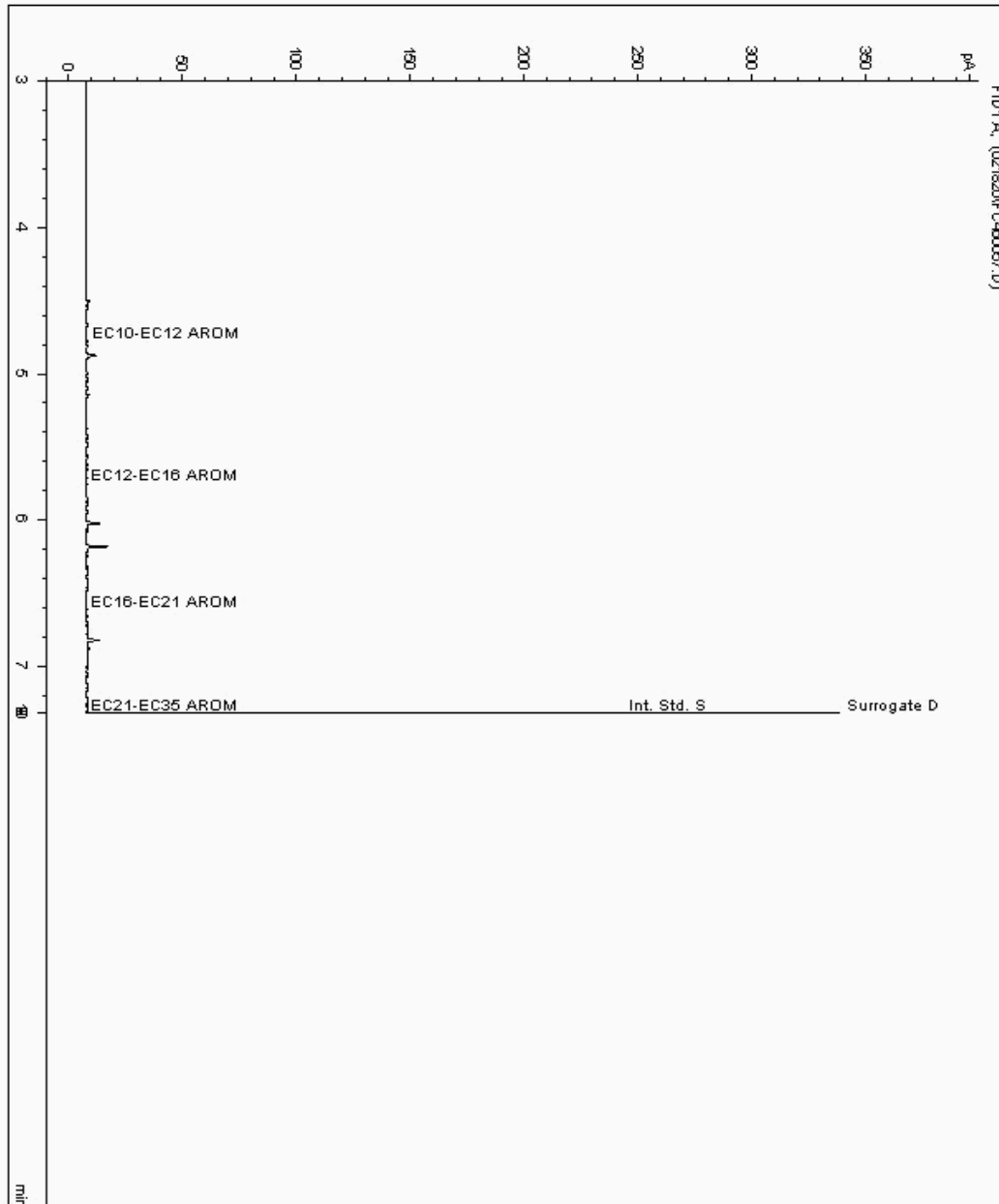
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21676597 Depth : 0.00 - 0.00
Sample ID : BH101

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20348405-
Date Acquired : 19/02/2020 07:49:13 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

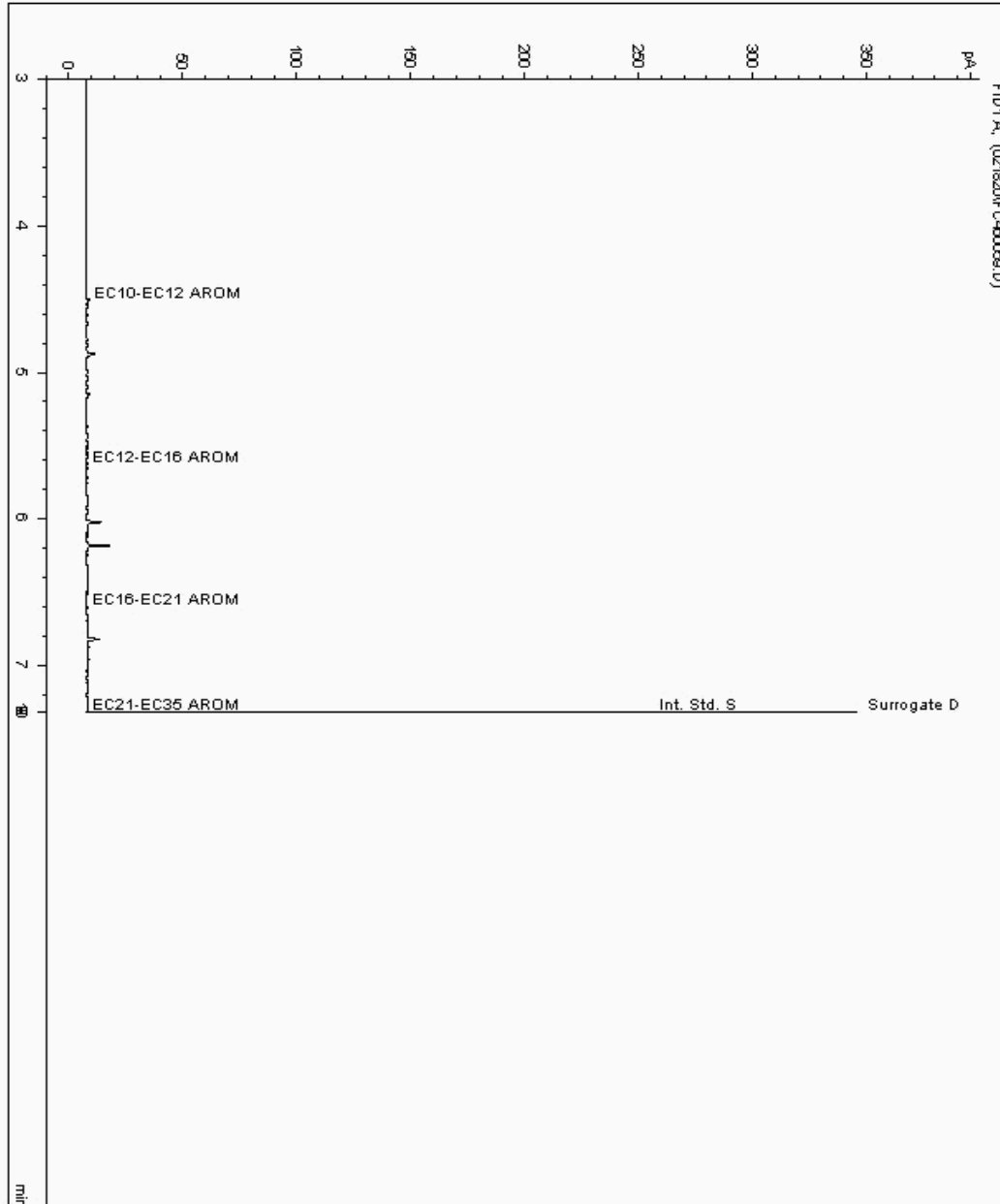
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 21676602
Sample ID : WS206

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20352373-
Date Acquired : 19/02/2020 08:35:06 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

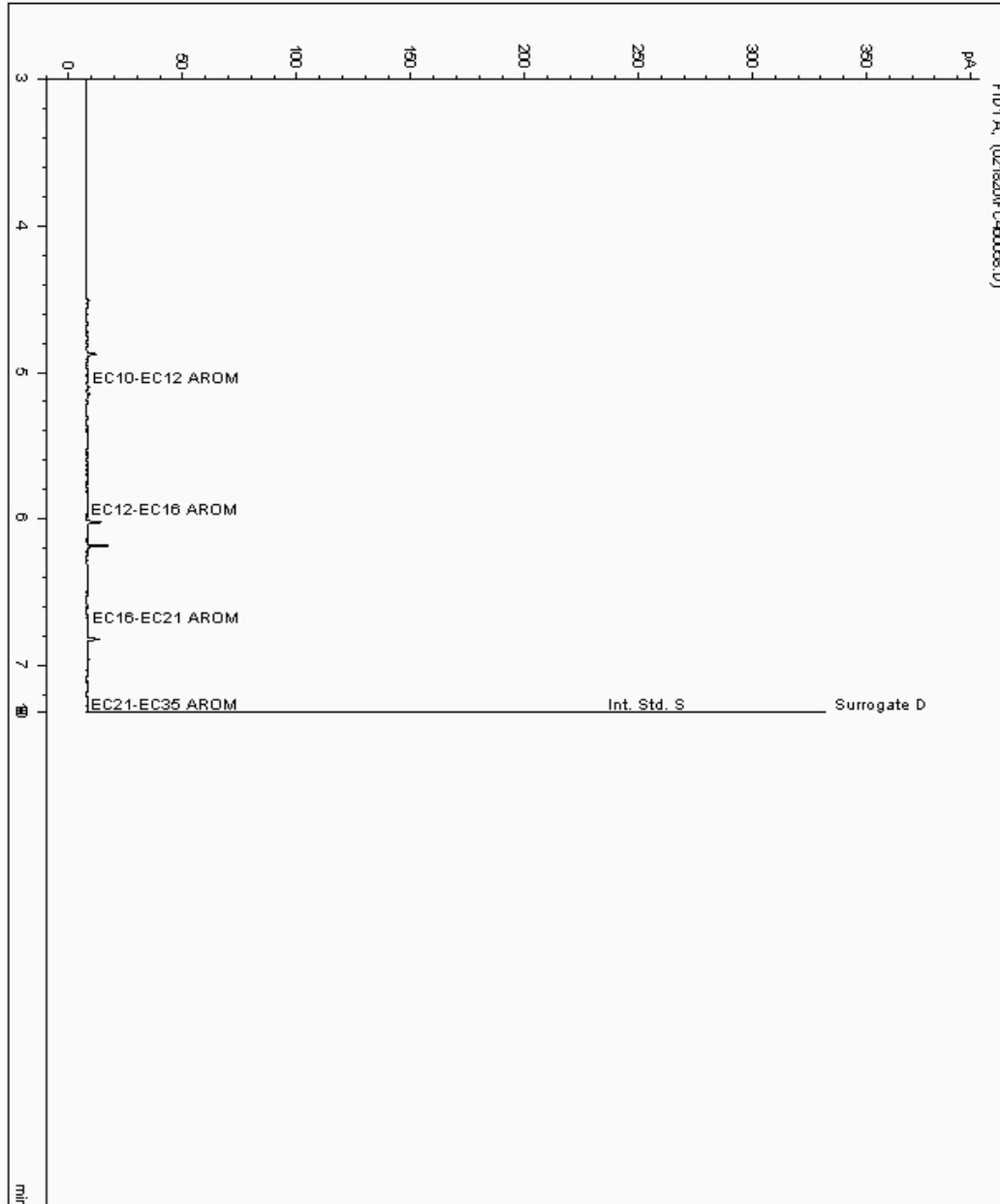
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 21676610
Sample ID : BH201

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20352304-
Date Acquired : 19/02/2020 08:12:14 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

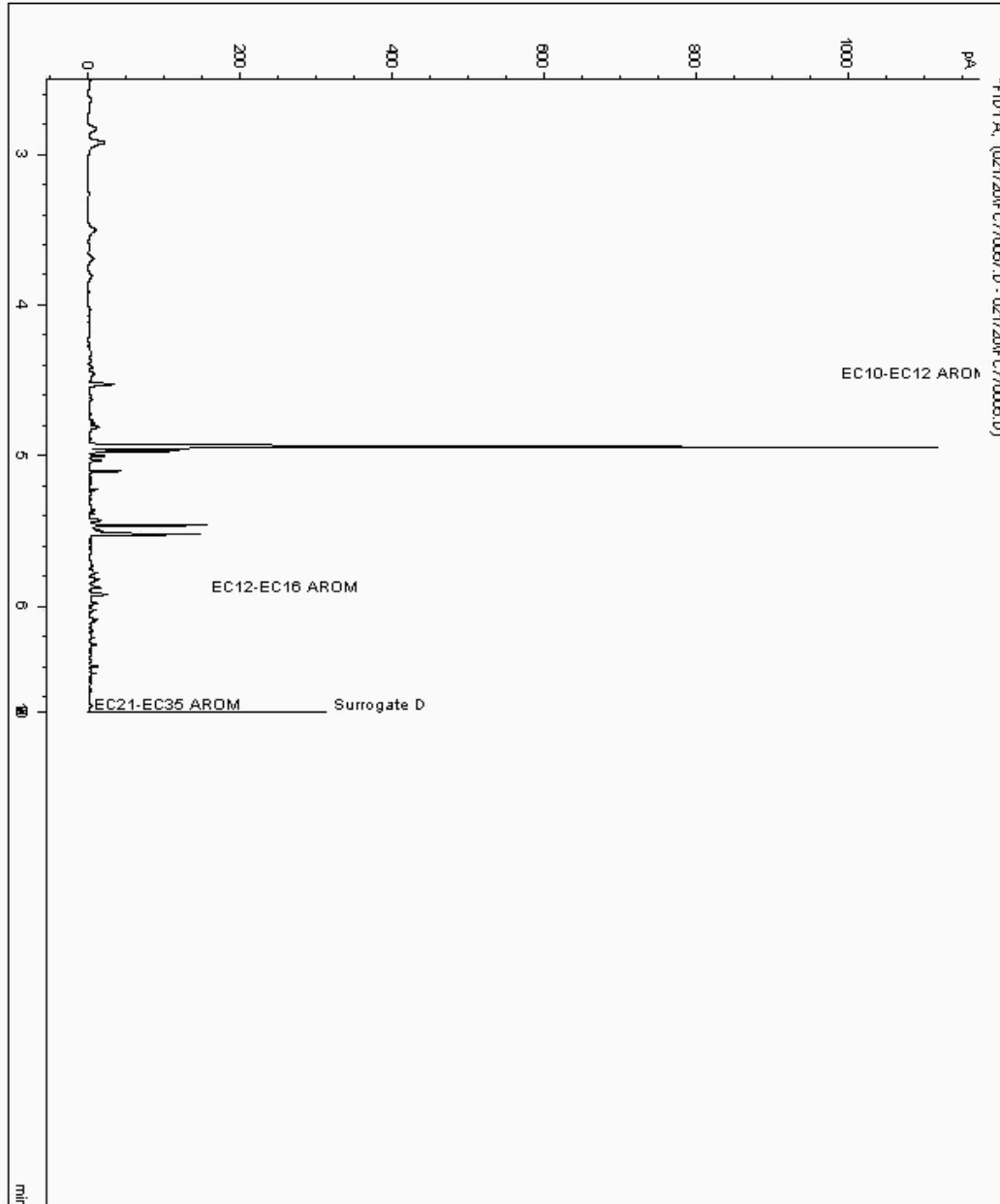
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 21676843
Sample ID : BH301

Depth : 0.00 - 0.00

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

Sample Identity: 20353480-
Date Acquired : 2/18/2020 8:41:51 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

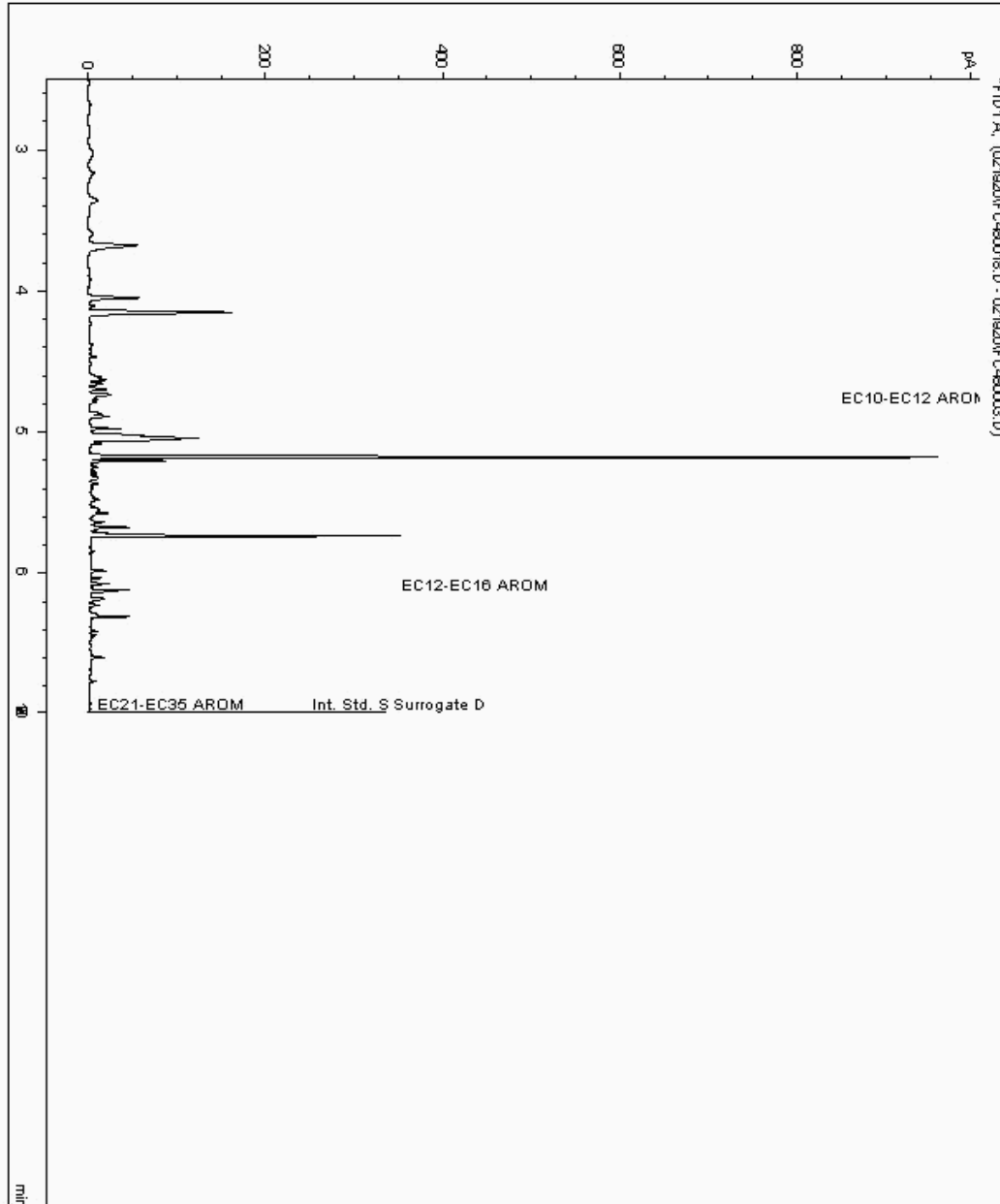
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21676853 Depth : 0.00 - 0.00
Sample ID : BH202

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

Sample Identity: 20353503-
Date Acquired : 19/02/2020 14:36:09 PM
Units : ppb
Dilution : SE BH202[0.00 - 0.00] ->
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

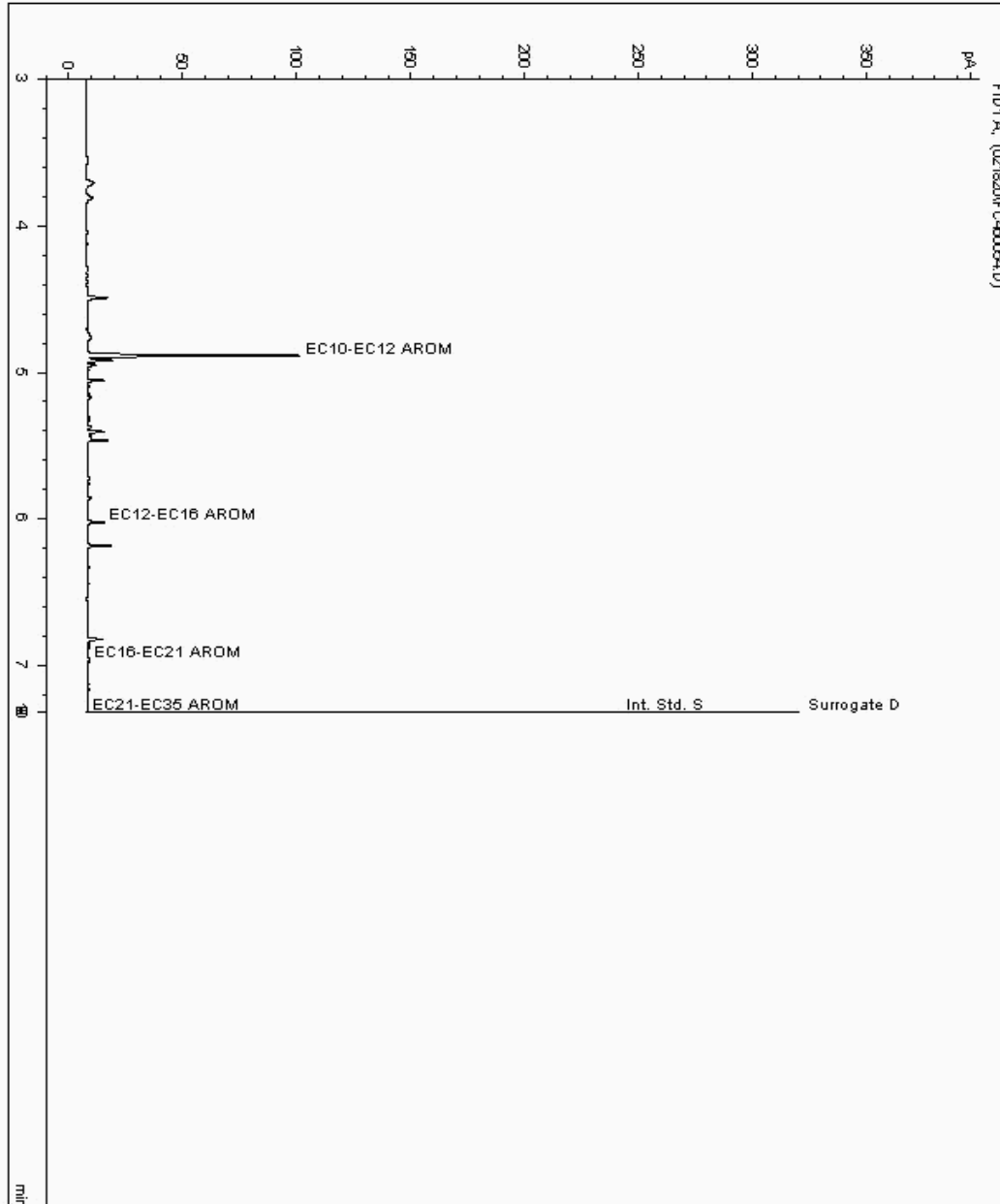
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 21676860
Sample ID : BH302A

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20352462-
Date Acquired : 19/02/2020 06:40:42 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

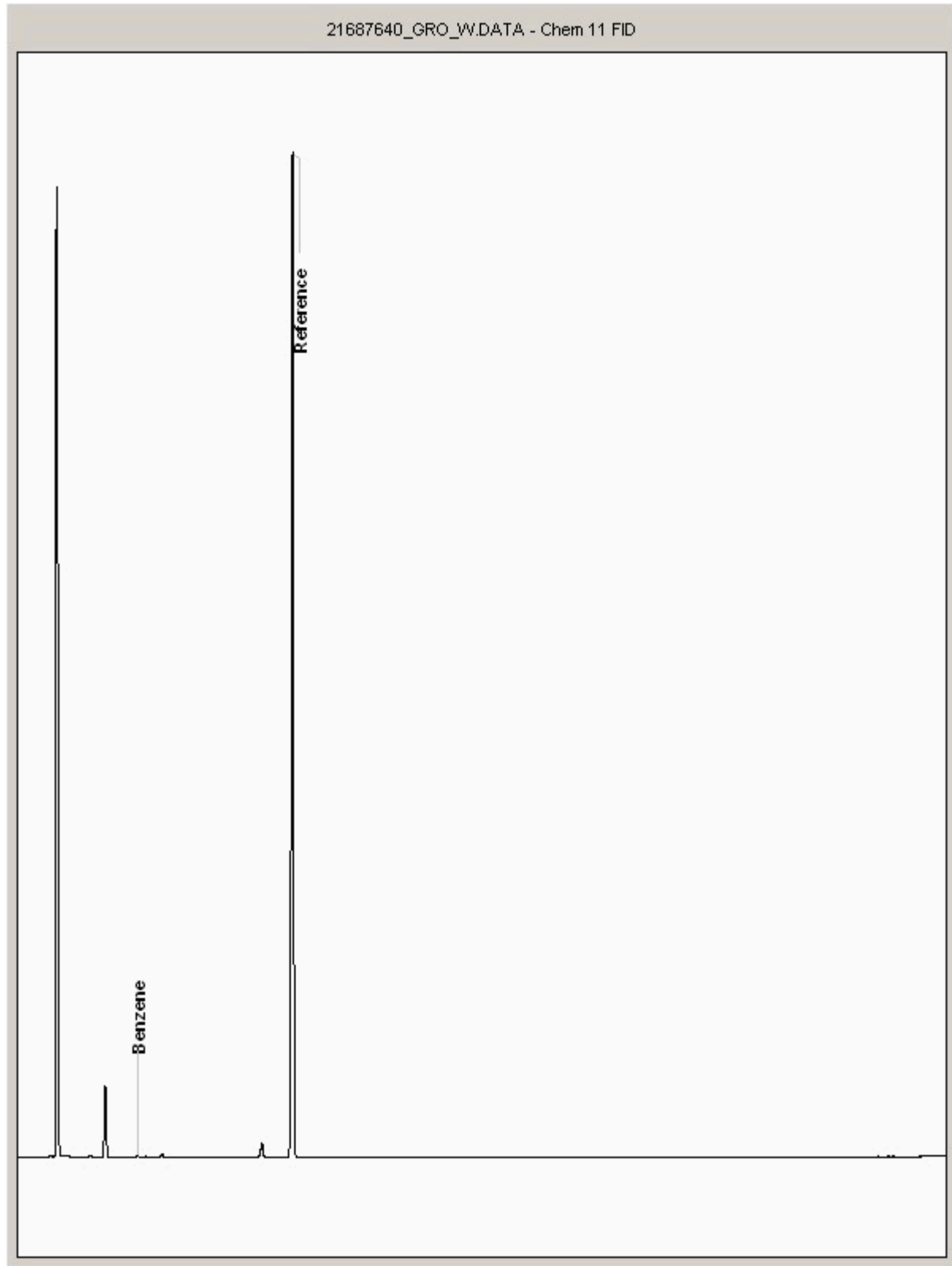
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21687640
Sample ID : WS206

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

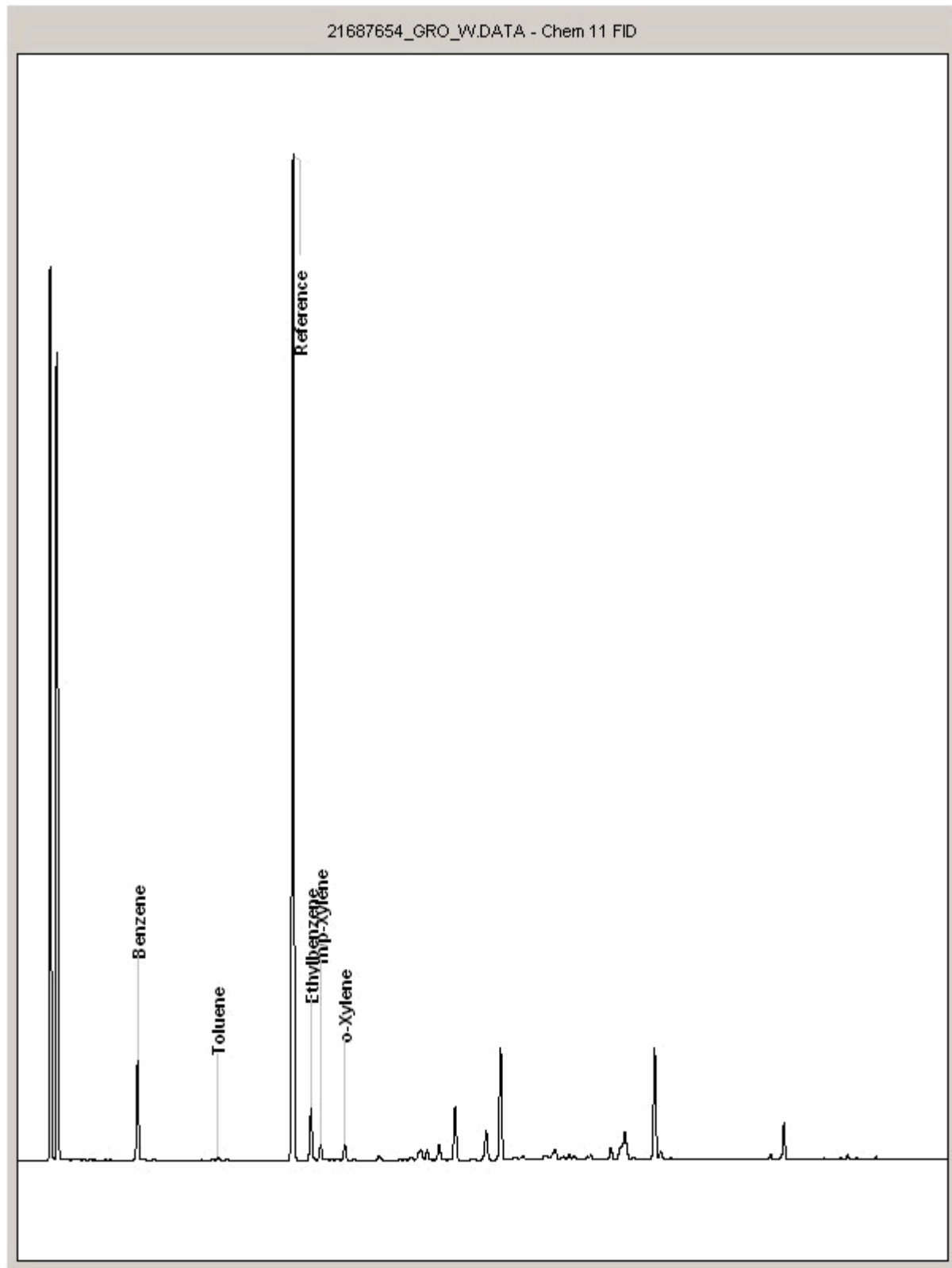
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21687654
Sample ID : BH202

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

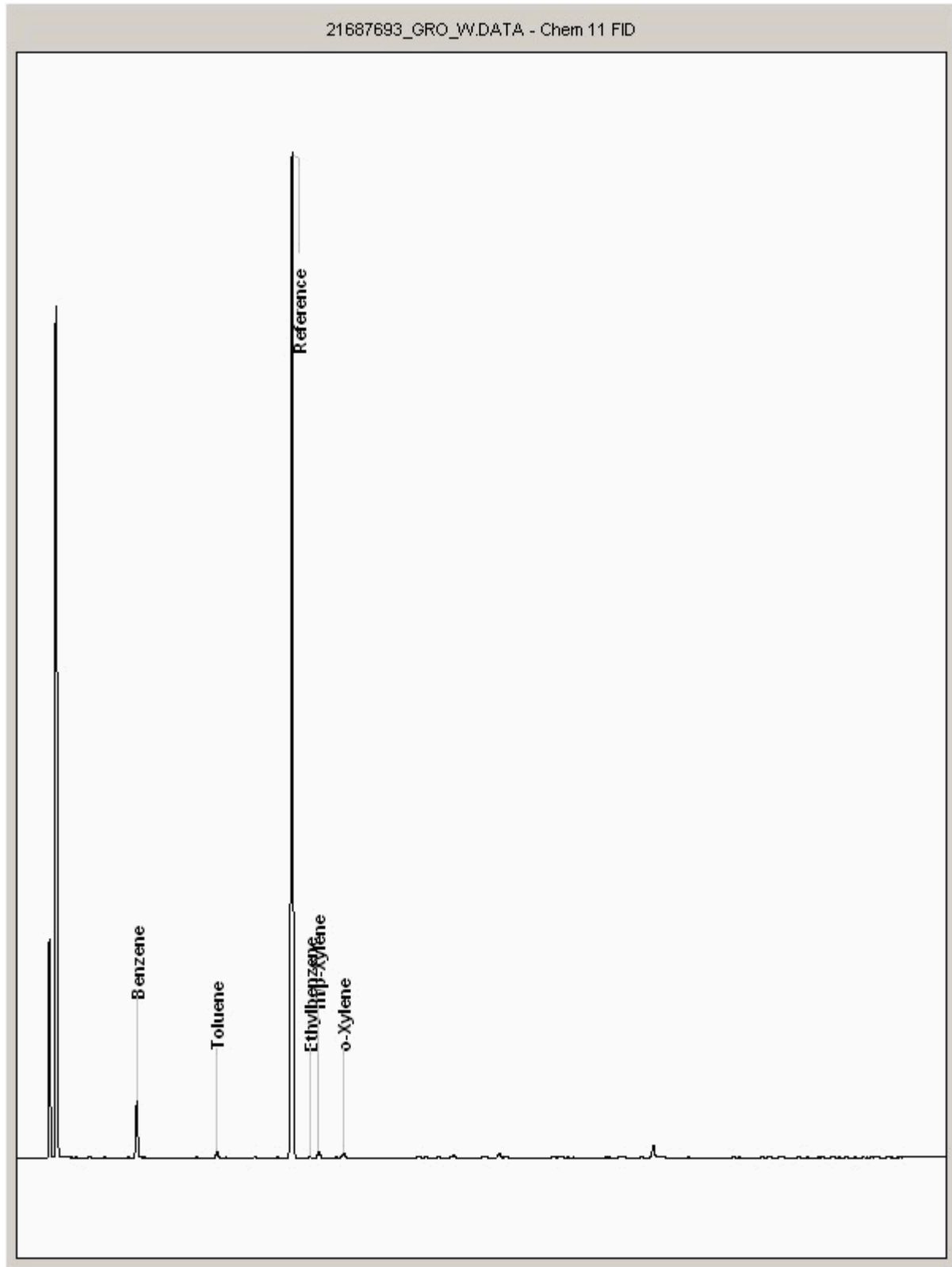
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21687693
Sample ID : BH302A

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

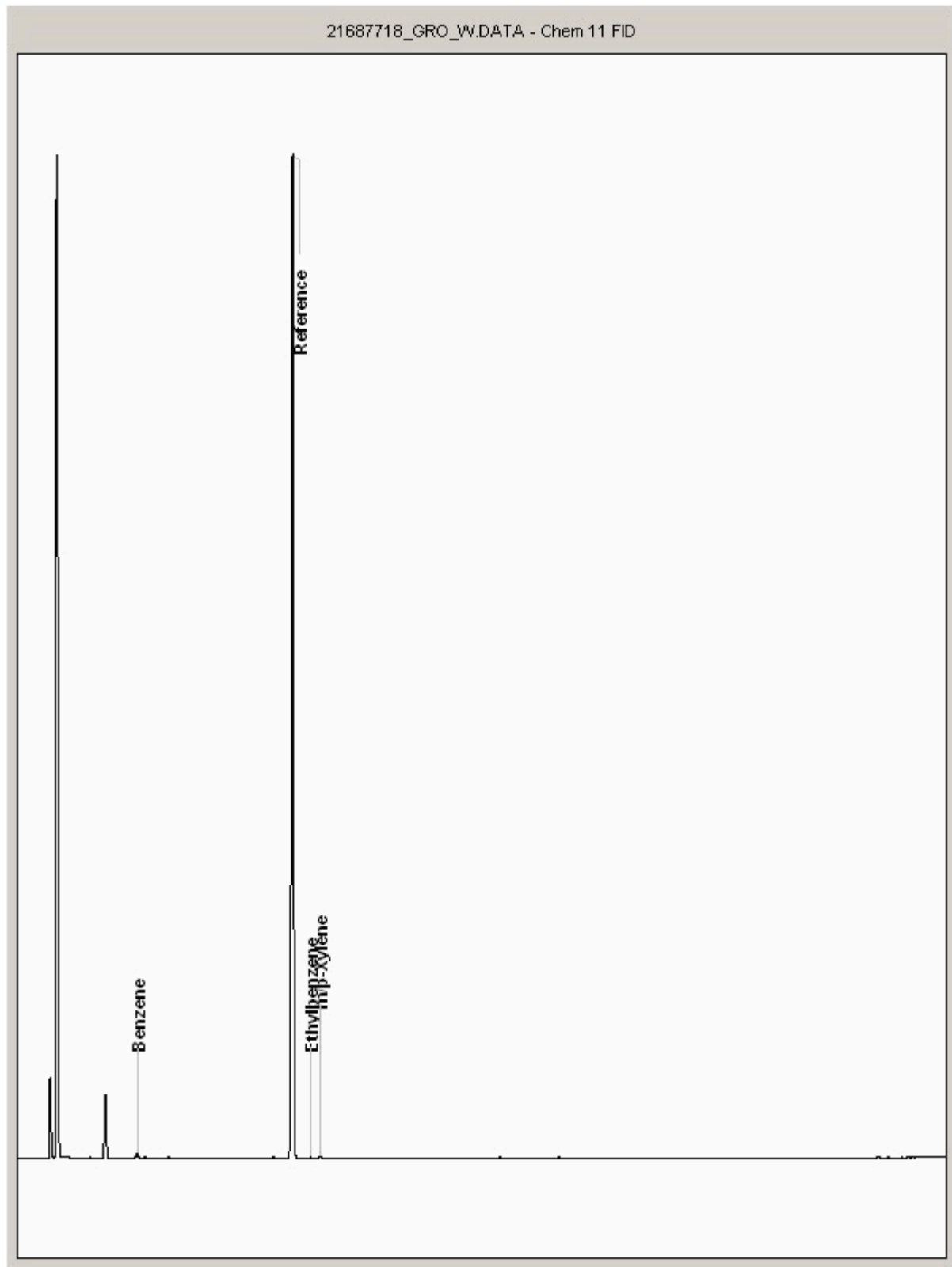
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21687718
Sample ID : BH201

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

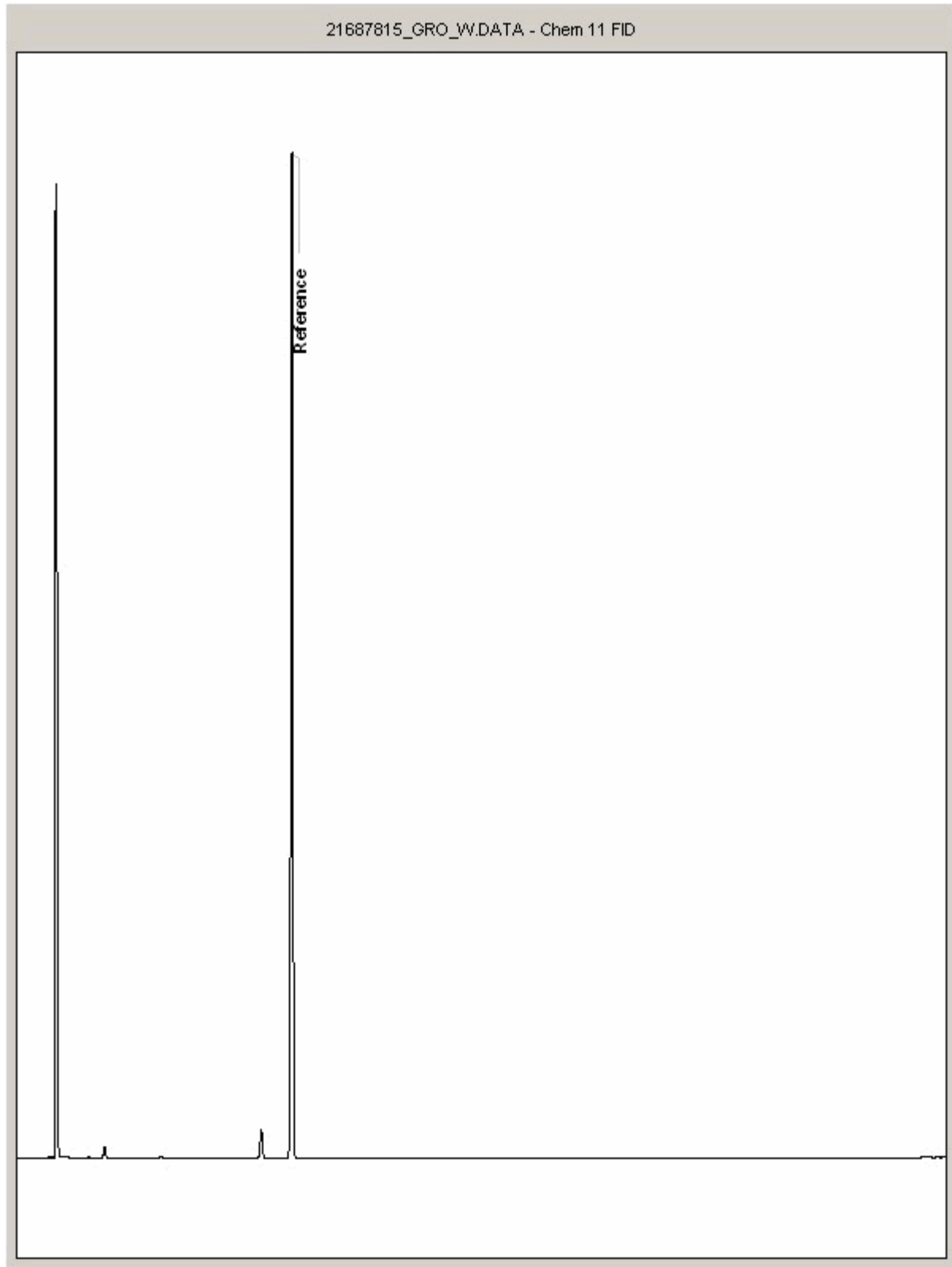
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21687815
Sample ID : BH101

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

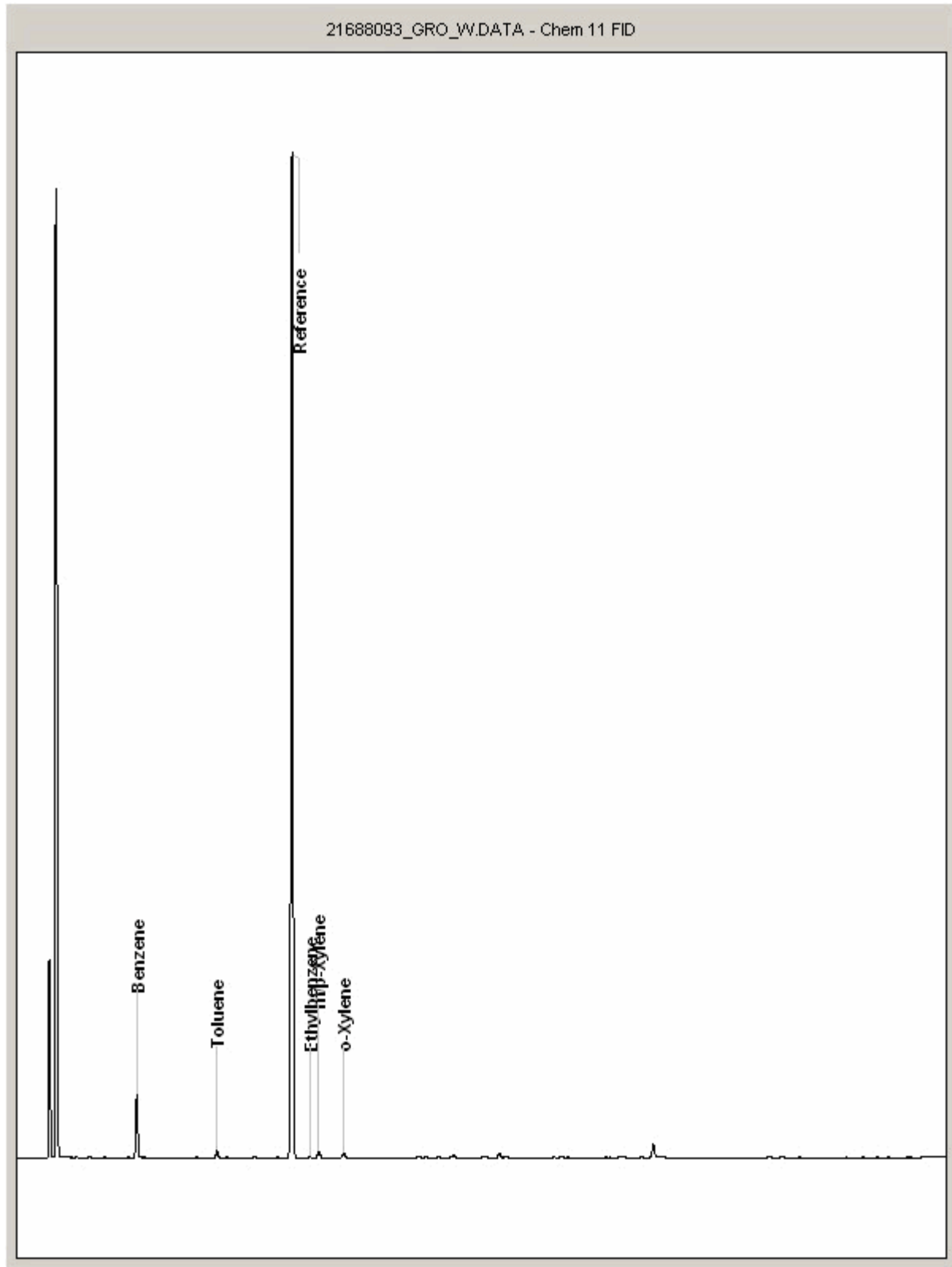
SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688093
Sample ID : BH301

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG:	200212-130	Client Reference:	70031882	Report Number:	542448
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542387

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. 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.

3. 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.

4. 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.

5. 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.

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

7. Results relate only to the items tested.

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

9. **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.

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

11. 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.

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

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

14. 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.

15. 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.

16. 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.

17. **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.

18. 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

19. Asbestos

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

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.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil* (2107).

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.



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Deeside
CH5 3US

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Fax: (01244) 528701

email: hawardencustomerservices@alsglobal.com

Website: www.alsenvironmental.co.uk

WSP PB BBC
3rd Floor, Kings Orchard,
1 Queen Street
Bristol
Gloucestershire
BS2 0HQ

Attention: Emma Waite

CERTIFICATE OF ANALYSIS

Date of report Generation:	25 February 2020
Customer:	WSP PB BBC
Sample Delivery Group (SDG):	200212-131
Your Reference:	70031882
Location:	Reading Gasholder No. 4
Report No:	542840

This report has been revised and directly supersedes 542149 in its entirety.

We received 12 samples on Wednesday February 12, 2020 and 11 of these samples were scheduled for analysis which was completed on Tuesday February 25, 2020. 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: 200212-131 Client Reference: 70031882 Report Number: 542840
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542149

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
21674051	BH104	EW	0.00 - 0.00	11/02/2020
21674006	BH105	EW	0.00 - 0.00	11/02/2020
21673991	BH106	EW	0.00 - 0.00	11/02/2020
21674022	BH107	EW	0.00 - 0.00	11/02/2020
21673977	BH204	EW	0.00 - 0.00	11/02/2020
21674037	BH303	EW	0.00 - 0.00	11/02/2020
21673963	BH103A	EW	0.00 - 0.00	11/02/2020
21673905	BH102B	EW	0.00 - 0.00	12/02/2020
21673950	BH203C	EW	0.00 - 0.00	11/02/2020
21674065	NO ID			
21673919	SW01	EW	0.00 - 0.00	11/02/2020
21673935	SW02	EW	0.00 - 0.00	11/02/2020

Maximum Sample/Coolbox Temperature (°C) : 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: 200212-131 Client Reference: 70031882 Report Number: 542840
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542149

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

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		HCl Filtered (ALE250)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE	0.5l glass bottle (ALE227)	Vial (ALE297)	NaOH (ALE245)	HNO3 Unfiltered (ALE204)	HNO3 Filtered (ALE204)	HCl Filtered (ALE250)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE	0.5l glass bottle (ALE227)
	Sample Type		GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
			GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 11			X							X		X
Anions by Kone (w)	All	NDPs: 0 Tests: 11			X							X		X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 11							X			X		
Determination of Dissolved Gases	All	NDPs: 0 Tests: 11											X	
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 11							X					
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11		X							X			X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11		X							X			X
Ferric Iron	All	NDPs: 0 Tests: 11				X					X			X
Ferrous Iron	All	NDPs: 0 Tests: 11				X					X			X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 11							X				X	
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 11			X						X			X
Low Level Phenols by HPLC (W)	All	NDPs: 0 Tests: 11			X						X			X
Mercury Dissolved	All	NDPs: 0 Tests: 11						X					X	
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 11		X							X			X
pH Value of Filtered Water	All	NDPs: 0 Tests: 11			X						X			X

21673977	BH204	EW	0.00 - 0.00	Vial (ALE297)	GW						X
				NaOH (ALE245)	GW						
				HNO3 Unfiltered (ALE204)	GW			X			
				HNO3 Filtered (ALE204)	GW						
				HCl Filtered (ALE250)	GW						
				500ml Plastic (ALE208)	GW						
				250ml Amber Gl. PTFE/PE	GW						
				0.5l glass bottle (ALE227)	GW	X			X		
				Vial (ALE297)	GW					X	
				NaOH (ALE245)	GW						
21674022	BH107	EW	0.00 - 0.00	HNO3 Unfiltered (ALE204)	GW			X			
				HNO3 Filtered (ALE204)	GW						
				HCl Filtered (ALE250)	GW						
				500ml Plastic (ALE208)	GW						
				250ml Amber Gl. PTFE/PE	GW						
				0.5l glass bottle (ALE227)	GW	X			X		
				Vial (ALE297)	GW					X	
				NaOH (ALE245)	GW						
				HNO3 Unfiltered (ALE204)	GW						
				HNO3 Filtered (ALE204)	GW						
21673991	BH106	EW	0.00 - 0.00	250ml Amber Gl. PTFE/PE	GW						
				0.5l glass bottle (ALE227)	GW	X			X		
				Vial (ALE297)	GW					X	
				NaOH (ALE245)	GW						
				HNO3 Unfiltered (ALE204)	GW			X			
				HNO3 Filtered (ALE204)	GW						
				250ml Amber Gl. PTFE/PE	GW						
				0.5l glass bottle (ALE227)	GW	X			X		
				Vial (ALE297)	GW					X	
				NaOH (ALE245)	GW						



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131 Client Reference: 70031882 Report Number: 542840
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542149

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)		21674037		21673963		21673905
	Customer Sample Reference		BH303		BH103A		BH102B
	AGS Reference		EW		EW		EW
	Depth (m)		0.00 - 0.00		0.00 - 0.00		0.00 - 0.00
	Container		HCl Filtered (ALE227)	500ml Plastic (ALE208)	250ml Amber Gl. PTFE/PE (ALE209)	500ml Plastic (ALE250)	HCl Filtered (ALE250)
	Sample Type		GW	GW	GW	GW	GW
Ammoniacal Nitrogen	All	NDPs: 0 Tests: 11		X		X	X
Anions by Kone (w)	All	NDPs: 0 Tests: 11		X		X	X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 11					
Determination of Dissolved Gases	All	NDPs: 0 Tests: 11					
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 11					
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 2					
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11	X			X	X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 11	X			X	X
Ferric Iron	All	NDPs: 0 Tests: 11		X		X	X
Ferrous Iron	All	NDPs: 0 Tests: 11		X		X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 11					
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 11		X		X	X
Low Level Phenols by HPLC (W)	All	NDPs: 0 Tests: 11		X		X	X
Mercury Dissolved	All	NDPs: 0 Tests: 11					
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 11	X			X	X

[illegible]



CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

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)		21673935						
	Customer Sample Reference		SW02						
	AGS Reference		EW						
	Depth (m)		0.00 - 0.00						
	Container		Vial (ALE297)	NaOH (ALE245)	HNO3 Unfiltered (ALE204)	HNO3 Filtered (ALE204)	HCl Filtered (ALE250)	500ml Plastic (ALE208)	250ml Amber GLPTE/PE
	Sample Type		SW	SW	SW	SW	SW	SW	SW
			NDPs: 0	NDPs: 0	NDPs: 0	NDPs: 0	NDPs: 0	NDPs: 0	NDPs: 0
			Tests: 11	Tests: 11	Tests: 11	Tests: 11	Tests: 11	Tests: 11	Tests: 11
Ammoniacal Nitrogen	All			X					
Anions by Kone (w)	All			X					
Cyanide Comp/Free/Total/Thiocyanate	All								X
Determination of Dissolved Gases	All								X
Dissolved Metals by ICP-MS	All				X				
EPH CWG (Aliphatic) Aqueous GC (W)	All		X						
EPH CWG (Aromatic) Aqueous GC (W)	All		X						
Ferric Iron	All			X					
Ferrous Iron	All			X					
GRO by GC-FID (W)	All								X
Hexavalent Chromium (w)	All			X					
Low Level Phenols by HPLC (W)	All			X					
Mercury Dissolved	All				X				
pH Value of Filtered Water	All			X					
Total Metals by ICP-MS	All					X			



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131 Client Reference: 70031882 Report Number: 542840
 Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542149

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)

21673935

Customer Sample Reference

SW02

AGS Reference

EW

Depth (m)

0.00 - 0.00

Container

Vial (ALE297)
 NaOH (ALE245)
 HNO3 Unfiltered (ALE204)
 HNO3 Filtered (ALE204)
 HCl Filtered (ALE250)
 500ml Plastic (ALE208)
 250ml Amber GL PTFE/PE
 SW SW SW SW SW SW

Sample Type

VOC MS (W)

All

NDPs: 0
 Tests: 11

X



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131 Client Reference: 70031882 Report Number: 542840
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542149

Results Legend			Customer Sample Ref.	BH104	BH105	BH106	BH107	BH204	BH303
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.			11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020
diss.filt	Dissolved / filtered sample.			12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
tot.unfilt	Total / unfiltered sample.			200212-131	200212-131	200212-131	200212-131	200212-131	200212-131
Subcontracted - refer to subcontractor report for accreditation status.				21674051	21674006	21673991	21674022	21673977	21674037
** % 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				EW	EW	EW	EW	EW	EW
(F) Trigger breach confirmed									
1-3+5@ Sample deviation (see appendix)									
Component	LOD/Units	Method							
Ammoniacal Nitrogen as NH4	<300 µg/l	TM099		20100	6830	6060	<300	<300	1280
				2 #	2 #	2 #	2 #	2 #	2 #
Iron, Ferric	<50 µg/l	TM125		1200	410	<50	<50	<50	247
Iron, Ferrous	<100 µg/l	TM125		17300	8140	<100	<100	<100	<100
				#	#	#	#	#	#
Arsenic (diss.filt)	<0.5 µg/l	TM152		26	15.7	0.66	<0.5	<0.5	1.11
				#	#	#	#	#	#
Barium (diss.filt)	<0.2 µg/l	TM152		43.9	85.7	43.9	39.8	61.1	39.1
				#	#	#	#	#	#
Beryllium (diss.filt)	<0.1 µg/l	TM152		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
				#	#	#	#	#	#
Boron (diss.filt)	<10 µg/l	TM152		271	123	158	131	123	116
				#	#	#	#	#	#
Cadmium (diss.filt)	<0.08 µg/l	TM152		<0.08	<0.08	<0.08	<0.08	<0.08	<0.08
				#	#	#	#	#	#
Chromium (diss.filt)	<1 µg/l	TM152		<1	<1	<1	2.19	10.3	1.36
				#	#	#	#	#	#
Copper (diss.filt)	<0.3 µg/l	TM152		0.675	0.528	0.348	0.301	1.01	1.37
				#	#	#	#	#	#
Manganese (tot.unfilt)	<1 µg/l	TM152		3270	872	341	2.99	60	141
				#	#	#	#	#	#
Lead (diss.filt)	<0.2 µg/l	TM152		<0.2	0.293	<0.2	<0.2	<0.2	<0.2
				#	#	#	#	#	#
Nickel (diss.filt)	<0.4 µg/l	TM152		2.97	1.3	27.9	2.33	1.94	6.61
				#	#	#	#	#	#
Selenium (diss.filt)	<1 µg/l	TM152		1.19	<1	<1	1.38	1.66	1.5
				#	#	#	#	#	#
Vanadium (diss.filt)	<1 µg/l	TM152		<1	<1	<1	<1	<1	<1
				#	#	#	#	#	#
Zinc (diss.filt)	<1 µg/l	TM152		6.27	9.15	7.71	1.86	2.39	7.06
				#	#	#	#	#	#
Iron (Dis.Filt)	<19 µg/l	TM152		18500	8550	29.8	<19	<19	247
				#	#	#	#	#	#
Hardness, Total as CaCO3	<650 µg/l	TM152		1040000	399000	357000	328000	338000	291000
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
				#	#	#	#	#	#
Chloride	<2000 µg/l	TM184		36600	41100	62500	47100	49300	39700
				#	#	#	#	#	#
Nitrate as NO3	<300 µg/l	TM184		919	<300	31700	45700	42400	39000
Sulphate as %SO4	<0.0002 %	TM184		0.0504	0.0123	0.00631	0.00598	0.00706	0.00703
				#	#	#	#	#	#
Methane, dissolved	<1 µg/l	TM223		7.01	248	<2.22	<2.21	<2.21	<2.22
Ethene, dissolved	<1 µg/l	TM223		<1	9.56	<1	<1	<1	<1
Ethane, dissolved	<1 µg/l	TM223		<1	2.14	<1	<1	<1	<1
Carbon dioxide, dissolved	<1300 µg/l	TM223		117000	29400	33900	28500	32400	25600
Propane, dissolved	<1 µg/l	TM223		<1	<1	<1	<1	<1	<1
Cyanide, Total	<50 µg/l	TM227		370	90	<50	<50	<50	460
				#	#	#	#	#	#
Cyanide, Free	<50 µg/l	TM227		<50	<50	<50	<50	<50	<50
				#	#	#	#	#	#
Cyanide, Complex	<50 µg/l	TM227		370	90	<50	<50	<50	460
				#	#	#	#	#	#
Chromium, Hexavalent	<30 µg/l	TM241		<30	<30	<30	<30	<30	<30
				#	#	#	#	#	#
Resorcinol (low level)	<0.5 µg/l	TM255		<0.5	<0.5	2.81	<0.5	<0.5	<0.5



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131 Client Reference: 70031882 Report Number: 542840
Location: Reading Gasholder No. 4 Order Number: 70031882-3EX Superseded Report: 542149

Results Legend			Customer Sample Ref.		BH103A	BH102B	BH203C	SW01	SW02	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	
aq	Aqueous / settled sample.				11/02/2020	12/02/2020	11/02/2020	11/02/2020	11/02/2020	
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	
+	Subcontracted - refer to subcontractor report for accreditation status.				200212-131	200212-131	200212-131	200212-131	200212-131	
**	% 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				21673963	21673905	21673950	21673919	21673935	
(F)	Trigger breach confirmed				EW	EW	EW	EW	EW	
1-3+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Carbon, Organic (diss.filt)	<3000 µg/l	TM090						5910	6750	
Ammoniacal Nitrogen as NH4	<300 µg/l	TM099	5880		15900	1950	<300	<300		
Iron, Ferric	<50 µg/l	TM125	157	2 #	726	2 #	120	<50		
Iron, Ferrous	<100 µg/l	TM125	<100	#	<100	#	<100	<100	#	
Arsenic (diss.filt)	<0.5 µg/l	TM152	3.03	#	3.22	#	<0.5	0.751	0.723	#
Barium (diss.filt)	<0.2 µg/l	TM152	27.4	#	29.4	#	19.7	20.5		#
Beryllium (diss.filt)	<0.1 µg/l	TM152	<0.1	#	<0.1	#	<0.1	<0.1		#
Boron (diss.filt)	<10 µg/l	TM152	<10	#	78.6	#	101	26.4	17.1	#
Cadmium (diss.filt)	<0.08 µg/l	TM152	<0.08	#	<0.08	#	<0.08	<0.08		#
Chromium (diss.filt)	<1 µg/l	TM152	6.84	#	<1	#	17.1	10.9	<1	#
Copper (diss.filt)	<0.3 µg/l	TM152	0.63	#	1.44	#	1.39	2.84	1.42	#
Manganese (tot.unfilt)	<1 µg/l	TM152	226	#	1130	#	174	31.3	26.1	#
Lead (diss.filt)	<0.2 µg/l	TM152	0.222	#	0.228	#	1.65	0.236	<0.2	#
Nickel (diss.filt)	<0.4 µg/l	TM152	0.771	#	4.19	#	1.91	3.63	1.86	#
Selenium (diss.filt)	<1 µg/l	TM152	<1	#	2.31	#	1.57	<1	<1	#
Vanadium (diss.filt)	<1 µg/l	TM152	<1	#	1.01	#	<1	<1	<1	#
Zinc (diss.filt)	<1 µg/l	TM152	14	#	8.77	#	6.38	27.8	4.15	#
Iron (Dis.Filt)	<19 µg/l	TM152	157	#	726	#	44.6	120	43.5	#
Hardness, Total as CaCO3	<650 µg/l	TM152	219000		850000		314000	244000	263000	
Calcium (Tot. Unfilt.)	<57 µg/l	TM152						102000	98800	#
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01	#	0.0196	#	<0.01	<0.01	<0.01	#
Chloride	<2000 µg/l	TM184	36800	#	10700	#	43400	29700	29500	#
Nitrate as NO3	<300 µg/l	TM184	572		4460		33100	24200	24000	
Sulphate as %SO4	<0.0002 %	TM184	0.00928	#	0.0658	#	0.00503	0.00281	0.00251	#
Methane, dissolved	<1 µg/l	TM223	4.73		15.9		2.74	2.54	2.63	
Ethene, dissolved	<1 µg/l	TM223	<1		<1		<1	<1	<1	
Ethane, dissolved	<1 µg/l	TM223	<1		<1		<1	<1	<1	
Carbon dioxide, dissolved	<1300 µg/l	TM223	11100		28900		22200	6460	5730	
Propane, dissolved	<1 µg/l	TM223	<1		<1		<1	<1	<1	
Cyanide, Total	<50 µg/l	TM227	<50	#	2190	#	<50	<50	<50	#
Cyanide, Free	<50 µg/l	TM227	<50	#	<50	#	<50	<50	<50	#
Cyanide, Complex	<50 µg/l	TM227	<50		2180		<50	<50	<50	



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4Client Reference: 70031882
Order Number: 70031882-3EXReport Number: 542840
Superseded Report: 542149

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	BH104	BH105	BH106	BH107	BH204	BH303
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.			11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020
dis.filt	Dissolved / filtered sample.								
tot.unfilt	Total / unfiltered sample.								
+	Subcontracted - refer to subcontractor report for accreditation status.			12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
**	% 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			200212-131	200212-131	200212-131	200212-131	200212-131	200212-131
(F)	Trigger breach confirmed			21674051	21674006	21673991	21674022	21673977	21674037
1.3+5@	Sample deviation (see appendix)			EW	EW	EW	EW	EW	EW
Component	LOD/Units	Method							
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542840
Superseded Report: 542149

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.		BH104	BH105	BH106	BH107	BH204	BH303
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
+	Subcontracted - refer to subcontractor report for accreditation status.				200212-131	200212-131	200212-131	200212-131	200212-131	200212-131
**	% 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				21674051	21674006	21673991	21674022	21673977	21674037
(F)	Trigger breach confirmed				EW	EW	EW	EW	EW	EW
1-3+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Carbazole (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Chrysene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Dibenzofuran (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	#	<5	#	<5	#	<5	#
Fluoranthene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Fluorene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Phenol (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Hexachloroethane (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Nitrobenzene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Naphthalene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Isophorone (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Phenanthrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#
Pyrene (aq)	<1 µg/l	TM176	<1	#	<1	#	<1	#	<1	#



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4Client Reference: 70031882
Order Number: 70031882-3EXReport Number: 542840
Superseded Report: 542149

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	BH103A	BH102B	BH203C	SW01	SW02		
#	ISO17025 accredited.			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
m	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)		
aq	Aqueous / settled sample.			11/02/2020	12/02/2020	11/02/2020	11/02/2020	11/02/2020		
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								
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Chloroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
4-Nitrophenol (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
Azobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
Acenaphthene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
Anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #	<2 #	<2 #	<2 #	<2 #	<2 #		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #		



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4Client Reference: 70031882
Order Number: 70031882-3EXReport Number: 542840
Superseded Report: 542149

SVOC MS (W) - Aqueous

Results Legend			Customer Sample Ref.	BH103A	BH102B	BH203C	SW01	SW02	
#	ISO17025 accredited.			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	
aq	Aqueous / settled sample.			11/02/2020	12/02/2020	11/02/2020	11/02/2020	11/02/2020	
diss.filt	Dissolved / filtered sample.			-	-	-	-	-	
tot.unfilt	Total / unfiltered sample.			12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	
*	Subcontracted - refer to subcontractor report for accreditation status.			200212-131	200212-131	200212-131	200212-131	200212-131	
**	% 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		21673963	21673905	21673950	21673919	21673935		
(F)	Trigger breach confirmed		EW	EW	EW	EW	EW		
1-3+5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Carbazole (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chrysene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #	<5 #	<5 #	<5 #	<5 #	<5 #	
Fluoranthene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Fluorene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1		
Phenol (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Naphthalene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Isophorone (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1	<1	<1	<1		
Phenanthrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Pyrene (aq)	<1 µg/l	TM176	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542840
Superseded Report: 542149

VOC MS (W)

Results Legend			Customer Sample Ref.	BH104	BH105	BH106	BH107	BH204	BH303
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.			11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020
diss.filt	Dissolved / filtered sample.			-	-	-	-	-	-
tot.unfilt	Total / unfiltered sample.			12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
*	Subcontracted - refer to subcontractor report for accreditation status.		200212-131	200212-131	200212-131	200212-131	200212-131	200212-131	
**	% 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	21674051	21674006	21673991	21674022	21673977	21674037		
(F)	Trigger breach confirmed	EW	EW	EW	EW	EW	EW		
1-3+5@	Sample deviation (see appendix)								
Component	LOD/Units	Method							
Dibromofluoromethane**	%	TM208	116	116	117	115	116	117	
Toluene-d8**	%	TM208	98.3	102	100	109	112	109	
4-Bromofluorobenzene**	%	TM208	98.2	92.9	98.1	97.8	97.7	98.2	
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Vinyl chloride	<1 µg/l	TM208	<1 #	13.3 #	<1 #	<1 #	<1 #	<1 #	
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #	
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	9.14 #	<1 #	<1 #	<1 #	<1 #	
2,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	2.62 #	1.41 #	1.61 #	
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Benzene	<1 µg/l	TM208	<1 #	2.28 #	<1 #	<1 #	<1 #	<1 #	
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542840
Superseded Report: 542149

VOC MS (W)

Results Legend			Customer Sample Ref.		BH104	BH105	BH106	BH107	BH204	BH303
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Ground Water (GW)
aq	Aqueous / settled sample.				11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020
diss.filt	Dissolved / filtered sample.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020
tot.unfilt	Total / unfiltered sample.				200212-131	200212-131	200212-131	200212-131	200212-131	200212-131
+	Subcontracted - refer to subcontractor report for accreditation status.				21674051	21674006	21673991	21674022	21673977	21674037
**	% 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				EW	EW	EW	EW	EW	EW
(F)	Trigger breach confirmed									
1-3+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
o-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4Client Reference: 70031882
Order Number: 70031882-3EXReport Number: 542840
Superseded Report: 542149

VOC MS (W)

Results Legend			Customer Sample Ref.	BH103A	BH102B	BH203C	SW01	SW02	
#	ISO17025 accredited.			0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
m	mCERTS accredited.			Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	
aq	Aqueous / settled sample.			11/02/2020	12/02/2020	11/02/2020	11/02/2020	11/02/2020	
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							
Dibromofluoromethane**	%	TM208	117	112	117	118	119		
Toluene-d8**	%	TM208	106	109	108	108	98.3		
4-Bromofluorobenzene**	%	TM208	97.9	97.7	104	97.2	100		
Dichlorodifluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Vinyl chloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Trichlorofluoromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Carbon disulphide	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dichloromethane	<3 µg/l	TM208	<3 #	<3 #	<3 #	<3 #	<3 #	<3 #	
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
trans-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
cis-1,2-Dichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
2,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chloroform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,1-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Carbontetrachloride	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Benzene	<1 µg/l	TM208	<1 #	<1 #	1.19 #	<1 #	<1 #	<1 #	
Trichloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dibromomethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromodichloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
cis-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Toluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
trans-1,3-Dichloropropene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,2-Trichloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131
Location: Reading Gasholder No. 4

Client Reference: 70031882
Order Number: 70031882-3EX

Report Number: 542840
Superseded Report: 542149

VOC MS (W)

Results Legend			Customer Sample Ref.		BH103A	BH102B	BH203C	SW01	SW02	
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference		0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
M	mCERTS accredited.				Ground Water (GW)	Ground Water (GW)	Ground Water (GW)	Surface Water (SW)	Surface Water (SW)	
aq	Aqueous / settled sample.				11/02/2020	12/02/2020	11/02/2020	11/02/2020	11/02/2020	
diss.filt	Dissolved / filtered sample.									
tot.unfilt	Total / unfiltered sample.				12/02/2020	12/02/2020	12/02/2020	12/02/2020	12/02/2020	
+	Subcontracted - refer to subcontractor report for accreditation status.				200212-131	200212-131	200212-131	200212-131	200212-131	
**	% 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				21673963	21673905	21673950	21673919	21673935	
(F)	Trigger breach confirmed				EW	EW	EW	EW	EW	
1-3+5@	Sample deviation (see appendix)									
Component	LOD/Units	Method								
1,3-Dichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Tetrachloroethene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Dibromochloromethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromoethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Chlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Ethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
m,p-Xylene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
o-Xylene	<1 µg/l	TM208	<1 #	1.61 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Styrene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromoform	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Isopropylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,3-Trichloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Bromobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Propylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
2-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,3,5-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
4-Chlorotoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
tert-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,4-Trimethylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
sec-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
4-iso-Propyltoluene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,3-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,4-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
n-Butylbenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
1,2,4-Trichlorobenzene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Hexachlorobutadiene	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	<1 #	
Naphthalene	<1 µg/l	TM208	<1 #	<1 #	2.07 #	<1 #	<1 #	<1 #	<1 #	



CERTIFICATE OF ANALYSIS

Validated

SDG: 200212-131 **Client Reference:** 70031882 **Report Number:** 542840
Location: Reading Gasholder No. 4 **Order Number:** 70031882-3EX **Superseded Report:** 542149

Table of Results - Appendix

Method No	Reference	Description
TM090	Method 5310, AWWA/APHA, 20th Ed., 1999 / Modified: US EPA Method 415.1 & 9060	Determination of Total Organic Carbon/Total Inorganic Carbon in Water and Waste Water
TM099	BS 2690: Part 7:1968 / BS 6068: Part2.11:1984	Determination of Ammonium in Water Samples using the Kone Analyser
TM125	DIN 38405 D17	Determination of Total/Ferrous Iron
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters
TM223	ASTM D-1945-91	Determination of Dissolved C1-7 Hydrocarbon gases in waters
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM255		Determination of Low Level Phenols in Waters and Leachates by HPLC
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter

NA = not applicable.

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



CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Test Completion Dates

Lab Sample No(s)	21674051	21674006	21673991	21674022	21673977	21674037	21673963	21673905	21673950	21673919
Customer Sample Ref.	BH104	BH105	BH106	BH107	BH204	BH303	BH103A	BH102B	BH203C	SW01
AGS Ref.	EW	EW	EW	EW	EW	EW	EW	EW	EW	EW
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Ground Water	Surface Water
Ammoniacal Nitrogen	13-Feb-2020	17-Feb-2020	13-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	13-Feb-2020	13-Feb-2020	13-Feb-2020	13-Feb-2020
Anions by Kone (w)	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020
Cyanide Comp/Free/Total/Thiocyanate	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020
Determination of Dissolved Gases	21-Feb-2020	21-Feb-2020	21-Feb-2020	21-Feb-2020	21-Feb-2020	21-Feb-2020	21-Feb-2020	21-Feb-2020	20-Feb-2020	21-Feb-2020
Dissolved Metals by ICP-MS	14-Feb-2020	15-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	15-Feb-2020	14-Feb-2020	15-Feb-2020	15-Feb-2020	14-Feb-2020
Dissolved Organic/Inorganic Carbon										14-Feb-2020
EPH CWG (Aliphatic) Aqueous GC (W)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
EPH CWG (Aromatic) Aqueous GC (W)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
Ferric Iron	14-Feb-2020	15-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	15-Feb-2020	14-Feb-2020	15-Feb-2020	15-Feb-2020	14-Feb-2020
Ferrous Iron	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020
GRO by GC-FID (W)	17-Feb-2020	17-Feb-2020	18-Feb-2020	18-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020
Hexavalent Chromium (w)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
Low Level Phenols by HPLC (W)	14-Feb-2020	25-Feb-2020	14-Feb-2020	25-Feb-2020	25-Feb-2020	25-Feb-2020	17-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020
Mercury Dissolved	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020
Nitrite by Kone (w)	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020	15-Feb-2020
PAH Spec MS - Aqueous (W)	18-Feb-2020	18-Feb-2020	19-Feb-2020	19-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	19-Feb-2020	19-Feb-2020
pH Value of Filtered Water	18-Feb-2020	17-Feb-2020	18-Feb-2020	18-Feb-2020	17-Feb-2020	17-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020	18-Feb-2020
SVOC MS (W) - Aqueous	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
Total Metals by ICP-MS	14-Feb-2020	15-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	14-Feb-2020	15-Feb-2020	15-Feb-2020	14-Feb-2020
TPH CWG (W)	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020	19-Feb-2020
VOC MS (W)	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020	17-Feb-2020

Lab Sample No(s)	21673935
Customer Sample Ref.	SW02
AGS Ref.	EW
Depth	0.00 - 0.00
Type	Surface Water
Ammoniacal Nitrogen	13-Feb-2020
Anions by Kone (w)	15-Feb-2020
Cyanide Comp/Free/Total/Thiocyanate	18-Feb-2020
Determination of Dissolved Gases	21-Feb-2020
Dissolved Metals by ICP-MS	14-Feb-2020
Dissolved Organic/Inorganic Carbon	14-Feb-2020
EPH CWG (Aliphatic) Aqueous GC (W)	19-Feb-2020
EPH CWG (Aromatic) Aqueous GC (W)	19-Feb-2020
Ferric Iron	14-Feb-2020
Ferrous Iron	14-Feb-2020
GRO by GC-FID (W)	17-Feb-2020
Hexavalent Chromium (w)	19-Feb-2020
Low Level Phenols by HPLC (W)	14-Feb-2020
Mercury Dissolved	17-Feb-2020
Nitrite by Kone (w)	15-Feb-2020
PAH Spec MS - Aqueous (W)	19-Feb-2020
pH Value of Filtered Water	17-Feb-2020
SVOC MS (W) - Aqueous	19-Feb-2020
Total Metals by ICP-MS	14-Feb-2020
TPH CWG (W)	19-Feb-2020
VOC MS (W)	17-Feb-2020



CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

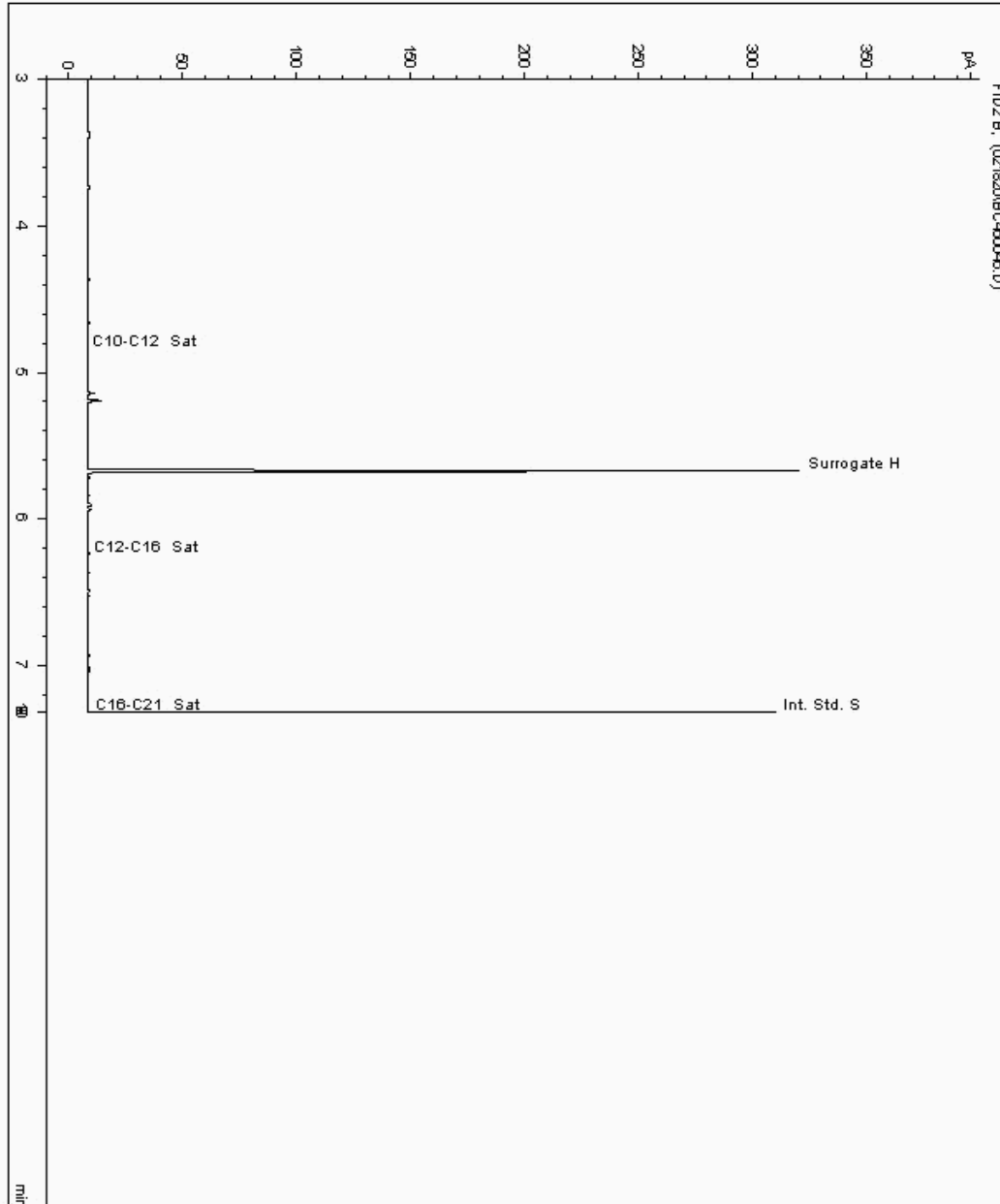
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676576
Sample ID : BH204

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353698-
Date Acquired : 19/02/2020 03:37:54 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

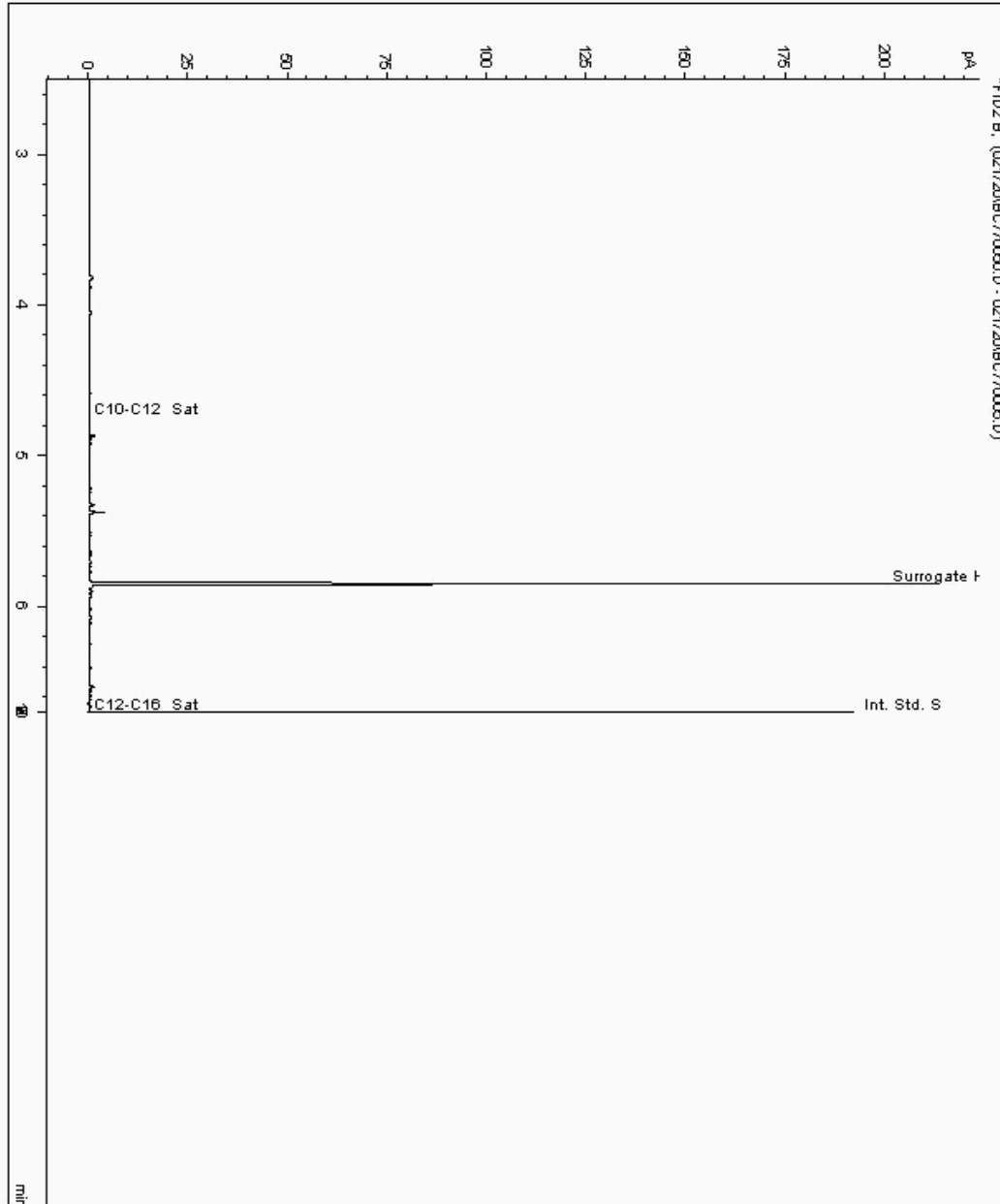
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) Sample No : 21676578 Depth : 0.00 - 0.00
Sample ID : BH107

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

Sample Identity: 20353767-
Date Acquired : 2/18/2020 5:57:51 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

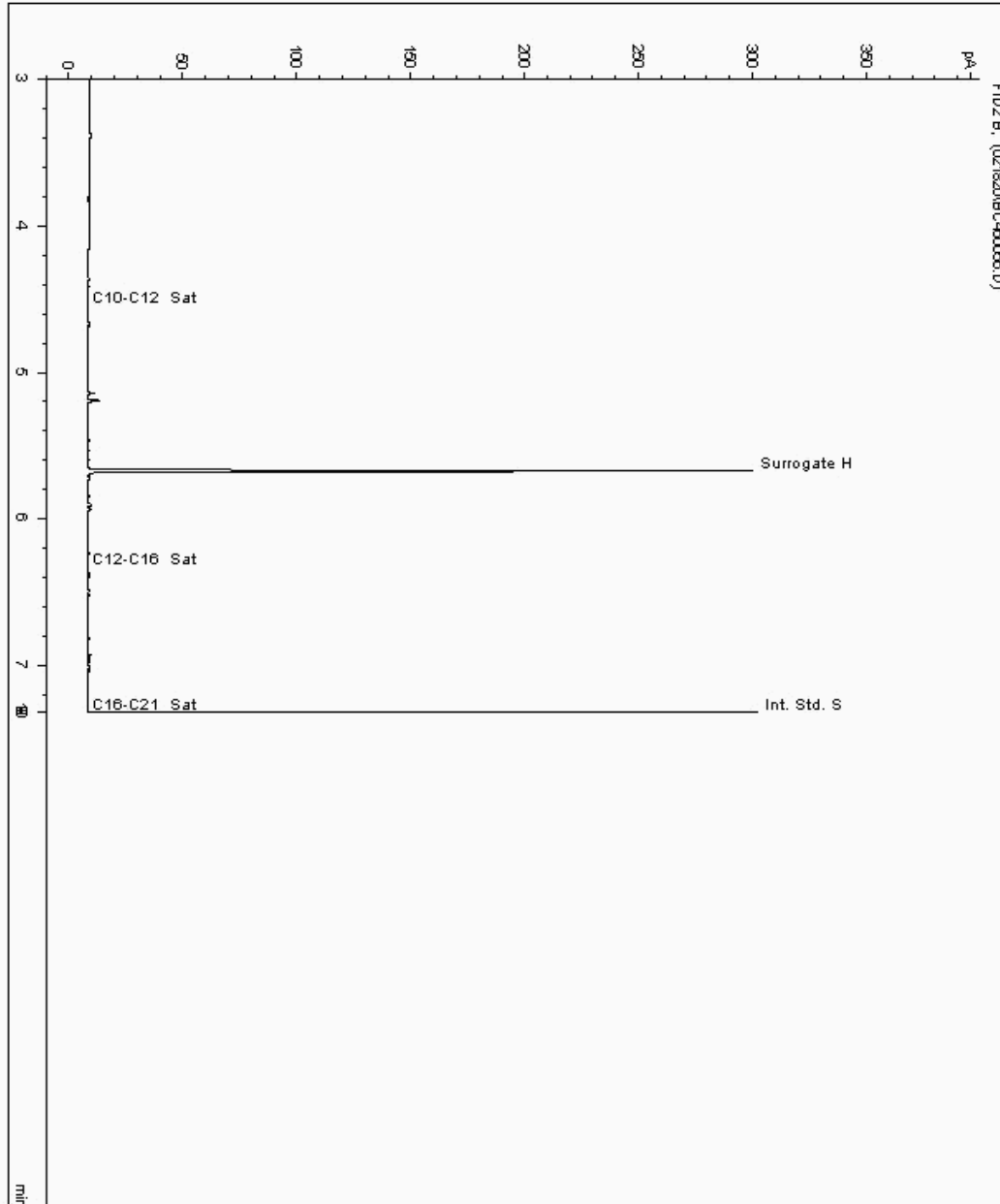
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676580
Sample ID : BH303

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353790-
Date Acquired : 19/02/2020 07:26:24 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

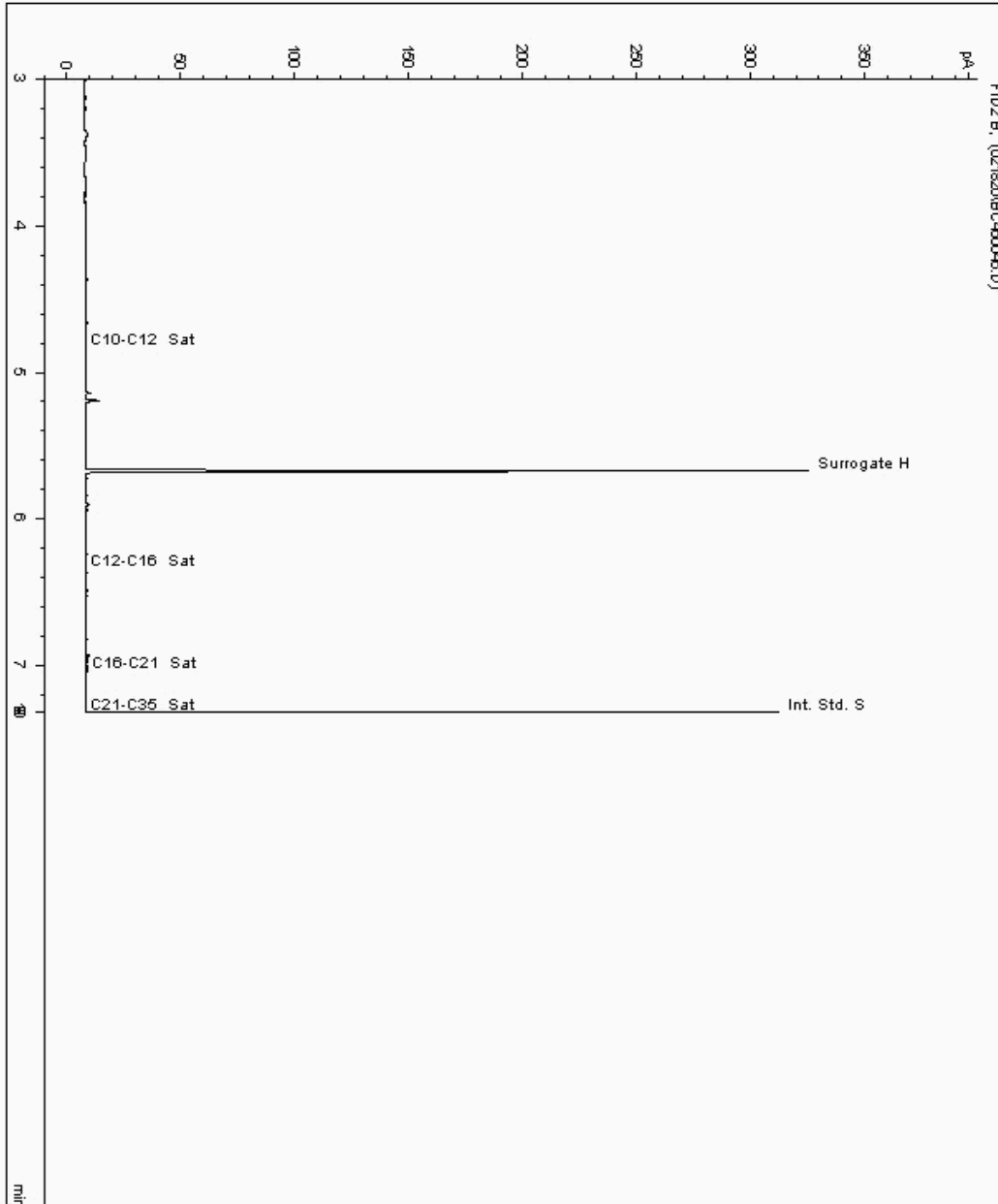
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21676583
Sample ID : BH103A

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353675-
Date Acquired : 19/02/2020 03:14:43 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

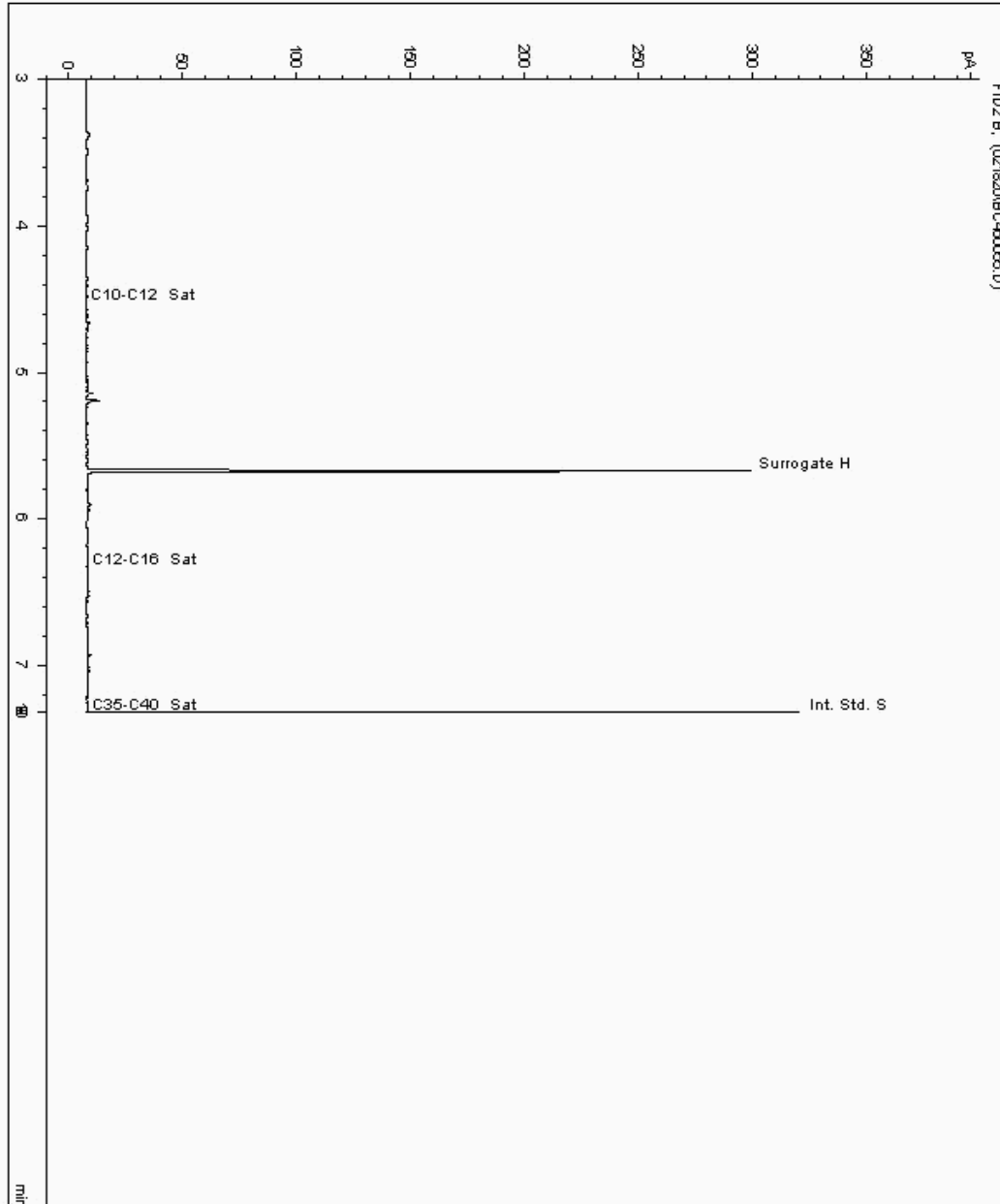
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21677863
Sample ID : BH104

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353813-
Date Acquired : 19/02/2020 07:03:39 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

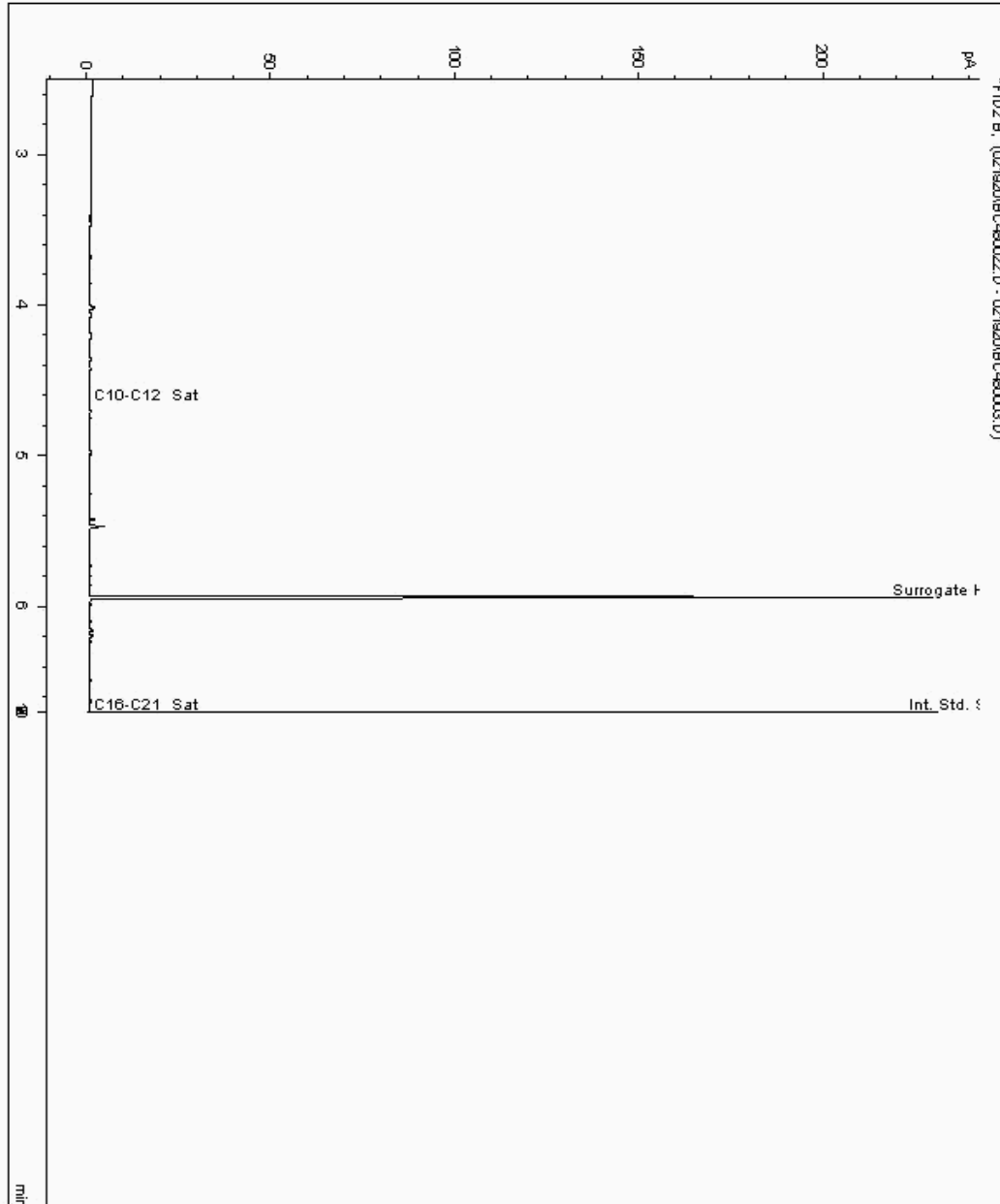
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21677866
Sample ID : BH106

Depth : 0.00 - 0.00

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

Sample Identity: 20353721-
Date Acquired : 19/02/2020 16:06:12 PM
Units : ppb
Dilution : SE BH106[0.00 - 0.00] ->
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

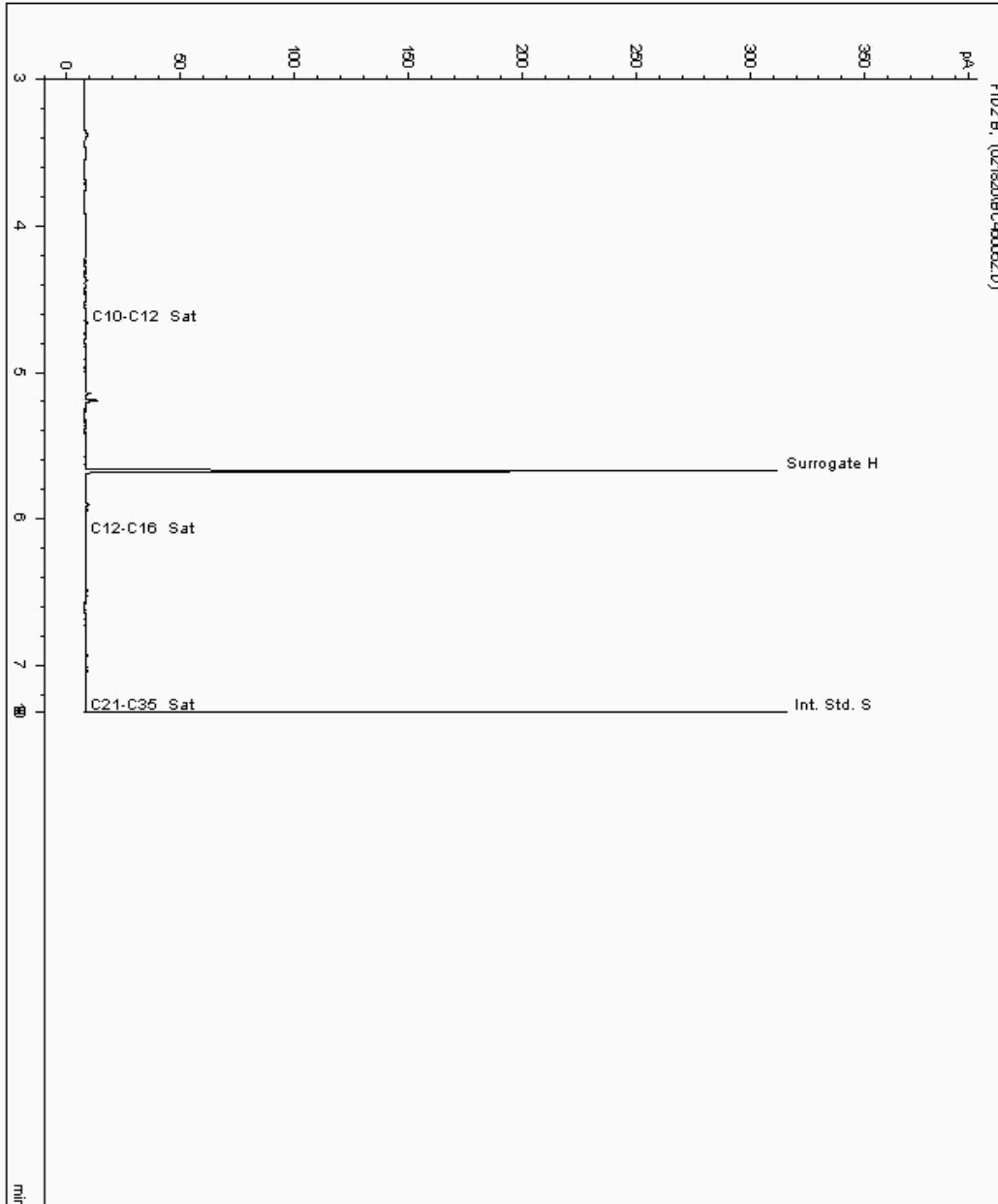
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21677872
Sample ID : SW02

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353628-
Date Acquired : 19/02/2020 05:55:14 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

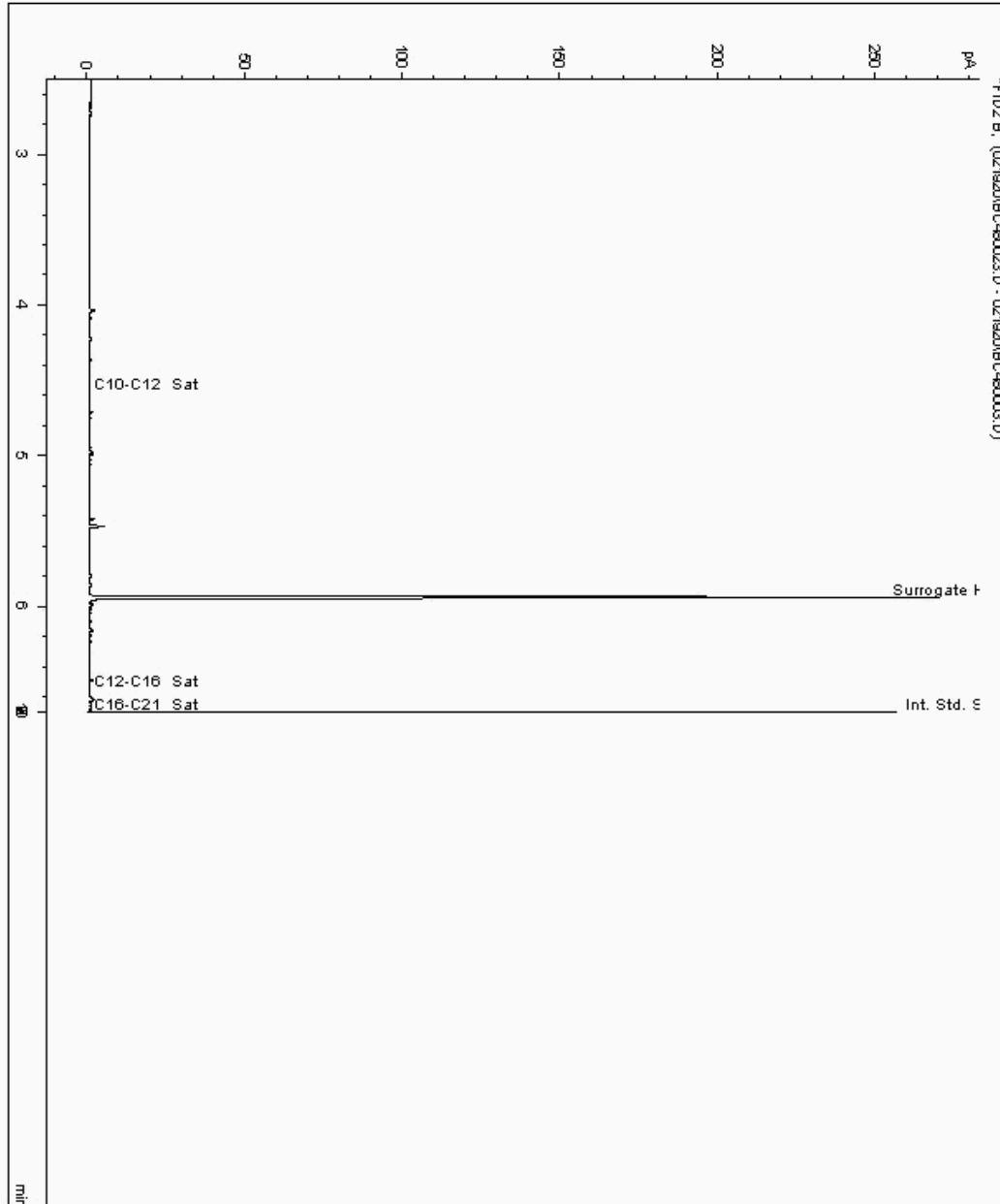
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21677875
Sample ID : SW01

Depth : 0.00 - 0.00

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

Sample Identity: 20353604-
Date Acquired : 19/02/2020 16:28:39 PM
Units : ppb
Dilution : SE SW01[0.00 - 0.00] ->
CF : 1
Multiplier : 0.025





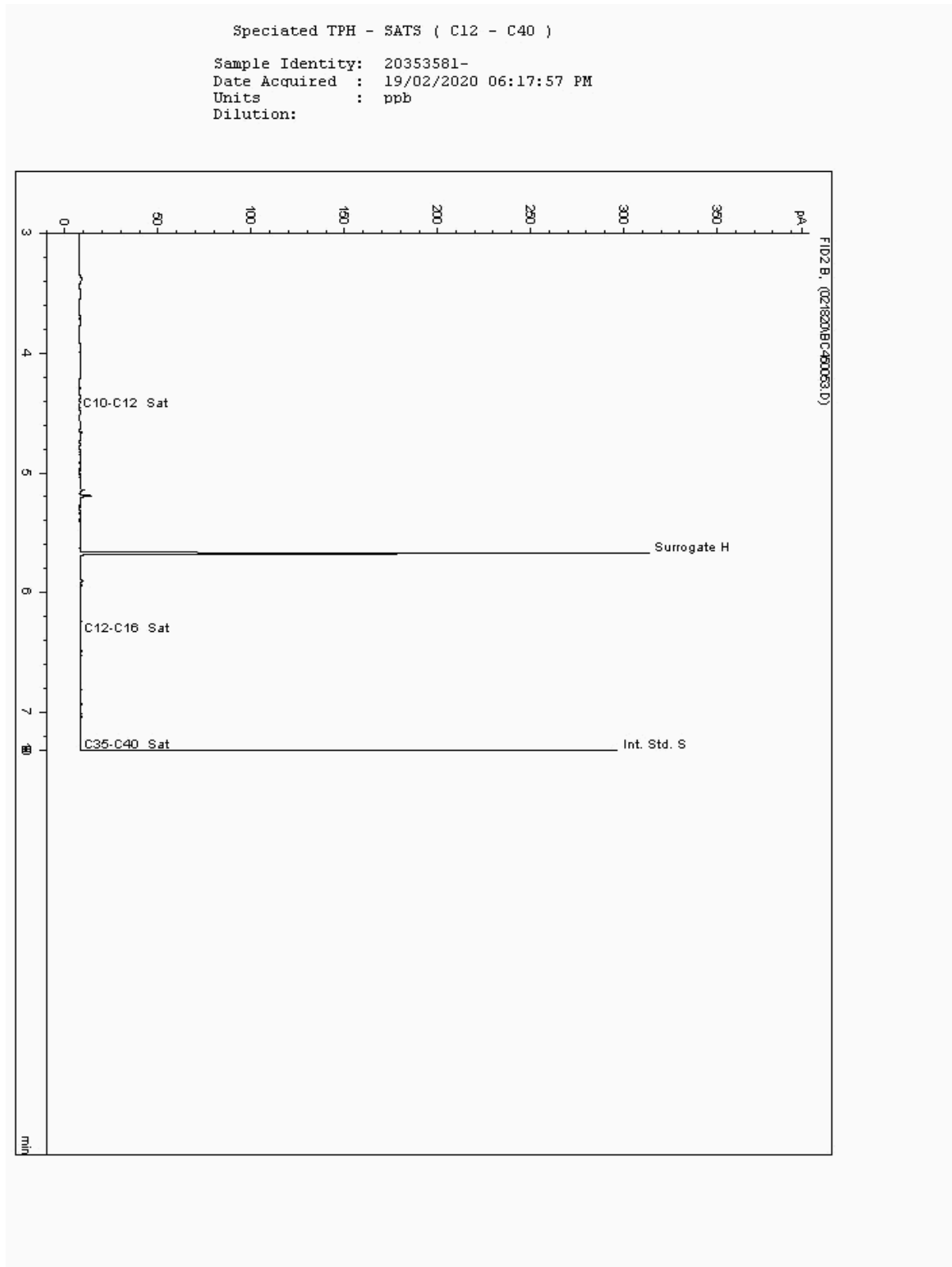
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Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) Sample No : 21678221 Depth : 0.00 - 0.00
Sample ID : BH102B





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

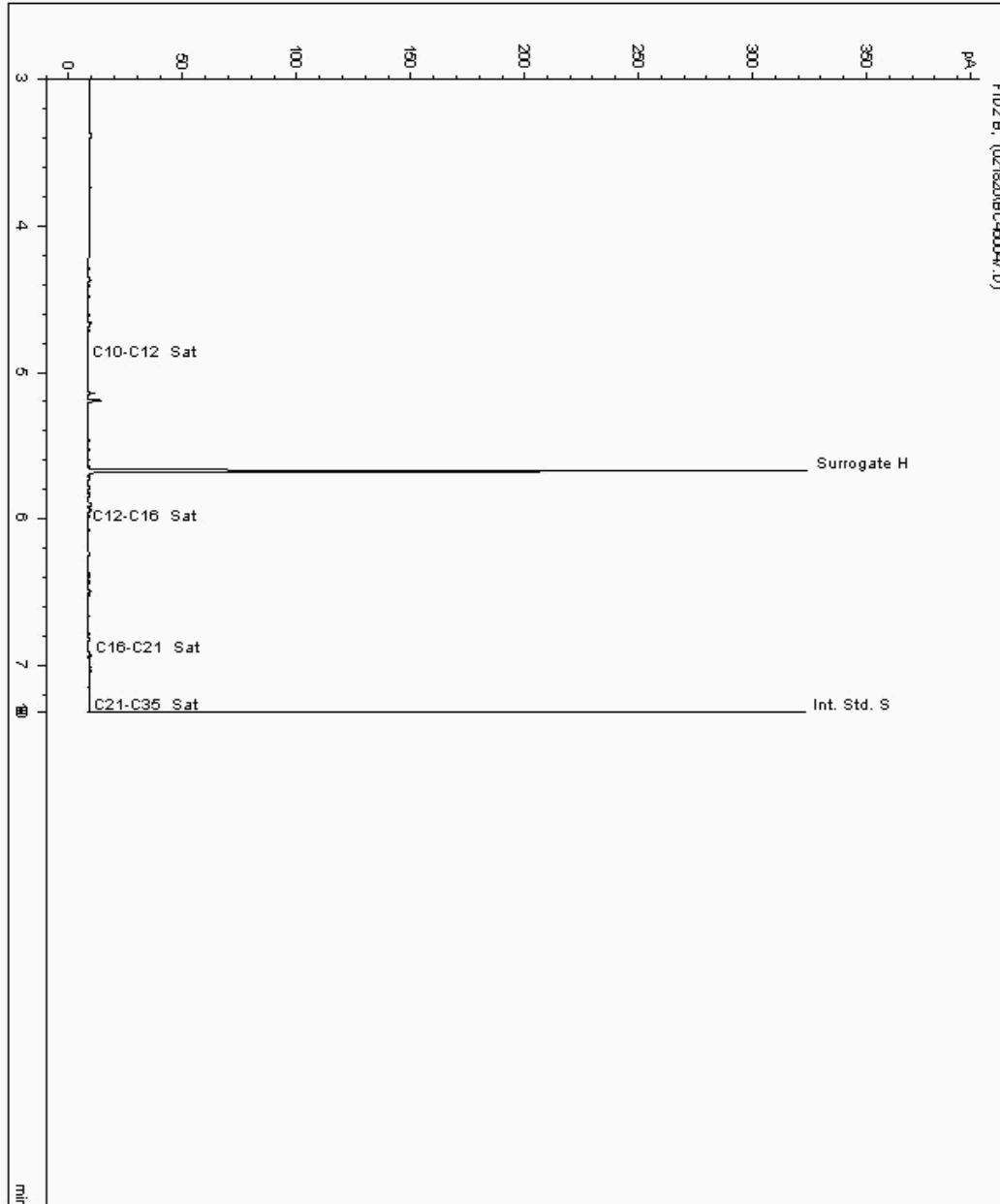
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 21678222
Sample ID : BH105

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20353744-
Date Acquired : 19/02/2020 04:00:49 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

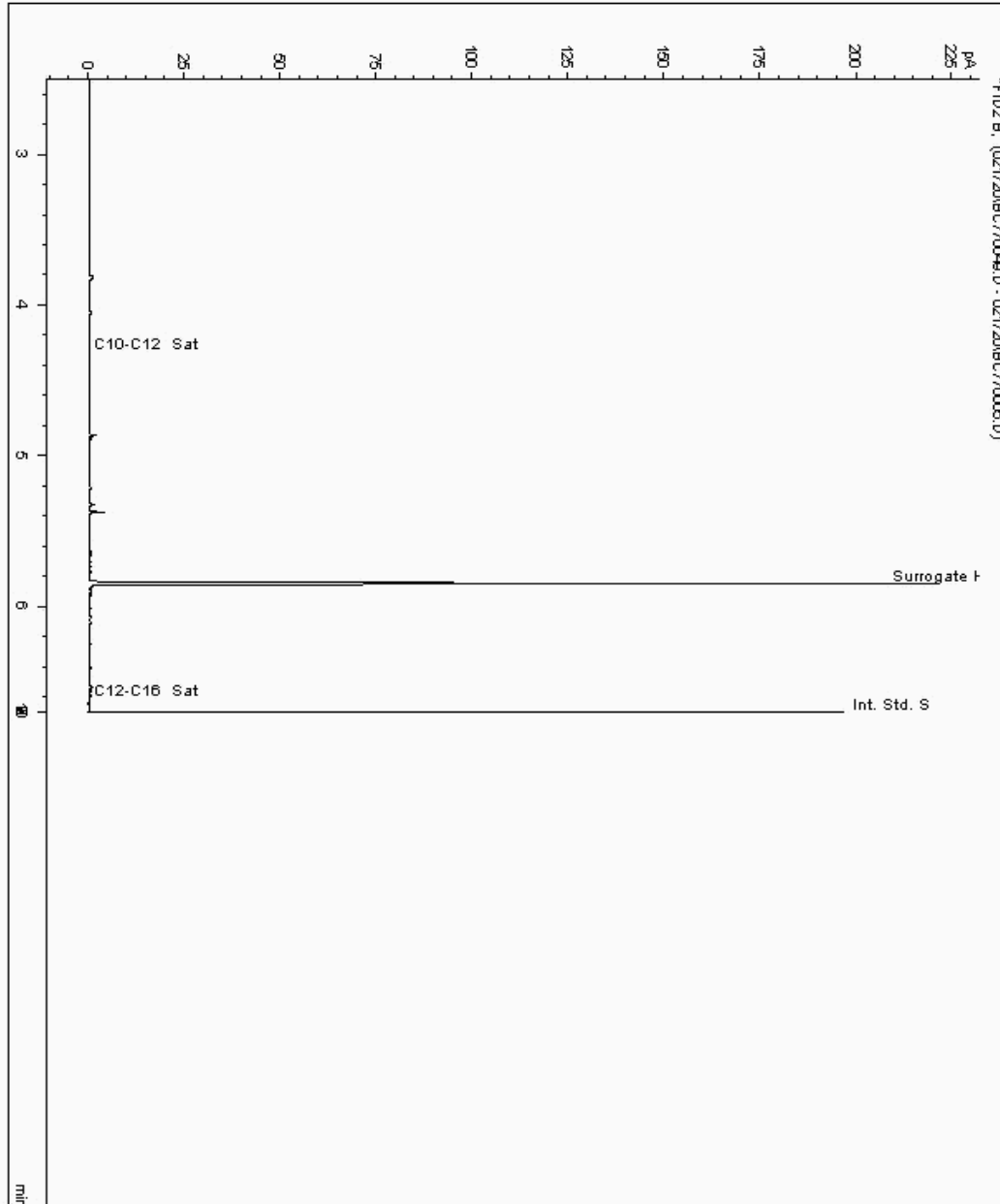
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) Sample No : 21678224 Depth : 0.00 - 0.00
Sample ID : BH203C

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

Sample Identity: 20353652-
Date Acquired : 2/18/2020 5:34:50 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

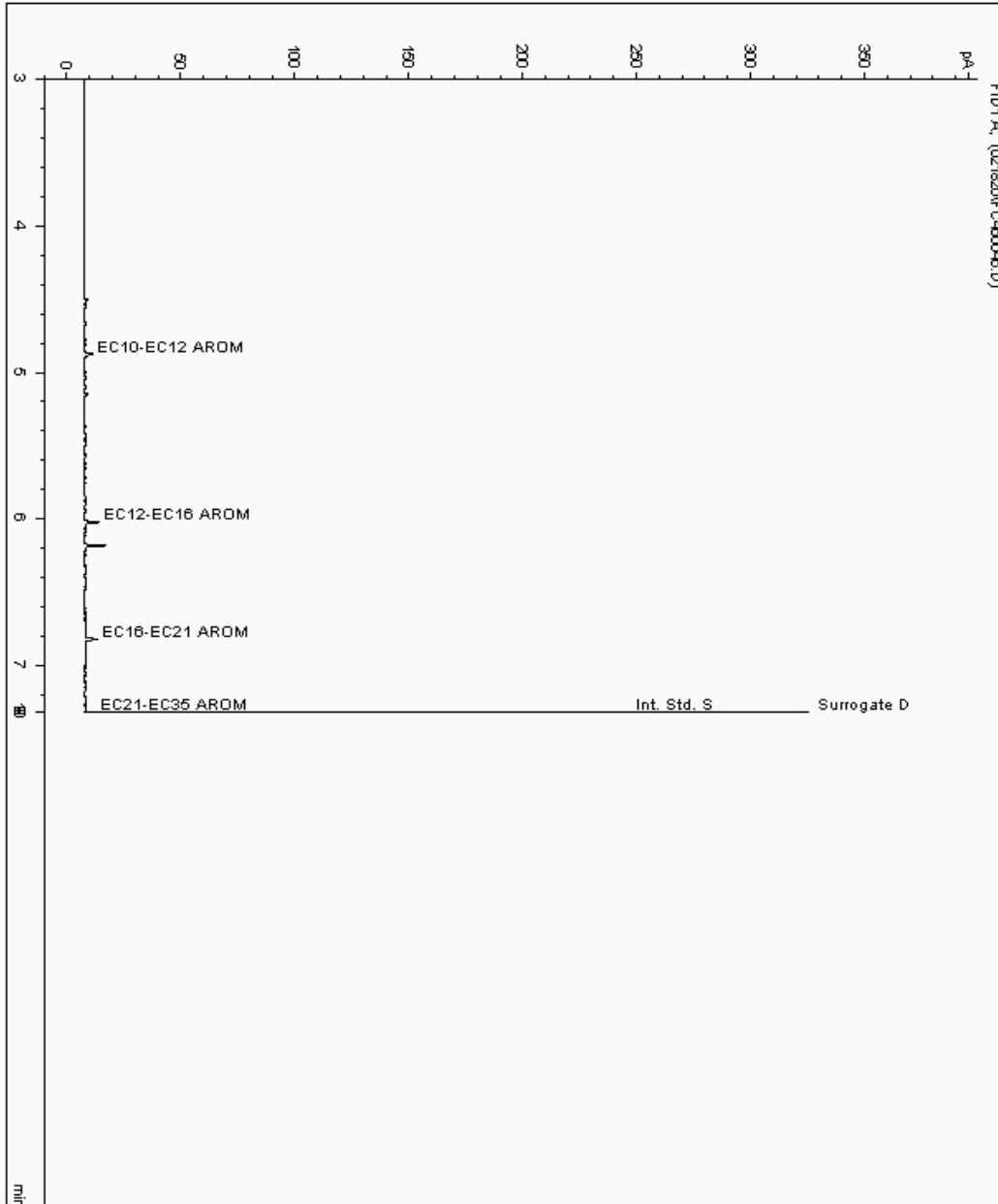
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21676576 Depth : 0.00 - 0.00
Sample ID : BH204

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20345074-
Date Acquired : 19/02/2020 03:37:54 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

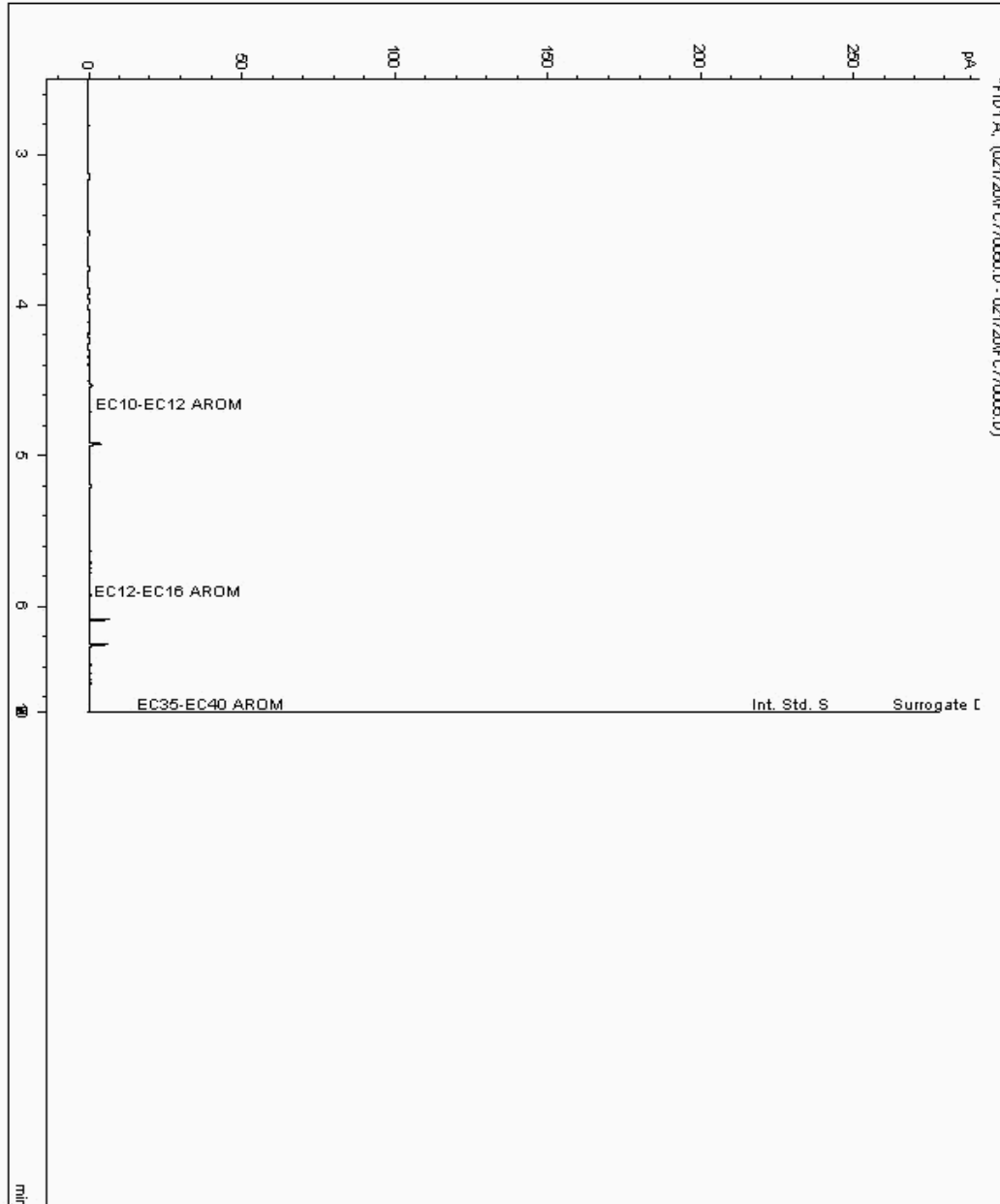
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21676578 Depth : 0.00 - 0.00
Sample ID : BH107

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

Sample Identity: 20353768-
Date Acquired : 2/18/2020 5:57:51 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

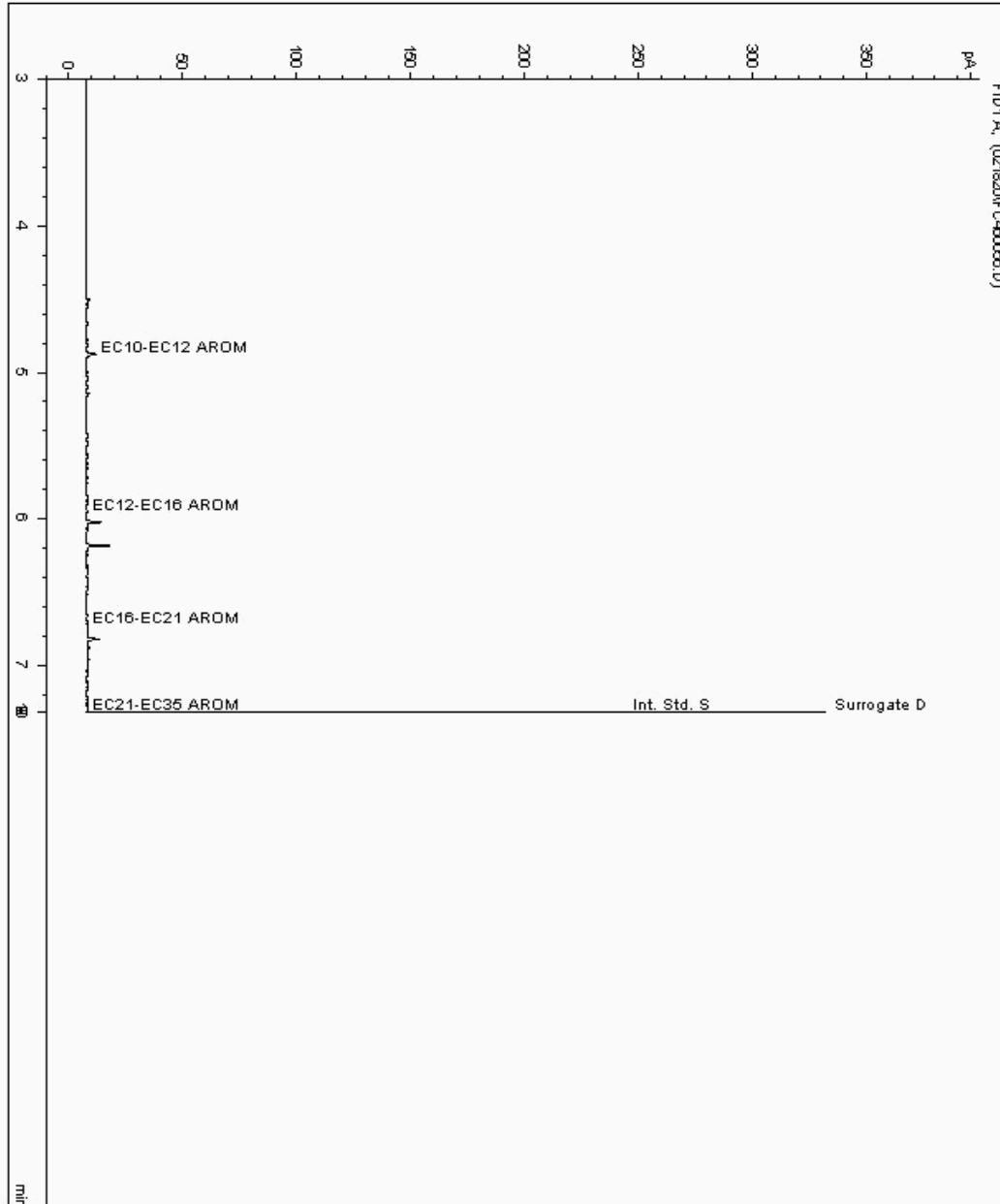
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21676580 Depth : 0.00 - 0.00
Sample ID : BH303

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20348433-
Date Acquired : 19/02/2020 07:26:24 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

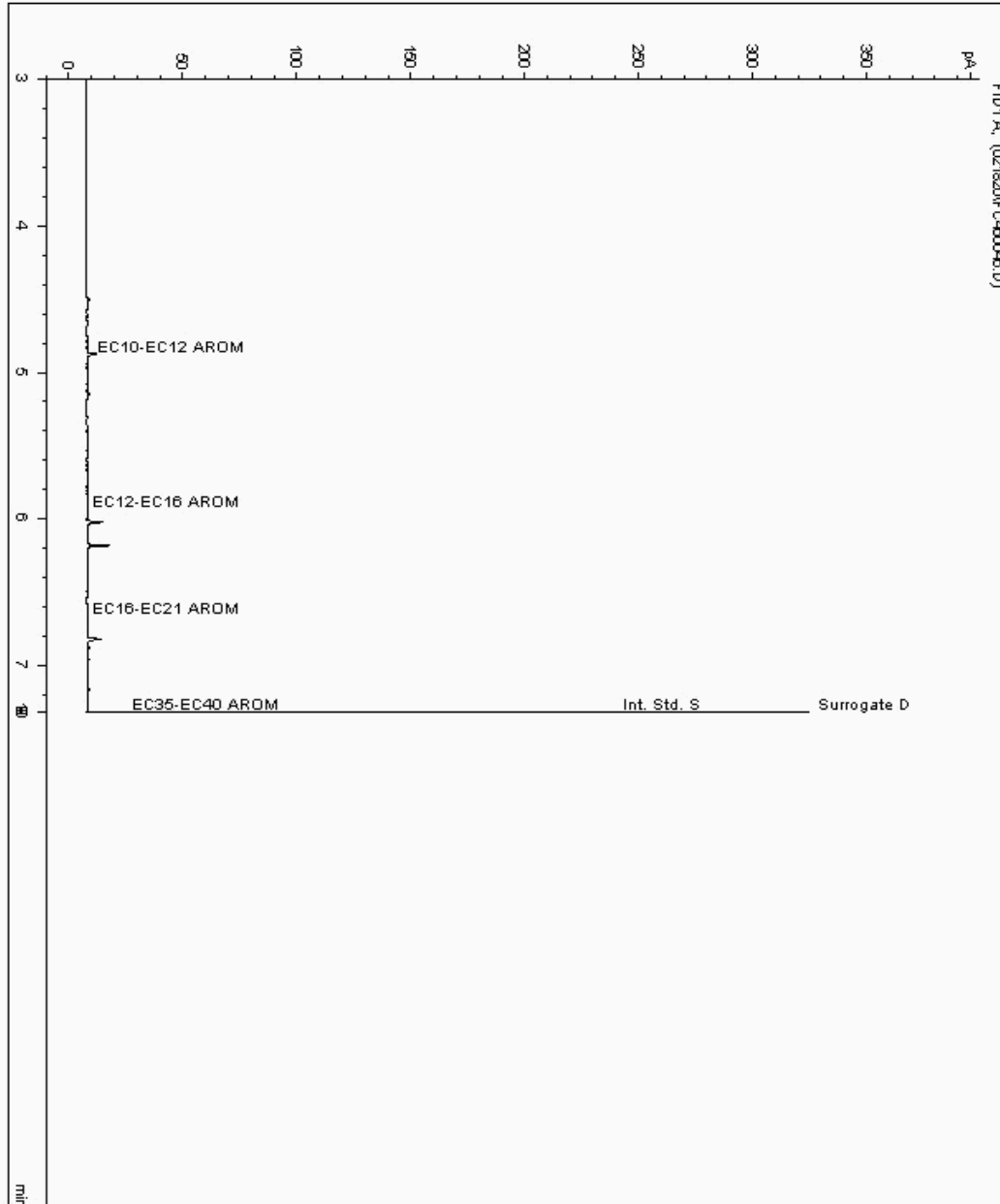
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21676583 Depth : 0.00 - 0.00
Sample ID : BH103A

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20343565-
Date Acquired : 19/02/2020 03:14:43 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

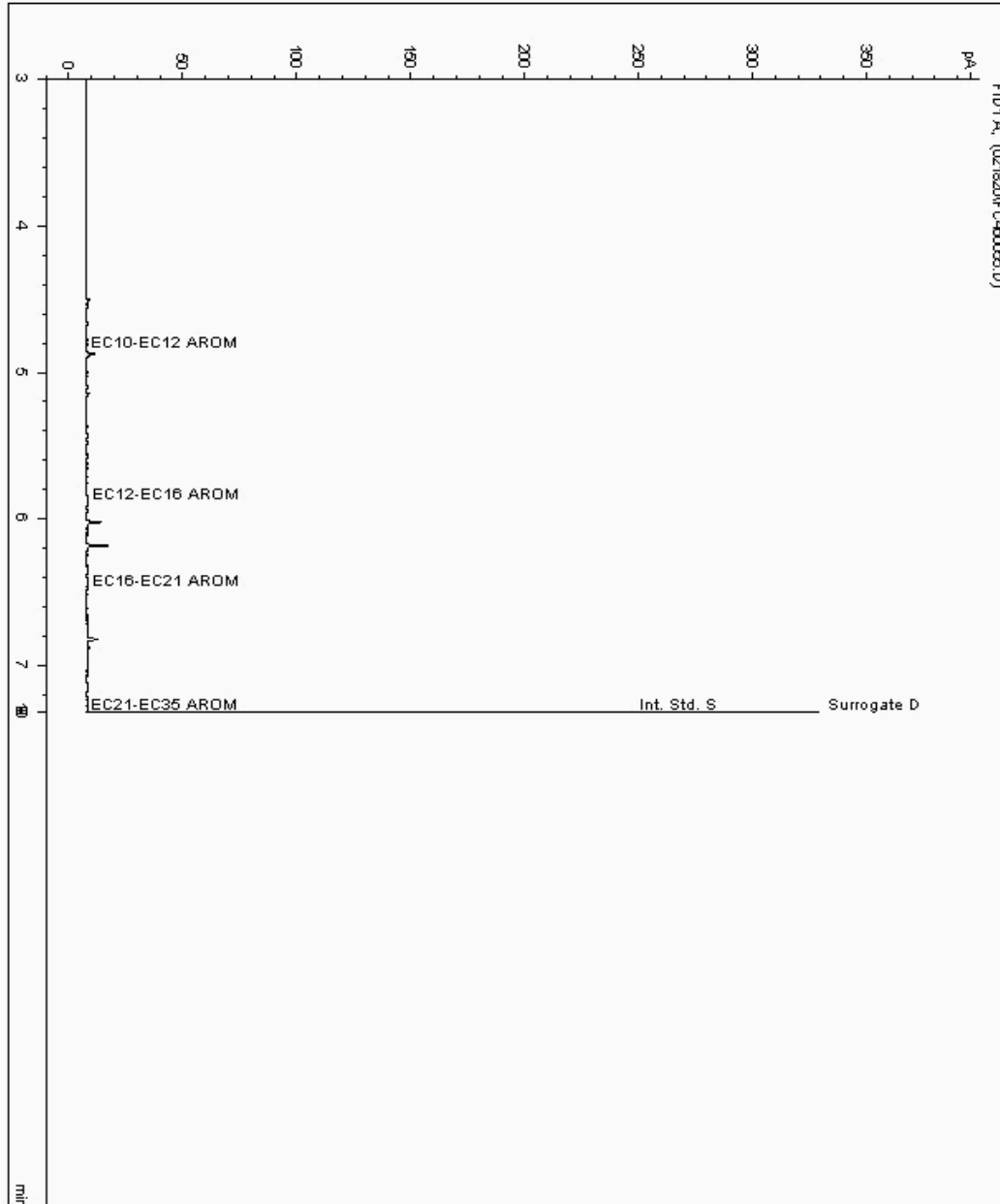
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21677863 Depth : 0.00 - 0.00
Sample ID : BH104

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20352366-
Date Acquired : 19/02/2020 07:03:39 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

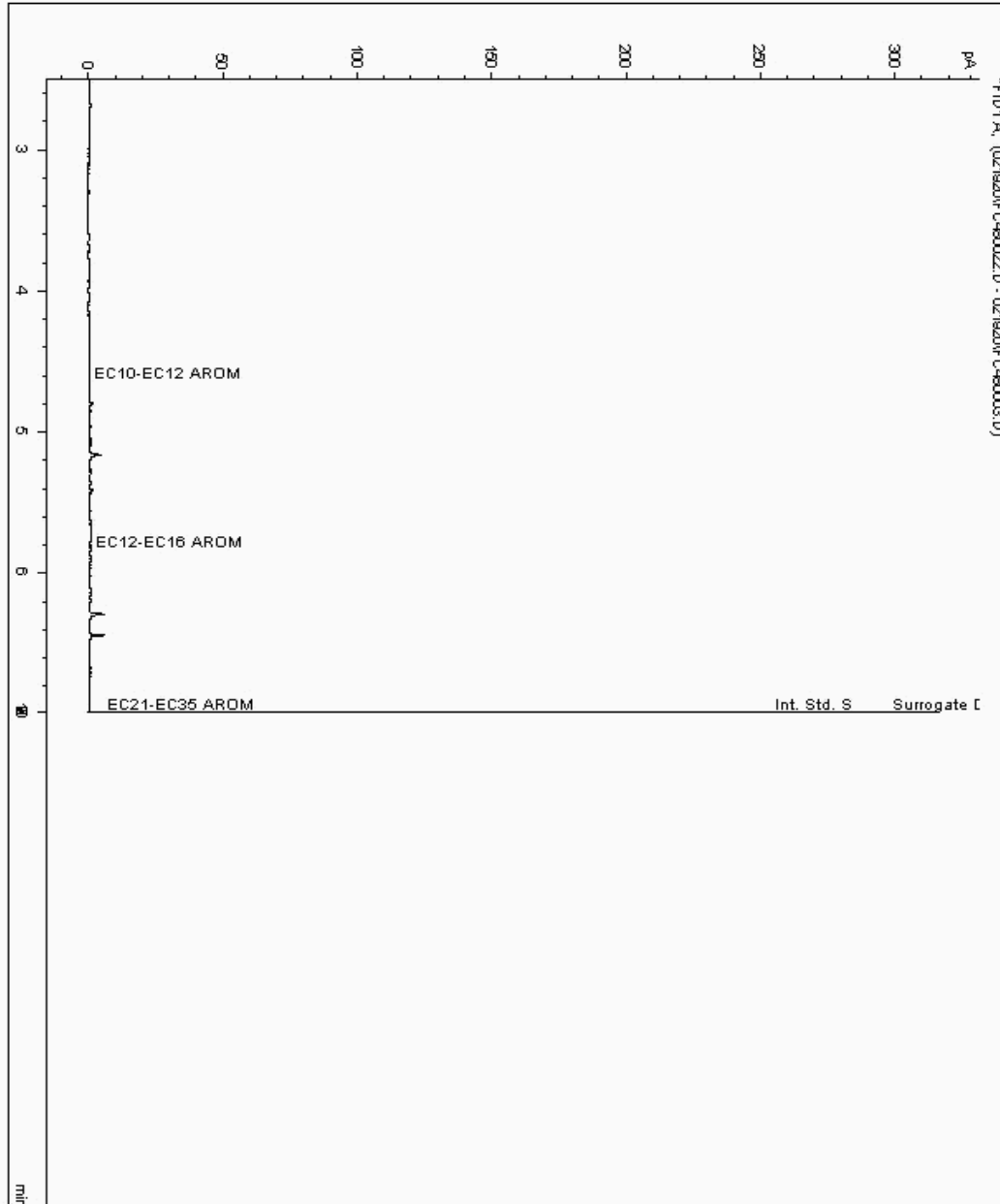
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21677866 Depth : 0.00 - 0.00
Sample ID : BH106

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

Sample Identity: 20353722-
Date Acquired : 19/02/2020 16:06:12 PM
Units : ppb
Dilution : SE BH106[0.00 - 0.00] ->
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

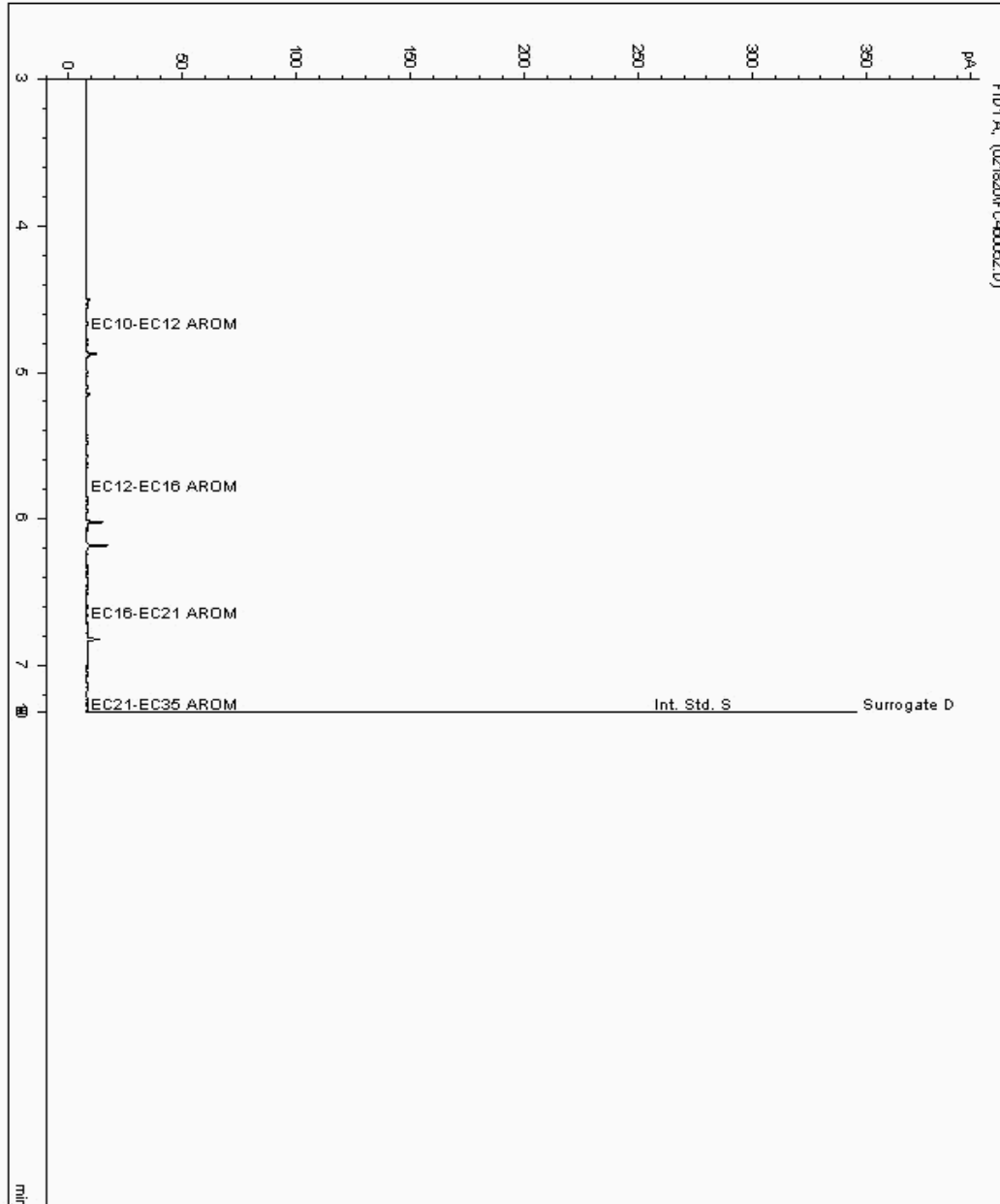
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 21677872
Sample ID : SW02

Depth : 0.00 - 0.00

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20352293-
Date Acquired : 19/02/2020 05:55:14 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

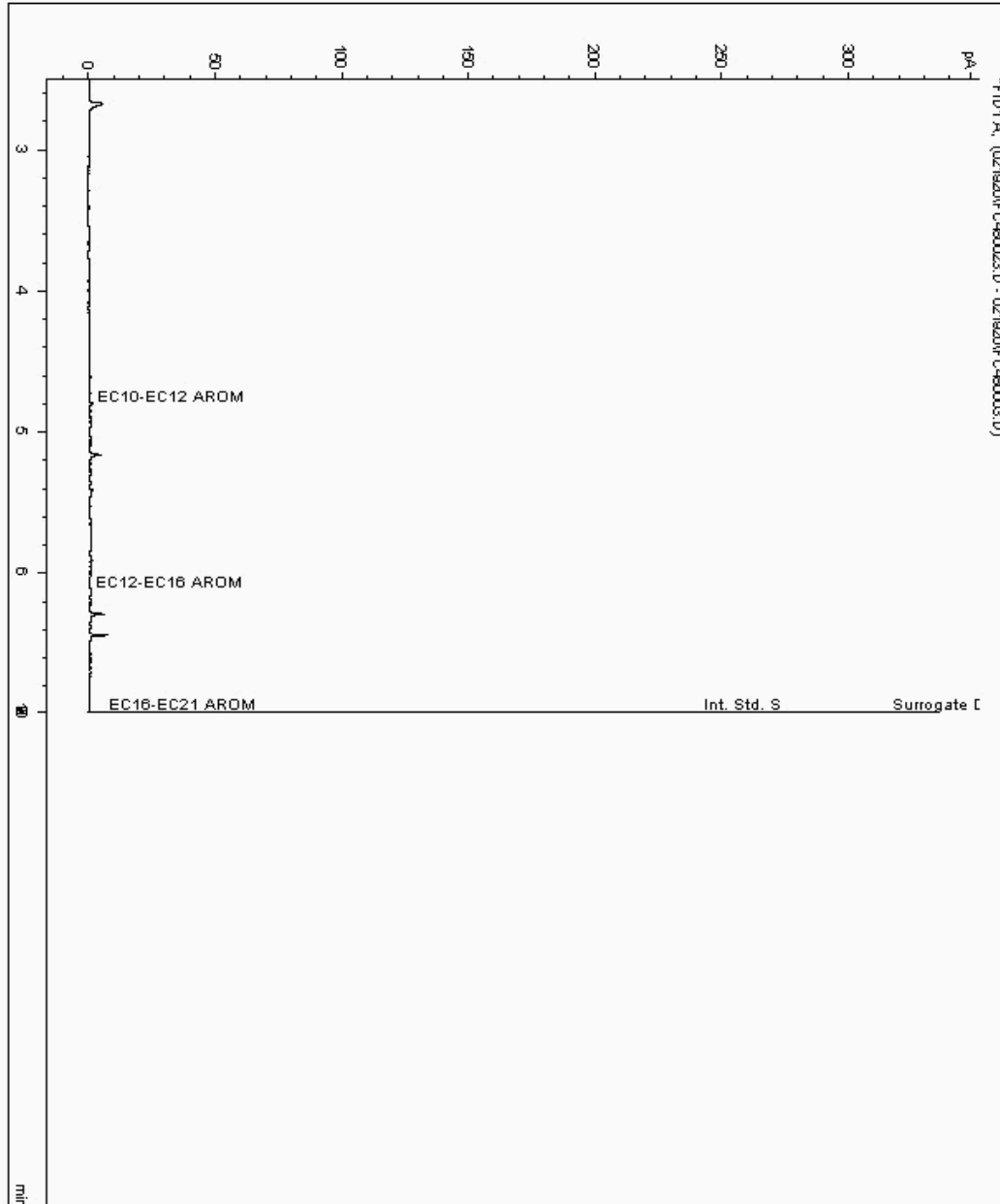
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21677875 Depth : 0.00 - 0.00
Sample ID : SW01

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

Sample Identity: 20353605-
Date Acquired : 19/02/2020 16:28:39 PM
Units : ppb
Dilution : SE SW01[0.00 - 0.00] ->
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

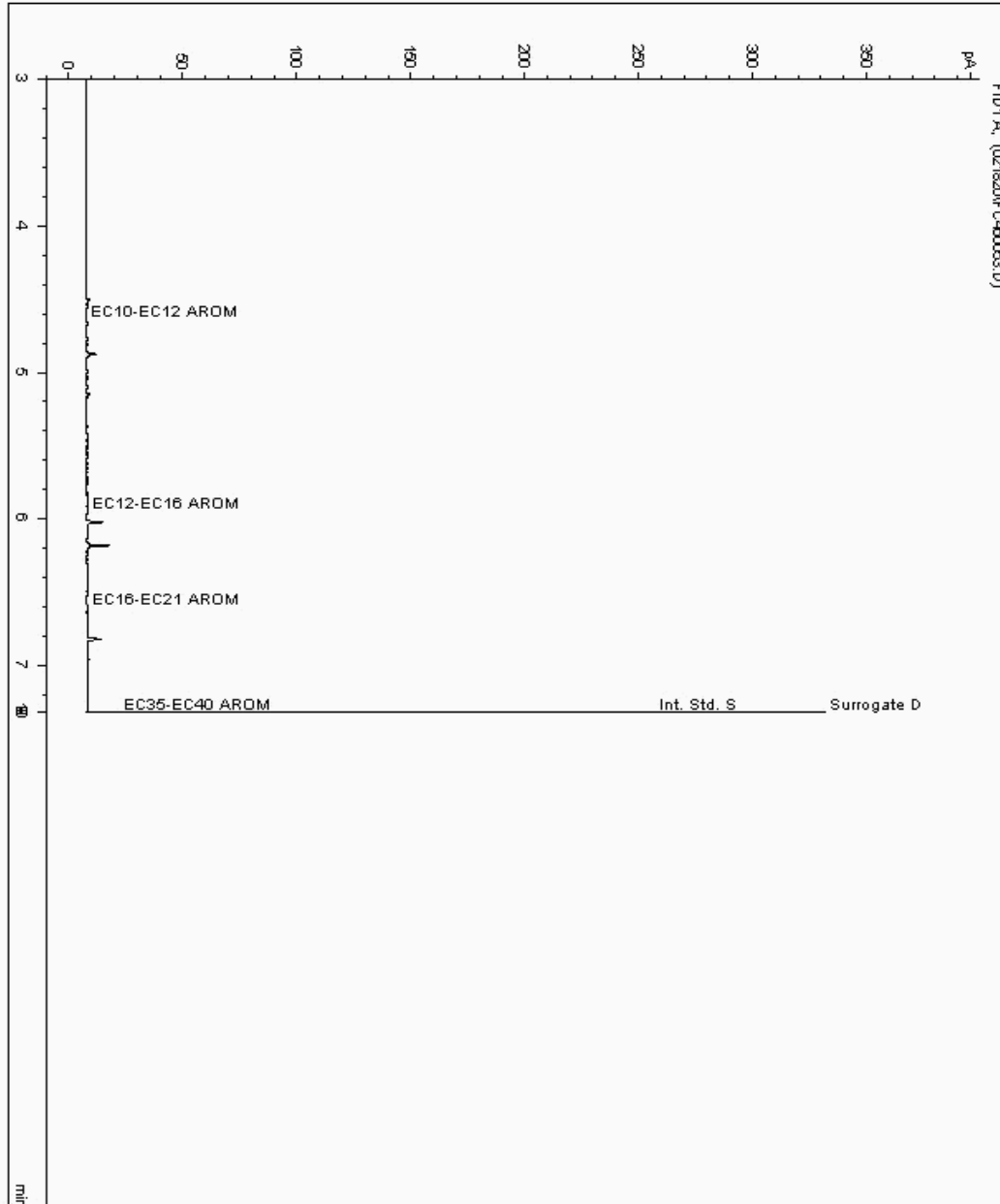
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21678221 Depth : 0.00 - 0.00
Sample ID : BH102B

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20352413-
Date Acquired : 19/02/2020 06:17:58 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

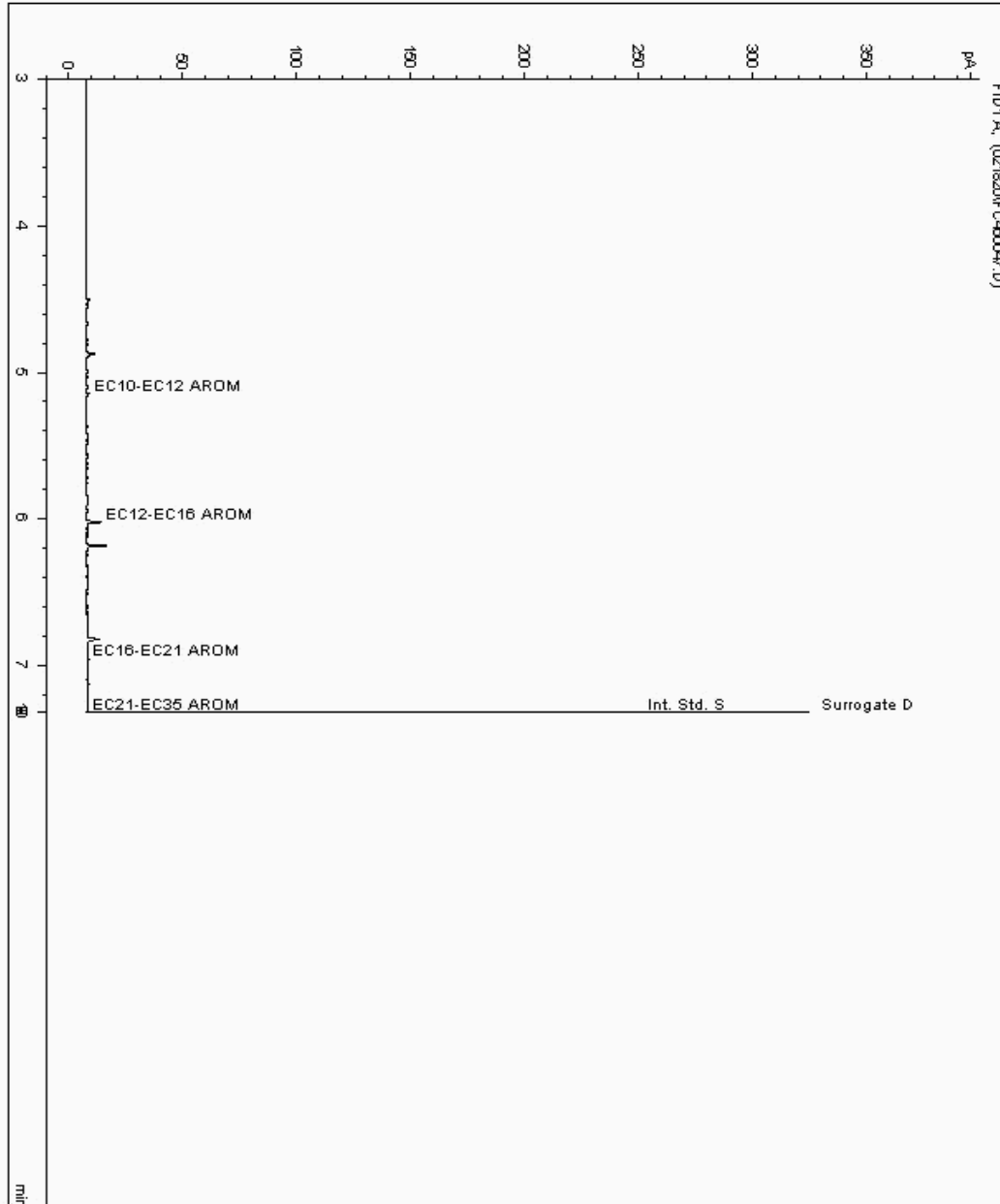
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) Sample No : 21678222 Depth : 0.00 - 0.00
Sample ID : BH105

Speciated TPH - SATS (C12 - C40)

Sample Identity: 20343536-
Date Acquired : 19/02/2020 04:00:49 PM
Units : ppb
Dilution:





CERTIFICATE OF ANALYSIS

Validated

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

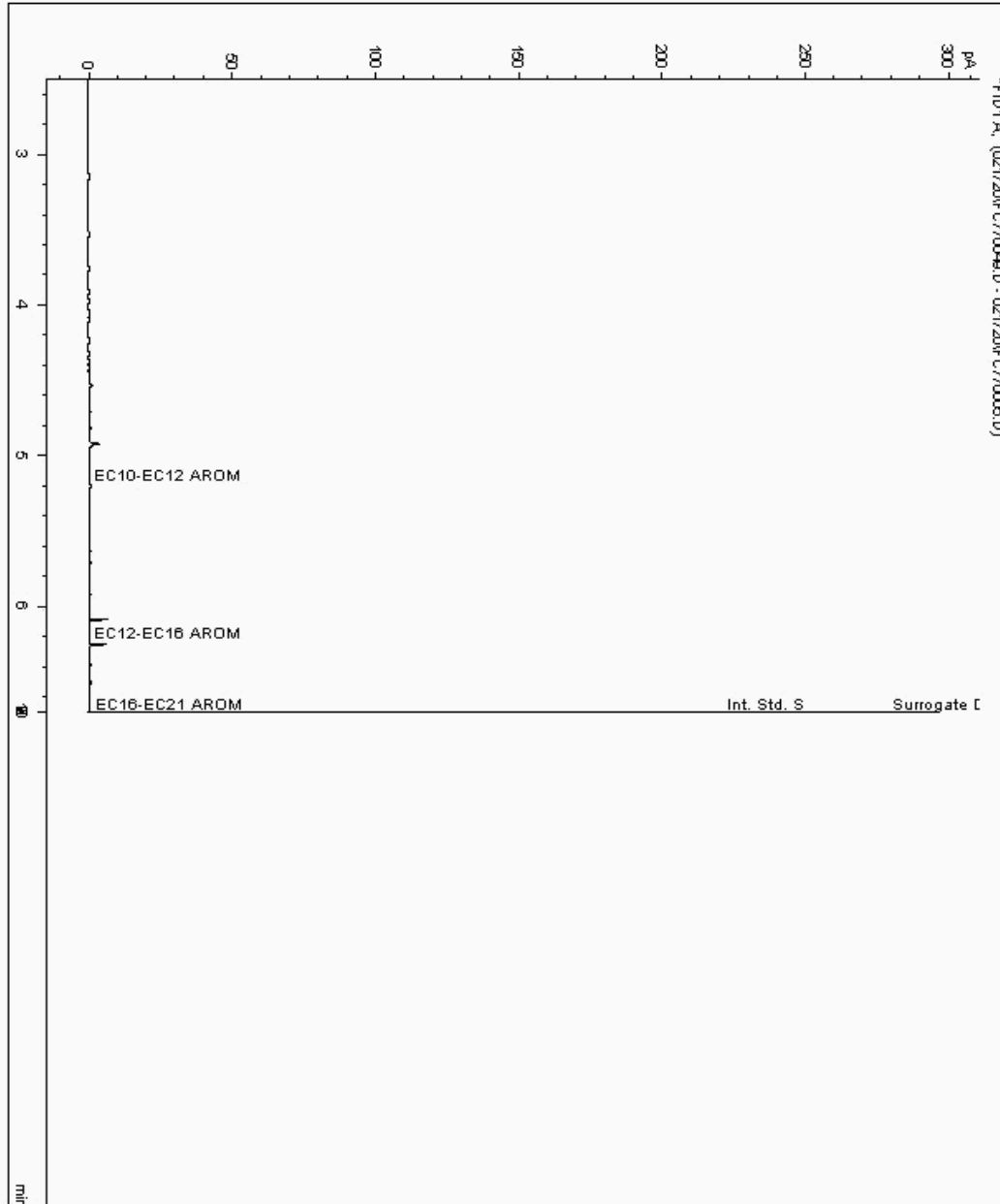
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 21678224
Sample ID : BH203C

Depth : 0.00 - 0.00

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

Sample Identity: 20353653-
Date Acquired : 2/18/2020 5:34:49 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.025





CERTIFICATE OF ANALYSIS

Validated

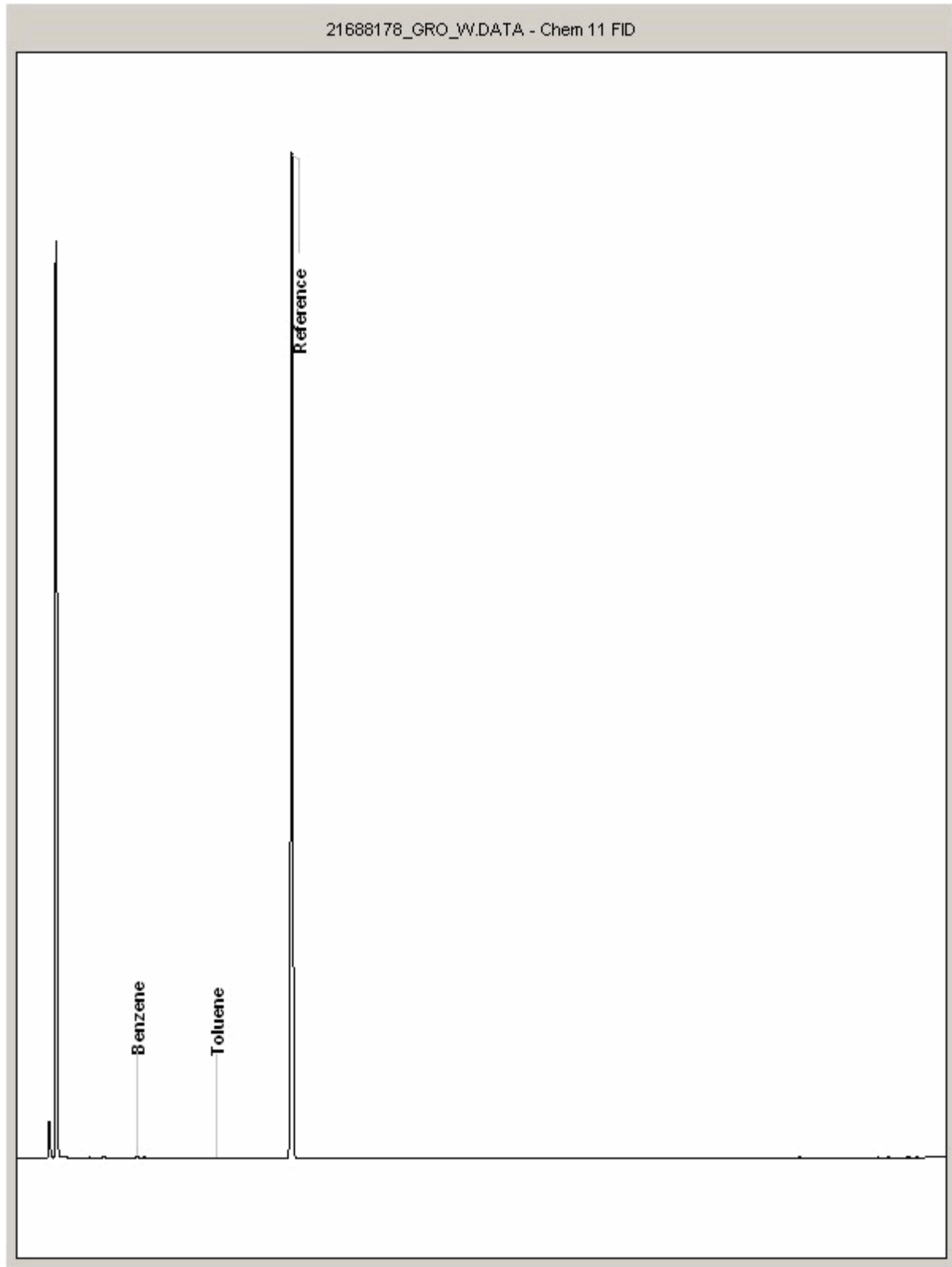
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688178
Sample ID : BH105

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

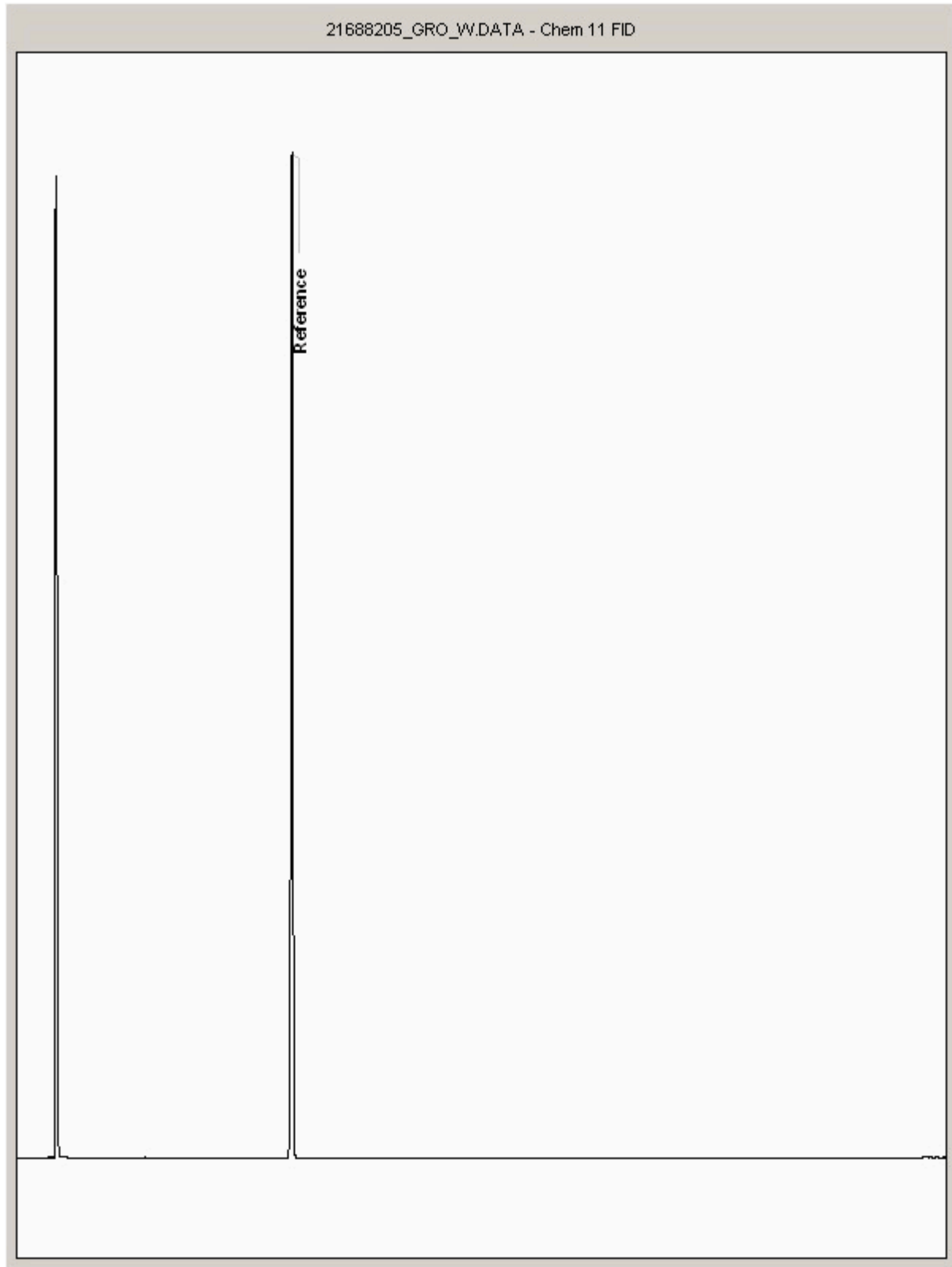
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688205
Sample ID : BH106

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

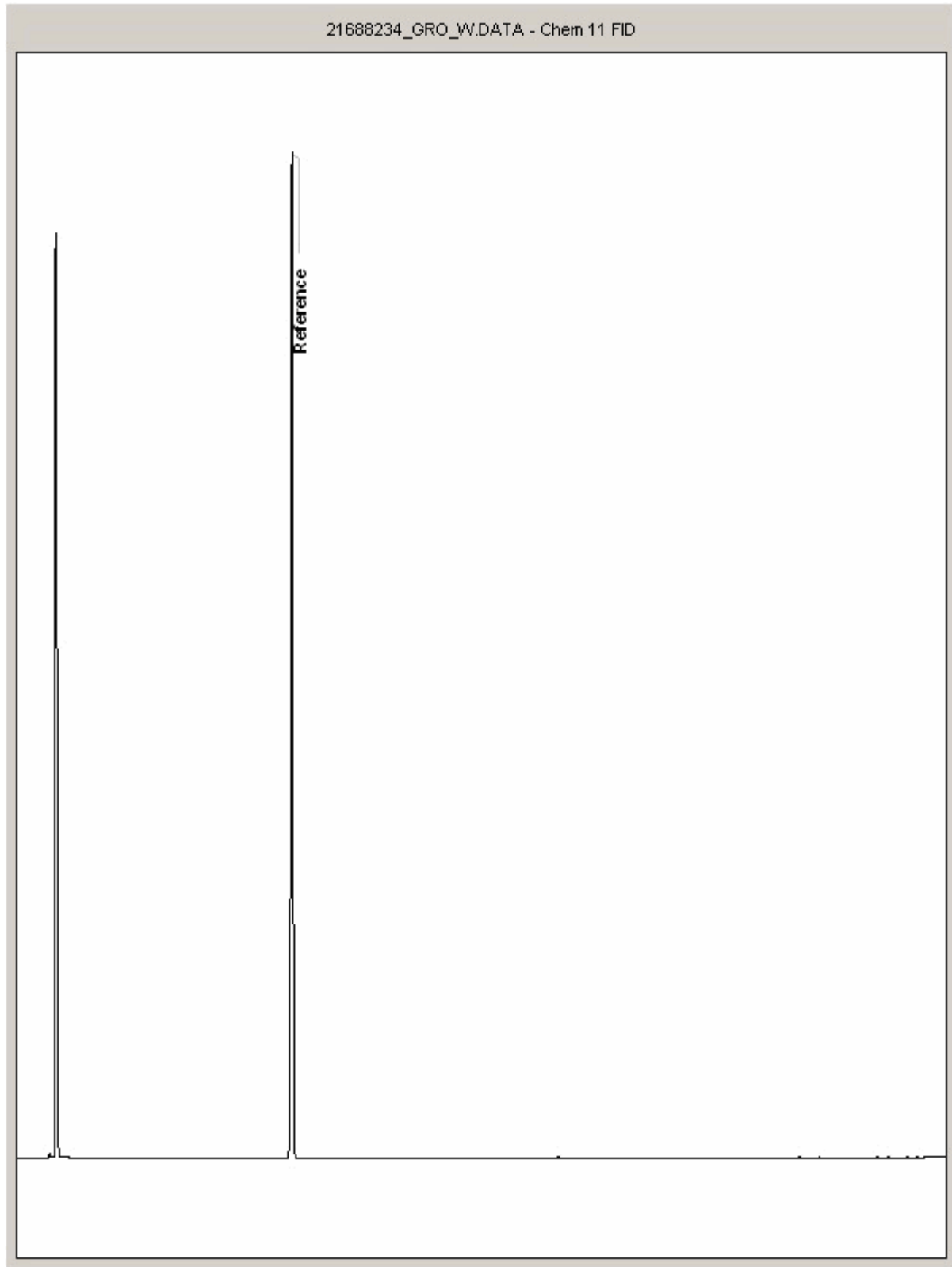
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688234
Sample ID : BH104

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

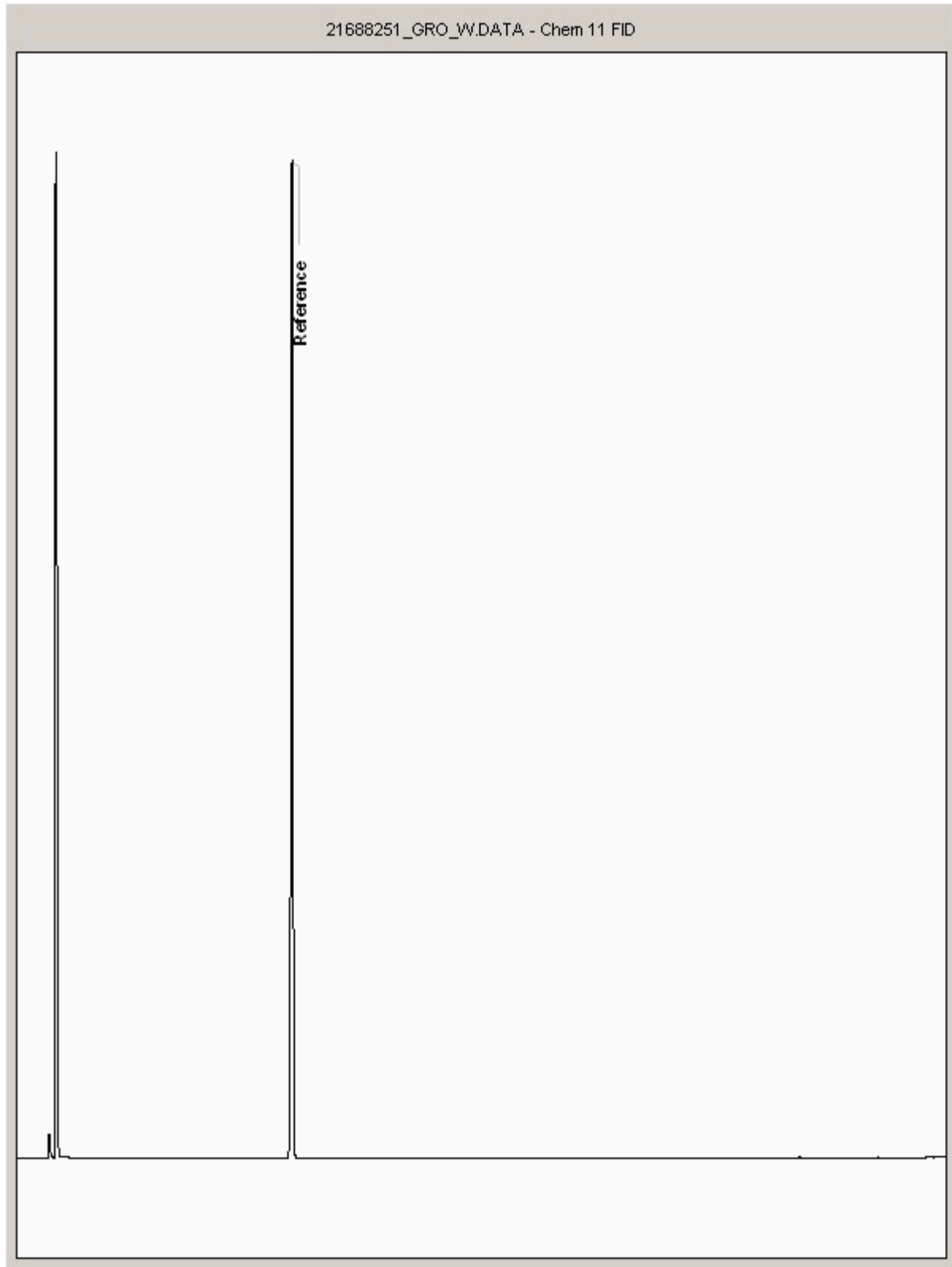
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688251
Sample ID : BH303

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

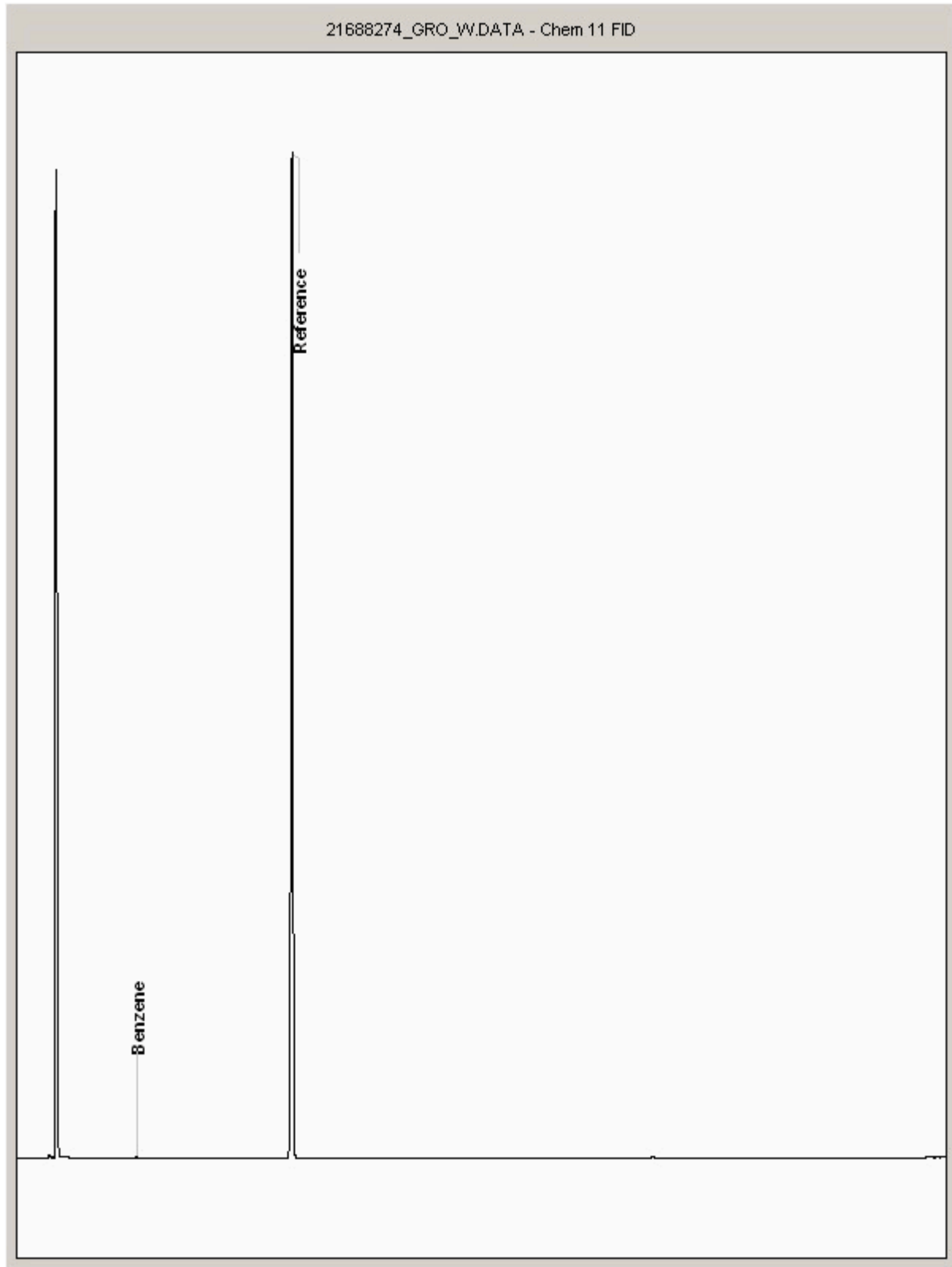
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688274
Sample ID : BH203C

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

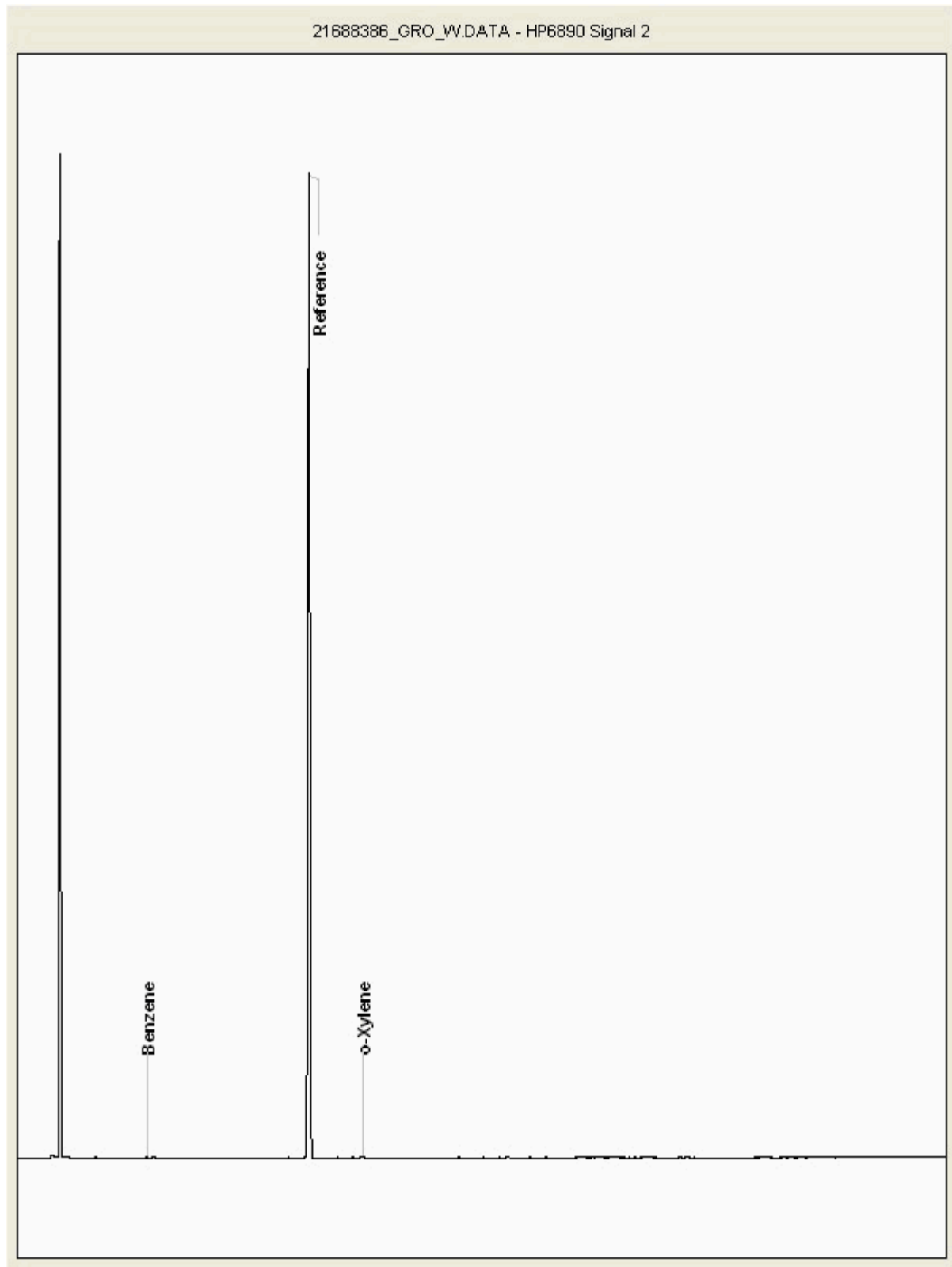
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688386
Sample ID : BH102B

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

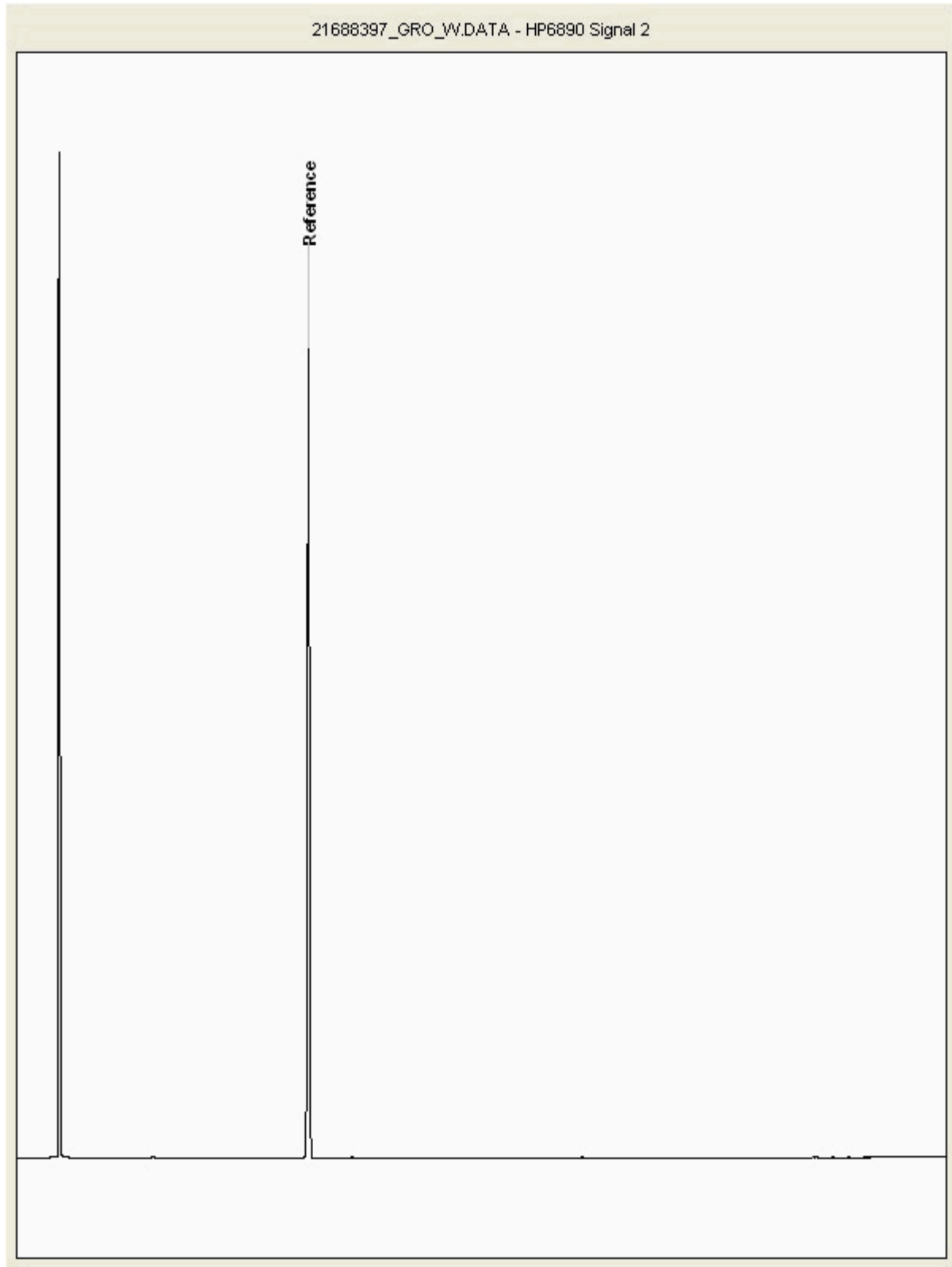
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688397
Sample ID : BH204

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

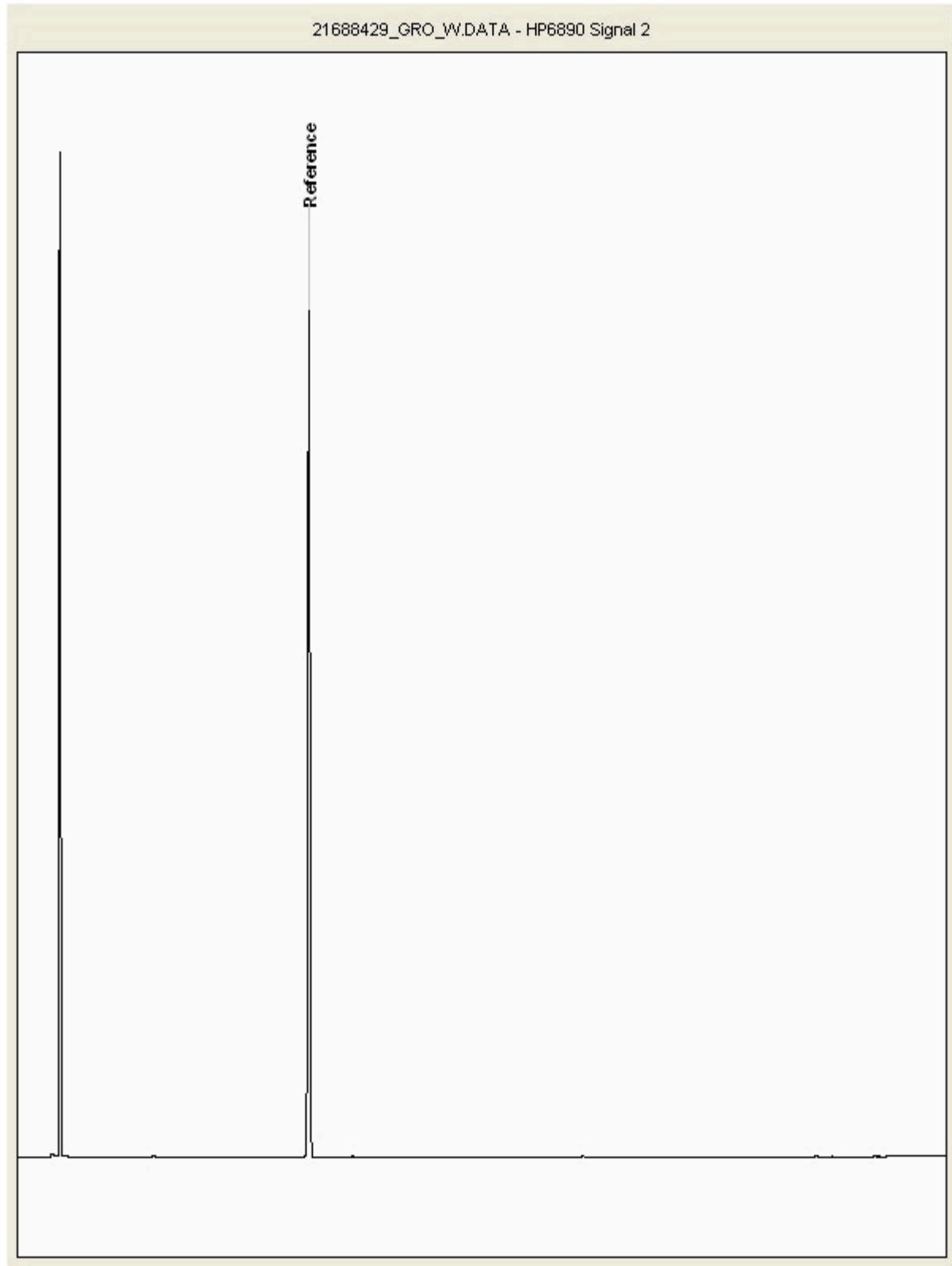
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688429
Sample ID : BH103A

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

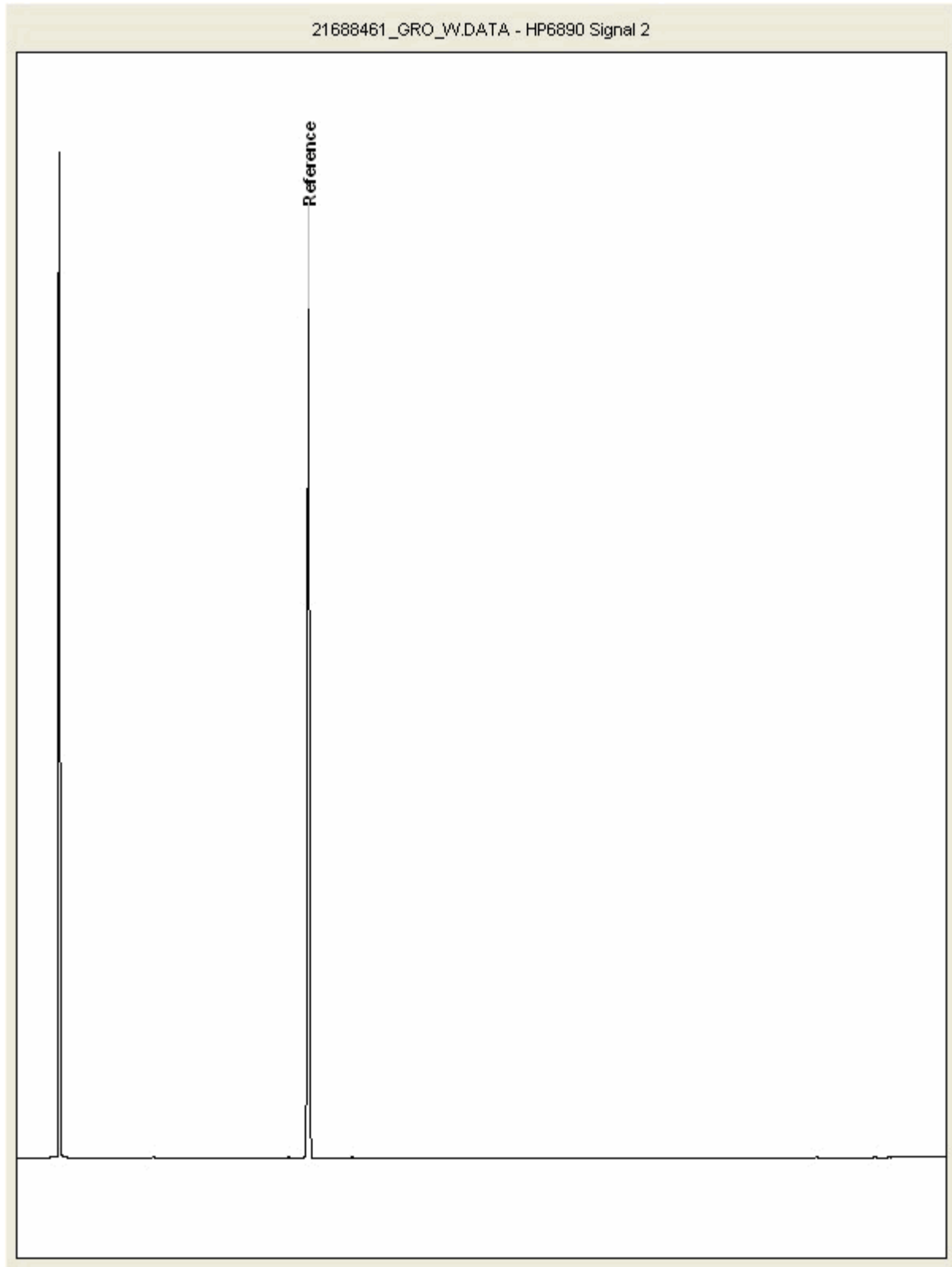
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688461
Sample ID : SW02

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

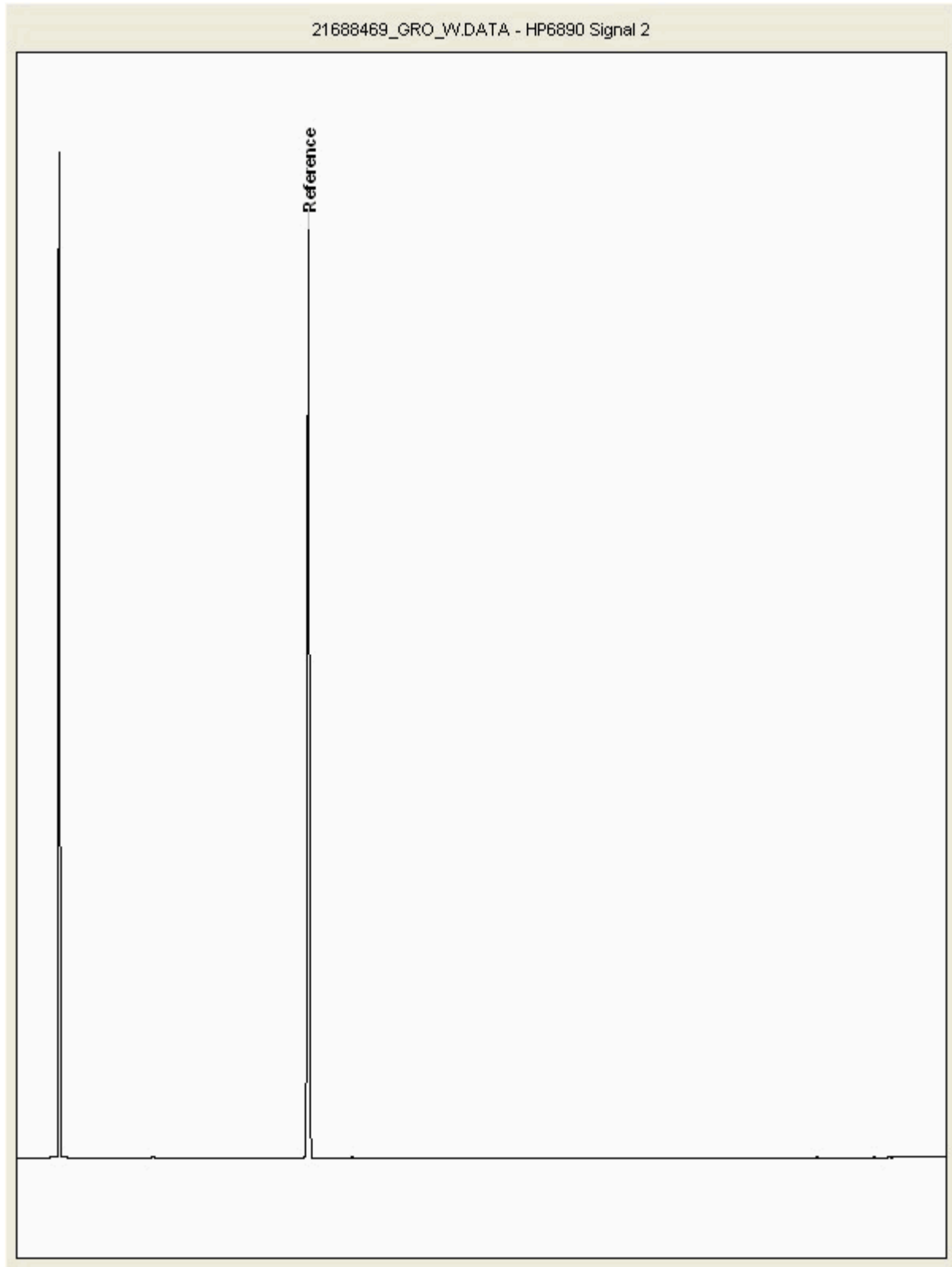
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Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21688469
Sample ID : SW01

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

Validated

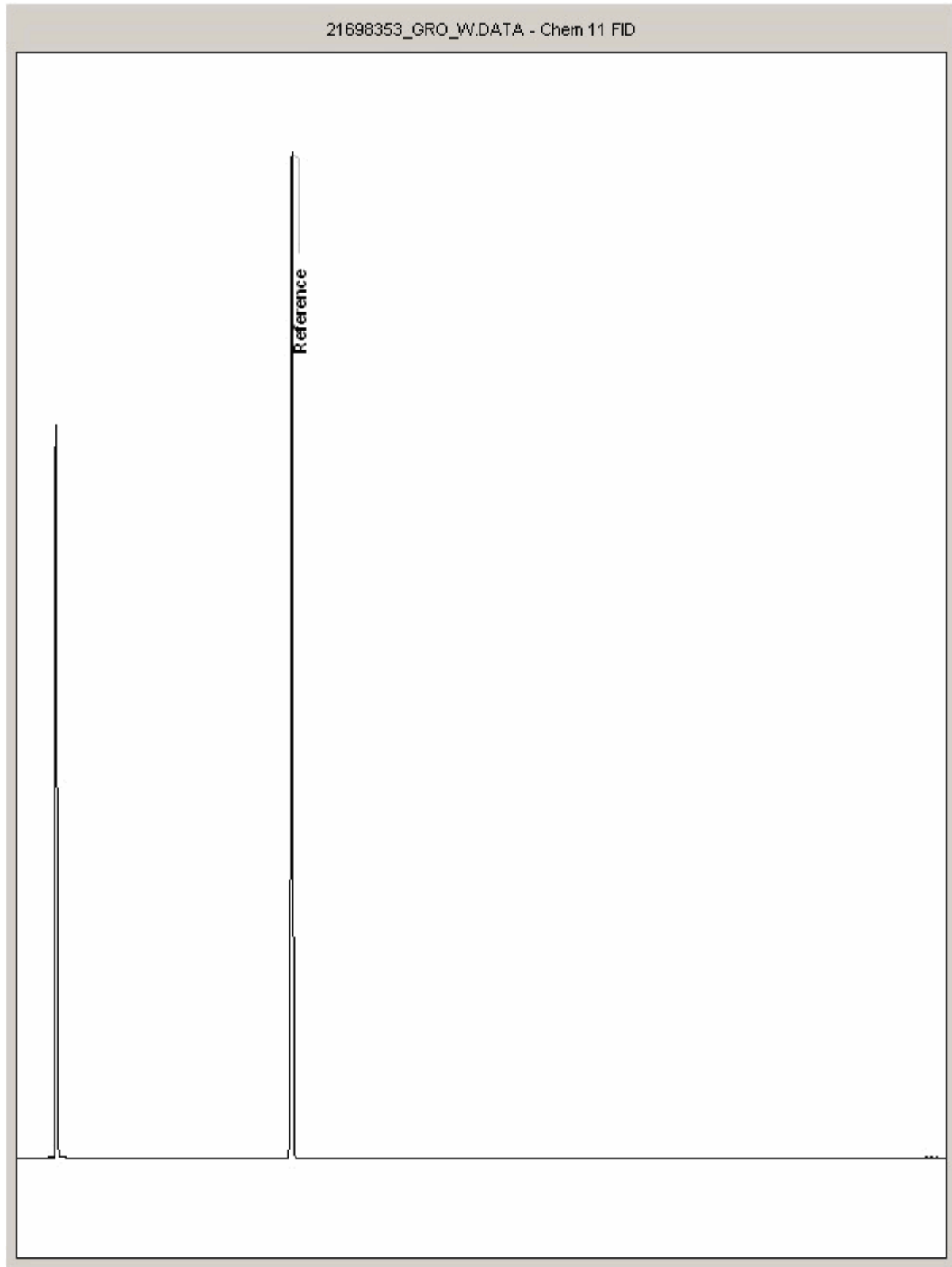
SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 21698353
Sample ID : BH107

Depth : 0.00 - 0.00





CERTIFICATE OF ANALYSIS

SDG:	200212-131	Client Reference:	70031882	Report Number:	542840
Location:	Reading Gasholder No. 4	Order Number:	70031882-3EX	Superseded Report:	542149

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. 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.

3. 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.

4. 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.

5. 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.

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

7. Results relate only to the items tested.

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

9. **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.

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

11. 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.

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

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

14. 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.

15. 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.

16. 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.

17. **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.

18. 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

19. Asbestos

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

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.

Respirable Fibres

Respirable fibres are defined as fibres of <3 µm diameter, longer than 5 µm and with aspect ratios of at least 3:1 that can be inhaled into the lower regions of the lung and are generally acknowledged to be most important predictor of hazard and risk for cancers of the lung.

Standing Committee of Analysts, *The Quantification of Asbestos in Soil* (2107).

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 H

SCREENING TABLES



<0.000 Concentration below the LOD																			
0.000 Concentration in exceedance of the GAC																			
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH101	BH101	BH102B	BH102B	BH103A	BH103A	BH104	BH104	BH105	BH106	BH106	BH107	BH107	BH201
						30/09/2019	10/02/2020	01/10/2019	12/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	11/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	30/09/2019
						MG	MG	AL/RTG	AL/RTG	AL/RTG	AL/RTG	MG/AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	Chalk	Chalk	RTG
Inorganics																			
Nitrite as NO2	µg/l	<50	2360	0	500														
pH	pH Units	<1	8.35	8.35	-	7.84	8.11	7.77	7.63	7.62	7.96	6.98	8.17	7.68	7.4	7.76	7.47	7.67	7.97
Sulphate	µg/l	<2000	635000	0	250000														
Sulphide	µg/l	<10	143	0	-														
Sulphate as %SO4	%	<0.0002	0.125	0.122	0.025		0.0009		0.0658		0.00928		0.0504	0.0123		0.00631		0.00598	
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-														
Cyanide, Total	µg/l	<50	2190	2190	50		<50.000		2190		<50.000		370	90		<50.000		<50.000	
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	500	<300.000	<300.000	26700	15900	7350	5880	37700	20100	6830	11200	6060	<300.000	<300.000	7050
Cyanide, Free	µg/l	<50	50	50	-		<50.000		<50.000		<50.000		<50.000	<50.000		<50.000		<50.000	
Cyanide, Complex	µg/l	<50	2180	2180	-		<50.000		2180		<50.000		370	90		<50.000		<50.000	
Nitrate as NO3	µg/l	<300	72500	45700	50000				4460		572		919	<300.000		31700		45700	
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-														
Chloride	µg/l	<2000	275000	275000	250000	4700	3500	17100	10700	11600	36800	45100	36600	41100	86000	62500	45800	47100	33200
Nitrate as N	µg/l	<67.7	10900	10300	50000	4320	1170	2870		4930		<67.700			3130		10300		<67.700
Cyanide, Total (low level)	µg/l	<5	4430	4430	50	79		4430		67.7		153			39.1		<5.000		124
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	-	3.45		80.3		8.47		3.18			2.89		<2.500		5.96
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-	75.6		4350		59.2		150			36.2		<5.000		119
Filtered (Dissolved) Metals																			
Iron, Ferric	µg/l	<50	22600	22600	-	<50.000	<50.000	1500	726	<50.000	157	22600	1200	410	<50.000	<50.000	<50.000	<50.000	8330
Chromium, Hexavalent	µg/l	<30	30	30	-	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000
Chromium, Trivalent	µg/l	<30	30	0	-														
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	-	<0.010	<0.010	<0.010	0.0196	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0179
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	10	<0.500	0.511	9.93	3.22	2.29	3.03	69.3	26	15.7	0.54	0.66	<0.500	<0.500	23.3
Barium (diss.filt)	µg/l	<0.03	159	94.9	700	26.6	16.4	50.4	29.4	37.6	27.4	79.2	43.9	85.7	39.7	43.9	42.3	39.8	74.3
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	12	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Iron (diss.filt)	µg/l	<19	34600	22800	200	43.6	<19.000	1500	726	28.6	157	22800	18500	8550	30.4	29.8	<19.000	<19.000	8450
Boron (diss.filt)	µg/l	<9.4	397	397	1000	17.4	<10.000	184	78.6	20.4	<10.000	397	271	123	184	158	156	131	142
Iron, Ferrous	µg/l	<100	33100	17300	-	<100.000	<100.000	<100.000	<100.000	<100.000	<100.000	227	17300	8140	<100.000	<100.000	<100.000	<100.000	116
Manganese II	µg/l	<200	1970	0	-														
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	5	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	50	9.02	1.04	1.29	<1.000	<1.000	6.84	<1.000	<1.000	<1.000	<1.000	<1.000	2.36	2.19	1.16
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	2000	3.62	2.77	1.38	1.44	3.24	0.63	<0.300	0.675	0.528	0.752	0.348	0.453	0.301	2.49
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	10	<0.200	<0.200	<0.200	0.228	<0.200	0.222	0.445	<0.200	0.293	<0.200	<0.200	<0.200	<0.200	14.9
Manganese (diss.filt)	µg/l	<0.04	3800	0	50														
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	20	1.72	0.817	5.59	4.19	1.45	0.771	2.19	2.97	1.3	23.7	27.9	2.15	2.33	1.76
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	10	1.93	1.51	4.06	2.31	<1.000	<1.000	<1.000	1.19	<1.000	<1.000	<1.000	1.2	1.38	<1.000
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	<1.000	<1.000	1.73	1.01	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Zinc (diss.filt)	µg/l	<0.41	197	31.4	-	<1.000	4.22	2.64	8.77	31.3	14	2.17	6.27	9.15	4.28	7.71	<1.000	1.86	6.9
Hardness, Total as CaCO3	µg/l		1530000	1530000	-	260000	172000	1000000	850000	239000	219000	895000	1040000	399000	430000	357000	391000	328000	398000
Manganese (tot.unfilt)	µg/l		4270	4270	50	4.09	17.8	1300	1130	135	226	4270	3270	872	485	341	<1.000	2.99	734
Phenols																			
Resorcinol (low level)	µg/l	<0.5	5	5	-		<0.500		<0.500		<1.000		<0.500			2.81			
Catechol (low level)	µg/l	<0.5	5	5	-		<0.500		<0.500		<1.000		<0.500			<0.500			
Resorcinol	µg/l	<10	320	320	-	<10.000		<10.000		<10.000		<10.000			<10.000		<10.000		<10.000
Catechol	µg/l	<10	270	270	-	<10.000		<10.000		<10.000		<10.000			<10.000		<10.000		<10.000
Phenol (low level)	µg/l	<0.5	13.3	13.3	-		<0.500		<0.500		5.14		<0.500			<0.500			
Cresols (low level)	µg/l	<0.5	69.9	69.9	-		<0.500		0.87		16.1		<0.500			0.55			
Phenol	µg/l	<2	3050	3050	-	<2.000		<2.000		<2.000		<2.000			<2.000		<2.000		<2.000
Cresols	µg/l	<6	2360	2360	-	<6.000		10		<6.000		<6.000			<6.000		<6.000		<6.000
Xylenols (low level)	µg/l	<0.5	170	170	-		<0.500		1.92		14.7		<0.500			<0.500			
1-Naphthol (low level)	µg/l	<0.5	5	5	-		<0.500		<0.500		<1.000		<0.500			<0.500			
Xylenols	µg/l	<8	1990	1990	-	<8.000		10		<8.000		<8.000			<8.000		<8.000		<8.000
1-Naphthol	µg/l	<10	30	30	-	<10.000		<10.000		<10.000		<10.000			<10.000		<10.000		<10.000
2,3,5-Trimethylphenol (low level)	µg/l	<0.5	50.2	50.2	-		<0.500		1.48		1.11		<0.500			<0.500			
2,3,5-Trimethylphenol	µg/l	<3	240	240	-	<3.000		<3.000		<3.000		<3.000			<3.000		<3.000		<3.000
2-Isopropylphenol (low level)	µg/l	<0.5	33.8	12.6	-		<0.500		<0.500		<1.000		<0.500						

<0.000 Concentration below the LOD 0.000 Concentration in exceedance of the GAC																			
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH101	BH101	BH102B	BH102B	BH103A	BH103A	BH104	BH104	BH105	BH106	BH106	BH107	BH107	BH201
						30/09/2019	10/02/2020	01/10/2019	12/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	11/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	30/09/2019
						MG	MG	AL/RTG	AL/RTG	AL/RTG	AL/RTG	MG/AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	Chalk	Chalk	RTG
TPH Criteria Working Group (TPH CWG)																			
GRO Surrogate % recovery**	%		114	114	-	89	88	114	108	95	100	88	85	87	89	87	92	112	74
GRO >C5-C12	µg/l	<50	7130	5280	-	151	191	<50.000	78	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	196
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-														
Benzene	µg/l	<7	7	0	-														
Toluene	µg/l	<4	21	0	-														
Ethylbenzene	µg/l	<5	23	0	-														
m,p-Xylene	µg/l	<8	97	0	-														
o-Xylene	µg/l	<3	58	0	-														
Sum of detected Xylenes	µg/l	<11	155	0	-														
Sum of detected BTEX	µg/l	<28	199	0	-														
Aliphatics >C5-C6	µg/l	<10	1920	328	15000	12	46	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	153
Aliphatics >C6-C8	µg/l	<10	105	105	15000	<10.000	14	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	11
Aliphatics >C8-C10	µg/l	<10	840	521	300	72	76	<10.000	13	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	11
Aliphatics >C10-C12	µg/l	<10	2570	1890	300	<10.000	<10.000	10	26	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	300	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	24	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	76	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	100	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	1	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC7-EC8	µg/l	<10	1010	1010	700	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC8-EC10	µg/l	<10	1070	892	500	48	51	<10.000	11	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC10-EC12	µg/l	<10	1710	1260	90	<10.000	<10.000	<10.000	18	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	90	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	90	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	90	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	150	190	42	79	<10.000	<10.000	<10.000	<10.000	102	<10.000	<10.000	<10.000	<10.000	196
Polyaromatic Hydrocarbons (PAHs)																			
Naphthalene (aq)	µg/l	<0.1	2650	2650	-	0.0192	0.0473	0.116	0.0292	<0.010	0.07	0.0695	0.0267	0.0163	<0.010	<0.010	<0.010	0.0149	0.0226
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	0.0263	<0.005	4.01	<0.005	0.282	0.545	<0.025	0.00981	0.0376	0.424	0.0156	0.0135	0.0209	0.0784
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	0.0275	<0.005	2.97	0.156	0.0474	0.0639	<0.025	<0.005	0.0189	0.0767	0.00907	<0.005	<0.005	0.0627
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	-	0.0451	0.0143	0.485	0.044	0.246	0.468	<0.025	0.0118	0.081	0.133	0.0201	<0.005	<0.005	0.219
Anthracene (aq)	µg/l	<0.015	6.06	6.06	-	0.0315	<0.005	0.0802	0.0212	0.0109	0.0242	<0.025	<0.005	0.0117	0.104	<0.005	<0.005	<0.005	0.0442
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	0.0343	0.00972	0.0833	0.0266	0.015	0.0161	0.0388	0.0178	0.0315	0.381	0.00874	0.011	0.00673	0.0675
Fluorene (aq)	µg/l	<0.014	18	17.9	-	0.0307	<0.005	0.181	<0.005	<0.005	0.0274	<0.025	0.00602	<0.005	0.361	<0.005	0.00807	<0.005	0.0317
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	0.0376	0.00736	0.169	0.0426	0.0348	0.0214	<0.025	<0.005	0.0828	<0.050	<0.005	<0.005	0.0156	0.167
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	0.0441	0.0164	0.491	0.0796	0.126	0.282	<0.025	0.0125	0.155	0.142	0.0208	<0.005	<0.005	0.271
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	0.0276	0.00929	0.145	0.0392	0.0305	0.024	<0.025	<0.005	0.0612	<0.050	0.0189	<0.005	0.0146	0.152
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	0.0388	0.0115	0.28	0.0744	0.052	0.0231	<0.025	<0.005	0.122	<0.050	0.0132	<0.005	<0.005	0.477
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5															

3

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH101	BH101	BH102B	BH102B	BH103A	BH103A	BH104	BH104	BH105	BH106	BH106	BH107	BH107	BH201
						30/09/2019	10/02/2020	01/10/2019	12/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	11/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	30/09/2019
						MG	MG	AL/RTG	AL/RTG	AL/RTG	AL/RTG	MG/AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	Chalk	Chalk	RTG
Carbontetrachloride	µg/l	<1	3.59	3.59	3	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.59	2.62	<1.000
1,2-Dichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Benzene	µg/l	<1	2890	2890	1	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	2.28	<1.000	<1.000	<1.000	<1.000	8.35
Trichloroethene	µg/l	<1	155	41.3	10	8.15	25.7	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Toluene	µg/l	<1	1310	1310	700	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Tetrachloroethene	µg/l	<1	956	647	10	647	568	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Ethylbenzene	µg/l	<1	185	185	300	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
m,p-Xylene	µg/l	<1	622	622	-	<1.000	<1.000	2.91	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
o-Xylene	µg/l	<1	380	380	-	<1.000	<1.000	4.12	1.61	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Styrene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Isopropylbenzene	µg/l	<1	16.4	14.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Propylbenzene	µg/l	<1	10.5	10.5	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	<1.000	<1.000	1.71	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Naphthalene	µg/l	<1	4060	4060	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Sum of detected Xylenes	µg/l	<2	1000	1000	500	<2.000	<2.000	7.03	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Dissolved Gases																			
Methane, dissolved	µg/l	<1	11800	9050	-	<2.180	<2.200	8.47	15.9	2.35	4.73	43.9	7.01	248	14.5	<2.220	1.28	<2.210	113
Ethene, dissolved	µg/l	<1	753	63.6	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	9.56	<1.000	<1.000	<1.000	<1.000	63.6
Ethane, dissolved	µg/l	<1	29.4	29.4	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	2.14	<1.000	<1.000	<1.000	<1.000	1.22
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	12600	8090	34400	28900	14300	11100	136000	117000	29400	33900	33900	25100	28500	23400
Propane, dissolved	µg/l	<1	9.04	9.04	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000

		<0.000	Concentration below the LOD																
		0.000	Concentration in exceedance of the GAC																
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH201	BH202	BH203C	BH203C	BH204	BH204	BH301	BH301	BH302A	BH302A	BH303	BH303	WS206	BH101
						10/02/2020	10/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	01/10/2019	10/02/2020	01/10/2019	10/02/2020	01/10/2019	11/02/2020	10/02/2020	24/11/2015
Inorganics						RTG	Chalk	RTG	RTG	RTG	RTG	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	MG	MG
Nitrite as NO2	µg/l	<50	2360	0	500														<50.000
pH	pH Units	<1	8.35	8.35	-	8.19	7.69	7.54	8.23	7.4	7.77	8.07	8.35	7.69	7.76	7.46	8.04	8	8.05
Sulphate	µg/l	<2000	635000	0	250000														16900
Sulphide	µg/l	<10	143	0	-														<10.000
Sulphate as %SO4	%	<0.0002	0.125	0.122	0.025	0.00857	0.00526		0.00503		0.00706		0.00089		0.00671		0.00703	0.122	
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-														1170
Cyanide, Total	µg/l	<50	2190	2190	50	<50.000	1450		<50.000		<50.000		500		200		460	310	78
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	500	6930	130000	2910	1950	<300.000	<300.000	11400	64900	134000	53600	1070	1280	5280	1240
Cyanide, Free	µg/l	<50	50	50	-	<50.000	<50.000		<50.000		<50.000		<50.000		<50.000		<50.000	<50.000	<50.000
Cyanide, Complex	µg/l	<50	2180	2180	-	<50.000	1450		<50.000		<50.000		500		200		460	310	78
Nitrate as NO3	µg/l	<300	72500	45700	50000				33100		42400						39000		<300.000
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-														270000
Chloride	µg/l	<2000	275000	275000	250000	34800	11400	40200	43400	45800	49300	40900	174000	275000	81400	40200	39700	21900	
Nitrate as N	µg/l	<67.7	10900	10300	50000	<67.700	<67.700	2420		7360		2260	<67.700	<67.700	<67.700	6010		343	
Cyanide, Total (low level)	µg/l	<5	4430	4430	50			33.2		50		<5.000		276	456		27.3		
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	-			4.65		<2.500		<2.500			28.5		<2.500		
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-			28.5		<5.000		274		427		26.1			
Filtered (Dissolved) Metals																			
Iron, Ferric	µg/l	<50	22600	22600	-	410	1030	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	146	95	<50.000	247	369	<50.000
Chromium, Hexavalent	µg/l	<30	30	30	-	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000
Chromium, Trivalent	µg/l	<30	30	0	-														<30.000
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	10	20	9.39	<0.500	<0.500	<0.500	<0.500	4.54	7.51	26.4	8.98	<0.500	1.11	1.11	1.67
Barium (diss.filt)	µg/l	<0.03	159	94.9	700	68.4	41.5	34.9	35.3	70.5	61.1	50.3	94.9	84.2	51.6	41.5	39.1	37.2	51.6
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	12	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.070
Iron (diss.filt)	µg/l	<19	34600	22800	200	6860	2370	34.8	44.6	21.8	<19.000	21.6	284	487	372	<19.000	247	640	36.7
Boron (diss.filt)	µg/l	<9.4	397	397	1000	147	142	108	101	132	123	63.9	107	77.4	74.6	127	116	140	34.4
Iron, Ferrous	µg/l	<100	33100	17300	-	6450	1340	<100.000	<100.000	<100.000	<100.000	<100.000	300	341	277	<100.000	<100.000	271	2100
Manganese II	µg/l	<200	1970	0	-														<200.000
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	5	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.100
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	50	<1.000	2.01	<1.000	17.1	<1.000	10.3	<1.000	1	<1.000	<1.000	<1.000	1.36	13	3.63
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	2000	<0.300	<0.300	0.75	1.39	<0.300	1.01	<0.300	<0.300	<0.300	<0.300	<0.300	1.37	0.955	<0.850
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	10	<0.200	<0.200	<0.200	1.65	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	1.26	<0.200	<0.200	<0.020
Manganese (diss.filt)	µg/l	<0.04	3800	0	50														664
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	20	1.22	1.36	1.69	1.91	1.75	1.94	6.2	12.8	22.9	4.05	10.7	6.61	5.89	4.16
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	10	<1.000	<1.000	1.03	1.57	1.04	1.66	23.5	3.27	6.96	1.38	<1.000	1.5	2.13	1.11
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	<1.000	2.07	<1.000	<1.000	<1.000	<1.000	<1.000	8.18	4	<1.000	<1.000	<1.000	<1.000	0.914
Zinc (diss.filt)	µg/l	<0.41	197	31.4	-	<1.000	<1.000	1.22	6.38	1.1	2.39	31.4	1.83	1.7	2.06	5.12	7.06	6.25	2.32
Hardness, Total as CaCO3	µg/l		1530000	1530000	-	344000	329000	354000	314000	359000	338000	176000	116000	231000	260000	383000	291000	1530000	
Manganese (tot.unfilt)	µg/l		4270	4270	50	631	1270	128	174	17.4	60	3690	126	638	132	290	141	1400	
Phenols																			
Resorcinol (low level)	µg/l	<0.5	5	5	-	<5.000	<5.000		<0.500						<5.000			<0.500	
Catechol (low level)	µg/l	<0.5	5	5	-	<5.000	<5.000		<0.500						<5.000			<0.500	
Resorcinol	µg/l	<10	320	320	-			<10.000		<10.000		<10.000	50	320		<10.000			
Catechol	µg/l	<10	270	270	-			<10.000		<10.000		<10.000	10	270		<10.000			
Phenol (low level)	µg/l	<0.5	13.3	13.3	-	<5.000	<5.000		<0.500						13.3			<0.500	
Cresols (low level)	µg/l	<0.5	69.9	69.9	-	<5.000	<5.000		<0.500						69.9			<0.500	
Phenol	µg/l	<2	3050	3050	-			<2.000		<2.000		<2.000	540	3050		<2.000			<2.000
Cresols	µg/l	<6	2360	2360	-			<6.000		<6.000		10	710	2360		<6.000			<6.000
Xylenols (low level)	µg/l	<0.5	170	170	-	<5.000	10.3		0.81						170			<0.500	
1-Naphthol (low level)	µg/l	<0.5	5	5	-	<5.000	<5.000		<0.500						<5.000			<0.500	
Xylenols	µg/l	<8	1990	1990	-			<8.000		<8.000		60	1030	1990		<8.000			<8.000
1-Naphthol	µg/l	<10	30	30	-			<10.000		<10.000		<10.000	<10.000	30		<10.000			
2,3,5-Trimethylphenol (low level)	µg/l	<0.5	50.2	50.2	-	<5.000	16.4		1.53						50.2			<0.500	
2,3,5-Trimethylphenol	µg/l	<3	240	240	-			<3.000		<3.000		<3.000	90	240		<3.000			<3.000
2-Isopropylphenol (low level)	µg/l	<0.5	33.8	12.6	-	<5.000	<5.000		<0.500						12.6			<0.500	<6.000
2-Isopropylphenol	µg/l	<6	1020	1020	-			<6.000		<6.000		<6.000	440	1020		<6.000			<25.000
Phenols, Total Detected 8 Speciated	µg/l	<45	70	70	-			<45.000		<45.000		70				<45.000			
Phenols, Total Detected 5 speciated	µg/l	<25	0	0	-														

		<0.000	Concentration below the LOD																
		0.000	Concentration in exceedance of the GAC																
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH201	BH202	BH203C	BH203C	BH204	BH204	BH301	BH301	BH302A	BH302A	BH303	BH303	WS206	BH101
						10/02/2020	10/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	01/10/2019	10/02/2020	01/10/2019	10/02/2020	01/10/2019	11/02/2020	10/02/2020	24/11/2015
						RTG	Chalk	RTG	RTG	RTG	RTG	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	MG	MG
TPH Criteria Working Group (TPH CWG)																			
GRO Surrogate % recovery**	%		114	114	-	81	94	89	87	80	87	75	84	85	91	93	89	84	89
GRO >C5-C12	µg/l	<50	7130	5280	-	340	4740	<50.000	<50.000	<50.000	<50.000	5280	468	4980	504	<50.000	<50.000	425	425
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-														<3.000
Benzene	µg/l	<7	7	0	-														<7.000
Toluene	µg/l	<4	21	0	-														<4.000
Ethylbenzene	µg/l	<5	23	0	-														<5.000
m,p-Xylene	µg/l	<8	97	0	-														<8.000
o-Xylene	µg/l	<3	58	0	-														<3.000
Sum of detected Xylenes	µg/l	<11	155	0	-														<11.000
Sum of detected BTEX	µg/l	<28	199	0	-														<28.000
Aliphatics >C5-C6	µg/l	<10	1920	328	15000	271	18	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	26	<10.000	<10.000	<10.000	328	323
Aliphatics >C6-C8	µg/l	<10	105	105	15000	11	41	<10.000	<10.000	<10.000	<10.000	61	23	105	25	<10.000	<10.000	18	45
Aliphatics >C8-C10	µg/l	<10	840	521	300	11	521	<10.000	<10.000	<10.000	<10.000	337	27	181	32	<10.000	<10.000	44	23
Aliphatics >C10-C12	µg/l	<10	2570	1890	300	15	1890	<10.000	<10.000	<10.000	<10.000	1840	88	575	104	<10.000	<10.000	<10.000	<10.000
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	300	<10.000	31	<10.000	<10.000	<10.000	<10.000	111	15	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	100	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	322	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	<10.000	31	<10.000	<10.000	<10.000	<10.000	533	15	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	1	13	343	<10.000	<10.000	<10.000	<10.000	417	188	2140	182	<10.000	<10.000	<10.000	<10.000
Aromatics >EC7-EC8	µg/l	<10	1010	1010	700	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	492	20	1010	21	<10.000	<10.000	<10.000	<10.000
Aromatics >EC8-EC10	µg/l	<10	1070	892	500	<10.000	657	<10.000	<10.000	<10.000	<10.000	892	55	564	62	<10.000	<10.000	29	17
Aromatics >EC10-EC12	µg/l	<10	1710	1260	90	10	1260	<10.000	<10.000	<10.000	<10.000	1230	59	383	69	<10.000	<10.000	<10.000	<10.000
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	90	<10.000	818	<10.000	<10.000	<10.000	<10.000	875	781	293	54	<10.000	<10.000	<10.000	<10.000
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	90	<10.000	129	<10.000	<10.000	<10.000	<10.000	347	167	78	14	<10.000	<10.000	<10.000	<10.000
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	90	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	351	<10.000	48	11	<10.000	<10.000	<10.000	<10.000
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	<10.000	947	<10.000	<10.000	<10.000	<10.000	1570	948	419	79	<10.000	<10.000	<10.000	<10.000
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	340	5720	<10.000	<10.000	<10.000	<10.000	7380	1430	5400	583	18	<10.000	424	425
Polyaromatic Hydrocarbons (PAHs)																			
Naphthalene (aq)	µg/l	<0.1	2650	2650	-	0.0328	<1.000	<0.010	0.966	<0.010	<0.010	2650	1290	10.4	72.4	<0.010	0.0183	0.011	<0.100
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	0.152	32.3	<0.005	0.0717	<0.005	<0.005	11.9	4.89	4.47	0.574	<0.005	<0.005	0.00533	<0.015
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	0.0541	2.35	<0.005	0.0109	<0.005	<0.005	2.85	0.597	0.953	0.233	0.0941	0.0185	<0.005	<0.011
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	-	0.0303	0.536	0.00863	0.0282	<0.005	0.0163	6.8	0.566	0.875	0.0768	<0.005	0.00887	0.0261	<0.017
Anthracene (aq)	µg/l	<0.015	6.06	6.06	-	0.00934	1.02	<0.005	0.00544	<0.005	<0.005	6.06	1.11	1.47	0.0521	<0.005	<0.005	0.00532	<0.015
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	0.0101	6.48	<0.005	0.0169	<0.005	0.00824	21.4	5.06	4.85	0.26	<0.005	<0.005	0.00968	<0.022
Fluorene (aq)	µg/l	<0.014	18	17.9	-	0.0208	11.2	<0.005	0.0185	<0.005	<0.005	17.9	6.2	3.26	0.288	<0.005	<0.005	<0.005	<0.014
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	0.0245	<0.500	<0.005	0.0111	<0.005	0.0195	<0.500	<0.250	0.291	0.0363	<0.005	<0.005	0.0183	<0.013
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	0.0905	0.516	0.0133	0.0256	<0.005	0.0235	7.03	0.565	1.11	0.0651	0.0373	0.00975	0.0308	<0.015
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	0.0239	<0.500	<0.005	0.00626	<0.005	0.0188	<0.500	<0.250	0.353	0.0354	<0.005	<0.005	0.0212	0.032
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	0.0488	<0.500	<0.005	0.0221	<0.005	0.0159	<0.500	<0.250	0.121	0.0399	<0.005	0.011	0.037	<0.023
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5	-	0.0219	<0.500	<0.005	0.0132	<0.005	0.00708	<0.500	<0.250	0.0513	0.0202	<0.005	<0.005	0.0149	<0.027
Benzo(a)pyrene (aq)	µg/l	<0.009	1.09	0.365	0.01	0.0365	<0.200	<0.002	0.0164	<0.002	0.0149	<0.200	<0.100	0.15	0.0313	<0.002	0.00632	0.0292	<0.009
Dibenzo(a,h)anthracene (aq)	µg/l	<0.016	0.5	0.5	-	0.00532	<0.500	<0.005	<0.005	<0.005	<0.005	<0.500	<0.250	<0.005	<0.005	<0.005	<0.005	<0.005	<0.016
Benzo(g,h,i)perylene (aq)	µg/l	<0.016	0.546	0.5	-	0.0621	<0.500	<0.005	0.0247	<0.005	0.0219	<0.500	<0.250						

				Max. from October 2019 and February 2020 rounds	DWS	BH201	BH202	BH203C	BH203C	BH204	BH204	BH301	BH301	BH302A	BH302A	BH303	BH303	WS206	BH101
						10/02/2020	10/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	01/10/2019	10/02/2020	01/10/2019	10/02/2020	01/10/2019	11/02/2020	10/02/2020	10/02/2020
Test	Units	LOD	Total Maximum			RTG	Chalk	RTG	RTG	RTG	RTG	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	MG	MG
4-Bromophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
4-Chloro-3-methylphenol (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
4-Chloroaniline (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
4-Chlorophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
4-Methylphenol (aq)	µg/l	<1	524	524	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	187	524	<1.000	<1.000	<1.000	<1.000	
4-Nitroaniline (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
4-Nitrophenol (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Azobenzene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Acenaphthylene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Acenaphthene (aq)	µg/l	<1	20	20	-	<1.000	4.32	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Anthracene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
bis(2-Chloroethyl)ether (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	40	40	-	<2.000	<8.000	<2.000	<2.000	<2.000	<2.000	<40.000	<8.000	<20.000	<2.000	<2.000	<2.000	2.64	
Butylbenzyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Benzo(a)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Benzo(b)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Benzo(k)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Benzo(a)pyrene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Benzo(g,h,i)perylene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Carbazole (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	4.43	<10.000	<1.000	<1.000	<1.000	<1.000	
Chrysene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Dibenzofuran (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
n-Dibutyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Diethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Dibenzo(a,h)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Dimethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
n-Dioctyl phthalate (aq)	µg/l	<5	100	100	-	<5.000	<20.000	<5.000	<5.000	<5.000	<5.000	<100.000	<20.000	<50.000	<5.000	<5.000	<5.000	<5.000	
Fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Fluorene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	5.13	<10.000	<1.000	<1.000	<1.000	<1.000	
Hexachlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Hexachlorobutadiene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Pentachlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Phenol (aq)	µg/l	<1	783	783	-	<1.000	14	<1.000	<1.000	<1.000	<1.000	<20.000	265	783	5.53	<1.000	<1.000	<1.000	
n-Nitroso-n-dipropylamine (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Hexachloroethane (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Nitrobenzene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Naphthalene (aq)	µg/l	<1	2110	2110	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	2110	454	13.9	<1.000	<1.000	<1.000	<1.000	
Isophorone (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Hexachlorocyclopentadiene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Phenanthrene (aq)	µg/l	<1	36.6	36.6	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	36.6	4.2	<10.000	<1.000	<1.000	<1.000	<1.000	
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Pyrene (aq)	µg/l	<1	20	20	-	<1.000	<4.000	<1.000	<1.000	<1.000	<1.000	<20.000	<4.000	<10.000	<1.000	<1.000	<1.000	<1.000	
Volatile Organic Compounds (VOCs)																			
Dibromofluoromethane**	%		129	129	-	113	114	117	117	116	116	106	119	108	114	116	117	108	
Toluene-d8**	%		112	112	-	98.8	97.3	102	108	102	112	99.1	97.5	103	97.8	101	109	98.7	
4-Bromofluorobenzene**	%		106	104	-	101	102	98	104	98.3	97.7	98.3	95.5	104	99.4	98.7	98.2	97.5	
Dichlorodifluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Chloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Vinyl chloride	µg/l	<1	2750	206	0.5	192	2.69	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.34	<1.000	<1.000	<1.000	31.7	
Bromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Chloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Trichlorofluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,1-Dichloroethene	µg/l	<1	4.9	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Carbon disulphide	µg/l	<1	3.51	3.51	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.51	<1.000	<1.000	<1.000	<1.000	
Dichloromethane	µg/l	<3	3	3	-	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	
Methyl tertiary butyl ether (MTBE)	µg/l	<1	1	1	15	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
trans-1,2-Dichloroethene	µg/l	<1	14.3	4.87	50</														

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH201	BH202	BH203C	BH203C	BH204	BH204	BH301	BH301	BH302A	BH302A	BH303	BH303	WS206	BH101
						10/02/2020	10/02/2020	01/10/2019	11/02/2020	01/10/2019	11/02/2020	01/10/2019	10/02/2020	01/10/2019	10/02/2020	01/10/2019	11/02/2020	10/02/2020	24/11/2015
						RTG	Chalk	RTG	RTG	RTG	RTG	Chalk	Chalk	Chalk	Chalk	Chalk	Chalk	MG	MG
Carbontetrachloride	µg/l	<1	3.59	3.59	3	<1.000	<1.000	<1.000	<1.000	1.67	1.41	<1.000	<1.000	<1.000	<1.000	1.13	1.61	<1.000	
1,2-Dichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Benzene	µg/l	<1	2890	2890	1	14.4	400	<1.000	1.19	<1.000	<1.000	721	248	2890	216	3.45	<1.000	2.12	2.15
Trichloroethene	µg/l	<1	155	41.3	10	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	41.3	
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Toluene	µg/l	<1	1310	1310	700	<1.000	8.94	<1.000	<1.000	<1.000	<1.000	819	23.5	1310	21.2	6.47	<1.000	<1.000	4.58
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Tetrachloroethene	µg/l	<1	956	647	10	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	284	
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.4	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Ethylbenzene	µg/l	<1	185	185	300	<1.000	185	<1.000	<1.000	<1.000	<1.000	127	<1.000	86	<1.000	1.25	<1.000	<1.000	<1.000
m,p-Xylene	µg/l	<1	622	622	-	<1.000	58.2	<1.000	<1.000	<1.000	<1.000	622	19.4	310	20.8	2.1	<1.000	<1.000	<1.000
o-Xylene	µg/l	<1	380	380	-	<1.000	53	<1.000	<1.000	<1.000	<1.000	380	11.8	198	13.3	1.56	<1.000	<1.000	<1.000
Styrene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Isopropylbenzene	µg/l	<1	16.4	14.9	-	<1.000	14.9	<1.000	<1.000	<1.000	<1.000	7.73	<1.000	3.75	<1.000	<1.000	<1.000	<1.000	
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Propylbenzene	µg/l	<1	10.5	10.5	-	<1.000	8.81	<1.000	<1.000	<1.000	<1.000	10.5	<1.000	2.85	<1.000	<1.000	<1.000	<1.000	
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	<1.000	36	<1.000	<1.000	<1.000	<1.000	66.6	<1.000	14.4	1.51	<1.000	<1.000	<1.000	
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	<1.000	214	<1.000	<1.000	<1.000	<1.000	228	3.03	53.7	4.4	<1.000	<1.000	<1.000	
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	<1.000	6.25	<1.000	<1.000	<1.000	<1.000	7.9	<1.000	4.45	<1.000	<1.000	<1.000	<1.000	
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.94	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Naphthalene	µg/l	<1	4060	4060	-	<1.000	122	<1.000	2.07	<1.000	<1.000	4060	80.9	743	85.6	<1.000	<1.000	<1.000	
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Sum of detected Xylenes	µg/l	<2	1000	1000	500	<2.000	111	<2.000	<2.000	<2.000	<2.000	1000	31.2	508	34.1	3.66	<2.000	<2.000	<2.000
Dissolved Gases																			
Methane, dissolved	µg/l	<1	11800	9050	-	418	7670	1.19	2.74	1.85	<2.210	419	9050	4620	1800	6.3	<2.220	6.18	302
Ethene, dissolved	µg/l	<1	753	63.6	-	59.5	<19.100	<1.000	<1.000	<1.000	<1.000	<1.000	<19.100	<19.100	<19.100	<1.000	<1.000	<1.000	
Ethane, dissolved	µg/l	<1	29.4	29.4	-	6.87	29.4	<1.000	<1.000	<1.000	<1.000	1.17	<20.500	<20.500	<20.500	<1.000	<1.000	1.32	
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	20000	116000	25100	22200	23700	32400	19200	49500	47900	32000	31000	25600	63900	14800
Propane, dissolved	µg/l	<1	9.04	9.04	-	<1.000	5.94	<1.000	<1.000	<1.000	<1.000	<1.000	2.56	9.04	2.67	<1.000	<1.000	<1.000	

		<0.000	Concentration below the LOD																
		0.000	Concentration in exceedance of the GAC																
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101
						24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
						AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG
Inorganics																			
Nitrite as NO2	µg/l	<50	2360	0	500	<50.000	<50.000	<50.000	2360	463	697	59	100	<50.000	<50.000	2100	687	630	
pH	pH Units	<1	8.35	8.35	-	7.52	7.59	7.13	7.71	7.47	7.7	8.09	7.64	7.93	7.48	7.79	8.11	7.98	7.82
Sulphate	µg/l	<2000	635000	0	250000	635000	174000	373000	79900	317000	66800	24600	522000	224000	358000	80400	176000	62500	
Sulphide	µg/l	<10	143	0	-	121	<10.000	13.9		<10.000	<10.000	<10.000	143	11.9	<10.000	81.3	<10.000	<10.000	
Sulphate as %SO4	%	<0.0002	0.125	0.122	0.025														0.001
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-	53700	15000	47400	1080	40800	400	1020	32100	14600	47300	1050	17200	580	
Cyanide, Total	µg/l	<50	2190	2190	50	352	<50.000	105	<50.000	<50.000	<50.000	83	400	50	103	<50.000	<50.000	<50.000	<50.000
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	500	56800	15800	50300	1140	43200	423	1080	33900	15600	50100	1120	18300	615	<300.000
Cyanide, Free	µg/l	<50	50	50	-	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000
Cyanide, Complex	µg/l	<50	2180	2180	-	352	<50.000	105	<50.000	<50.000	<50.000	83	400	50	103	<50.000	<50.000	<50.000	<50.000
Nitrate as NO3	µg/l	<300	72500	45700	50000	<300.000	<300.000	<300.000	72500	16400	47900	956	<300.000	<300.000	<300.000	66700	19700	44200	
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-	400000	190000	655000	2220000	280000	250000	260000	275000	195000	645000	355000	290000	250000	168000
Chloride	µg/l	<2000	275000	275000	250000														4400
Nitrate as N	µg/l	<67.7	10900	10300	50000														1190
Cyanide, Total (low level)	µg/l	<5	4430	4430	50														
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	-														
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-														
Filtered (Dissolved) Metals																			
Iron, Ferric	µg/l	<50	22600	22600	-	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000
Chromium, Hexavalent	µg/l	<30	30	30	-	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000
Chromium, Trivalent	µg/l	<30	30	0	-	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	10	21.6	9.81	2.7	2.25	1.85	0.235	1.36	12.1	8.74	26.8	1.4	1.43	0.481	<0.500
Barium (diss.filt)	µg/l	<0.03	159	94.9	700	38.5	30.1	43.5	159	66.8	45.7	49.7	26.7	29.1	33.8	73.3	46.8	42.5	18.1
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	12	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.100
Iron (diss.filt)	µg/l	<19	34600	22800	200	317	31.3	68.3	<19.000	<19.000	<19.000	39.2	181	45.5	82.5	<19.000	<19.000	<19.000	20.6
Boron (diss.filt)	µg/l	<9.4	397	397	1000	133	32.5	384	189	162	161	17.8	96	22	353	185	173	150	<10.000
Iron, Ferrous	µg/l	<100	33100	17300	-	4800	890	20900	<100.000	<100.000	<100.000	1500	1290	805	27400	<100.000	<100.000	<100.000	<100.000
Manganese II	µg/l	<200	1970	0	-	417	347	558	304	504	<200.000	750	1970	408	651	<200.000	591	<200.000	
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	5	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.080
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	50	3.57	2.51	9.02	3.7	3.82	4.15	2.89	3.02	2.12	8.1	3.95	3.6	3.07	<1.000
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	2000	3.67	1.47	2.53	1.36	2.03	1.31	1.53	2.18	0.977	1.45	1.01	1.26	1.29	2.98
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	10	0.053	0.033	0.02	0.075	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.07	<0.020	0.037	<0.200
Manganese (diss.filt)	µg/l	<0.04	3800	0	50	1430	240	3800	26.7	693	225	648	1390	208	3380	49.2	541	136	
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	20	10.8	2.13	6.26	2.91	11.8	4.84	21.3	6.95	2.21	5.27	3.55	10.8	3.98	0.999
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	10	5.12	1.57	1.72	20.8	1.83	4.25	0.904	2.73	<0.390	1.05	12.8	1.3	2.84	1.41
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	1.72	0.958	2.58	6.63	1.2	1.31	0.792	1.4	0.768	2.39	3.16	1.26	0.911	<1.000
Zinc (diss.filt)	µg/l	<0.41	197	31.4	-	3.37	1.66	2.69	1.3	3.67	4.69	1.21	2.09	1.74	2.97	1.55	3.28	4.57	2.3
Hardness, Total as CaCO3	µg/l		1530000	1530000	-														
Manganese (tot.unfilt)	µg/l		4270	4270	50														
Phenols																			
Resorcinol (low level)	µg/l	<0.5	5	5	-														
Catechol (low level)	µg/l	<0.5	5	5	-														
Resorcinol	µg/l	<10	320	320	-														<10.000
Catechol	µg/l	<10	270	270	-														<10.000
Phenol (low level)	µg/l	<0.5	13.3	13.3	-														
Cresols (low level)	µg/l	<0.5	69.9	69.9	-														
Phenol	µg/l	<2	3050	3050	-	10	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Cresols	µg/l	<6	2360	2360	-	40	<6.000	<6.000	<6.000	30	<6.000	<6.000	20	<6.000	<6.000	<6.000	<6.000	<6.000	<6.000
Xylenols (low level)	µg/l	<0.5	170	170	-														
1-Naphthol (low level)	µg/l	<0.5	5	5	-														
Xylenols	µg/l	<8	1990	1990	-	<8.000	<8.000	<8.000	<8.000	50	<8.000	<8.000	10	<8.000	<8.000	<8.000	<8.000	<8.000	<8.000
1-Naphthol	µg/l	<10	30	30	-														<10.000
2,3,5-Trimethylphenol (low level)	µg/l	<0.5	50.2	50.2	-														
2,3,5-Trimethylphenol	µg/l	<3	240	240	-	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000
2-Isopropylphenol (low level)	µg/l	<0.5	33.8	12.6	-	10	<6.												

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101
						24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
TPH Criteria Working Group (TPH CWG)						AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG
GRO Surrogate % recovery**	%		114	114	-	87	94	83	86	88	78	83	84	81	77	84	90	87	100
GRO >C5-C12	µg/l	<50	7130	5280	-	855	<50.000	<50.000	<50.000	<50.000	<50.000	1150	394	<50.000	<50.000	<50.000	<50.000	<50.000	292
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	
Benzene	µg/l	<7	7	0	-	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	
Toluene	µg/l	<4	21	0	-	21	<4.000	<4.000	<4.000	<4.000	<4.000	5	9	<4.000	<4.000	<4.000	<4.000	<4.000	
Ethylbenzene	µg/l	<5	23	0	-	23	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	11	<5.000	<5.000	<5.000	<5.000	<5.000	
m,p-Xylene	µg/l	<8	97	0	-	97	<8.000	<8.000	<8.000	<8.000	<8.000	<8.000	45	<8.000	<8.000	<8.000	<8.000	<8.000	
o-Xylene	µg/l	<3	58	0	-	58	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	26	<3.000	<3.000	<3.000	<3.000	<3.000	
Sum of detected Xylenes	µg/l	<11	155	0	-	155	<11.000	<11.000	<11.000	<11.000	<11.000	<11.000	71	<11.000	<11.000	<11.000	<11.000	<11.000	
Sum of detected BTEX	µg/l	<28	199	0	-	199	<28.000	<28.000	<28.000	<28.000	<28.000	<28.000	91	<28.000	<28.000	<28.000	<28.000	<28.000	
Aliphatics >C5-C6	µg/l	<10	1920	328	15000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	998	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	43
Aliphatics >C6-C8	µg/l	<10	105	105	15000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	52	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	38
Aliphatics >C8-C10	µg/l	<10	840	521	300	86	<10.000	<10.000	<10.000	<10.000	<10.000	50	53	<10.000	<10.000	<10.000	<10.000	<10.000	121
Aliphatics >C10-C12	µg/l	<10	2570	1890	300	299	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	121	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	300	42	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	23	<10.000	<10.000	80	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	42	20	37	536	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	107	20	37	616	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	1	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC7-EC8	µg/l	<10	1010	1010	700	21	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC8-EC10	µg/l	<10	1070	892	500	235	<10.000	<10.000	<10.000	<10.000	<10.000	34	118	<10.000	<10.000	<10.000	<10.000	<10.000	81
Aromatics >EC10-EC12	µg/l	<10	1710	1260	90	200	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	80	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	90	260	15	<10.000	<10.000	58	<10.000	<10.000	478	12	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	90	134	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	75	10	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	90	115	<10.000	<10.000	79	<10.000	<10.000	<10.000	16	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	509	15	<10.000	79	58	<10.000	<10.000	569	22	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	1470	35	37	695	61	<10.000	1150	963	22	<10.000	<10.000	<10.000	<10.000	291
Polyaromatic Hydrocarbons (PAHs)																			
Naphthalene (aq)	µg/l	<0.1	2650	2650	-	<1.000	<0.100	<0.100	<0.500	<0.500	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.0269
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	10.2	1.84	0.0172	<0.075	<0.075	<0.015	<0.015	13.7	2.14	<0.015	<0.015	<0.015	<0.015	<0.005
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	13.3	0.147	0.0156	<0.055	<0.055	<0.011	<0.011	20.1	0.208	<0.011	<0.011	<0.011	<0.011	<0.005
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	-	3.45	0.432	0.0596	<0.085	<0.085	<0.017	<0.017	1.02	0.603	<0.017	<0.017	<0.017	<0.017	<0.005
Anthracene (aq)	µg/l	<0.015	6.06	6.06	-	5.05	0.0338	<0.015	<0.075	<0.075	<0.015	<0.015	1.76	0.0262	<0.015	<0.015	<0.015	<0.015	<0.005
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	12.5	0.0237	0.0361	<0.110	<0.110	<0.022	<0.022	0.131	<0.022	<0.022	<0.022	<0.022	<0.022	<0.005
Fluorene (aq)	µg/l	<0.014	18	17.9	-	18	0.564	0.0162	<0.070	<0.070	<0.014	<0.014	11.1	0.426	0.0153	<0.014	<0.014	<0.014	<0.005
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	1.4	0.0203	0.025	<0.065	<0.065	<0.013	<0.013	0.11	0.0333	<0.013	<0.013	<0.013	<0.013	<0.005
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	4.15	0.211	0.0639	0.0753	<0.075	<0.015	<0.015	0.924	0.235	<0.015	<0.015	<0.015	<0.015	<0.005
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	1.46	<0.017	<0.017	<0.085	<0.085	<0.017	<0.017	0.15	0.0322	<0.017	<0.017	<0.017	<0.017	<0.005
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	0.804	0.0313	0.0411	<0.115	<0.115	<0.023	<0.023	0.0651	0.0444	<0.023	<0.023	<0.023	<0.023	<0.005
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5	-	0.386	<0.027	<0.027	<0.135	<0.135	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.005
Benzo(a)pyrene (aq)	µg/l	<0.009	1.09	0.365	0.01	1.09	0.0246	0.0341	0.0553	<0.045	<0.009	<0.009	0.0599	0.0262	<0.009	<0.009	<0.009	<0.009	<0.002
Dibenzo(a,h)anthracene (aq)	µg/l	<0.016	0.5	0.5	-	<0.160	<0.016	<0.016	<0.080	<0.080	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.005
Benzo(g,h,i)perylene (aq)	µg/l	<0.016	0.546	0.5	-	0.546	0.0218	0.0224	<0.080	<0.080	<0.016	<0.016	0.0261	0.0217	<0.016	<0.016	<0.016	<0.016	<0.005
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<0.014	0.518	0.5	-	0.518	0.0192	0.0212	<0.070	<0.070	<0.014	<0.014	0.0159	<0.014	<0.014	<0.014	<0.014	<0.014	<0.005
PAH sum of 4 (calculated)	µg/l		2.254	2	0.1	2.254	0.0993	0.1117	<0.400	<0.400	<0.080	<0.080	0.1341	0.1071	<0.080	<0.080	<0.080	<0.080	<0.020
PAH, Total Detected USEPA 16 (aq)	µg/l	<0.344	2720	2720	-	73	3.37	0.352	<1.720	<1.720	<0.344	<0.344	49.2	3.79	<0.344	<0.344	<0.344	<0.344	<0.082
Semi-Volatile Organic Compounds (SVOCs)																			
1,2,4-Trichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4,5-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4,6-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4-Dichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4-Dimethylphenol (aq)	µg/l	<1	22.5	22.5	-	6.39	<1.000		<1.000			<1.000	1.99	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4-Dinitrotoluene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,6-Dinitrotoluene (aq)	µg/l	<1	20																

						<0.000																
						0.000																
						Concentration below the LOD																
						Concentration in exceedance of the GAC																
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101			
						24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
						AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	Chalk	Chalk	MG	
4-Bromophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Chloro-3-methylphenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Chloroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Chlorophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Methylphenol (aq)	µg/l	<1	524	524	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Nitroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Nitrophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Azobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Acenaphthylene (aq)	µg/l	<1	20	20	-	15.3	<1.000		<1.000			<1.000	1.63	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Acenaphthene (aq)	µg/l	<1	20	20	-	8.49	1.51		<1.000			<1.000	2.06	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Anthracene (aq)	µg/l	<1	20	20	-	4.32	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
bis(2-Chloroethyl)ether (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	40	40	-	<2.000	<2.000		2.57			<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000			
Butylbenzyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(a)anthracene (aq)	µg/l	<1	20	20	-	1.42	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(b)fluoranthene (aq)	µg/l	<1	20	20	-	1.14	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(k)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(a)pyrene (aq)	µg/l	<1	20	20	-	1.01	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(g,h,i)perylene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Carbazole (aq)	µg/l	<1	20	20	-	4.83	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Chrysene (aq)	µg/l	<1	20	20	-	1.43	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Dibenzofuran (aq)	µg/l	<1	20	20	-	3.36	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
n-Dibutyl phthalate (aq)	µg/l	<1	20	20	-	1.02	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Diethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Dibenzo(a,h)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Dimethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
n-Dioctyl phthalate (aq)	µg/l	<5	100	100	-	<5.000	<5.000		<5.000			<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000			
Fluoranthene (aq)	µg/l	<1	20	20	-	3.18	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Fluorene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachlorobutadiene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Pentachlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Phenol (aq)	µg/l	<1	783	783	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
n-Nitroso-n-dipropylamine (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachloroethane (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Nitrobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Naphthalene (aq)	µg/l	<1	2110	2110	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Isophorone (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachlorocyclopentadiene (aq)	µg/l																					

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101
						24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
						AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG
Carbontetrachloride	µg/l	<1	3.59	3.59	3	<1.000	<1.000		1.46			<1.000	<1.000	<1.000	<1.000	1.28	<1.000	2.19	<1.000
1,2-Dichloroethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Benzene	µg/l	<1	2890	2890	1	4.78	<1.000	<1.000	<1.000	2.97	<1.000	4.63	2.26	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Trichloroethene	µg/l	<1	155	41.3	10	<1.000	<1.000		2			155	<1.000	<1.000	<1.000	1.84	<1.000	<1.000	36.4
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Toluene	µg/l	<1	1310	1310	700	24.4	<1.000	<1.000	<1.000	<1.000	<1.000	5.13	9.46	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Tetrachloroethene	µg/l	<1	956	647	10	<1.000	<1.000		6.33			293	<1.000	<1.000	<1.000	6.05	<1.000	<1.000	956
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Ethylbenzene	µg/l	<1	185	185	300	22.5	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	9.27	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
m,p-Xylene	µg/l	<1	622	622	-	95	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	37.7	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
o-Xylene	µg/l	<1	380	380	-	54	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	18.3	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Styrene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Isopropylbenzene	µg/l	<1	16.4	14.9	-	1.29	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Propylbenzene	µg/l	<1	10.5	10.5	-	3.2	<1.000		<1.000			<1.000	1.7	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	11.9	<1.000		<1.000			<1.000	4.82	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	42.6	<1.000		<1.000			<1.000	14.2	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Naphthalene	µg/l	<1	4060	4060	-	38.6	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Sum of detected Xylenes	µg/l	<2	1000	1000	500	149.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	56.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Dissolved Gases																			
Methane, dissolved	µg/l	<1	11800	9050	-	19	8.37	62.5	21.5	25.4	<2.220	365	9.86	<2.220	82.3	36	11.4	2.82	<2.230
Ethene, dissolved	µg/l	<1	753	63.6	-														<1.000
Ethane, dissolved	µg/l	<1	29.4	29.4	-														<1.000
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	31500	11800	111000	18100	32200	18900	20400	24000	12500	119000	17400	28000	22600	7860
Propane, dissolved	µg/l	<1	9.04	9.04	-														<1.000

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				Max. from October 2019 and February 2020 rounds		BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
Test	Units	LOD	Total Maximum		DWS	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
Inorganics						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
Nitrite as NO2	µg/l	<50	2360	0	500											
pH	pH Units	<1	8.35	8.35	-	7.94	8.05	7.78	7.76	8.05	8.3	7.58	7.95	7.25	7.48	7.44
Sulphate	µg/l	<2000	635000	0	250000											
Sulphide	µg/l	<10	143	0	-											
Sulphate as %SO4	%	<0.0002	0.125	0.122	0.025	0.0668	0.0316	0.0141	0.0111	0.00496	0.00535	0.019	0.00586	0.0426	0.125	0.00408
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-											
Cyanide, Total	µg/l	<50	2190	2190	50	1230	210	150	190	<50.000	<50.000	<50.000	<50.000	150	695	2160
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	500	15600	21200	6760	7350	2020	665	29400	<300.000	35000	8250	179000
Cyanide, Free	µg/l	<50	50	50	-	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000
Cyanide, Complex	µg/l	<50	2180	2180	-	1200	180	150	160	<50.000	<50.000	<50.000	<50.000	150	672	2140
Nitrate as NO3	µg/l	<300	72500	45700	50000											
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-	849000	539000	390000	347000	344000	348000	470000	348000	1080000	1630000	
Chloride	µg/l	<2000	275000	275000	250000	20800	60700	40600	33700	44000	47300	90800	47300	40000	43100	13600
Nitrate as N	µg/l	<67.7	10900	10300	50000	1140	3740	<67.700	<67.700	6810	8230	6340	10900	<67.700	<67.700	<67.700
Cyanide, Total (low level)	µg/l	<5	4430	4430	50											
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	-											
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-											
Filtered (Dissolved) Metals																
Iron, Ferric	µg/l	<50	22600	22600	-	1370	223	270	170	214	<50.000	72.2	<50.000	1500	716	1300
Chromium, Hexavalent	µg/l	<30	30	30	-	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000
Chromium, Trivalent	µg/l	<30	30	0	-											
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	-	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0179	<0.010	<0.010
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	10	5.2	2.1	10.4	11.1	0.509	<0.500	1.55	<0.500	68.5	2	14.5
Barium (diss.filt)	µg/l	<0.03	159	94.9	700	31.5	84.1	66.6	68.7	35.8	62.1	46.9	43.5	69.9	83.5	67.2
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	12	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Iron (diss.filt)	µg/l	<19	34600	22800	200	1370	223	7500	8000	214	20.5	73.5	<19.000	34600	1430	6470
Boron (diss.filt)	µg/l	<9.4	397	397	1000	96.9	24.7	145	149	115	123	177	149	296	119	217
Iron, Ferrous	µg/l	<100	33100	17300	-	<100.000	<100.000	7230	7830	<100.000	<100.000	<100.000	<100.000	33100	714	5170
Manganese II	µg/l	<200	1970	0	-											
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	5	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	50	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.84	<1.000	<1.000	3.35
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	2000	4.93	<0.300	0.572	0.631	<0.300	<0.300	0.916	0.535	<0.300	<0.300	<0.300
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	10	0.204	<0.200	0.634	0.67	0.949	<0.200	0.231	<0.200	<0.200	0.433	0.259
Manganese (diss.filt)	µg/l	<0.04	3800	0	50											
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	20	3.48	5.89	1.73	1.36	2.48	4.27	27.3	2.35	2.88	4.75	2.8
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	10	1.56	<1.000	<1.000	<1.000	1.22	1.45	<1.000	1.46	<1.000	3.04	<1.000
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	4.55
Zinc (diss.filt)	µg/l	<0.41	197	31.4	-	1.56	197	15.5	3.83	4.59	4.28	10.1	3.01	1.31	6.12	5.05
Hardness, Total as CaCO3	µg/l		1530000	1530000	-											
Manganese (tot.unfilt)	µg/l		4270	4270	50											
Phenols																
Resorcinol (low level)	µg/l	<0.5	5	5	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.000
Catechol (low level)	µg/l	<0.5	5	5	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.000
Resorcinol	µg/l	<10	320	320	-	<10.000		<10.000	<10.000							
Catechol	µg/l	<10	270	270	-	<10.000		<10.000	<10.000							
Phenol (low level)	µg/l	<0.5	13.3	13.3	-		0.7			<0.500	0.56	<0.500	<0.500	<0.500	0.62	<5.000
Cresols (low level)	µg/l	<0.5	69.9	69.9	-		<0.500			<0.500	<0.500	5.22	<0.500	<0.500	0.65	<5.000
Phenol	µg/l	<2	3050	3050	-	<2.000		<2.000	<2.000							
Cresols	µg/l	<6	2360	2360	-	<6.000		<6.000	<6.000							26.3
Xylenols (low level)	µg/l	<0.5	170	170	-		<0.500			0.96	<0.500	6.78	<0.500	<0.500	<0.500	
1-Naphthol (low level)	µg/l	<0.5	5	5	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.000
Xylenols	µg/l	<8	1990	1990	-	<8.000		<8.000	<8.000							
1-Naphthol	µg/l	<10	30	30	-	<10.000		<10.000	<10.000							
2,3,5-Trimethylphenol (low level)	µg/l	<0.5	50.2	50.2	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	43
2,3,5-Trimethylphenol	µg/l	<3	240	240	-	<3.000		<3.000	<3.000							
2-Isopropylphenol (low level)	µg/l	<0.5	33.8	12.6	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	33.8
2-Isopropylphenol	µg/l	<6	1020	1020	-	<6.000		<6.000	<6.000							
Phenols, Total Detected 8 Speciated	µg/l	<45	70	70	-	<45.000		<45.000	<45.000							
Phenols, Total Detected 5 speciated	µg/l	<25	0	0	-											

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
						10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
TPH Criteria Working Group (TPH CWG)																
GRO Surrogate % recovery**	%		114	114	-	103	107	107	96	105	113	101	102	85	97	112
GRO >C5-C12	µg/l	<50	7130	5280	-	55	<50.000	<50.000	338	<50.000	<50.000	<50.000	<50.000	<50.000	2080	7130
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-											
Benzene	µg/l	<7	7	0	-											
Toluene	µg/l	<4	21	0	-											
Ethylbenzene	µg/l	<5	23	0	-											
m,p-Xylene	µg/l	<8	97	0	-											
o-Xylene	µg/l	<3	58	0	-											
Sum of detected Xylenes	µg/l	<11	155	0	-											
Sum of detected BTEX	µg/l	<28	199	0	-											
Aliphatics >C5-C6	µg/l	<10	1920	328	15000	<10.000	<10.000	<10.000	286	<10.000	<10.000	<10.000	<10.000	<10.000	1920	27
Aliphatics >C6-C8	µg/l	<10	105	105	15000	<10.000	<10.000	<10.000	11	<10.000	<10.000	<10.000	<10.000	<10.000	24	54
Aliphatics >C8-C10	µg/l	<10	840	521	300	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	27	840
Aliphatics >C10-C12	µg/l	<10	2570	1890	300	14	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	12	2570
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	300	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	17	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	<10.000	<10.000	180	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	100	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	<10.000	<10.000	781	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	893	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	<10.000	<10.000	961	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	1010	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	1	<10.000	<10.000	<10.000	11	<10.000	<10.000	<10.000	<10.000	<10.000	38	803
Aromatics >EC7-EC8	µg/l	<10	1010	1010	700	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	19	56
Aromatics >EC8-EC10	µg/l	<10	1070	892	500	17	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	24	1070
Aromatics >EC10-EC12	µg/l	<10	1710	1260	90	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	1710
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	90	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	163
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	90	<10.000	<10.000	19	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	97
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	90	<10.000	<10.000	155	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	136
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	<10.000	<10.000	174	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	396
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	55	<10.000	1140	338	<10.000	<10.000	<10.000	<10.000	<10.000	3090	7520
Polyaromatic Hydrocarbons (PAHs)																
Naphthalene (aq)	µg/l	<0.1	2650	2650	-	<0.010	0.0306	0.0707	0.0311	0.0174	<0.010	<0.010	<0.010	<0.010	<0.010	0.0984
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	0.15	0.0345	0.0519	0.026	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.11
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	0.0678	0.00809	0.0499	0.0225	<0.005	0.0113	<0.005	<0.005	<0.005	<0.005	0.482
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	-	0.0217	<0.005	0.241	0.0183	<0.005	<0.005	<0.005	<0.005	<0.005	0.116	0.531
Anthracene (aq)	µg/l	<0.015	6.06	6.06	-	<0.005	<0.005	0.0227	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0106	0.0669
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	<0.005	<0.005	0.0552	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.025	0.109
Fluorene (aq)	µg/l	<0.014	18	17.9	-	0.0229	<0.005	0.00531	0.00721	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.136
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	0.00509	<0.005	0.243	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0664	0.345
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	0.0218	<0.005	0.415	0.0223	<0.005	<0.005	<0.005	<0.005	<0.005	0.121	1.55
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	<0.005	<0.005	0.174	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0613	0.327
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	0.0216	<0.005	0.601	0.0129	<0.005	<0.005	<0.005	<0.005	<0.005	0.205	0.701
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5	-	0.00723	<0.005	0.23	0.00526	<0.005	<0.005	<0.005	<0.005	<0.005	0.0917	0.269
Benzo(a)pyrene (aq)	µg/l	<0.009	1.09	0.365	0.01	0.023	<0.002	0.371	0.00975	<0.002	<0.002	<0.002	<0.002	<0.002	0.136	0.53
Dibenzo(a,h)anthracene (aq)	µg/l	<0.016	0.5	0.5	-	<0.005	<0.005	0.0628	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0216	0.0744
Benzo(g,h,i)perylene (aq)	µg/l	<0.016	0.546	0.5	-	<0.005	<0.005	0.415	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.152	0.354
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<0.014	0.518	0.5	-	0.00961	<0.005	0.295	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.138	0.329
PAH sum of 4 (calculated)	µg/l		2.254	2	0.1	0.04344	<0.020	1.541	0.02816	<0.020	<0.020	<0.020	<0.020	<0.020	0.5867	1.653
PAH, Total Detected USEPA 16 (aq)	µg/l	<0.344	2720	2720	-	0.351	<0.082	3.3	0.155	<0.082	<0.082	<0.082	<0.082	<0.082	1.14	6.01
Semi-Volatile Organic Compounds (SVOCs)																
1,2,4-Trichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
1,2-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
1,3-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
1,4-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
2,4,5-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
2,4,6-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
2,4-Dichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
2,4-Dimethylphenol (aq)	µg/l	<1	22.5	22.5	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000.				

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
						10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
4-Bromophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Chloro-3-methylphenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Chloroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Chlorophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Methylphenol (aq)	µg/l	<1	524	524	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Nitroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Nitrophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Azobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Acenaphthylene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Acenaphthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
bis(2-Chloroethyl)ether (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	40	40	-	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	
Butylbenzyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(a)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(b)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(k)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(a)pyrene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(g,h,i)perylene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Carbazole (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Chrysene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Dibenzofuran (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
n-Dibutyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Diethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Dibenzo(a,h)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Dimethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
n-Dioctyl phthalate (aq)	µg/l	<5	100	100	-	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<10.000	<5.000	
Fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Fluorene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachlorobutadiene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Pentachlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Phenol (aq)	µg/l	<1	783	783	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
n-Nitroso-n-dipropylamine (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachloroethane (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Nitrobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Naphthalene (aq)	µg/l	<1	2110	2110	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Isophorone (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachlorocyclopentadiene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Phenanthrene (aq)	µg/l	<1	36.6	36.6	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Pyrene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Volatile Organic Compounds (VOCs)																
Dibromofluoromethane**	%		129	129	-	122	119	124	112	123	122	107	110	112	108	111
Toluene-d8**	%		112	112	-	102	103	101	101	104	103	99.9	100	100	98.4	95.3
4-Bromofluorobenzene**	%		106	104	-	101	102	100	99.6	102	101	95.5	97.5	96.4	95.6	106
Dichlorodifluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Vinyl chloride	µg/l	<1	2750	206	0.5	<1.000	<1.000	26.4	323	<1.000	<1.000	<1.000	<1.000	<1.000	2750	3.64
Bromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Trichlorofluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1-Dichloroethene	µg/l	<1	4.9	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.17	<1.000
Carbon disulphide	µg/l	<1	3.51	3.51	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dichloromethane	µg/l	<3	3	3	-	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000
Methyl tertiary butyl ether (MTBE)	µg/l	<1	1	1	15	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
trans-1,2-Dichloroethene	µg/l	<1	14.3	4.87	50	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	14.3	<1.000
1,1-Dichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,2-Dichloroethene	µg/l	<1	5610	1100	50	<1.000	<1.000	47.6	1010	<1.000	<1.000	<1.000	<1.000	<1.000	5610	3.32
2,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromochloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloroform	µg/l	<1	2.85	1.73	-	<1.000	<1.000	<1.000	<1.000	<1.000	1.44	<1.000	1.22	<1.000	<1.000	<1.000
1,1,1-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	DWS	BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
						10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
Carbontetrachloride	µg/l	<1	3.59	3.59	3	<1.000	<1.000	<1.000	<1.000	<1.000	2.33	<1.000	3.23	<1.000	<1.000	<1.000
1,2-Dichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Benzene	µg/l	<1	2890	2890	1	<1.000	<1.000	9.29	12.2	<1.000	<1.000	1.37	<1.000	<1.000	45.2	712
Trichloroethene	µg/l	<1	155	41.3	10	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	2.98	42.8	<1.000
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Toluene	µg/l	<1	1310	1310	700	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	21.8	45.9
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Tetrachloroethene	µg/l	<1	956	647	10	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	127	<1.000
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Ethylbenzene	µg/l	<1	185	185	300	1.09	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.92	5.21
m,p-Xylene	µg/l	<1	622	622	-	4.8	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.47	234
o-Xylene	µg/l	<1	380	380	-	3	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	2.54	208
Styrene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Isopropylbenzene	µg/l	<1	16.4	14.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	16.4
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Propylbenzene	µg/l	<1	10.5	10.5	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	109
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	1.58	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	348
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.24
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	11.4
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Naphthalene	µg/l	<1	4060	4060	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	283
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Sum of detected Xylenes	µg/l	<2	1000	1000	500	7.8	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	4.01	442
Dissolved Gases																
Methane, dissolved	µg/l	<1	11800	9050	-	94.6	18.8	285	361	40.4	1.71	21	1.27	58.2	136	11800
Ethene, dissolved	µg/l	<1	753	63.6	-	<1.000	<1.000	14	96.4	<1.000	<1.000	<1.000	<1.000	<1.000	753	<19.400
Ethane, dissolved	µg/l	<1	29.4	29.4	-	<1.000	<1.000	3.94	5.8	<1.000	<1.000	<1.000	<1.000	<1.000	6.94	27.8
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	29400	36900	31100	25200	21700	24200	39600	26700	136000	37400	174000
Propane, dissolved	µg/l	<1	9.04	9.04	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.36	3.97

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				Max. from October 2019 and February 2020 rounds		BH101	BH201	BH102B	BH103A	BH104	BH106	BH107	BH203C	BH204	BH301	BH302A	BH303	BH101	BH201
			Total Maximum			30/09/2019	30/09/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	10/02/2020	10/02/2020
Test	Units	LOD			EQS	MG	RTG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	RTG	RTG	Chalk	Chalk	Chalk	MG	RTG
Inorganics																			
Nitrite as NO2	µg/l	<50	2360	0	-														
pH	pH Units	<1	8.35	8.35	-	7.84	7.97	7.77	7.62	6.98	7.4	7.47	7.54	7.4	8.07	7.69	7.46	8.11	8.19
Sulphate	µg/l	<2000	635000	0	-														
Sulphide	µg/l	<10	143	0	-														
Sulphate as %SO4	%	<0.0002	0.125	0.122	-													0.0009	0.00857
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-														
Cyanide, Total	µg/l	<50	2190	2190	-													<50.000	<50.000
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	-	<300.000	7050	26700	7350	37700	11200	<300.000	2910	<300.000	11400	134000	1070	<300.000	6930
Ammoniacal Nitrogen as N - Calculated	µg/l		104222	104222	-	233.3	5483.3	20766.7	5716.7	29322.2	8711.1	233.3	2263.3	233.3	8966.7	104222.2	832.2	233.3	5390.0
free ammonia (calculated)	µg/l		1097	1097	600	2.456	57.724	218.613	60.180	308.678	91.703	2.456	23.826	2.456	93.340	1097.156	8.761	2.456	56.741
Cyanide, Free	µg/l	<50	50	50	1													<50.000	<50.000
Cyanide, Complex	µg/l	<50	2180	2180	-													<50.000	<50.000
Nitrate as NO3	µg/l	<300	72500	45700	-														
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-														
Chloride	µg/l	<2000	275000	275000	-	4700	33200	17100	11600	45100	86000	45800	40200	45800	40900	275000	40200	3500	34800
Nitrate as N	µg/l	<67.7	10900	10300	-	4320	<67.700	2870	4930	<67.700	3130	10300	2420	7360	2260	<67.700	6010	1170	<67.700
Cyanide, Total (low level)	µg/l	<5	4430	4430	-	79	124	4430	67.7	153	39.1	<5.000	33.2	<5.000	276	456	27.3		
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	1	3.45	5.96	80.3	8.47	3.18	2.89	<2.500	4.65	<2.500	<2.500	28.5	<2.500		
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-	75.6	119	4350	59.2	150	36.2	<5.000	28.5	<5.000	274	427	26.1		
Filtered (Dissolved) Metals																			
Iron, Ferric	µg/l	<50	22600	22600	-	<50.000	8330	1500	<50.000	22600	<50.000	<50.000	<50.000	<50.000	<50.000	146	<50.000	<50.000	410
Chromium, Hexavalent	µg/l	<30	30	30	3.4	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000
Chromium, Trivalent	µg/l	<30	30	0	4.7														
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	0.07	<0.010	0.0179	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	<0.010
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	50.00	<0.500	23.3	9.93	2.29	69.3	0.54	<0.500	<0.500	<0.500	4.54	26.4	<0.500	0.511	20
Barium (diss.filt)	µg/l	<0.03	159	94.9	-	26.6	74.3	50.4	37.6	79.2	39.7	42.3	34.9	70.5	50.3	84.2	41.5	16.4	68.4
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Iron (diss.filt)	µg/l	<19	34600	22800	1000.00	43.6	8450	1500	28.6	22800	30.4	<19.000	34.8	21.8	21.6	487	<19.000	<19.000	6860
Boron (diss.filt)	µg/l	<9.4	397	397	2000	17.4	142	184	20.4	397	184	156	108	132	63.9	77.4	127	<10.000	147
Iron, Ferrous	µg/l	<100	33100	17300	-	<100.000	116	<100.000	<100.000	227	<100.000	<100.000	<100.000	<100.000	<100.000	341	<100.000	<100.000	6450
Manganese II	µg/l	<200	1970	0	-														
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	0.25	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	-	9.02	1.16	1.29	<1.000	<1.000	<1.000	2.36	<1.000	<1.000	<1.000	<1.000	<1.000	1.04	<1.000
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	1	3.62	2.49	1.38	3.24	<0.300	0.752	0.453	0.75	<0.300	<0.300	<0.300	<0.300	2.77	<0.300
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	1.2	<0.200	14.9	<0.200	<0.200	0.445	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200	<0.200
Manganese (diss.filt)	µg/l	<0.04	3800	0	123.00														
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	4.00	1.72	1.76	5.59	1.45	2.19	23.7	2.15	1.69	1.75	6.2	22.9	10.7	0.817	1.22
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	-	1.93	<1.000	4.06	<1.000	<1.000	<1.000	1.2	1.03	1.04	23.5	6.96	<1.000	1.51	<1.000
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	<1.000	<1.000	1.73	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	4	<1.000	<1.000	<1.000
Zinc (diss.filt)	µg/l	<0.41	197	31.4	10.9	<1.000	6.9	2.64	31.3	2.17	4.28	<1.000	1.22	1.1	31.4	1.7	5.12	4.22	<1.000
Hardness, Total as CaCO3	TM152	µg/l	1530000	1530000	-	260000	398000	1000000	239000	895000	430000	391000	354000	359000	176000	231000	383000	172000	344000
Manganese (tot.unfilt)	TM152	µg/l	4270	4270	123	4.09	734	1300	135	4270	485	<1.000	128	17.4	3690	638	290	17.8	631
Phenols																			
Resorcinol (low level)	µg/l	<0.5	5	5	-													<0.500	<5.000
Catechol (low level)	µg/l	<0.5	5	5	-													<0.500	<5.000
Resorcinol	µg/l	<10	320	320	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	320	<10.000		
Catechol	µg/l	<10	270	270	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	270	<10.000		
Phenol (low level)	µg/l	<0.5	13.3	13.3	-													<0.500	<5.000
Cresols (low level)	µg/l	<0.5	69.9	69.9	-													<0.500	<5.000
Phenol	µg/l	<2	3050	3050	7.7	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	3050	<2.000		
Cresols	µg/l	<6	2360	2360	-	<6.000	<6.000	10	<6.000	<6.000	<6.000	<6.000	<6.000	<6.000	10	2360	<6.000		
Xylenols (low level)	µg/l	<0.5	170	170	-													<0.500	<5.000
1-Naphthol (low level)	µg/l	<0.5	5	5	-													<0.500	<5.000
Xylenols	µg/l	<8	1990	1990	-	<8.000	<8.000	10	<8.000	<8.000	<8.000	<8.000	<8.000	<8.000					

	<0.000	Concentration below the LOD																	
	0.000	Concentration in exceedance of the GAC																	
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH101	BH201	BH102B	BH103A	BH104	BH106	BH107	BH203C	BH204	BH301	BH302A	BH303	BH101	BH201
						30/09/2019	30/09/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	10/02/2020	10/02/2020
						MG	RTG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	RTG	RTG	Chalk	Chalk	Chalk	MG	RTG
TPH Criteria Working Group (TPH CWG)																			
GRO Surrogate % recovery**	%		114	114	-	89	74	114	95	88	89	92	89	80	75	85	93	88	81
GRO >C5-C12	µg/l	<50	7130	5280	-	151	196	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	5280	4980	<50.000	191	340
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-														
Benzene	µg/l	<7	7	0	-														
Toluene	µg/l	<4	21	0	-														
Ethylbenzene	µg/l	<5	23	0	-														
m,p-Xylene	µg/l	<8	97	0	-														
o-Xylene	µg/l	<3	58	0	-														
Sum of detected Xylenes	µg/l	<11	155	0	-														
Sum of detected BTEX	µg/l	<28	199	0	-														
Aliphatics >C5-C6	µg/l	<10	1920	328	-	12	153	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	26	<10.000	46	271
Aliphatics >C6-C8	µg/l	<10	105	105	-	<10.000	11	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	61	105	<10.000	14	11
Aliphatics >C8-C10	µg/l	<10	840	521	N/A	72	11	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	337	181	<10.000	76	11
Aliphatics >C10-C12	µg/l	<10	2570	1890	N/A	<10.000	<10.000	10	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	1840	575	<10.000	<10.000	15
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	111	<10.000	<10.000	<10.000	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	100	<10.000	<10.000	<10.000	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	322	<10.000	<10.000	<10.000	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	533	<10.000	<10.000	<10.000	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	10.00	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	417	2140	<10.000	<10.000	13
Aromatics >EC7-EC8	µg/l	<10	1010	1010	74	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	492	1010	<10.000	<10.000	<10.000
Aromatics >EC8-EC10	µg/l	<10	1070	892	20	48	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	892	564	<10.000	51	<10.000
Aromatics >EC10-EC12	µg/l	<10	1710	1260	2.00	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	1230	383	<10.000	<10.000	10
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	2.00	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	875	293	<10.000	<10.000	<10.000
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	0.10	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	347	78	<10.000	<10.000	<10.000
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	0.02	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	351	48	<10.000	<10.000	<10.000
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	1570	419	<10.000	<10.000	<10.000
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	150	196	42	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	7380	5400	18	190	340
Polyaromatic Hydrocarbons (PAHs)																			
Naphthalene (aq)	µg/l	<0.1	2650	2650	2	0.0192	0.0226	0.116	<0.010	0.0695	<0.010	<0.010	<0.010	<0.010	2650	10.4	<0.010	0.0473	0.0328
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	0.0263	0.0784	4.01	0.282	<0.025	0.424	0.0135	<0.005	<0.005	11.9	4.47	<0.005	<0.005	0.152
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	0.0275	0.0627	2.97	0.0474	<0.025	0.0767	<0.005	<0.005	<0.005	2.85	0.953	0.0941	<0.005	0.0541
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	0.0063	0.0451	0.219	0.485	0.246	<0.025	0.133	<0.005	0.00863	<0.005	6.8	0.875	<0.005	0.0143	0.0303
Anthracene (aq)	µg/l	<0.015	6.06	6.06	0.1	0.0315	0.0442	0.0802	0.0109	<0.025	0.104	<0.005	<0.005	<0.005	6.06	1.47	<0.005	<0.005	0.00934
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	0.0343	0.0675	0.0833	0.015	0.0388	0.381	0.011	<0.005	<0.005	21.4	4.85	<0.005	0.00972	0.0101
Fluorene (aq)	µg/l	<0.014	18	17.9	-	0.0307	0.0317	0.181	<0.005	<0.025	0.361	0.00807	<0.005	<0.005	17.9	3.26	<0.005	<0.005	0.0208
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	0.0376	0.167	0.169	0.0348	<0.025	<0.050	<0.005	<0.005	<0.005	<0.500	0.291	<0.005	0.00736	0.0245
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	0.0441	0.271	0.491	0.126	<0.025	0.142	<0.005	0.0133	<0.005	7.03	1.11	0.0373	0.0164	0.0905
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	0.0276	0.152	0.145	0.0305	<0.025	<0.050	<0.005	<0.005	<0.005	<0.500	0.353	<0.005	0.00929	0.0239
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	0.0388	0.477	0.28	0.052	<0.025	<0.050	<0.005	<0.005	<0.005	<0.500	0.121	<0.005	0.0115	0.0488
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5	-	0.0316	0.183	0.132	0.0217	<0.025	<0.050	<0.005	<0.005	<0.005	<0.500	0.0513	<0.005	0.00678	0.0219
Benzo(a)pyrene (aq)	µg/l	<0.009	1.09	0.365	0.00	0.0307	0.365	0.189	0.0349	<0.010	<0.020	<0.002	<0.002	<0.002	&				

			Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH101	BH201	BH102B	BH103A	BH104	BH106	BH107	BH203C	BH204	BH301	BH302A	BH303	BH101	BH201
						30/09/2019	30/09/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019
Test	Units	LOD				MG	RTG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	RTG	RTG	Chalk	Chalk	Chalk	MG	RTG
4-Chloro-3-methylphenol (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
4-Chloroaniline (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
4-Chlorophenylphenylether (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
4-Methylphenol (aq)	µg/l	<1	524	524	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	524	<1.000	<1.000	<1.000
4-Nitroaniline (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
4-Nitrophenol (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Azobenzene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Acenaphthylene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Acenaphthene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	2.34	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Anthracene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
bis(2-Chloroethyl)ether (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	40	40	-	<4.000	<4.000	<4.000	<4.000	<8.000	<4.000	<2.000	<2.000	<2.000	<40.000	<20.000	<2.000	<2.000	<2.000
Butylbenzyl phthalate (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Benzo(a)anthracene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Benzo(b)fluoranthene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Benzo(k)fluoranthene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Benzo(a)pyrene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Benzo(g,h,i)perylene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Carbazole (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Chrysene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Dibenzofuran (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
n-Dibutyl phthalate (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Diethyl phthalate (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Dibenzo(a,h)anthracene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Dimethyl phthalate (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
n-Dioctyl phthalate (aq)	µg/l	<5	100	100	-	<10.000	<10.000	<10.000	<10.000	<20.000	<10.000	<5.000	<5.000	<5.000	<100.000	<50.000	<5.000	<5.000	<5.000
Fluoranthene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Fluorene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Hexachlorobenzene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Hexachlorobutadiene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Pentachlorophenol (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Phenol (aq)	µg/l	<1	783	783	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	783	<1.000	<1.000	<1.000
n-Nitroso-n-dipropylamine (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Hexachloroethane (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Nitrobenzene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Naphthalene (aq)	µg/l	<1	2110	2110	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	2110	13.9	<1.000	<1.000	<1.000
Isophorone (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Hexachlorocyclopentadiene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Phenanthrene (aq)	µg/l	<1	36.6	36.6	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	36.6	<10.000	<1.000	<1.000	<1.000
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Pyrene (aq)	µg/l	<1	20	20	-	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	<1.000	<1.000	<1.000	<20.000	<10.000	<1.000	<1.000	<1.000
Volatile Organic Compounds (VOCs)																			
Dibromofluoromethane**	%		129	129	-	125	107	114	117	117	123	129	117	116	106	108	116	114	113
Toluene-d8**	%		112	112	-	104	102	102	102	102	101	102	102	102	99.1	103	101	107	98.8
4-Bromofluorobenzene**	%		106	104	-	99.7	98.7	98.8	98.8	100	99.5	98.2	98	98.3	98.3	104	98.7	99.4	101
Dichlorodifluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Vinyl chloride	µg/l	<1	2750	206	-	<1.000	206	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.34	<1.000	<1.000	192
Bromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Trichlorofluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1-Dichloroethene	µg/l	<1	4.9	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Carbon disulphide	µg/l	<1	3.51	3.51	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.51	<1.000	<1.000	<1.000
Dichloromethane	µg/l	<3	3	3	-	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000					

	<0.000	Concentration below the LOD																	
	0.000	Concentration in exceedance of the GAC																	
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH101	BH201	BH102B	BH103A	BH104	BH106	BH107	BH203C	BH204	BH301	BH302A	BH303	BH101	BH201
						30/09/2019	30/09/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	01/10/2019	10/02/2020	10/02/2020
						MG	RTG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	RTG	RTG	Chalk	Chalk	Chalk	MG	RTG
Benzene	µg/l	<1	2890	2890	10.000	<1.000	8.35	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	721	2890	3.45	<1.000	14.4
Trichloroethene	µg/l	<1	155	41.3	10.00	8.15	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	25.7	<1.000
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Toluene	µg/l	<1	1310	1310	74	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	819	1310	6.47	<1.000	<1.000
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Tetrachloroethene	µg/l	<1	956	647	10.00	647	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	568	<1.000
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.4	<1.000	<1.000	<1.000	<1.000
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Ethylbenzene	µg/l	<1	185	185	20	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	127	86	1.25	<1.000	<1.000
m,p-Xylene	µg/l	<1	622	622	-	<1.000	<1.000	2.91	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	622	310	2.1	<1.000	<1.000
o-Xylene	µg/l	<1	380	380	-	<1.000	<1.000	4.12	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	380	198	1.56	<1.000	<1.000
Styrene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Isopropylbenzene	µg/l	<1	16.4	14.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	7.73	3.75	<1.000	<1.000	<1.000
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Propylbenzene	µg/l	<1	10.5	10.5	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	10.5	2.85	<1.000	<1.000	<1.000
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	<1.000	<1.000	1.71	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	66.6	14.4	<1.000	<1.000	<1.000
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	228	53.7	<1.000	<1.000	<1.000
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	7.9	4.45	<1.000	<1.000	<1.000
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.94	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Naphthalene	µg/l	<1	4060	4060	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	4060	743	<1.000	<1.000	<1.000
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Sum of detected Xylenes	µg/l	<2	1000	1000	30	<2.000	<2.000	7.03	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	1000	508	3.66	<2.000	<2.000
Dissolved Gases																			
Methane, dissolved	µg/l	<1	11800	9050	-	<2.180	113	8.47	2.35	43.9	14.5	1.28	1.19	1.85	419	4620	6.3	<2.200	418
Ethene, dissolved	µg/l	<1	753	63.6	-	<1.000	63.6	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<19.100	<1.000	<1.000	59.5
Ethane, dissolved	µg/l	<1	29.4	29.4	-	<1.000	1.22	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.17	<20.500	<1.000	<1.000	6.87
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	12600	23400	34400	14300	136000	33900	25100	25100	23700	19200	47900	31000	8090	20000
Propane, dissolved	µg/l	<1	9.04	9.04	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	9.04	<1.000	<1.000	<1.000

		<0.000	Concentration below the LOD																	
		0.000	Concentration in exceedance of the GAC																	
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH202	BH301	BH302A	WS206	BH103A	BH104	BH105	BH106	BH107	BH203C	BH204	BH303	BH102B	BH101	
						10/02/2020	10/02/2020	10/02/2020	10/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	12/02/2020	24/11/2015
						Chalk	Chalk	Chalk	MG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	RTG	RTG	Chalk	AL/RTG	MG	
Inorganics																				
Nitrite as NO2	µg/l	<50	2360	0	-														<50.000	
pH	pH Units	<1	8.35	8.35	-	7.69	8.35	7.76	8	7.96	8.17	7.68	7.76	7.67	8.23	7.77	8.04	7.63	8.05	
Sulphate	µg/l	<2000	635000	0	-														16900	
Sulphide	µg/l	<10	143	0	-														<10.000	
Sulphate as %SO4	%	<0.0002	0.125	0.122	-	0.00526	0.00089	0.00671	0.122	0.00928	0.0504	0.0123	0.00631	0.00598	0.00503	0.00706	0.00703	0.0658		
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-														1170	
Cyanide, Total	µg/l	<50	2190	2190	-	1450	500	200	310	<50.000	370	90	<50.000	<50.000	<50.000	<50.000	460	2190	78	
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	-	130000	64900	53600	5280	5880	20100	6830	6060	<300.000	1950	<300.000	1280	15900	1240	
Ammoniacal Nitrogen as N - Calculated	µg/l		104222	104222	-	101111.1	50477.8	41688.9	4106.7	4573.3	15633.3	5312.2	4713.3	233.3	1516.7	233.3	995.6	12366.7	964.4	
free ammonia (calculated)	µg/l		1097	1097	600	1064.405	531.384	438.863	43.231	48.144	164.573	55.922	49.618	2.456	15.966	2.456	10.480	130.185		
Cyanide, Free	µg/l	<50	50	50	1	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	
Cyanide, Complex	µg/l	<50	2180	2180	-	1450	500	200	310	<50.000	370	90	<50.000	<50.000	<50.000	<50.000	460	2180	78	
Nitrate as NO3	µg/l	<300	72500	45700	-					572	919	<300.000	31700	45700	33100	42400	39000	4460	<300.000	
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-														270000	
Chloride	µg/l	<2000	275000	275000	-	11400	174000	81400	21900	36800	36600	41100	62500	47100	43400	49300	39700	10700		
Nitrate as N	µg/l	<67.7	10900	10300	-	<67.700	<67.700	<67.700	343											
Cyanide, Total (low level)	µg/l	<5	4430	4430	-															
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	1															
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-															
Filtered (Dissolved) Metals																				
Iron, Ferric	µg/l	<50	22600	22600	-	1030	<50.000	95	369	157	1200	410	<50.000	<50.000	<50.000	<50.000	247	726	<50.000	
Chromium, Hexavalent	µg/l	<30	30	30	3.4	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	
Chromium, Trivalent	µg/l	<30	30	0	4.7														<30.000	
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	0.07	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0196	<0.010	
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	50.00	9.39	7.51	8.98	1.11	3.03	26	15.7	0.66	<0.500	<0.500	<0.500	1.11	3.22	1.67	
Barium (diss.filt)	µg/l	<0.03	159	94.9	-	41.5	94.9	51.6	37.2	27.4	43.9	85.7	43.9	39.8	35.3	61.1	39.1	29.4	51.6	
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.070	
Iron (diss.filt)	µg/l	<19	34600	22800	1000.00	2370	284	372	640	157	18500	8550	29.8	<19.000	44.6	<19.000	247	726	36.7	
Boron (diss.filt)	µg/l	<9.4	397	397	2000	142	107	74.6	140	<10.000	271	123	158	131	101	123	116	78.6	34.4	
Iron, Ferrous	µg/l	<100	33100	17300	-	1340	300	277	271	<100.000	17300	8140	<100.000	<100.000	<100.000	<100.000	<100.000	<100.000	2100	
Manganese II	µg/l	<200	1970	0	-														<200.000	
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	0.25	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.100	
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	-	2.01	1	<1.000	13	6.84	<1.000	<1.000	<1.000	2.19	17.1	10.3	1.36	<1.000	3.63	
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	1	<0.300	<0.300	<0.300	0.955	0.63	0.675	0.528	0.348	0.301	1.39	1.01	1.37	1.44	<0.850	
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	1.2	<0.200	<0.200	1.26	<0.200	0.222	<0.200	0.293	<0.200	<0.200	1.65	<0.200	<0.200	0.228	<0.020	
Manganese (diss.filt)	µg/l	<0.04	3800	0	123.00														664	
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	4.00	1.36	12.8	4.05	5.89	0.771	2.97	1.3	27.9	2.33	1.91	1.94	6.61	4.19	4.16	
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	-	<1.000	3.27	1.38	2.13	<1.000	1.19	<1.000	<1.000	1.38	1.57	1.66	1.5	2.31	1.11	
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	2.07	8.18	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.01	0.914	
Zinc (diss.filt)	µg/l	<0.41	197	31.4	10.9	<1.000	1.83	2.06	6.25	14	6.27	9.15	7.71	1.86	6.38	2.39	7.06	8.77	2.32	
Hardness, Total as CaCO3	TM152	µg/l	1530000	1530000	-	329000	116000	260000	1530000	219000	1040000	399000	357000	328000	314000	338000	291000	850000		
Manganese (tot.unfilt)	TM152	µg/l	4270	4270	123	1270	126	132	1400	226	3270	872	341	2.99	174	60	141	1130		
Phenols																				
Resorcinol (low level)	µg/l	<0.5	5	5	-	<5.000		<5.000	<0.500	<1.000	<0.500		2.81		<0.500			<0.500		
Catechol (low level)	µg/l	<0.5	5	5	-	<5.000		<5.000	<0.500	<1.000	<0.500		<0.500		<0.500			<0.500		
Resorcinol	µg/l	<10	320	320	-		50													
Catechol	µg/l	<10	270	270	-		10													
Phenol (low level)	µg/l	<0.5	13.3	13.3	-	<5.000		13.3	<0.500	5.14	<0.500		<0.500		<0.500			<0.500		
Cresols (low level)	µg/l	<0.5	69.9	69.9	-	<5.000		69.9	<0.500	16.1	<0.500		0.55		<0.500			0.87		
Phenol	µg/l	<2	3050	3050	7.7		540												<2.000	
Cresols	µg/l	<6	2360	2360	-		710												<6.000	
Xylenols (low level)	µg/l	<0.5	170	170	-	10.3		170	<0.500	14.7	<0.500		<0.500		0.81			1.92		
1-Naphthol (low level)	µg/l	<0.5	5	5	-	<5.000		<5.000	<0.500	<1.000	<0.500		<0.500		<0.500			<0.500		
Xylenols	µg/l	<8	1990	1990	-		1030												<8.000	
1-Naphthol	µg/l	<10	30	30	-		<10.000													
2,3,5-Trimethylphenol (low level)	µg/l	<0.5	50.2	50.2	-	16.4		50.												

	<0.000	Concentration below the LOD																	
	0.000	Concentration in exceedance of the GAC																	
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH202	BH301	BH302A	WS206	BH103A	BH104	BH105	BH106	BH107	BH203C	BH204	BH303	BH102B	BH101
						10/02/2020	10/02/2020	10/02/2020	10/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	12/02/2020	24/11/2015
						Chalk	Chalk	Chalk	MG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	RTG	RTG	Chalk	AL/RTG	MG
TPH Criteria Working Group (TPH CWG)																			
GRO Surrogate % recovery**	%		114	114	-	94	84	91	84	100	85	87	87	112	87	87	89	108	89
GRO >C5-C12	µg/l	<50	7130	5280	-	4740	468	504	425	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	78	425
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-														<3.000
Benzene	µg/l	<7	7	0	-														<7.000
Toluene	µg/l	<4	21	0	-														<4.000
Ethylbenzene	µg/l	<5	23	0	-														<5.000
m,p-Xylene	µg/l	<8	97	0	-														<8.000
o-Xylene	µg/l	<3	58	0	-														<3.000
Sum of detected Xylenes	µg/l	<11	155	0	-														<11.000
Sum of detected BTEX	µg/l	<28	199	0	-														<28.000
Aliphatics >C5-C6	µg/l	<10	1920	328	-	18	<10.000	<10.000	328	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	323
Aliphatics >C6-C8	µg/l	<10	105	105	-	41	23	25	18	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	45
Aliphatics >C8-C10	µg/l	<10	840	521	N/A	521	27	32	44	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	13	23
Aliphatics >C10-C12	µg/l	<10	2570	1890	N/A	1890	88	104	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	26	<10.000
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	-	31	15	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	24	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	76	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	31	15	<10.000	<10.000	<10.000	<10.000	100	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	10.00	343	188	182	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC7-EC8	µg/l	<10	1010	1010	74	<10.000	20	21	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC8-EC10	µg/l	<10	1070	892	20	657	55	62	29	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	11	17
Aromatics >EC10-EC12	µg/l	<10	1710	1260	2.00	1260	59	69	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	18	<10.000
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	2.00	818	781	54	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	0.10	129	167	14	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	0.02	<10.000	<10.000	11	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	947	948	79	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	5720	1430	583	424	<10.000	<10.000	102	<10.000	<10.000	<10.000	<10.000	<10.000	79	425
Polyaromatic Hydrocarbons (PAHs)																			
Naphthalene (aq)	µg/l	<0.1	2650	2650	2	<1.000	1290	72.4	0.011	0.07	0.0267	0.0163	<0.010	0.0149	0.966	<0.010	0.0183	0.0292	<0.100
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	32.3	4.89	0.574	0.00533	0.545	0.00981	0.0376	0.0156	0.0209	0.0717	<0.005	<0.005	<0.005	<0.015
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	2.35	0.597	0.233	<0.005	0.0639	<0.005	0.0189	0.00907	<0.005	0.0109	<0.005	0.0185	0.156	<0.011
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	0.0063	0.536	0.566	0.0768	0.0261	0.468	0.0118	0.081	0.0201	<0.005	0.0282	0.0163	0.00887	0.044	<0.017
Anthracene (aq)	µg/l	<0.015	6.06	6.06	0.1	1.02	1.11	0.0521	0.00532	0.0242	<0.005	0.0117	<0.005	<0.005	0.00544	<0.005	<0.005	0.0212	<0.015
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	6.48	5.06	0.26	0.00968	0.0161	0.0178	0.0315	0.00874	0.00673	0.0169	0.00824	<0.005	0.0266	<0.022
Fluorene (aq)	µg/l	<0.014	18	17.9	-	11.2	6.2	0.288	<0.005	0.0274	0.00602	<0.005	<0.005	<0.005	0.0185	<0.005	<0.005	<0.005	<0.014
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	<0.500	<0.250	0.0363	0.0183	0.0214	<0.005	0.0828	<0.005	0.0156	0.0111	0.0195	<0.005	0.0426	<0.013
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	0.516	0.565	0.0651	0.0308	0.282	0.0125	0.155	0.0208	<0.005	0.0256	0.0235	0.00975	0.0796	<0.015
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	<0.500	<0.250	0.0354	0.0212	0.024	<0.005	0.0612	0.0189	0.0146	0.00626	0.0188	<0.005	0.0392	0.032
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	<0.500	<0.250	0.0399	0.037	0.0231	<0.005	0.122	0.0132	<0.005	0.0221	0.0159	0.011	0.0744	<0.023
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5	-	<0.500	<0.250	0.0202	0.0149	0.0126	<0.005	0.0542	<0.005	<0.005	0.0132	0.00708	<0.005	0.0375	<0.027
Benzo(a)pyrene (aq)	µg/l	<0.009	1.09	0.365	0.00	<0.200	<0.100	0.0313	0.0292	0.0187	<0.002	0							

	<0.000	Concentration below the LOD																	
	0.000	Concentration in exceedance of the GAC																	
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH202	BH301	BH302A	WS206	BH103A	BH104	BH105	BH106	BH107	BH203C	BH204	BH303	BH102B	BH101
						10/02/2020	10/02/2020	10/02/2020	10/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	12/02/2020	24/11/2015
						Chalk	Chalk	Chalk	MG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	RTG	RTG	Chalk	AL/RTG	MG
4-Chloro-3-methylphenol (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-Chloroaniline (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-Chlorophenylphenylether (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-Methylphenol (aq)	µg/l	<1	524	524	-	<4.000	187	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-Nitroaniline (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-Nitrophenol (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Azobenzene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Acenaphthylene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Acenaphthene (aq)	µg/l	<1	20	20	-	4.32	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Anthracene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
bis(2-Chloroethyl)ether (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	40	40	-	<8.000	<8.000	<2.000	2.64	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	
Butylbenzyl phthalate (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Benzo(a)anthracene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Benzo(b)fluoranthene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Benzo(k)fluoranthene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Benzo(a)pyrene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Benzo(g,h,i)perylene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Carbazole (aq)	µg/l	<1	20	20	-	<4.000	4.43	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Chrysene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Dibenzofuran (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
n-Dibutyl phthalate (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Diethyl phthalate (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Dibenzo(a,h)anthracene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Dimethyl phthalate (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
n-Dioctyl phthalate (aq)	µg/l	<5	100	100	-	<20.000	<20.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	
Fluoranthene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Fluorene (aq)	µg/l	<1	20	20	-	<4.000	5.13	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Hexachlorobenzene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Hexachlorobutadiene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Pentachlorophenol (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Phenol (aq)	µg/l	<1	783	783	-	14	265	5.53	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
n-Nitroso-n-dipropylamine (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Hexachloroethane (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Nitrobenzene (aq)	µg/l	<1	20	20	-	<4.000	<4.000	<1.000	<1.000	<1.000	&lt								

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH202	BH301	BH302A	WS206	BH103A	BH104	BH105	BH106	BH107	BH203C	BH204	BH303	BH102B	BH101
						10/02/2020	10/02/2020	10/02/2020	10/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	11/02/2020	12/02/2020	24/11/2015
						Chalk	Chalk	Chalk	MG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	RTG	RTG	Chalk	AL/RTG	MG
Benzene	µg/l	<1	2890	2890	10.000	400	248	216	2.12	<1.000	<1.000	2.28	<1.000	<1.000	1.19	<1.000	<1.000	<1.000	2.15
Trichloroethene	µg/l	<1	155	41.3	10.00	<1.000	<1.000	<1.000	41.3	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Toluene	µg/l	<1	1310	1310	74	8.94	23.5	21.2	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	4.58
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Tetrachloroethene	µg/l	<1	956	647	10.00	<1.000	<1.000	<1.000	284	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Ethylbenzene	µg/l	<1	185	185	20	185	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
m,p-Xylene	µg/l	<1	622	622	-	58.2	19.4	20.8	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
o-Xylene	µg/l	<1	380	380	-	53	11.8	13.3	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.61	<1.000
Styrene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Isopropylbenzene	µg/l	<1	16.4	14.9	-	14.9	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Propylbenzene	µg/l	<1	10.5	10.5	-	8.81	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	36	<1.000	1.51	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	214	3.03	4.4	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	6.25	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Naphthalene	µg/l	<1	4060	4060	-	122	80.9	85.6	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	2.07	<1.000	<1.000	<1.000	
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Sum of detected Xylenes	µg/l	<2	1000	1000	30	111	31.2	34.1	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Dissolved Gases																			
Methane, dissolved	µg/l	<1	11800	9050	-	7670	9050	1800	6.18	4.73	7.01	248	<2.220	<2.210	2.74	<2.210	<2.220	15.9	302
Ethene, dissolved	µg/l	<1	753	63.6	-	<19.100	<19.100	<19.100	<1.000	<1.000	<1.000	9.56	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Ethane, dissolved	µg/l	<1	29.4	29.4	-	29.4	<20.500	<20.500	1.32	<1.000	<1.000	2.14	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	116000	49500	32000	63900	11100	117000	29400	33900	28500	22200	32400	25600	28900	14800
Propane, dissolved	µg/l	<1	9.04	9.04	-	5.94	2.56	2.67	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				Max. from October 2019 and February 2020 rounds		BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101
			Total Maximum			24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
Test	Units	LOD				AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG
Inorganics																			
Nitrite as NO2	µg/l	<50	2360	0	-	<50.000	<50.000	<50.000	2360	463	697	59	100	<50.000	<50.000	2100	687	630	
pH	pH Units	<1	8.35	8.35	-	7.52	7.59	7.13	7.71	7.47	7.7	8.09	7.64	7.93	7.48	7.79	8.11	7.98	7.82
Sulphate	µg/l	<2000	635000	0	-	635000	174000	373000	79900	317000	66800	24600	522000	224000	358000	80400	176000	62500	
Sulphide	µg/l	<10	143	0	-	121	<10.000	13.9		<10.000	<10.000	<10.000	143	11.9	<10.000	81.3	<10.000	<10.000	
Sulphate as %SO4	%	<0.0002	0.125	0.122	-														0.001
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-	53700	15000	47400	1080	40800	400	1020	32100	14600	47300	1050	17200	580	
Cyanide, Total	µg/l	<50	2190	2190	-	352	<50.000	105	<50.000	<50.000	<50.000	83	400	50	103	<50.000	<50.000	<50.000	<50.000
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	-	56800	15800	50300	1140	43200	423	1080	33900	15600	50100	1120	18300	615	<300.000
Ammoniacal Nitrogen as N - Calculated	µg/l		104222	104222	-	44177.8	12288.9	39122.2	886.7	33600.0	329.0	840.0	26366.7	12133.3	38966.7	871.1	14233.3	478.3	
free ammonia (calculated)	µg/l		1097	1097	600														
Cyanide, Free	µg/l	<50	50	50	1	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000
Cyanide, Complex	µg/l	<50	2180	2180	-	352	<50.000	105	<50.000	<50.000	<50.000	83	400	50	103	<50.000	<50.000	<50.000	<50.000
Nitrate as NO3	µg/l	<300	72500	45700	-	<300.000	<300.000	<300.000	72500	16400	47900	956	<300.000	<300.000	<300.000	66700	19700	44200	
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-	400000	190000	655000	2220000	280000	250000	260000	275000	195000	645000	355000	290000	250000	168000
Chloride	µg/l	<2000	275000	275000	-														4400
Nitrate as N	µg/l	<67.7	10900	10300	-														1190
Cyanide, Total (low level)	µg/l	<5	4430	4430	-														
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	1														
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-														
Filtered (Dissolved) Metals																			
Iron, Ferric	µg/l	<50	22600	22600	-	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000
Chromium, Hexavalent	µg/l	<30	30	30	3.4	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000
Chromium, Trivalent	µg/l	<30	30	0	4.7	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	0.07	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	50.00	21.6	9.81	2.7	2.25	1.85	0.235	1.36	12.1	8.74	26.8	1.4	1.43	0.481	<0.500
Barium (diss.filt)	µg/l	<0.03	159	94.9	-	38.5	30.1	43.5	159	66.8	45.7	49.7	26.7	29.1	33.8	73.3	46.8	42.5	18.1
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	-	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.070	<0.100
Iron (diss.filt)	µg/l	<19	34600	22800	1000.00	317	31.3	68.3	<19.000	<19.000	<19.000	39.2	181	45.5	82.5	<19.000	<19.000	<19.000	20.6
Boron (diss.filt)	µg/l	<9.4	397	397	2000	133	32.5	384	189	162	161	17.8	96	22	353	185	173	150	<10.000
Iron, Ferrous	µg/l	<100	33100	17300	-	4800	890	20900	<100.000	<100.000	<100.000	1500	1290	805	27400	<100.000	<100.000	<100.000	<100.000
Manganese II	µg/l	<200	1970	0	-	417	347	558	304	504	<200.000	750	1970	408	651	<200.000	591	<200.000	
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	0.25	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.080
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	-	3.57	2.51	9.02	3.7	3.82	4.15	2.89	3.02	2.12	8.1	3.95	3.6	3.07	<1.000
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	1	3.67	1.47	2.53	1.36	2.03	1.31	1.53	2.18	0.977	1.45	1.01	1.26	1.29	2.98
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	1.2	0.053	0.033	0.02	0.075	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.07	<0.020	0.037	<0.200
Manganese (diss.filt)	µg/l	<0.04	3800	0	123.00	1430	240	3800	26.7	693	225	648	1390	208	3380	49.2	541	136	
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	4.00	10.8	2.13	6.26	2.91	11.8	4.84	21.3	6.95	2.21	5.27	3.55	10.8	3.98	0.999
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	-	5.12	1.57	1.72	20.8	1.83	4.25	0.904	2.73	<0.390	1.05	12.8	1.3	2.84	1.41
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	1.72	0.958	2.58	6.63	1.2	1.31	0.792	1.4	0.768	2.39	3.16	1.26	0.911	<1.000
Zinc (diss.filt)	µg/l	<0.41	197	31.4	10.9	3.37	1.66	2.69	1.3	3.67	4.69	1.21	2.09	1.74	2.97	1.55	3.28	4.57	2.3
Hardness, Total as CaCO3	TM152	µg/l	1530000	1530000	-														
Manganese (tot.unfilt)	TM152	µg/l	4270	4270	123														
Phenols																			
Resorcinol (low level)	µg/l	<0.5	5	5	-														
Catechol (low level)	µg/l	<0.5	5	5	-														
Resorcinol	µg/l	<10	320	320	-														<10.000
Catechol	µg/l	<10	270	270	-														<10.000
Phenol (low level)	µg/l	<0.5	13.3	13.3	-														
Cresols (low level)	µg/l	<0.5	69.9	69.9	-														
Phenol	µg/l	<2	3050	3050	7.7	10	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Cresols	µg/l	<6	2360	2360	-	40	<6.000	<6.000	<6.000	30	<6.000	<6.000	20	<6.000	<6.000	<6.000	<6.000	<6.000	<6.000
Xylenols (low level)	µg/l	<0.5	170	170	-														
1-Naphthol (low level)	µg/l	<0.5	5	5	-														
Xylenols	µg/l	<8	1990	1990	-	<8.000	<8.000	<8.000	<8.000	50	<8.000	&lt							

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

			Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101
						24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
Test	Units	LOD				AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG
TPH Criteria Working Group (TPH CWG)																			
GRO Surrogate % recovery**	%		114	114	-	87	94	83	86	88	78	83	84	81	77	84	90	87	100
GRO >C5-C12	µg/l	<50	7130	5280	-	855	<50.000	<50.000	<50.000	<50.000	<50.000	1150	394	<50.000	<50.000	<50.000	<50.000	<50.000	292
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	
Benzene	µg/l	<7	7	0	-	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	<7.000	
Toluene	µg/l	<4	21	0	-	21	<4.000	<4.000	<4.000	<4.000	<4.000	5	9	<4.000	<4.000	<4.000	<4.000	<4.000	
Ethylbenzene	µg/l	<5	23	0	-	23	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	11	<5.000	<5.000	<5.000	<5.000	<5.000	
m,p-Xylene	µg/l	<8	97	0	-	97	<8.000	<8.000	<8.000	<8.000	<8.000	<8.000	45	<8.000	<8.000	<8.000	<8.000	<8.000	
o-Xylene	µg/l	<3	58	0	-	58	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	26	<3.000	<3.000	<3.000	<3.000	<3.000	
Sum of detected Xylenes	µg/l	<11	155	0	-	155	<11.000	<11.000	<11.000	<11.000	<11.000	<11.000	71	<11.000	<11.000	<11.000	<11.000	<11.000	
Sum of detected BTEX	µg/l	<28	199	0	-	199	<28.000	<28.000	<28.000	<28.000	<28.000	<28.000	91	<28.000	<28.000	<28.000	<28.000	<28.000	
Aliphatics >C5-C6	µg/l	<10	1920	328	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	998	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	43
Aliphatics >C6-C8	µg/l	<10	105	105	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	52	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	38
Aliphatics >C8-C10	µg/l	<10	840	521	N/A	86	<10.000	<10.000	<10.000	<10.000	<10.000	50	53	<10.000	<10.000	<10.000	<10.000	<10.000	121
Aliphatics >C10-C12	µg/l	<10	2570	1890	N/A	299	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	121	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	-	42	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	23	<10.000	<10.000	80	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	42	20	37	536	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	107	20	37	616	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	10.00	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC7-EC8	µg/l	<10	1010	1010	74	21	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC8-EC10	µg/l	<10	1070	892	20	235	<10.000	<10.000	<10.000	<10.000	<10.000	34	118	<10.000	<10.000	<10.000	<10.000	<10.000	81
Aromatics >EC10-EC12	µg/l	<10	1710	1260	2.00	200	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	80	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	2.00	260	15	<10.000	<10.000	58	<10.000	<10.000	478	12	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	0.10	134	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	75	10	<10.000	<10.000	<10.000	<10.000	<10.000
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	0.02	115	<10.000	<10.000	79	<10.000	<10.000	<10.000	16	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	509	15	<10.000	79	58	<10.000	<10.000	569	22	<10.000	<10.000	<10.000	<10.000	<10.000
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	1470	35	37	695	61	<10.000	1150	963	22	<10.000	<10.000	<10.000	<10.000	291
Polyaromatic Hydrocarbons (PAHs)																			
Naphthalene (aq)	µg/l	<0.1	2650	2650	2	<1.000	<0.100	<0.100	<0.500	<0.500	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	0.0269
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	10.2	1.84	0.0172	<0.075	<0.075	<0.015	<0.015	13.7	2.14	<0.015	<0.015	<0.015	<0.015	<0.005
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	13.3	0.147	0.0156	<0.055	<0.055	<0.011	<0.011	20.1	0.208	<0.011	<0.011	<0.011	<0.011	<0.005
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	0.0063	3.45	0.432	0.0596	<0.085	<0.085	<0.017	<0.017	1.02	0.603	<0.017	<0.017	<0.017	<0.017	<0.005
Anthracene (aq)	µg/l	<0.015	6.06	6.06	0.1	5.05	0.0338	<0.015	<0.075	<0.075	<0.015	<0.015	1.76	0.0262	<0.015	<0.015	<0.015	<0.015	<0.005
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	12.5	0.0237	0.0361	<0.110	<0.110	<0.022	<0.022	0.131	<0.022	<0.022	<0.022	<0.022	<0.022	<0.005
Fluorene (aq)	µg/l	<0.014	18	17.9	-	18	0.564	0.0162	<0.070	<0.070	<0.014	<0.014	11.1	0.426	0.0153	<0.014	<0.014	<0.014	<0.005
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	1.4	0.0203	0.025	<0.065	<0.065	<0.013	<0.013	0.11	0.0333	<0.013	<0.013	<0.013	<0.013	<0.005
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	4.15	0.211	0.0639	0.0753	<0.075	<0.015	<0.015	0.924	0.235	<0.015	<0.015	<0.015	<0.015	<0.005
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	1.46	<0.017	<0.017	<0.085	<0.085	<0.017	<0.017	0.15	0.0322	<0.017	<0.017	<0.017	<0.017	<0.005
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	0.804	0.0313	0.0411	<0.115	<0.115	<0.023	<0.023	0.0651	0.0444	<0.023	<0.023	<0.023	<0.023	<0.005
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5	-	0.386	<0.027	<0.027	<0.135	<0.135	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.027	<0.005
Benzo(a)pyrene (aq)	µg/l	<0.009	1.09	0.365	0.00	1.09	0.0246	0.0341	0.0553	<0.045	<0.009	<0.009	0.0599	0.0262	<0.009	<0.009	<0.009	<0.009	<0.002
Dibenzo(a,h)anthracene (aq)	µg/l	<0.016	0.5	0.5	-	<0.160	<0.016	<0.016	<0.080	<0.080	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.016	<0.005
Benzo(g,h,i)perylene (aq)	µg/l	<0.016	0.546	0.5	-	0.546	0.0218	0.0224	<0.080	<0.080	<0.016	<0.016	0.0261	0.0217	<0.016	<0.016	<0.016	<0.016	<0.005
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<0.014	0.518	0.5	-	0.518	0.0192	0.0212	<0.070	<0.070	<0.014	<0.014	0.0159	<0.014	<0.014	<0.014	<0.014	<0.014	<0.005
PAH sum of 4 (calculated)	µg/l		2.254	0	-	2.254	0.0993	0.1117	<0.400	<0.400	<0.080	<0.080	0.1341	0.1071	<0.080	<0.080	<0.080	<0.080	<0.020
PAH, Total Detected USEPA 16 (aq)	µg/l	<0.344	2720	2720	-	73	3.37	0.352	<1.720	<1.720	<0.344	<0.344	49.2	3.79	<0.344	<0.344	<0.344	<0.344	<0.082
Semi-Volatile Organic Compounds (SVOCs)																			
1,2,4-Trichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4,5-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4,6-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4-Dichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4-Dimethylphenol (aq)	µg/l	<1	22.5	22.5	-	6.39	<1.000		<1.000			<1.000	1.99	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,4-Dinitrotoluene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2,6-Dinitrotoluene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	&lt		

	<0.000	Concentration below the LOD																				
	0.000	Concentration in exceedance of the GAC																				
Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101			
						24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
						AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG			
4-Chloro-3-methylphenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Chloroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Chlorophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Methylphenol (aq)	µg/l	<1	524	524	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Nitroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
4-Nitrophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Azobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Acenaphthylene (aq)	µg/l	<1	20	20	-	15.3	<1.000		<1.000			<1.000	1.63	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Acenaphthene (aq)	µg/l	<1	20	20	-	8.49	1.51		<1.000			<1.000	2.06	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Anthracene (aq)	µg/l	<1	20	20	-	4.32	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
bis(2-Chloroethyl)ether (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	40	40	-	<2.000	<2.000		2.57			<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000			
Butylbenzyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(a)anthracene (aq)	µg/l	<1	20	20	-	1.42	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(b)fluoranthene (aq)	µg/l	<1	20	20	-	1.14	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(k)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(a)pyrene (aq)	µg/l	<1	20	20	-	1.01	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Benzo(g,h,i)perylene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Carbazole (aq)	µg/l	<1	20	20	-	4.83	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Chrysene (aq)	µg/l	<1	20	20	-	1.43	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Dibenzofuran (aq)	µg/l	<1	20	20	-	3.36	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
n-Dibutyl phthalate (aq)	µg/l	<1	20	20	-	1.02	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Diethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Dibenzo(a,h)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Dimethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
n-Dioctyl phthalate (aq)	µg/l	<5	100	100	-	<5.000	<5.000		<5.000			<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000			
Fluoranthene (aq)	µg/l	<1	20	20	-	3.18	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Fluorene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachlorobutadiene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Pentachlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Phenol (aq)	µg/l	<1	783	783	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
n-Nitroso-n-dipropylamine (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachloroethane (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Nitrobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Naphthalene (aq)	µg/l	<1	2110	2110	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Isophorone (aq)	µg/l	<1	20	20	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000			
Hexachlorocyclopentadiene (aq)	µg/l	<1	20																			

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101	BH102B	BH103A	BH104	BH105	BH106	BH107	BH101
						24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	24/11/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	15/12/2015	10/04/2019
						AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG	AL/RTG	AL/RTG	MG/AL/RTG	Chalk	Chalk	Chalk	MG
Benzene	µg/l	<1	2890	2890	10.000	4.78	<1.000	<1.000	<1.000	2.97	<1.000	4.63	2.26	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Trichloroethene	µg/l	<1	155	41.3	10.00	<1.000	<1.000		2			155	<1.000	<1.000	<1.000	<1.000	1.84	<1.000	36.4
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Toluene	µg/l	<1	1310	1310	74	24.4	<1.000	<1.000	<1.000	<1.000	<1.000	5.13	9.46	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Tetrachloroethene	µg/l	<1	956	647	10.00	<1.000	<1.000		6.33			293	<1.000	<1.000	<1.000	<1.000	6.05	<1.000	956
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Ethylbenzene	µg/l	<1	185	185	20	22.5	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	9.27	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
m,p-Xylene	µg/l	<1	622	622	-	95	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	37.7	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
o-Xylene	µg/l	<1	380	380	-	54	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	18.3	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Styrene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Isopropylbenzene	µg/l	<1	16.4	14.9	-	1.29	<1.000	<1.000	<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Propylbenzene	µg/l	<1	10.5	10.5	-	3.2	<1.000	<1.000	<1.000			<1.000	1.7	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	11.9	<1.000	<1.000	<1.000			<1.000	4.82	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	42.6	<1.000	<1.000	<1.000			<1.000	14.2	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Naphthalene	µg/l	<1	4060	4060	-	38.6	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000		<1.000			<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Sum of detected Xylenes	µg/l	<2	1000	1000	30	149.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	56.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000
Dissolved Gases																			
Methane, dissolved	µg/l	<1	11800	9050	-	19	8.37	62.5	21.5	25.4	<2.220	365	9.86	<2.220	82.3	36	11.4	2.82	<2.230
Ethene, dissolved	µg/l	<1	753	63.6	-														<1.000
Ethane, dissolved	µg/l	<1	29.4	29.4	-														<1.000
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	31500	11800	111000	18100	32200	18900	20400	24000	12500	119000	17400	28000	22600	7860
Propane, dissolved	µg/l	<1	9.04	9.04	-														<1.000

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				Max. from October 2019 and February 2020 rounds		BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
Test	Units	LOD	Total Maximum		EQS	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
Inorganics						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
Nitrite as NO2	µg/l	<50	2360	0	-											
pH	pH Units	<1	8.35	8.35	-	7.94	8.05	7.78	7.76	8.05	8.3	7.58	7.95	7.25	7.48	7.44
Sulphate	µg/l	<2000	635000	0	-											
Sulphide	µg/l	<10	143	0	-											
Sulphate as %SO4	%	<0.0002	0.125	0.122	-	0.0668	0.0316	0.0141	0.0111	0.00496	0.00535	0.019	0.00586	0.0426	0.125	0.00408
Ammoniacal Nitrogen as NH3	µg/l	<200	53700	0	-											
Cyanide, Total	µg/l	<50	2190	2190	-	1230	210	150	190	<50.000	<50.000	<50.000	<50.000	150	695	2160
Ammoniacal Nitrogen as NH4	µg/l	<300	179000	134000	-	15600	21200	6760	7350	2020	665	29400	<300.000	35000	8250	179000
Ammoniacal Nitrogen as N - Calculated	µg/l		104222	104222	-											
free ammonia (calculated)	µg/l		1097	1097	600											
Cyanide, Free	µg/l	<50	50	50	1	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000	<50.000
Cyanide, Complex	µg/l	<50	2180	2180	-	1200	180	150	160	<50.000	<50.000	<50.000	<50.000	150	672	2140
Nitrate as NO3	µg/l	<300	72500	45700	-											
Alkalinity, Total as CaCO3	µg/l	<2000	2220000	0	-	849000	539000	390000	347000	344000	348000	470000	348000	1080000	1630000	
Chloride	µg/l	<2000	275000	275000	-	20800	60700	40600	33700	44000	47300	90800	47300	40000	43100	13600
Nitrate as N	µg/l	<67.7	10900	10300	-	1140	3740	<67.700	<67.700	6810	8230	6340	10900	<67.700	<67.700	<67.700
Cyanide, Total (low level)	µg/l	<5	4430	4430	-											
Cyanide, Free (low level)	µg/l	<2.5	80.3	80.3	1											
Cyanide, Complex (low level)*	µg/l	<5	4350	4350	-											
Filtered (Dissolved) Metals																
Iron, Ferric	µg/l	<50	22600	22600	-	1370	223	270	170	214	<50.000	72.2	<50.000	1500	716	1300
Chromium, Hexavalent	µg/l	<30	30	30	3.4	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000	<30.000
Chromium, Trivalent	µg/l	<30	30	0	4.7											
Mercury (diss.filt)	µg/l	<0.01	0.0196	0.0196	0.07	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.0179	<0.010	<0.010
Arsenic (diss.filt)	µg/l	<0.12	69.3	69.3	50.00	5.2	2.1	10.4	11.1	0.509	<0.500	1.55	<0.500	68.5	2	14.5
Barium (diss.filt)	µg/l	<0.03	159	94.9	-	31.5	84.1	66.6	68.7	35.8	62.1	46.9	43.5	69.9	83.5	67.2
Beryllium (diss.filt)	µg/l	<0.07	0.1	0.1	-	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100	<0.100
Iron (diss.filt)	µg/l	<19	34600	22800	1000.00	1370	223	7500	8000	214	20.5	73.5	<19.000	34600	1430	6470
Boron (diss.filt)	µg/l	<9.4	397	397	2000	96.9	24.7	145	149	115	123	177	149	296	119	217
Iron, Ferrous	µg/l	<100	33100	17300	-	<100.000	<100.000	7230	7830	<100.000	<100.000	<100.000	<100.000	33100	714	5170
Manganese II	µg/l	<200	1970	0	-											
Cadmium (diss.filt)	µg/l	<0.1	0.1	0.08	0.25	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Chromium (diss.filt)	µg/l	<0.22	17.1	17.1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.84	<1.000	<1.000	3.35
Copper (diss.filt)	µg/l	<0.85	4.93	3.62	1	4.93	<0.300	0.572	0.631	<0.300	<0.300	0.916	0.535	<0.300	<0.300	<0.300
Lead (diss.filt)	µg/l	<0.02	14.9	14.9	1.2	0.204	<0.200	0.634	0.67	0.949	<0.200	0.231	<0.200	<0.200	0.433	0.259
Manganese (diss.filt)	µg/l	<0.04	3800	0	123.00											
Nickel (diss.filt)	µg/l	<0.15	27.9	27.9	4.00	3.48	5.89	1.73	1.36	2.48	4.27	27.3	2.35	2.88	4.75	2.8
Selenium (diss.filt)	µg/l	<0.39	23.5	23.5	-	1.56	<1.000	<1.000	<1.000	1.22	1.45	<1.000	1.46	<1.000	3.04	<1.000
Vanadium (diss.filt)	µg/l	<0.24	8.18	8.18	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	4.55
Zinc (diss.filt)	µg/l	<0.41	197	31.4	10.9	1.56	197	15.5	3.83	4.59	4.28	10.1	3.01	1.31	6.12	5.05
Hardness, Total as CaCO3	TM152	µg/l	1530000	1530000	-											
Manganese (tot.unfilt)	TM152	µg/l	4270	4270	123											
Phenols																
Resorcinol (low level)	µg/l	<0.5	5	5	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.000
Catechol (low level)	µg/l	<0.5	5	5	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.000
Resorcinol	µg/l	<10	320	320	-	<10.000		<10.000	<10.000							
Catechol	µg/l	<10	270	270	-	<10.000		<10.000	<10.000							
Phenol (low level)	µg/l	<0.5	13.3	13.3	-		0.7			<0.500	0.56	<0.500	<0.500	<0.500	0.62	<5.000
Cresols (low level)	µg/l	<0.5	69.9	69.9	-		<0.500			<0.500	<0.500	5.22	<0.500	<0.500	0.65	<5.000
Phenol	µg/l	<2	3050	3050	7.7	<2.000		<2.000	<2.000							
Cresols	µg/l	<6	2360	2360	-	<6.000		<6.000	<6.000							26.3
Xylenols (low level)	µg/l	<0.5	170	170	-		<0.500			0.96	<0.500	6.78	<0.500	<0.500	<0.500	
1-Naphthol (low level)	µg/l	<0.5	5	5	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	<5.000
Xylenols	µg/l	<8	1990	1990	-	<8.000		<8.000	<8.000							
1-Naphthol	µg/l	<10	30	30	-	<10.000		<10.000	<10.000							
2,3,5-Trimethylphenol (low level)	µg/l	<0.5	50.2	50.2	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	43
2,3,5-Trimethylphenol	µg/l	<3	240	240	-	<3.000		<3.000	<3.000							
2-Isopropylphenol (low level)	µg/l	<0.5	33.8	12.6	-		<0.500			<0.500	<0.500	<0.500	<0.500	<0.500	<0.500	33.8
2-Isopropylphenol	µg/l	<6	1020	1020	-	<6.000		<6.000	<6.000							
Phenols, Total Detected 8 Speciated	µg/l	<45	70	70	-	<45.000		<45.000	<45.000							
Phenols, Total Detected 5 speciated	µg/l	<25	0	0	-											

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
						10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
TPH Criteria Working Group (TPH CWG)																
GRO Surrogate % recovery**	%		114	114	-	103	107	107	96	105	113	101	102	85	97	112
GRO >C5-C12	µg/l	<50	7130	5280	-	55	<50.000	<50.000	338	<50.000	<50.000	<50.000	<50.000	<50.000	2080	7130
Methyl tertiary butyl ether (MTBE)	µg/l	<3	3	0	-											
Benzene	µg/l	<7	7	0	-											
Toluene	µg/l	<4	21	0	-											
Ethylbenzene	µg/l	<5	23	0	-											
m,p-Xylene	µg/l	<8	97	0	-											
o-Xylene	µg/l	<3	58	0	-											
Sum of detected Xylenes	µg/l	<11	155	0	-											
Sum of detected BTEX	µg/l	<28	199	0	-											
Aliphatics >C5-C6	µg/l	<10	1920	328	-	<10.000	<10.000	<10.000	286	<10.000	<10.000	<10.000	<10.000	<10.000	1920	27
Aliphatics >C6-C8	µg/l	<10	105	105	-	<10.000	<10.000	<10.000	11	<10.000	<10.000	<10.000	<10.000	<10.000	24	54
Aliphatics >C8-C10	µg/l	<10	840	521	N/A	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	27	840
Aliphatics >C10-C12	µg/l	<10	2570	1890	N/A	14	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	12	2570
Aliphatics >C12-C16 (aq)	µg/l	<10	111	111	-	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	17	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	180	100	-	<10.000	<10.000	180	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	100	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	893	322	-	<10.000	<10.000	781	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	893	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	1010	533	-	<10.000	<10.000	961	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	1010	<10.000
Aromatics >EC5-EC7	µg/l	<10	2140	2140	10.00	<10.000	<10.000	<10.000	11	<10.000	<10.000	<10.000	<10.000	<10.000	38	803
Aromatics >EC7-EC8	µg/l	<10	1010	1010	74	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	19	56
Aromatics >EC8-EC10	µg/l	<10	1070	892	20	17	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	24	1070
Aromatics >EC10-EC12	µg/l	<10	1710	1260	2.00	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	1710
Aromatics >EC12-EC16 (aq)	µg/l	<10	875	875	2.00	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	163
Aromatics >EC16-EC21 (aq)	µg/l	<10	347	347	0.10	<10.000	<10.000	19	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	97
Aromatics >EC21-EC35 (aq)	µg/l	<10	351	351	0.02	<10.000	<10.000	155	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	136
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	1570	1570	-	<10.000	<10.000	174	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	<10.000	396
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	7520	7380	-	55	<10.000	1140	338	<10.000	<10.000	<10.000	<10.000	<10.000	3090	7520
Polyaromatic Hydrocarbons (PAHs)																
Naphthalene (aq)	µg/l	<0.1	2650	2650	2	<0.010	0.0306	0.0707	0.0311	0.0174	<0.010	<0.010	<0.010	<0.010	<0.010	0.0984
Acenaphthene (aq)	µg/l	<0.015	32.3	32.3	-	0.15	0.0345	0.0519	0.026	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.11
Acenaphthylene (aq)	µg/l	<0.011	20.1	2.97	-	0.0678	0.00809	0.0499	0.0225	<0.005	0.0113	<0.005	<0.005	<0.005	<0.005	0.482
Fluoranthene (aq)	µg/l	<0.017	6.8	6.8	0.0063	0.0217	<0.005	0.241	0.0183	<0.005	<0.005	<0.005	<0.005	<0.005	0.116	0.531
Anthracene (aq)	µg/l	<0.015	6.06	6.06	0.1	<0.005	<0.005	0.0227	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0106	0.0669
Phenanthrene (aq)	µg/l	<0.022	21.4	21.4	-	<0.005	<0.005	0.0552	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.025	0.109
Fluorene (aq)	µg/l	<0.014	18	17.9	-	0.0229	<0.005	0.00531	0.00721	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.136
Chrysene (aq)	µg/l	<0.013	1.4	0.5	-	0.00509	<0.005	0.243	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0664	0.345
Pyrene (aq)	µg/l	<0.015	7.03	7.03	-	0.0218	<0.005	0.415	0.0223	<0.005	<0.005	<0.005	<0.005	<0.005	0.121	1.55
Benzo(a)anthracene (aq)	µg/l	<0.017	1.46	0.5	-	<0.005	<0.005	0.174	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0613	0.327
Benzo(b)fluoranthene (aq)	µg/l	<0.023	0.804	0.5	-	0.0216	<0.005	0.601	0.0129	<0.005	<0.005	<0.005	<0.005	<0.005	0.205	0.701
Benzo(k)fluoranthene (aq)	µg/l	<0.027	0.5	0.5	-	0.00723	<0.005	0.23	0.00526	<0.005	<0.005	<0.005	<0.005	<0.005	0.0917	0.269
Benzo(a)pyrene (aq)	µg/l	<0.009	1.09	0.365	0.00	0.023	<0.002	0.371	0.00975	<0.002	<0.002	<0.002	<0.002	<0.002	0.136	0.53
Dibenzo(a,h)anthracene (aq)	µg/l	<0.016	0.5	0.5	-	<0.005	<0.005	0.0628	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.0216	0.0744
Benzo(g,h,i)perylene (aq)	µg/l	<0.016	0.546	0.5	-	<0.005	<0.005	0.415	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.152	0.354
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<0.014	0.518	0.5	-	0.00961	<0.005	0.295	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.138	0.329
PAH sum of 4 (calculated)	µg/l		2.254	0	-	0.04344	<0.020	1.541	0.02816	<0.020	<0.020	<0.020	<0.020	<0.020	0.5867	1.653
PAH, Total Detected USEPA 16 (aq)	µg/l	<0.344	2720	2720	-	0.351	<0.082	3.3	0.155	<0.082	<0.082	<0.082	<0.082	<0.082	1.14	6.01
Semi-Volatile Organic Compounds (SVOCs)																
1,2,4-Trichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
1,2-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
1,3-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
1,4-Dichlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
2,4,5-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
2,4,6-Trichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
2,4-Dichlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<></									

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
						10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
4-Chloro-3-methylphenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Chloroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Chlorophenylphenylether (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Methylphenol (aq)	µg/l	<1	524	524	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Nitroaniline (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
4-Nitrophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Azobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Acenaphthylene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Acenaphthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
bis(2-Chloroethyl)ether (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	40	40	-	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<4.000	<2.000	
Butylbenzyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(a)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(b)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(k)fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(a)pyrene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Benzo(g,h,i)perylene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Carbazole (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Chrysene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Dibenzofuran (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
n-Dibutyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Diethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Dibenzo(a,h)anthracene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Dimethyl phthalate (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
n-Dioctyl phthalate (aq)	µg/l	<5	100	100	-	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<5.000	<10.000	<5.000	
Fluoranthene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Fluorene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachlorobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachlorobutadiene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Pentachlorophenol (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Phenol (aq)	µg/l	<1	783	783	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
n-Nitroso-n-diisopropylamine (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachloroethane (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Nitrobenzene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Naphthalene (aq)	µg/l	<1	2110	2110	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Isophorone (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Hexachlorocyclopentadiene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Phenanthrene (aq)	µg/l	<1	36.6	36.6	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Pyrene (aq)	µg/l	<1	20	20	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<2.000	<1.000	
Volatile Organic Compounds (VOCs)																
Dibromofluoromethane**	%		129	129	-	122	119	124	112	123	122	107	110	112	108	111
Toluene-d8**	%		112	112	-	102	103	101	101	104	103	99.9	100	100	98.4	95.3
4-Bromofluorobenzene**	%		106	104	-	101	102	100	99.6	102	101	95.5	97.5	96.4	95.6	106
Dichlorodifluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Vinyl chloride	µg/l	<1	2750	206	-	<1.000	<1.000	26.4	323	<1.000	<1.000	<1.000	<1.000	<1.000	2750	3.64
Bromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Trichlorofluoromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1-Dichloroethene	µg/l	<1	4.9	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.17	<1.000
Carbon disulphide	µg/l	<1	3.51	3.51	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dichloromethane	µg/l	<3	3	3	-	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000	<3.000
Methyl tertiary butyl ether (MTBE)	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
trans-1,2-Dichloroethene	µg/l	<1	14.3	4.87	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	14.3	<1.000
1,1-Dichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,2-Dichloroethene	µg/l	<1	5610	1100	-	<1.000	<1.000	47.6	1010	<1.000	<1.000	<1.000	<1.000	<1.000	5610	3.32
2,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromochloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chloroform	µg/l	<1	2.85	1.73	-	<1.000	<1.000	<1.000	<1.000	<1.000	1.44	<1.000	1.22	<1.000	<1.000	<1.000
1,1,1-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Carbontetrachloride	µg/l	<1	3.59	3.59	-	<1.000	<1.000	<1.000	<1.000	<1.000	2.33	<1.000	3.23	<1.000	<1.000	<1.000
1,2-Dichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

Test	Units	LOD	Total Maximum	Max. from October 2019 and February 2020 rounds	EQS	BH102B	BH103A	BH105A	BH201	BH203C	BH204	BH106	BH107	BH104	WS206	BH202D
						10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	10/04/2019	15/04/2019	15/04/2019	17/04/2019	17/04/2019	20/06/2019
						AL/RTG	AL/RTG	Chalk	RTG	RTG	RTG	Chalk	Chalk	MG/AL/RTG	MG	Chalk
Benzene	µg/l	<1	2890	2890	10.000	<1.000	<1.000	9.29	12.2	<1.000	<1.000	1.37	<1.000	<1.000	45.2	712
Trichloroethene	µg/l	<1	155	41.3	10.00	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	2.98	42.8
1,2-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Dibromomethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromodichloromethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
cis-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Toluene	µg/l	<1	1310	1310	74	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	21.8	45.9
trans-1,3-Dichloropropene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,2-Trichloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3-Dichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Tetrachloroethene	µg/l	<1	956	647	10.00	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	127	<1.000
Dibromochloromethane	µg/l	<1	1.4	1.4	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromoethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Chlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,1,1,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Ethylbenzene	µg/l	<1	185	185	20	1.09	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.92	5.21
m,p-Xylene	µg/l	<1	622	622	-	4.8	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.47	234
o-Xylene	µg/l	<1	380	380	-	3	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	2.54	208
Styrene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromoform	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Isopropylbenzene	µg/l	<1	16.4	14.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	16.4
1,1,2,2-Tetrachloroethane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Bromobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Propylbenzene	µg/l	<1	10.5	10.5	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
2-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trimethylbenzene	µg/l	<1	109	66.6	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	109
4-Chlorotoluene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Butylbenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trimethylbenzene	µg/l	<1	348	228	-	1.58	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	348
sec-Butylbenzene	µg/l	<1	1.24	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	1.24
4-iso-Propyltoluene	µg/l	<1	11.4	7.9	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	11.4
1,3-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
n-Butylbenzene	µg/l	<1	3.94	3.94	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2-Dibromo-3-chloropropane	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,2,4-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
tert-Amyl methyl ether (TAME)	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Naphthalene	µg/l	<1	4060	4060	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	283
1,2,3-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
1,3,5-Trichlorobenzene	µg/l	<1	1	1	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000
Sum of detected Xylenes	µg/l	<2	1000	1000	30	7.8	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	<2.000	4.01	442
Dissolved Gases																
Methane, dissolved	µg/l	<1	11800	9050	-	94.6	18.8	285	361	40.4	1.71	21	1.27	58.2	136	11800
Ethene, dissolved	µg/l	<1	753	63.6	-	<1.000	<1.000	14	96.4	<1.000	<1.000	<1.000	<1.000	<1.000	753	<19.400
Ethane, dissolved	µg/l	<1	29.4	29.4	-	<1.000	<1.000	3.94	5.8	<1.000	<1.000	<1.000	<1.000	<1.000	6.94	27.8
Carbon dioxide, dissolved	µg/l	<1300	174000	136000	-	29400	36900	31100	25200	21700	24200	39600	26700	136000	37400	174000
Propane, dissolved	µg/l	<1	9.04	9.04	-	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	<1.000	3.36	3.97

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				SW01 (downstream)	SW02 (upstream)	Downstream	Upstream
				11/02/2020	11/02/2020	01/10/2019	01/10/2019
Test	Units	LOD	AA-EQS				
Carbon							
Carbon, Organic (diss.filt)	µg/l	<3000		5910	6750	-	-
Inorganics							
pH (diss.filt)	pH Units	<1	-	8.26	8.07	7.99	8
Chloride	µg/l	<2000	-	29700	29500	38700	37900
Cyanide, Total	µg/l	<50	-	<50.000	<50.000	-	-
Ammoniacal Nitrogen as NH4	µg/l	<300	-	<300.000	<300.000	396	<300.000
Cyanide, Free	µg/l	<50	-	<50.000	<50.000	-	-
Cyanide, Complex	µg/l	<50	-	<50.000	<50.000	-	-
Nitrate as NO3	µg/l	<300	-	24200	24000	-	-
Nitrate as N	µg/l	<67.7	-	-	-	5510	5320
Sulphate as %SO4	%	<0.0002	-	0.00281	0.00251	-	-
Cyanide, Total (low level)	µg/l	<5	-	-	-	<5.000	<5.000
Cyanide, Free (low level)	µg/l	<2.5	-	-	-	<2.500	<2.500
Cyanide, Complex (low level)*	µg/l	<5	-	-	-	<5.000	<5.000
Filtered (Dissolved) Metals							
Iron, Ferric	µg/l	<50	-	120	<50.000	<50.000	<50.000
Chromium, Hexavalent	µg/l	<30	-	<30.000	<30.000	<30.000	<30.000
Mercury (diss.filt)	µg/l	<0.01	-	<0.010	<0.010	<0.010	<0.010
Arsenic (diss.filt)	µg/l	<0.5	50	0.751	0.723	0.69	0.655
Barium (diss.filt)	µg/l	<0.2	-	19.7	20.5	22.6	22.5
Beryllium (diss.filt)	µg/l	<0.1	-	<0.100	<0.100	<0.100	<0.100
Boron (diss.filt)	µg/l	<10	2000	26.4	17.1	34.8	30.1
Iron, Ferrous	µg/l	<100	-	<100.000	<100.000	<100.000	<100.000
Cadmium (diss.filt)	µg/l	<0.08	-	<0.080	<0.080	<0.080	0.293
Chromium (diss.filt)	µg/l	<1	4.7	10.9	<1.000	<1.000	7.27
Copper (diss.filt)	µg/l	<0.3	1	2.84	1.42	1.33	1.25
Lead (diss.filt)	µg/l	<0.2	1.2	0.236	<0.200	<0.200	<0.200
Nickel (diss.filt)	µg/l	<0.4	4	3.63	1.86	1.55	1.48
Selenium (diss.filt)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Vanadium (diss.filt)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Zinc (diss.filt)	µg/l	<1	10.9	27.8	4.15	8.84	7.76
Iron (Dis.Filt)	µg/l	<19	1000	120	43.5	40.3	26.1
Hardness, Total as CaCO3	µg/l	<650	-	244000	263000	288000	288000
Unfiltered (Total) Metals							
Manganese (tot.unfilt)	µg/l	<1	-	31.3	26.1	15.2	19
Calcium (Tot. Unfilt.)	µg/l	<57	-	102000	98800	-	-
Phenols							
Resorcinol (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
Catechol (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
Resorcinol	µg/l	<10	-	-	-	<10.000	<10.000
Catechol	µg/l	<10	-	-	-	<10.000	<10.000
Phenol (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
Cresols (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
Phenol	µg/l	<2	-	-	-	<2.000	<2.000
Cresols	µg/l	<6	-	-	-	<6.000	<6.000
Xylenols (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
1-Naphthol (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
Xylenols	µg/l	<8	-	-	-	<8.000	<8.000
1-Naphthol	µg/l	<10	-	-	-	<10.000	<10.000
2,3,5-Trimethylphenol (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
2,3,5-Trimethylphenol	µg/l	<3	-	-	-	<3.000	<3.000
2-Isopropylphenol (low level)	µg/l	<0.5	-	<0.500	<0.500	-	-
2-Isopropylphenol	µg/l	<6	-	-	-	<6.000	<6.000
Phenols, Total Detected 8 Speciated	µg/l	<45	-	-	-	<45.000	<45.000

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				SW01 (downstream)	SW02 (upstream)	Downstream	Upstream
				11/02/2020	11/02/2020	01/10/2019	01/10/2019
Test	Units	LOD	AA-EQS				
TPH Criteria Working Group (TPH CWG)							
GRO Surrogate % recovery**	%		-	101	104	106	94
GRO >C5-C12	µg/l	<50	-	<50.000	<50.000	<50.000	<50.000
Aliphatics >C5-C6	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aliphatics >C6-C8	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aliphatics >C8-C10	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aliphatics >C10-C12	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aliphatics >C12-C16 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aliphatics >C16-C21 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aliphatics >C21-C35 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Total Aliphatics >C12-C35 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aromatics >EC5-EC7	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aromatics >EC7-EC8	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aromatics >EC8-EC10	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aromatics >EC10-EC12	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aromatics >EC12-EC16 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aromatics >EC16-EC21 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Aromatics >EC21-EC35 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Total Aromatics >EC12-EC35 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Total Aliphatics & Aromatics >C5-35 (aq)	µg/l	<10	-	<10.000	<10.000	<10.000	<10.000
Polyaromatic Hydrocarbons (PAHs)							
Naphthalene (aq)	µg/l	<0.01	-	<0.010	<0.010	<0.010	<0.010
Acenaphthene (aq)	µg/l	<0.005	-	<0.005	<0.005	<0.005	<0.005
Acenaphthylene (aq)	µg/l	<0.005	-	<0.005	<0.005	0.0569	<0.005
Fluoranthene (aq)	µg/l	<0.005	0.0062	0.0239	0.0246	0.0399	0.0276
Anthracene (aq)	µg/l	<0.005	0.1	<0.005	<0.005	0.0151	0.0112
Phenanthrene (aq)	µg/l	<0.005	-	0.00854	0.0113	0.0696	0.0421
Fluorene (aq)	µg/l	<0.005	-	<0.005	<0.005	0.0124	<0.005
Chrysene (aq)	µg/l	<0.005	-	<0.005	0.0158	0.0123	<0.005
Pyrene (aq)	µg/l	<0.005	-	0.0209	0.0228	0.0434	0.027
Benzo(a)anthracene (aq)	µg/l	<0.005	-	<0.005	0.0122	0.0144	<0.005
Benzo(b)fluoranthene (aq)	µg/l	<0.005	-	0.0217	0.0146	0.00988	0.00845
Benzo(k)fluoranthene (aq)	µg/l	<0.005	-	0.00882	0.00795	<0.005	<0.005
Benzo(a)pyrene (aq)	µg/l	<0.002	0.00017	0.0154	0.0129	0.00583	0.00657
Dibenzo(a,h)anthracene (aq)	µg/l	<0.005	-	<0.005	<0.005	<0.005	<0.005
Benzo(g,h,i)perylene (aq)	µg/l	<0.005	-	<0.005	0.0174	<0.005	<0.005
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<0.005	-	0.014	0.00747	<0.005	<0.005
PAH, Total Detected USEPA 16 (aq)	µg/l	<0.082	-	0.113	0.147	0.28	0.123
Semi-Volatile Organic Compounds (SVOCs)							
1,2,4-Trichlorobenzene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,3-Dichlorobenzene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2,4,5-Trichlorophenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2,4,6-Trichlorophenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2,4-Dichlorophenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2,4-Dimethylphenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2,4-Dinitrotoluene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2,6-Dinitrotoluene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2-Chloronaphthalene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2-Chlorophenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2-Methylnaphthalene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2-Methylphenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2-Nitroaniline (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2-Nitrophenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
3-Nitroaniline (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Bromophenylphenylether (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Chloro-3-methylphenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Chloroaniline (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Chlorophenylphenylether (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Methylphenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Nitroaniline (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Nitrophenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Azobenzene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Acenaphthylene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				SW01 (downstream)	SW02 (upstream)	Downstream	Upstream
				11/02/2020	11/02/2020	01/10/2019	01/10/2019
Test	Units	LOD	AA-EQS				
Acenaphthene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Anthracene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
bis(2-Chloroethyl)ether (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
bis(2-Chloroethoxy)methane (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
bis(2-Ethylhexyl) phthalate (aq)	µg/l	<2	-	<2.000	<2.000	<2.000	<2.000
Butylbenzyl phthalate (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Benzo(a)anthracene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Benzo(b)fluoranthene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Benzo(k)fluoranthene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Benzo(a)pyrene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Benzo(g,h,i)perylene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Carbazole (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Chrysene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Dibenzofuran (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
n-Dibutyl phthalate (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Diethyl phthalate (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Dibenzo(a,h)anthracene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Dimethyl phthalate (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
n-Dioctyl phthalate (aq)	µg/l	<5	-	<5.000	<5.000	<5.000	<5.000
Fluoranthene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Fluorene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Hexachlorobenzene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Pentachlorophenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Phenol (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
n-Nitroso-n-dipropylamine (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Hexachloroethane (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Nitrobenzene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Naphthalene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Isophorone (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Hexachlorocyclopentadiene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Phenanthrene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Indeno(1,2,3-cd)pyrene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Pyrene (aq)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Volatile Organic Compounds (VOCs)							
Dibromofluoromethane**	%		-	118	119	114	118
Toluene-d8**	%		-	108	98.3	102	102
4-Bromofluorobenzene**	%		-	97.2	100	99.3	98.8
Dichlorodifluoromethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Chloromethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Vinyl chloride	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Bromomethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Chloroethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Trichlorofluoromethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,1-Dichloroethene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Carbon disulphide	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Dichloromethane	µg/l	<3	-	<3.000	<3.000	<3.000	<3.000
Methyl tertiary butyl ether (MTBE)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
trans-1,2-Dichloroethene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,1-Dichloroethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
cis-1,2-Dichloroethene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2,2-Dichloropropane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Bromochloromethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Chloroform	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,1,1-Trichloroethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,1-Dichloropropene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Carbontetrachloride	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2-Dichloroethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Benzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Trichloroethene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2-Dichloropropane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Dibromomethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Bromodichloromethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
cis-1,3-Dichloropropene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Toluene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000

<0.000	Concentration below the LOD
0.000	Concentration in exceedance of the GAC

				SW01 (downstream)	SW02 (upstream)	Downstream	Upstream
				11/02/2020	11/02/2020	01/10/2019	01/10/2019
Test	Units	LOD	AA-EQS				
trans-1,3-Dichloropropene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,1,2-Trichloroethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,3-Dichloropropane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Tetrachloroethene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Dibromochloromethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2-Dibromoethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Chlorobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,1,1,2-Tetrachloroethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Ethylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
m,p-Xylene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
o-Xylene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Styrene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Bromoform	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Isopropylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,1,2,2-Tetrachloroethane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2,3-Trichloropropane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Bromobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Propylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
2-Chlorotoluene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,3,5-Trimethylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-Chlorotoluene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
tert-Butylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2,4-Trimethylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
sec-Butylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
4-iso-Propyltoluene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,3-Dichlorobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,4-Dichlorobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
n-Butylbenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2-Dichlorobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2-Dibromo-3-chloropropane	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,2,4-Trichlorobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Hexachlorobutadiene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
tert-Amyl methyl ether (TAME)	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Naphthalene	µg/l	<1	-	<1.000	<1.000	1.04	<1.000
1,2,3-Trichlorobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
1,3,5-Trichlorobenzene	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Sum of detected Xylenes	µg/l	<2	-	<2.000	<2.000	<2.000	<2.000
Dissolved Gases							
Methane, dissolved	µg/l	<1	-	2.54	2.63	4.2	3.6
Ethene, dissolved	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Ethane, dissolved	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000
Carbon dioxide, dissolved	µg/l	<1300	-	6460	5730	5530	6360
Propane, dissolved	µg/l	<1	-	<1.000	<1.000	<1.000	<1.000

<0.000	Concentration below the LOD
0.000	Concentration above the GAC

				Residential with Open Public Space	SS301 0.00-0.00 17/09/2019	SS302 0.00-0.00 17/09/2019	SS303 0.00-0.00 17/09/2019	SS304 0.00-0.00 17/09/2019	SS305 0.00-0.00 17/09/2019
Test	Units	LOD	Max						
Colour	No units				Dark Brown	Dark Brown	Dark Brown	Dark Brown	Dark Brown
Description	No units				Sandy Loam	Sandy Loam	Sandy Loam	Sandy Loam	Loamy Sand
Inclusion 1)	No units				Stones	Vegetation	Vegetation	Stones	Stones
Inclusion 2)	No units				Vegetation	None	None	Vegetation	Vegetation
Moisture Content Ratio (% of as received sample)	%				82	7.6	14	6.7	2.6
Asbestos									
Date of Analysis	No units				27/09/19	27/09/19	27/09/19	27/09/2019	27/09/2019
Analysed By	No units				Andrzej Ferfecki	Andrzej Ferfecki	Andrzej Ferfecki	Agnieszka Chelmowska	Agnieszka Chelmowska
Chrysotile (White) Asbestos	No units				Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Amosite (Brown) Asbestos	No units				Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Crocidolite (Blue) Asbestos	No units				Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Fibrous Anthophyllite	No units				Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Fibrous Tremolite	No units				Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Fibrous Actinolite	No units				Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Non-Asbestos Fibre	No units				Not Detected	Not Detected	Detected	Detected	Not Detected
Comments	No units				-	-	-	-	-
Carbon									
Fraction Organic Carbon (FOC)	No units	<0.002		-	0.179	0.224	0.15	0.161	0.126
Inorganics									
Water Soluble Sulphate as SO4 2:1 Extract	g/l	<0.004		-	0.0396	0.005	0.0545	<0.004	<0.004
pH	pH Units	<1		-	7.09	7.61	7.69	7.4	7.37
Nitrite as NO2, 2:1 water soluble	mg/kg	<2		-	2.76	27.5	7.59	0.44	3.24
Ammoniacal N as NH4 in 2:1 extract BRE	g/l	<0.0003		-	0.00898	0.00755	0.00402	0.00737	0.00843
Loss on ignition	%	<0.7		-	48.6	41.1	26.7	25.6	33.5
Sulphide, Easily liberated	mg/kg	<15		-	<15.000	<15.000	<15.000	<15.000	<15.000
Cyanide, Complex	mg/kg	<1		-	122	7.16	3.14	7.3	5.45
Metals									
Chromium, Hexavalent	mg/kg	<0.6	0	5.7	<0.600	<0.600	<0.600	<0.600	<0.600
Boron, water soluble	mg/kg	<1	9.2	20,500	9.2	6.46	3.22	4.9	4.09
Arsenic	mg/kg	<0.6	19.6	79	19.6	18.4	11.3	12	11.4
Barium	mg/kg	<0.6	424	2,680	211	424	196	207	115
Beryllium	mg/kg	<0.01	1.69	2.2	0.479	0.526	0.707	1.69	0.531
Cadmium	mg/kg	<0.02	0.643	120	0.643	0.511	0.443	0.395	0.563
Chromium	mg/kg	<0.9	27.4	2,140	16	10.5	16.9	27.4	13.9
Copper	mg/kg	<1.4	268	12,500	103	80.2	146	268	69.5
Lead	mg/kg	<0.7	260	375	260	147	149	212	134
Mercury	mg/kg	<0.14	6.42	124	6.42	<0.140	<0.140	<0.140	<0.140
Nickel	mg/kg	<0.2	51.8	305	22.9	21.1	29.1	51.8	16.8
Selenium	mg/kg	<1	0	1140	<1.000	<1.000	<1.000	<1.000	<1.000
Vanadium	mg/kg	<0.2	29.2	2,110	19.9	15.4	18.8	28.3	18.7
Zinc	mg/kg	<19	990	80,700	424	442	667	990	351
Calcium	mg/kg	<210		-	34000	80000	42800	21100	37500
Phenols									
Phenol	mg/kg	<0.01	1.76	3200	1.76	0.866	0.766	<0.010	0.359
Cresols	mg/kg	<0.01	2.64	25,100	2.64	0.509	0.162	0.0643	0.277
Xylenols	mg/kg	<0.015	0.0643	-	<0.015	<0.015	<0.015	0.0643	<0.015
Phenols, Total Detected monohydric	mg/kg	<0.035	4.4	-	4.4	1.37	0.928	0.129	0.637
Total Petroleum Hydrocarbons									
GRO Surrogate % recovery**	%		95	-	88	95	71	56	57
GRO TOT (Moisture Corrected)	mg/kg	<0.1	0.88	-	0.88	<0.100	<0.100	<0.100	<0.100
Aliphatics >C5-C6	mg/kg	<0.01	0.198	604000	0.198	0.013	<0.010	<0.010	<0.010
Aliphatics >C6-C8	mg/kg	<0.01	0.314	616000	0.314	0.0206	<0.010	<0.010	0.0123
Aliphatics >C8-C10	mg/kg	<0.01	0.143	12600	0.143	<0.010	<0.010	<0.010	0.0123
Aliphatics >C10-C12	mg/kg	<0.01	0.0825	12600	0.0825	<0.010	<0.010	<0.010	0.0113
Aliphatics >C12-C16	mg/kg	<0.1	18.6	12,600	12.4	5.9	18.6	2.43	6.35
Aliphatics >C16-C21	mg/kg	<0.1	9.42	-	9.42	4.5	6.1	5.17	7.98
Aliphatics >C21-C35	mg/kg	<0.1	287	-	287	102	88.3	129	179
Aliphatics >C35-C44	mg/kg	<0.1	40.7	-	31	16.7	23.5	20.1	40.7
Total Aliphatics >C12-C44	mg/kg	<0.1	340	-	340	129	136	156	234
Aromatics >EC5-EC7	mg/kg	<0.01	0.01	55,900	<0.010	<0.010	<0.010	<0.010	<0.010
Aromatics >EC7-EC8	mg/kg	<0.01	0.01	56,000	<0.010	<0.010	<0.010	<0.010	<0.010
Aromatics >EC8-EC10	mg/kg	<0.01	0.0935	5040	0.0935	<0.010	<0.010	<0.010	<0.010
Aromatics >EC10-EC12	mg/kg	<0.01	0.055	5040	0.055	<0.010	<0.010	<0.010	<0.010
Aromatics >EC12-EC16	mg/kg	<0.1	17.8	5,050	17.8	2.16	6.16	3.86	3.51
Aromatics >EC16-EC21	mg/kg	<0.1	104	3,790	104	11.5	12.8	17.3	19.5
Aromatics >EC21-EC35	mg/kg	<0.1	771	3,790	771	140	116	230	224
Aromatics >EC35-EC44	mg/kg	<0.1	302	3,790	302	81.8	71	110	128
Aromatics >EC40-EC44	mg/kg	<0.1	103	-	103	31.4	28.2	46.3	54.8
Total Aromatics >EC12-EC44	mg/kg	<0.1	1190	-	1190	236	206	362	375
Total Aliphatics & Aromatics >C5-C44	mg/kg	<0.1	1540	-	1540	365	342	518	610
Polyaromatic Hydrocarbons									
Naphthalene-d8 % recovery**	%		99.3	-	99.3	92.8	86.5	84.7	84.7
Acenaphthene-d10 % recovery**	%		99	-	99	93.2	73.6	86.1	82.8
Phenanthrene-d10 % recovery**	%		99.9	-	99.9	96.4	87.1	87.9	87.7
Chrysene-d12 % recovery**	%		85.9	-	83.4	85.9	77.9	81.2	84
Perylene-d12 % recovery**	%		85.2	-	69.1	73.2	71	70.1	85.2
Naphthalene	mg/kg	<0.045	0.966	4890	0.966	<0.045	<0.090	0.05	0.0584
Acenaphthylene	mg/kg	<0.06	3.23	-	3.23	0.129	0.191	0.291	0.429
Acenaphthene	mg/kg	<0.04	0.268	-	0.268	<0.040	<0.080	<0.040	0.045
Fluorene	mg/kg	<0.05	0.1	-	<0.050	<0.050	<0.100	0.054	0.0628
Phenanthrene	mg/kg	<0.075	7.63	-	7.63	0.377	0.575	0.74	0.8
Anthracene	mg/kg	<0.08	1.86	-	1.86	0.0986	<0.160	0.235	0.285
Fluoranthene	mg/kg	<0.085	19.7	-	19.7	0.951	1.49	2.09	2.67
Pyrene	mg/kg	<0.075	18.1	-	18.1	0.847	1.32	1.85	2.63
Benz(a)anthracene	mg/kg	<0.07	8.83	-	8.83	0.442	0.775	1.09	1.54
Chrysene	mg/kg	<0.05	9.63	-	9.63	0.48	0.672	0.973	1.31
Benzo(b)fluoranthene	mg/kg	<0.075	16.2	-	16.2	0.561	1	1.55	2.11
Benzo(k)fluoranthene	mg/kg	<0.07	6.53	-	6.53	0.215	0.387	0.556	0.742
Benzo(a)pyrene	mg/kg	<0.075	9.33	5.2	9.33	0.527	0.907	1.28	1.84
Indeno(1,2,3-cd)pyrene	mg/kg	<0.09	10.9	-	10.9	0.501	0.799	1.21	1.85
Dibenzo(a,h)anthracene	mg/kg	<0.115	1.39	-	1.39	<0.115	<0.230	0.211	0.269
Benzo(g,h,i)perylene	mg/kg	<0.12	10.3	-	10.3	0.521	0.859	1.15	1.71
PAH, Total Detected USEPA 16	mg/kg	<0.59	125	-	125	5.65	8.97	13.3	18.4

<0.000	Concentration below the LOD
0.000	Concentration above the GAC

Test	Units	LOD	Max	Residential with Open Public Space	SS301	SS302	SS303	SS304	SS305
					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00
					17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019
Semi-volatile Organic Compounds									
Phenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Pentachlorophenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
n-Nitroso-n-dipropylamine	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Nitrobenzene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Isophorone	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Hexachloroethane	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Hexachlorocyclopentadiene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Hexachlorobutadiene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Hexachlorobenzene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
n-Dioctyl phthalate	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Dimethyl phthalate	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Diethyl phthalate	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
n-Dibutyl phthalate	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Dibenzofuran	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Carbazole	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Butylbenzyl phthalate	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
bis(2-Ethylhexyl) phthalate	mg/kg	<0.2	2.07	9690	1.1	0.757	0.986	0.6	2.07
bis(2-Chloroethoxy)methane	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
bis(2-Chloroethyl)ether	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Azobenzene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
4-Nitrophenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
4-Nitroaniline	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
4-Methylphenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
4-Chlorophenylphenylether	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
4-Chloroaniline	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
4-Chloro-3-methylphenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
4-Bromophenylphenylether	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
3-Nitroaniline	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2-Nitrophenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2-Nitroaniline	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2-Methylphenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
1,2,4-Trichlorobenzene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2-Chlorophenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2,6-Dinitrotoluene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2,4-Dinitrotoluene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2,4-Dimethylphenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2,4-Dichlorophenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2,4,6-Trichlorophenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2,4,5-Trichlorophenol	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
1,4-Dichlorobenzene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
1,3-Dichlorobenzene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
1,2-Dichlorobenzene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2-Chloronaphthalene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
2-Methylnaphthalene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Acenaphthylene	mg/kg	<0.2	2.26	-	2.26	<0.200	<0.200	<0.500	0.514
Acenaphthene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Anthracene	mg/kg	<0.2	0.99	-	0.99	<0.200	<0.200	<0.500	<0.400
Benzo(a)anthracene	mg/kg	<0.2	6.27	-	6.27	0.476	0.882	1.39	1.6
Benzo(b)fluoranthene	mg/kg	<0.2	7.15	-	7.15	0.584	1.1	1.64	2.11
Benzo(k)fluoranthene	mg/kg	<0.2	6.27	-	6.27	0.509	0.858	1.37	1.5
Benzo(a)pyrene	mg/kg	<0.2	6.49	5.2	6.49	0.422	1.07	1.45	2.02
Benzo(g,h,i)perylene	mg/kg	<0.2	6.88	-	6.88	0.444	0.858	1.24	1.58
Chrysene	mg/kg	<0.2	6.55	-	6.55	0.563	0.951	1.46	1.63
Fluoranthene	mg/kg	<0.2	12	-	12	0.995	1.51	2.26	2.62
Fluorene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Indeno(1,2,3-cd)pyrene	mg/kg	<0.2	7.87	-	7.87	0.487	1.03	1.27	2.33
Phenanthrene	mg/kg	<0.2	4.4	-	4.4	0.465	0.522	0.621	0.914
Pyrene	mg/kg	<0.2	11.4	-	11.4	0.941	1.58	2.2	2.79
Naphthalene	mg/kg	<0.2	0.77	4890	0.77	<0.200	<0.200	<0.500	<0.400
Dibenzo(a,h)anthracene	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Bis(2-chloroisopropyl) ether	mg/kg	<0.2	0.5	-	<0.100	<0.200	<0.200	<0.500	<0.400
Volatile Organic Compounds									
Dibromofluoromethane**	%		120	-	108	118	120	115	111
Toluene-d8**	%		94.9	-	94.9	87.1	89.1	91.1	91.7
4-Bromofluorobenzene**	%		80.9	-	76	70.5	80.9	75.8	73.3
Dichlorodifluoromethane	mg/kg	<0.06	0.12	-	<0.120	<0.060	<0.060	<0.060	
Chloromethane	mg/kg	<0.07	0.14	-	<0.140	<0.070	<0.070	<0.070	
Vinyl Chloride	mg/kg	<0.06	0.12	3.5	<0.120	<0.060	<0.060	<0.060	
Bromomethane	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Chloroethane	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Trichlorofluoromethane	mg/kg	<0.06	0.12	-	<0.120	<0.060	<0.060	<0.060	
1,1-Dichloroethene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Carbon Disulphide	mg/kg	<0.07	0.14	15500	<0.140	<0.070	<0.070	<0.070	
Dichloromethane	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Methyl Tertiary Butyl Ether	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
trans-1,2-Dichloroethene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
1,1-Dichloroethane	mg/kg	<0.08	0.16	-	<0.160	<0.080	<0.080	<0.080	
cis-1,2-Dichloroethene	mg/kg	<0.06	0.12	-	<0.120	<0.060	<0.060	<0.060	
2,2-Dichloropropane	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Bromochloromethane	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Chloroform	mg/kg	<0.08	0.16	-	<0.160	<0.080	<0.080	<0.080	
1,1,1-Trichloroethane	mg/kg	<0.07	0.14	-	<0.140	<0.070	<0.070	<0.070	
1,1-Dichloropropene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Carbontetrachloride	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
1,2-Dichloroethane	mg/kg	<0.05	0.1	-	<0.100	<0.050	<0.050	<0.050	
Benzene	mg/kg	<0.09	0.18	73	<0.180	<0.090	<0.090	<0.090	
Trichloroethene	mg/kg	<0.09	0.18	122	<0.180	<0.090	<0.090	<0.090	
1,2-Dichloropropane	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Dibromomethane	mg/kg	<0.09	0.18	-	<0.180	<0.090	<0.090	<0.090	
Bromodichloromethane	mg/kg	<0.07	0.14	-	<0.140	<0.070	<0.070	<0.070	
cis-1,3-Dichloropropene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	

<0.000	Concentration below the LOD
0.000	Concentration above the GAC

Test	Units	LOD	Max	Residential with Open Public Space	SS301	SS302	SS303	SS304	SS305
					0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00	0.00-0.00
					17/09/2019	17/09/2019	17/09/2019	17/09/2019	17/09/2019
o-Xylene	mg/kg	<0.1	0.2	43100	<0.200	<0.100	<0.100	<0.100	
Styrene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Bromoform	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Isopropylbenzene	mg/kg	<0.05	0.1	24500	<0.100	<0.050	<0.050	<0.050	
1,1,2,2-Tetrachloroethane	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
1,2,3-Trichloropropane	mg/kg	<0.16	0.32	-	<0.320	<0.160	<0.160	<0.160	
Bromobenzene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
Propylbenzene	mg/kg	<0.1	0.2	24900	<0.200	<0.100	<0.100	<0.100	
2-Chlorotoluene	mg/kg	<0.09	0.18	-	<0.180	<0.090	<0.090	<0.090	
1,3,5-Trimethylbenzene	mg/kg	<0.08	0.16	34	<0.160	<0.080	<0.080	<0.080	
4-Chlorotoluene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
tert-Butylbenzene	mg/kg	<0.14	0.28	-	<0.280	<0.140	<0.140	<0.140	
1,2,4-Trimethylbenzene	mg/kg	<0.09	0.18	34.5	<0.180	<0.090	<0.090	<0.090	
sec-Butylbenzene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
4-Isopropyltoluene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
1,3-Dichlorobenzene	mg/kg	<0.08	0.16	-	<0.160	<0.080	<0.080	<0.080	
1,4-Dichlorobenzene	mg/kg	<0.05	0.1	-	<0.100	<0.050	<0.050	<0.050	
n-Butylbenzene	mg/kg	<0.11	0.22	-	<0.220	<0.110	<0.110	<0.110	
1,2-Dichlorobenzene	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
1,2-Dibromo-3-chloropropane	mg/kg	<0.14	0.28	-	<0.280	<0.140	<0.140	<0.140	
Tert-amyl methyl ether	mg/kg	<0.1	0.2	-	<0.200	<0.100	<0.100	<0.100	
1,2,4-Trichlorobenzene	mg/kg	<0.2	0.4	-	<0.400	<0.200	<0.200	<0.200	
Hexachlorobutadiene	mg/kg	<0.2	0.4	-	<0.400	<0.200	<0.200	<0.200	
Naphthalene	mg/kg	<0.13	0.26	4890	<0.260	<0.130	<0.130	<0.130	
1,2,3-Trichlorobenzene	mg/kg	<0.2	0.4	-	<0.400	<0.200	<0.200	<0.200	
1,3,5-Trichlorobenzene	mg/kg	<0.2	0.4	-	<0.400	<0.200	<0.200	<0.200	
Sum of Detected Xylenes	mg/kg	<0.2	0.4	-	<0.400	<0.200	<0.200	<0.200	
Sum of BTEX	mg/kg	<0.4	0.8	-	<0.800	<0.400	<0.400	<0.400	



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