PROPOSED CHANGES APPLICATION REPORT

Appendix 1 - FCA Trial Pitting Interpretative Technical Note

Drax Bioenergy with Carbon Capture and Storage

Document Reference Number: 8.5.3.1

Applicant: Drax Power Limited

PINS Reference: EN010120

REVISION: 01

DATE: December 2022

DOCUMENT OWNER: WSP UK Ltd

AUTHOR: L. McFadden

APPROVER: R. Lindsay

PUBLIC

TABLE OF CONTENTS

PLATES

TABLES

1. INTRODUCTION

1.1.1. The Flood Risk Assessment (FRA) (**APP-160**) identifies that floodplain compensation will be required to mitigate the impacts of the Proposed Scheme in the future scenario. This technical note reports on an intrusive ground investigation undertaken to determine the suitability of land at Drax Power Station identified for the provision of a Flood Compensation Area (FCA) as part of the Development Consent Order (DCO) (**EN010120**). The area referred to herein as 'the Site' is as shown on **Plate 1.1** below.

1.1.2. A Preliminary Risk Assessment (**APP-156** and **APP-157**) was undertaken for area within the Order Limits and should be referenced for a full understanding of the Proposed Scheme along with the Flood Risk Assessment Extracts (Appendix 5 of the Proposed Changes Application Report (PCAR) (document reference 8.5.3.5)).

1.1.3. During a meeting with the Environment Agency (EA) on 23 August 2022 it was stated that it was required to demonstrate that the land is suitable for use as floodplain compensation. Development of the FCA would involve intentionally introducing flood waters to an area not previously within the floodplain, therefore an intrusive investigation was required to determine ground conditions and assess the suitability of soils for this purpose.

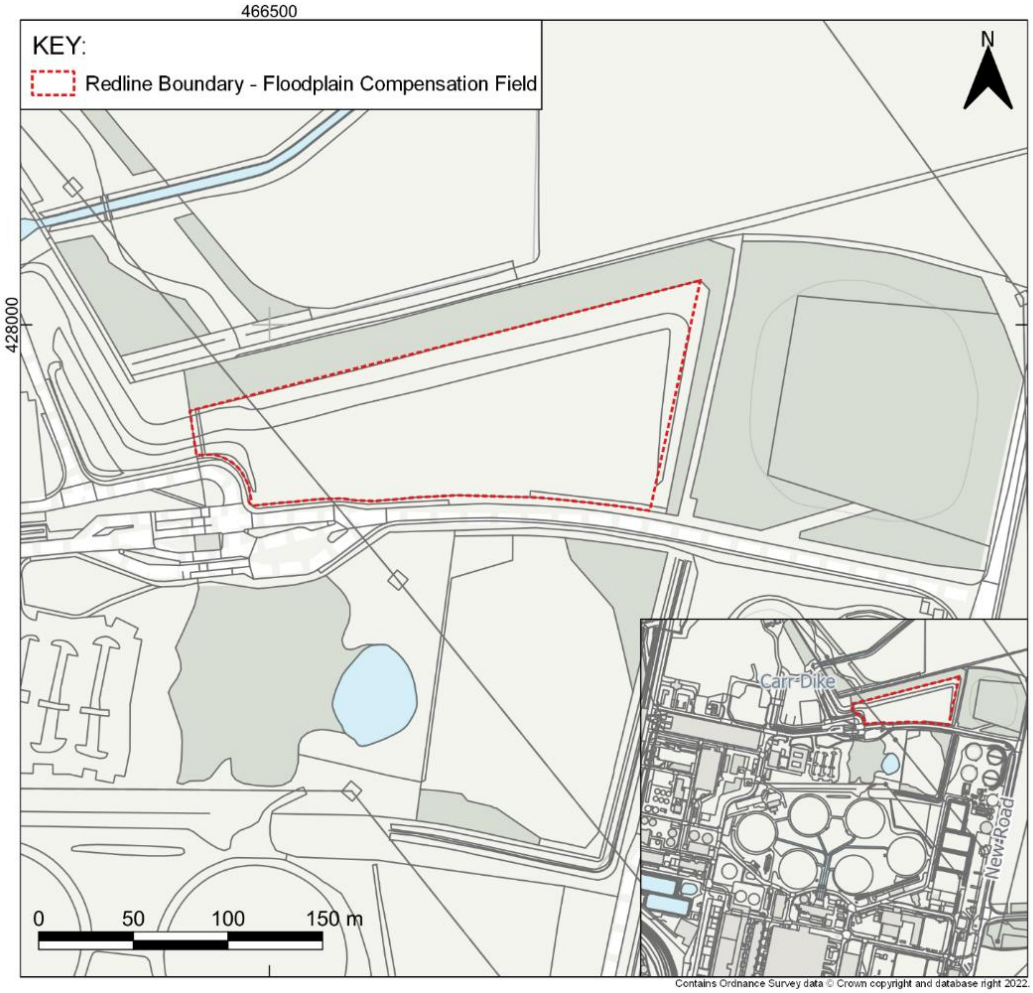


Plate 1.1 - Site Location and Boundary

1.2. PROPOSED WORKS

1.2.1. As shown in **Plate 1.2** and **Plate 1.3** below, it is proposed to lower the land along the north of the Site (shown in red) with a gradual slope to create additional floodplain capacity taking climate change into account (1 in 100 and 1 in 200 year storm events). Surplus material will be placed appropriately at the top of the embankment (shown in green in **Plate 1.3**) to form a landscaping bund with the aim of avoiding off-site disposal and ensuring sustainable re-use of soils.

Plate 1.2 - Indicative Flood Compensation Area

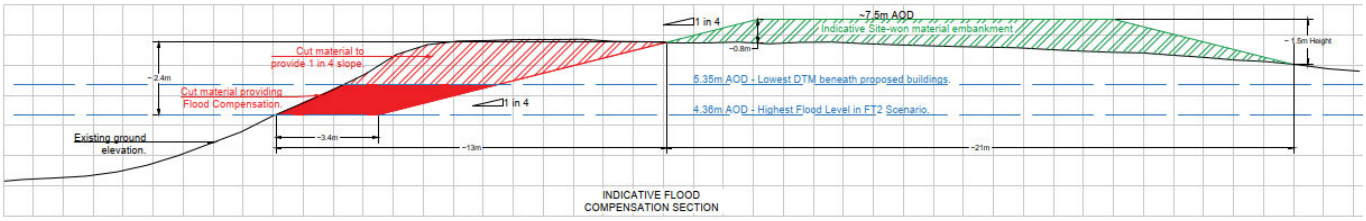


Plate 1.3 - Indicative Flood Compensation Section

1.3. OBJECTIVES

1.3.1. The following objectives were determined:

a. Undertake one day of trial pitting to determine ground conditions and assess potential risks to receptors including human health and controlled waters associated with the proposed works;

b. Undertake a Preliminary Waste Assessment (should materials be found to be unsuitable for re-use); and

c. Provide recommendations for further works and potential remedial measures, if required.

2. SITE DESCRIPTION

2.1.1. The Site is roughly rectangular in shape and comprises a grassed field. The Site is within the ownership of Drax Power Ltd however it is used intermittently for the grazing of sheep by a tenant farmer. The Site is generally level with the exception of a steep embankment running along the length of and sloping down towards the northern boundary. The topographical survey of the proposed FCA, shows that the existing ground levels vary between approximately 3.3 mAOD and approximately 6.6 mAOD. From the top of the embankment the Site slopes gently to the south and east. The Site is bound to the north and east by a strip of woodland. New Road Landfill lies beyond the trees immediately to the east. Drax Power Station lies to the west and south.

2.2. BACKGROUND AND SITE HISTORY

2.2.1. Historical mapping (included within the Preliminary Risk Assessment (APP-156 and APP-157)) shows the Site to have remained as undeveloped open fields and agricultural land until the late 1980s when infrastructure associated with the construction of Drax Power Station is shown. **Plate 2.1** below shows the Site was adjacent to the floodplain of Carr Dike. **Plate 2.2** shows a drain just to the north of the Site along with contours indicating earthworks had taken place in the location of the current embankment which may be associated with infrastructure works for Drax Power Station on the area adjacent to the west.

Plate 2-1 - Historical Map Dating to 1907

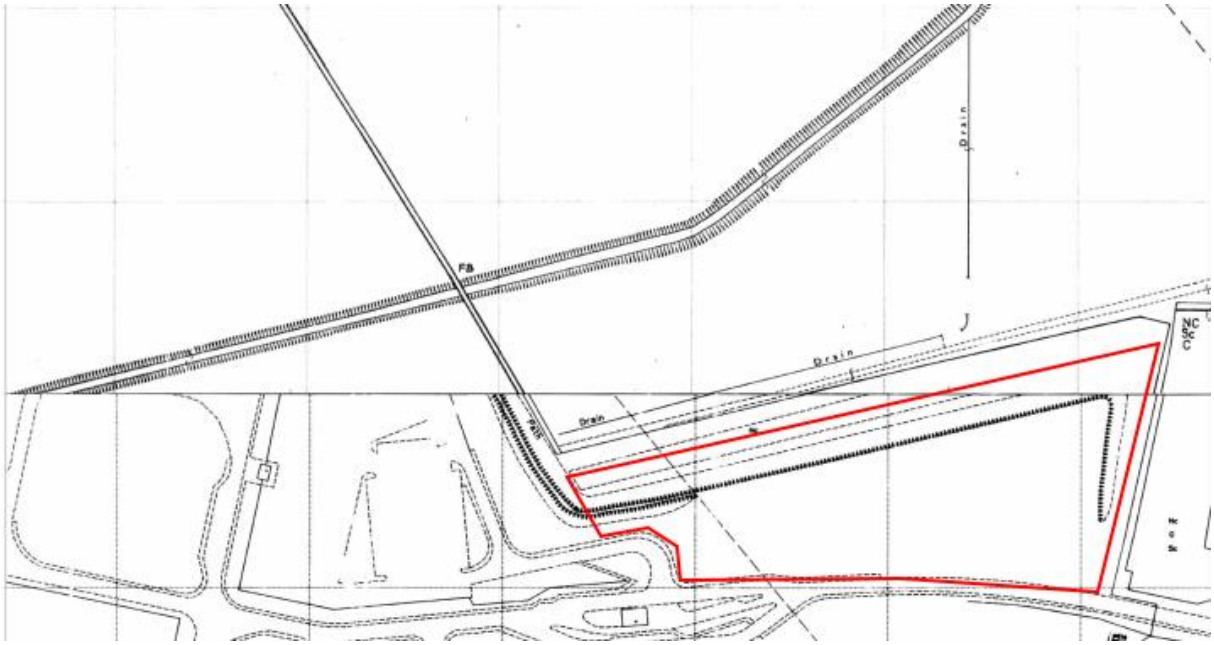


Plate 2.2 - Historical Map Dating to 1989-1994. Southern section dates to 1994

2.3. GEOLOGY AND HYDROGEOLOGY

2.3.1. Geological mapping indicates that the Site is underlain by superficial deposits including Alluvium (on the west of the Site only) and the Hemingbrough Glaciolacustrine Formation. Bedrock geology comprises the Sherwood Sandstone Group. The closest British Geological Survey (BGS) borehole log located approximately 40m north of the site (BGS ref: SE62NE123) encountered weathered sandstone of the Sherwood Sandstone Group at 18.75m below ground level (m bgl).

2.3.2. The Alluvium is classified as a Secondary A Aquifer and Hemingbrough Glaciolacustrine Formation is classified as an Unproductive Strata by the EA. The Sherwood Sandstone Group is classified as a Principal Aquifer.

2.3.3. The nearest surface water feature is Carr Dike located approximately 115m to the north, and ultimately flowing to the River Ouse, tidally influenced.

3. INTRUSIVE INVESTIGATION

3.1. COMPLETED WORKS

3.1.1. The ground investigation works were completed on 18 October 2022. To meet the objectives listed above, the scope of works of the investigation comprised the following:

a. Service clearance and surveying of exploratory hole locations by a specialist subcontractor;
b. The advancement of six trial pits to a maximum depth of 3.8m below ground level (bgl);
c. Collection of soil samples for chemical laboratory testing;
d. Backfill of each trial pit upon completion; and
e. Chemical analysis of soil samples for a suite of contaminants and Waste Acceptance Criteria (WAC) testing at a MCERTS accredited laboratory.

3.1.2. An exploratory hole location plan is included as Figure 1 in **Appendix A**.

3.2. METHODOLOGY

3.2.1. Trial pits were dug mechanically with a JCB 3CX, using a two foot (610mm) toothless bucket. Trial pits were backfilled with their arisings (in reverse order) on completion and left slightly mounded to allow for future settlement. Trial pits were located to provide good coverage, where access was possible (due to steepness of the slope or vegetation).

3.2.2. A trial pit location plan is contained within **Appendix A**. Exploratory hole logs are presented in **Appendix C** and trial pit photographs are included in **Appendix D**.

3.3. LABORATORY TESTING – SOIL AND SOIL LEACHATE

3.3.1. All soil samples were taken with due regard to industry best practice with procedures designed and implemented to minimise the potential for cross-contamination. No geotechnical laboratory testing has been undertaken as part of this investigation.

3.3.2. A total of 12 environmental soil samples underwent analytical testing. Samples were tested for determinants as summarised in **Table 3.1**. Analysis was undertaken by ALS Environmental (MCERTS accredited laboratory). Soil laboratory testing results are presented within **Appendix E**.

Table 3.1 - Summary of Analytical Testing

Determinant(s) Test	No. of samples scheduled
Soil	
Asbestos identification (further quantification analysis if present)	10 (1)
Heavy metals (arsenic, barium, beryllium, cadmium, chromium III, chromium VI, copper, lead, mercury, nickel, selenium, vanadium, zinc)	12
Polycyclic Aromatic Hydrocarbons (PAHs)	12
Total Petroleum Hydrocarbons (TPH CWG) including BTEX, MTBE and TAME	12
Phenols	12
Cyanide (free & complex)	12
Ammoniacal Nitrogen as N	12
Volatile organic compounds (VOCs)	12
Semi-volatile organic compounds (SVOCs)	12
Waste Acceptance Criteria (WAC)	12
Soil Leachate Suite (similar to soil testing suite above)	5

3.4. GROUND CONDITIONS

3.4.1. A summary of the ground conditions encountered during the ground investigation is provided below in **Table 3.2**. Trial pits were excavated into a sloping surface, the depths were therefore recorded from the upper (highest) end of the slope.

Table 3.2 - Summary of Ground Conditions

Stratum	Top Depth (m bgl)	Base Depth (m bgl)	Top Level (mAOD)	Base Level (mAOD)	Typical Description
Made Ground	Ground Level	1.20 to 2.80 (3.80)	6.57 to 6.05 (embankment top) 4.62 to 4.40 (embankment slope)	3.28 to 2.60	Grass over soft dark brown silty sandy CLAY with frequent rootlets. (Made Ground Topsoil) Firm brown sandy slightly gravelly CLAY. Gravel of sub-angular to sub-rounded quartzite, flint, mudstone, chalk and rare timber. Occasional organic plant matter.
Alluvium [1]	1.70 to 2.10	0.30 to 0.50	3.28 to 2.60	2.78 to 2.30	Soft grey sandy slightly gravelly CLAY or silty gravelly organic SAND. Inclusions of relic rootlets and relic plant matter.
Hemingbrough Glaciolacustrine Formation	Not proven (3.60)	Not proven (1.30)	3.25 to 2.30	Not proven (1.20)	Firm grey mottled brown slightly silty slightly gravelly laminated CLAY. Gravel of sub-angular to sub-rounded fine to course quartzite and mudstone.

Brackets indicate maximum unproven depth.
[1] **Stratum encountered locally**

MADE GROUND

3.4.2. Made Ground was encountered at each of the six locations, encountered from ground level at each location to a proven base depth varying between 1.20 and 2.80 m bgl (3.28 to 2.60 mAOD). The base of the Made Ground was not proven at TP01 to a depth of 3.80 m bgl (2.77 mAOD).

3.4.3. At each location, the Made Ground was generally initially described as grass over a soft dark brown silty sandy clay with frequent rootlets, representing a Made Ground Topsoil ranging between 0.30m and 0.55m in thickness. Underlying this, the Made Ground was typically described as a brown sandy slightly gravelly clay, with the gravel fraction varying locally but consisting of a mixture of quartzite, flint, mudstone, chalk and timber. Occasional relic plant organic matter was also encountered.

3.4.4. It is considered that the Made Ground soils encountered are likely to represent reworked natural soil materials with some anthropogenic inclusions, potentially deposited in their current location at or around the time of the construction of the power station or the later extension, occurring in the 1960s-1980s.

ALLUVIUM

3.4.5. Alluvium was encountered beneath the Made Ground at two locations (TP02 and TP03) with a top depth ranging between 1.70 and 2.10 m bgl (2.78 to 2.30 mAOD). The stratum thickness ranged between 0.30 and 0.50m. The Alluvium was typically described as a soft grey sandy slightly gravelly CLAY or a silty gravelly organic SAND with inclusions of relic rootlets and relic plant matter.

HEMINGBROUGH GLACIOLACUSTRINE FORMATION

3.4.6. The Hemingbrough Glaciolacustrine Formation was encountered at each location where the base of the Made Ground was encountered (5 of 6 locations). The stratum was encountered from a top ranging between 1.50 and 2.80 m bgl (3.12 to 2.30 mAOD). The base of the stratum was not proven.

BEDROCK

3.4.7. Bedrock was not encountered during the investigation.

GROUNDWATER

3.4.8. No groundwater was encountered during the investigation.

3.5. CONTAMINATION ASSESSMENT

3.5.1. Soil testing results have been compared against Generic Assessment Criteria (GAC). GAC have been calculated using the Environment Agency's Contaminated Land Exposure Assessment (CLEA) Workbook v1.071 to assess potential health risks associated with contaminants in soil. The methodology for the derivation of GAC is presented in **Appendix F**.

3.5.2. The risk to Carr Dike has been assessed using the following criteria and tools:

a. Environmental Quality Standards (EQS) from The Water Framework Directive (Standards and Classification) Direction (England and Wales) 2017;
b. CL:AIRE, Petroleum Hydrocarbons in groundwater: guidance on assessing petroleum hydrocarbons using existing hydrological risk assessment methodologies, 2017; and,
c. Water Framework Directive UK TAG, Rivers and lakes Metal Bioavailability Assessment Tool (M-BAT), July 2014.

3.5.3. The risk to the underlying aquifers (for the protection of drinking water) has been assessed using the following criteria:

a. UK Drinking Water Quality Standards (DWS) from The Water Supply (Water Quality) Regulations 2000 (amended 2004);
b. World Health Organisation (WHO), Guidelines for Drinking Water Quality, Fourth Edition, 2022; and,
c. World Health Organisation (WHO), Petroleum Products in Drinking Water, 2008.

3.5.4. The soil and soil leachate chemical test results are provided in **Appendix E**. Further details on the assumptions and methodologies adopted by WSP for the assessment of Controlled Waters are also presented in **Appendix E**. The results of the screening assessments are provided in **Appendix G**.

3.6. HUMAN HEALTH RISK ASSESSMENT

3.6.1. Soil chemical results (11 samples of Made Ground, one sample of natural superficial soils) have been screened against threshold values (GACs) for a public open space (POS, parks) end use (SOM 1%), representing a conservative assessment.

3.6.2. The results of the assessment show no exceedances of GACs for a POS (parks) end use. Asbestos fibres were detected in one sample of Made Ground at TP04 (2.2-2.3m) recording loose chrysotile fibres with a quantification of <0.001% w/w. Asbestos was not detected across an additional nine samples screened.

3.7. CONTROLLED WATERS RISK ASSESSMENT

3.7.1. Screening assessments of the soil leachate laboratory results have been undertaken to assess the risks to surface water receptors (EQS screening values) and the underlying Principal Aquifer (DWS screening values).

3.7.2. Exceedances of the EQS screening values are summarised below in **Table 3.3**.

Table 3.3 - Summary Soil Leachate Exceedances – GACs Protective of Surface Water Receptors (EQS)

Analyte	EQS (µg/l)	# EQS Exceeds	Exceeds Concentration Range (µg/l)	Location of EQS exceedances
Ammoniacal Nitrogen as N	300	5	6900 – 16500	TP01, TP02, TP04, TP05
Cadmium	0.08	2	1.23 – 1.25	TP02
Chromium III	4.7	1	6.25	TP05
Copper	1	11	2.04 – 15.9	TP01, TP02, TP03, TP04, TP05, TP06
Lead	1.2	3	1.25 – 10.2	TP02, TP04, TP05
Nickel	4	4	4.12 – 12.3	TP01, TP02, TP04, TP05
Zinc	10.9	3	29.9 – 126	TP02, TP05
Fluoranthene	0.0063	1	0.023	TP02
Phenol	7.7	1	20	TP05

3.7.3. The contaminant concentrations identified are generally within one order of magnitude of the respective EQS value, and hence are considered marginal exceedances of the extremely conservative EQS values which conservatively assume 100% bioavailability of the contaminants to water-dwelling fauna. With regards to the values of ammoniacal nitrogen as N recorded, the values recorded are attributed to the natural degradation of organic matter within the superficial deposits or may represent leachable concentrations of organic material within the Made Ground.

3.7.4. The recorded exceedances of the EQS values are not considered to pose a unacceptable risk to nearby surface water receptors. The risk to surface water receptors is considered to be low.

3.7.5. Exceedances of the DWS screening values are summarised below in **Table 3.4**.

Table 3.4 - Summary Soil Leachate Exceedances – GACs Protective of Groundwater Receptors (DWS)

Analyte	DWS (µg/l)	# DWS Exceeds	Exceeds Concentration Range (µg/l)	Location of EQS exceedances
Ammoniacal Nitrogen as N	500	5	6900 – 16500	TP01, TP02, TP04, TP05
Arsenic	10	1	10.4	TP05
Lead	10	1	10.2	TP05

3.7.6. Similarly, elevated concentrations of ammoniacal nitrogen as N are attributed to the degradation of organic material within the Made Ground and natural superficial deposits. The recorded exceedances of the arsenic and lead DWS values at TP05 are not considered to represent a significant risk to the underlying aquifer. The recorded exceedances of the DWS values are not considered to pose an unacceptable risk to the underlying aquifers and are considered to be low.

4. SUMMARY AND CONCLUSIONS

4.1.1. With regard to the objectives of the ground investigation the following conclusions have been made:

a. The Site allocated for the flood compensation area was historically within an area indicated on historical mapping to be liable to flooding. Mapping indicates the Site topographical profile was created in late 1980s or early 1990s associated with the expansion of Drax Power Station with the placement of Made Ground materials, likely from the area adjacent to the west.

b. A ground investigation has been undertaken comprising six trial pits. Made Ground has been identified at each discrete location, predominantly comprising a soft to firm sandy gravelly clay with various gravel inclusions, and frequent relic organic matter. Made Ground soils are likely to represent reworked natural soil materials with some anthropogenic inclusions. The Made Ground is underlain locally by superficial deposits of Alluvium, and widely by laminated clay of the Hemingbrough Glaciolacustrine Formation.

c. Chemical analysis of soils and reported no significant contamination within soils. Asbestos has been identified within one sample with an extremely low quantification (<0.001%). No other contaminants have been found to exceed their respective conservative screening criteria for a POS (parks) land use.

d. Soil leachate results have been utilised to assess the risk to Controlled Waters receptors. Although exceedances have been identified, they are generally marginal in nature (i.e., within one order of magnitude) of the conservative screening values. The risk to surface water receptors and groundwater receptors is considered low.

e. A preliminary Hazardous Waste Assessment has classified the materials analysed as non-hazardous.

4.1.2. Based upon the above it is considered that the land is suitable for use as floodplain compensation. Additionally materials are considered suitable to be re-used on Site in line with Defra's Construction Code of Practice for the Sustainable Use of Soils on Construction Sites.

5. NEXT STEPS

a. No boreholes were progressed as part of these works and therefore an assessment of groundwater conditions could not be completed. Prior to the commencement of earthworks for the flood compensation area, groundwater level monitoring, chemical sampling and assessment should be undertaken as well as any additional soil sampling which may be required following finalisation of earthworks design for the flood compensation area. This would form part of the Ground Investigation for the Proposed Scheme included within the REAC (AS-027) (Ref ID GC3), the mitigation within which is secured by Requirement 12 in the DCO.

b. To demonstrate that the factors outlined in the Definition of Waste: Development Industry Code of Practice (DoWCoP, Version 2, 2011) have been satisfied, a Materials Management Plan (MMP) will be produced for any cut and fill activities to be undertaken for the flood compensation area; this is included in the REAC (AS-027) (Ref ID G3) and secured via compliance with the DCO Requirement to produce a CEMP in line with the requirements of the REAC.

c. During a proposed movement of the Made Ground soils to facilitate construction of the FCA, the risk to human health (construction/ maintenance workers) can be satisfactorily mitigated by the adoption of appropriate standard good practice PPE and clean hygiene practices and suitably recorded on task-specific risk assessments and method statements.

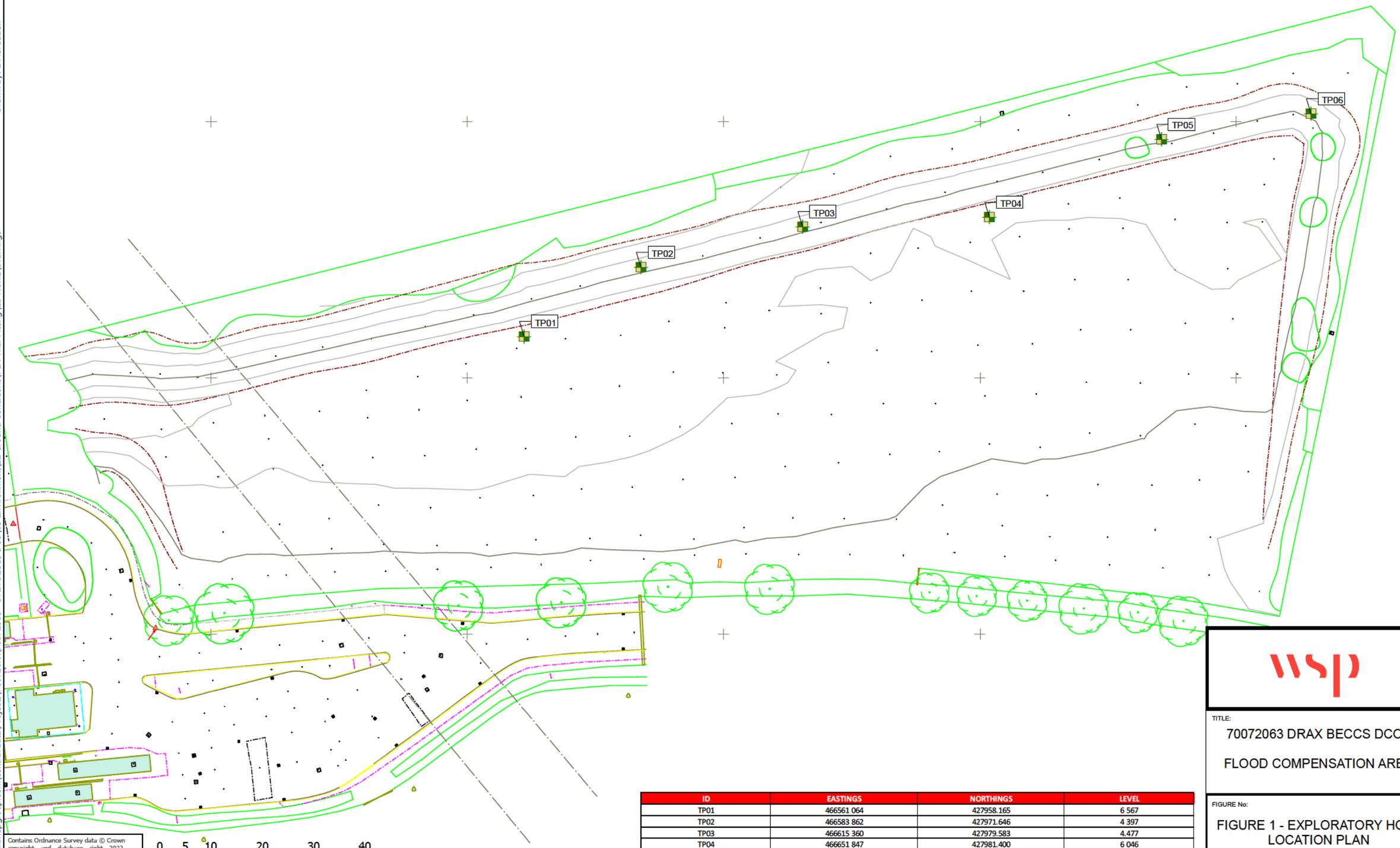
d. The Environment Agency will be consulted further during detailed design of the flood compensation area – this will be secured by an update to the FRA (compliance with which is secured via a DCO Requirement).

APPENDIX A - TRIAL PIT LOCATION PLAN

Key

Hole Type

Trial Pit



0 5 10 20 30 40 Meters

ID	EASTINGS	NORTHINGS	LEVEL
TP01	466561 064	427958.165	6 567
TP02	466583 862	427971.646	4 397
TP03	466615 360	427979.583	4.477
TP04	466651 847	427981.400	6 046
TP05	466685 371	427996.615	4.619
TP06	466714.601	428001.601	4 596

wsp

TITLE:

70072063 DRAX BECCS DCO

FLOOD COMPENSATION AREA

FIGURE No:

FIGURE 1 - EXPLORATORY HOLE LOCATION PLAN

APPENDIX B – LIMITATIONS

REPORT LIMITATIONS - GROUND AND WATER

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.

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.

5. The investigation has been undertaken to provide information concerning either:

6. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or

7. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

8. 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.

9. 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.

10. 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.

11. 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.

12. 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.

13. 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.

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

15. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

16. 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.

17. 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.

18. 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

19. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

20. 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.

APPENDIX C - TRIAL PIT LOGS

WSP UK LTD

elephone
Fax

TRIAL PIT LOG

Ho e No. **TP01**

Project: Drax FCA

Sheet: 1 of 1

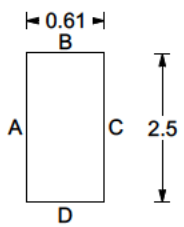
Job No: 70072063

C ent: Drax Power Ltd

Date: 18-10-22
18-10-22

Contractor / Dr er	Method/P ant Used	Logged By	Co Ord nates (NGR)	Ground Leve (m AOD)
L nd ey P ant H re Ltd	JCB 3CX	LM	E 466561.06 N 427958.17	6.57

SAMPLES & TESTS						STRATA					nstall / Back ill
Depth	ype	P D (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev (mAOD)	Depth (hick -ness)	Description	Legend	Geology	
0 10-0 20	ES					6 27	(0 30) 0 30	Grass over soft dark brown slightly silty sandy slightly gravelly CLAY with frequent rootlets Gravel is sub-angular to sub-rounded fine to coarse quartzite and flint (MADE GROUND)		MG	
						4 87	(1 40) 1 70	Stiff dark brown sandy slightly gravelly CLAY Gravel is sub-angular to sub-rounded fine to coarse mudstone chalk and quartzite Rare rootlets (MADE GROUND)		MG	
2 70-2 80	ES					2 77	(2 10) 3 80	Soft grey slightly sandy CLAY (MADE GROUND) 2 60 - 3 00 m bgl Grey silty fine SAND 3 50 - 3 80 m bgl Frequent inclusions of relic plant organic matter		MG	
								Trial pit completed at 3 8m bgl		END	



Length: 2 50m

Width: 0 61m

Orientation: degrees rom north

Shoring/Support

Stability

Water Strikes

Date	ime	Strike	Minutes	Standing	Remarks

General Remarks

(1) rial pit dug rom top o embankment 'Ground Level' represents elevation on plat orm at the top o embankment (2) No visual or ol actory evidence o contamination noted (3) No groundwater encountered (4) Back illed with arisings upon completion

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

08 WSP P LOG S ANDARD 70072063 DRAX FCA GPJ WSPE EMPLA E1 03 GD 24/10/22

WSP UK LTD

elephone
Fax

TRIAL PIT LOG

Ho e No. **TP02**

Project: Drax FCA

Sheet: 1 of 1

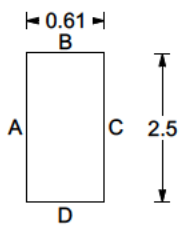
Job No: 70072063

C ent: Drax Power Ltd

Date: 18-10-22
18-10-22

Contractor / Dr er	Method/P ant Used	Logged By	Co Ord nates (NGR)	Ground Leve (m AOD)
L nd ey P ant H re Ltd	JCB 3CX	LM	E 466583.86 N 427971.65	4.40

SAMPLES & TESTS						STRATA					nstall / Back ill
Depth	ype	P D (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev (mAOD)	Depth (hick -ness)	Description	Legend	Geology	
						4 00	(0 40) 0 40	Grass over soft dark brown slightly silty sandy slightly gravelly CLAY with frequent rootlets Gravel is sub-angular to sub-rounded fine to coarse quartzite and flint (MADE GROUND)		MG	
1 10-1 20	ES					2 60	(1 40) 1 80	Firm orangish brown occasionally grey slightly sandy slightly gravelly CLAY Gravel is sub-angular to sub-rounded fine to coarse mudstone and quartzite (MADE GROUND)		MG	
1 80-1 90	ES					2 30	(0 30) 2 10	Dark grey silty slightly gravelly fine organic SAND Rare soft grey clay (ALLUV UM)		ALV	
						1 20	(1 10) 3 20	Firm brown mottled grey CLAY (HEM NGBROUGH GLAC OLACUSTR NE FORMAT ON)		HEM	
								Trial pit completed at 3 2m bgl		END	



Length: 2 50m

Width: 0 61m

Orientation: degrees rom north

Shoring/Support

Stability

Water Strikes

Date	ime	Strike	Minutes	Standing	Remarks

General Remarks

(1) rial pit dug within embankment slope 'Ground Level' represents highest elevation within the embankment slope which was dug as part o the trial pit and all depth measurements were taken rom this point (2) No visual or ol actory evidence o contamination noted (3) No groundwater encountered (4) Back illed with arisings upon completion

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

08 WSP P LOG S ANDARD 70072063 DRAX FCA GPJ WSPE EMPLA E1 03 GD 24/10/22

WSP UK LTD

elephone
Fax

TRIAL PIT LOG

Ho e No. **TP03**

Project: Drax FCA

Sheet: 1 of 1

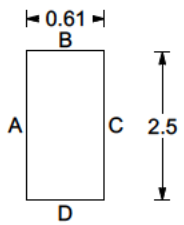
Job No: 70072063

C ent: Drax Power Ltd

Date: 18-10-22
18-10-22

Contractor / Dr er	Method/P ant Used	Logged By	Co Ord nates (NGR)	Ground Leve (m AOD)
L nd ey P ant H re Ltd	JCB 3CX	LM	E 466615.36 N 427979.58	4.48

SAMPLES & TESTS						STRATA					nstall / Back ill
Depth	ype	P D (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev (mAOD)	Depth (hick -ness)	Description	Legend	Geology	
						4 18	(0 30) 0 30	Grass over soft dark brown slightly silty sandy slightly gravelly CLAY with frequent rootlets Gravel is sub-angular to sub-rounded fine to coarse quartzite and flint (MADE GROUND)		MG	
							(0 90)	Firm brown slightly sandy slightly gravelly CLAY with low cobble content Gravel is sub-angular to sub-rounded fine to coarse chalk Cobbles are sub-angular chalk and rare timber (MADE GROUND)		MG	
0 90-1 00	ES					3 28	1 20				
							(0 50)	Soft to firm grey sandy slightly gravelly CLAY Gravel is sub-angular to sub-rounded fine to coarse mudstone quartzite sandstone and flint Occasional rootlets and plant organic matter (ALLUV UM)		ALV	
						2 78	1 70				
							(1 10)	Firm grey mottled brown slightly silty slightly gravelly laminated CLAY Gravel is sub-angular to sub-rounded fine to coarse quartzite and mudstone (HEM NGBROUGH GLAC OLACUSTR NE FORMAT ON)		HEM	
2 60-2 70	ES					1 68	2 80	2 50 - 2 80 m bgl Stiff reddish brown gravelly CLAY			
								Trial pit completed at 2 8m bgl		END	



Length: 2 50m

Width: 0 61m

Orientation: degrees rom north

Shoring/Support

Stability

Water Strikes

Date	ime	Strike	Minutes	Standing	Remarks

General Remarks

(1) rial pit dug within embankment slope 'Ground Level' represents highest elevation within the embankment slope which was dug as part o the trial pit and all depth measurements were taken rom this point (2) No visual or ol actory evidence o contamination noted (3) No groundwater encountered (4) Back illed with arisings upon completion

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

08 WSP P LOG S ANDARD 70072063 DRAX FCA GPJ WSPE EMPLA E1 03 GD 24/10/22

WSP UK LTD

elephone
Fax

TRIAL PIT LOG

Ho e No. **TP04**

Project: Drax FCA

Sheet: 1 of 1

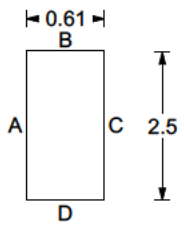
Job No: 70072063

C ent: Drax Power Ltd

Date: 18-10-22
18-10-22

Contractor / Dr er	Method/P ant Used	Logged By	Co Ord nates (NGR)	Ground Leve (m AOD)
L nd ey P ant H re Ltd	JCB 3CX	LM	E 466651.85 N 427981.40	6.05

SAMPLES & TESTS						STRATA					
Depth	ype	P D (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev (mAOD)	Depth (hick -ness)	Description	Legend	Geology	nstall / Back ill
						5 75	(0 30) 0 30	Grass over soft dark brown slightly silty sandy slightly gravelly CLAY with frequent rootlets Gravel is sub-angular to sub-rounded fine to coarse quartzite and flint (MADE GROUND)		MG	
0 90-1 00	ES					4 35	(1 40) 1 70	Stiff brown slightly sandy slightly gravelly CLAY Gravel is sub-angular to sub-rounded fine to coarse mudstone and quartzite (MADE GROUND)		MG	
2 20-2 30	ES					3 25	(1 10) 2 80	Soft dark grey sandy slightly gravelly CLAY with occasional rootlets and faint organic odour Gravel is sub-angular to sub-rounded fine to coarse mudstone and quartzite Occasional inclusions of relic wood and plant organic matter (MADE GROUND) 2 70 - 2 80 m bgl Redundant plastic pipe encountered		MG	
						2 45	(0 80) 3 60	Firm to stiff greyish reddish brown laminated CLAY (HEM NGBROUGH GLAC OLACUSTR NE FORMAT ON)		HEM	
								Trial pit completed at 3 6m bgl		END	



Length: 2 50m

Width: 0 61m

Orientation: degrees rom north

Shoring/Support

Stability

Water Strikes

Date	ime	Strike	Minutes	Standing	Remarks

General Remarks

(1) rial pit dug rom top o embankment 'Ground Level' represents elevation on plat orm at the top o embankment (2) No visual or ol actory evidence o contamination noted (3) No groundwater encountered (4) Back illed with arisings upon completion

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

08 WSP P LOG S ANDARD 70072063 DRAX FCA GPJ WSPE EMPLA E1 03 GD 24/10/22

WSP UK LTD

elephone
Fax

TRIAL PIT LOG

Ho e No. **TP05**

Project: Drax FCA

Sheet: 1 of 1

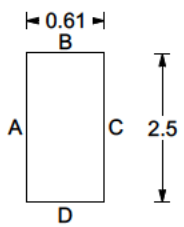
Job No: 70072063

C ent: Drax Power Ltd

Date: 18-10-22
18-10-22

Contractor / Dr er	Method/P ant Used	Logged By	Co Ord nates (NGR)	Ground Leve (m AOD)
L nd ey P ant H re Ltd	JCB 3CX	LM	E 466685.37 N 427996.62	4.62

SAMPLES & TESTS					Water	STRATA				nstall / Back ill
Depth	ype	P D (ppmV)	HSV (kN/m2)	P Pen (kN/m2)		Elev (mAOD)	Depth (hick -ness)	Description	Legend	Geology	
						4 12	(0 50) 0 50	Grass over soft dark brown slightly silty sandy slightly gravelly CLAY with frequent rootlets Gravel is sub-angular to sub-rounded fine to coarse quartzite and flint (MADE GROUND)		MG	
0 70-0 80	ES					3 42	(0 70) 1 20	Firm brown slightly sandy slightly gravelly CLAY with low cobble content Gravel is sub-angular to sub-rounded fine to coarse chalk Cobbles are sub-angular chalk and rare timber (MADE GROUND)		MG	
1 20-1 30	ES					3 12	(0 30) 1 50	Soft dark grey and black slightly gravelly CLAY Gravel is sub-angular fine to coarse metal and brick Frequent relic rootlets and organic matter (MADE GROUND)		MG	
						1 82	(1 30) 2 80	Firm grey mottled brown slightly silty slightly gravelly laminated CLAY Gravel is sub-angular to sub-rounded fine to coarse quartzite and mudstone (HEM NGBROUGH GLAC OLACUSTR NE FORMAT ON)		HEM	
								Trial pit completed at 2 8m bgl		END	



Length: 2 50m

Width: 0 61m

Orientation: degrees rom north

Shoring/Support

Stability

Water Strikes

Date	ime	Strike	Minutes	Standing	Remarks

General Remarks

(1) rial pit dug within embankment slope 'Ground Level' represents highest elevation within the embankment slope which was dug as part o the trial pit and all depth measurements were taken rom this point (2) No visual or ol actory evidence o contamination noted (3) No groundwater encountered (4) Back illed with arisings upon completion

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

08 WSP P LOG S ANDARD 70072063 DRAX FCA GPJ WSPE EMPLA E1 03 GD 24/10/22

WSP UK LTD

elephone
Fax

TRIAL PIT LOG

Ho e No. **TP06**

Project: Drax FCA

Sheet: 1 of 1

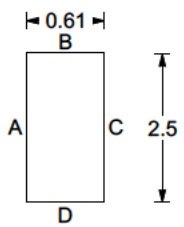
Job No: 70072063

C ent: Drax Power Ltd

Date: 18-10-22
18-10-22

Contractor / Dr er	Method/P ant Used	Logged By	Co Ord nates (NGR)	Ground Leve (m AOD)
L nd ey P ant H re Ltd	JCB 3CX	LM	E 466714.60 N 428001.60	4.60

SAMPLES & TESTS						STRATA					nstall / Back ill
Depth	ype	P D (ppmV)	HSV (kN/m2)	P Pen (kN/m2)	Water	Elev (mAOD)	Depth (hick -ness)	Description	Legend	Geology	
0 20-0 30	ES					4 05	(0 55) 0 55	Grass over soft dark brown slightly silty sandy slightly gravelly CLAY with frequent rootlets Gravel is sub-angular to sub-rounded fine to coarse quartzite and flint (MADE GROUND)		MG	
						3 30	(0 75) 1 30	Firm orangish brown sandy slightly gravelly CLAY Gravel is angular to sub-rounded fine to coarse quartzite and flint (MADE GROUND)		MG	
1 50-1 60	ES					2 80	(0 50) 1 80	Soft dark grey and black sandy slightly gravelly CLAY Gravel is angular to sub-rounded fine to coarse quartzite and flint Frequent relic roots and rootlets (MADE GROUND)		MG	
						1 60	(1 20) 3 00	Firm grey mottled brown slightly silty slightly gravelly laminated CLAY Gravel is sub-angular to sub-rounded fine to coarse quartzite and mudstone (HEM NGBROUGH GLAC OLACUSTR NE FORMAT ON)		HEM	
								Trial pit completed at 3 0m bgl		END	



Length: 2 50m

Width: 0 61m

Orientation: degrees rom north

Shoring/Support

Stability

Water Strikes

Date	ime	Strike	Minutes	Standing	Remarks

General Remarks

(1) rial pit dug within embankment slope 'Ground Level' represents highest elevation within the embankment slope which was dug as part o the trial pit and all depth measurements were taken rom this point (2) No visual or ol actory evidence o contamination noted (3) No groundwater encountered (4) Back illed with arisings upon completion

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

08 WSP P LOG S ANDARD 70072063 DRAX FCA GPJ WSPE EMPLA E1 03 GD 24/10/22

APPENDIX D – PHOTO LOG

PHOTOGRAPHIC RECORD	wsp	Drax FCA

Photograph 1: View of the embankment from the northwest corner of the site, looking east.

Photograph 2: View of the embankment from the northeast corner of the site, looking west.

Photograph 3: TP01, dug from the top of the embankment platform.

Photograph 4: TP01 spoil.

Photograph 5: TP02, dug within the embankment slope.

Photograph 6: TP02 spoil.

Photograph 7: TP03, dug within the embankment slope.

Photograph 8: TP03 spoil.

Photograph 9: TP04, dug from the top of the embankment platform.

Photograph 10: TP04 spoil.

Photograph 11: TP05, dug within the embankment slope.

Photograph 12: TP05 spoil.

Photograph 13: TP06, dug within the embankment slope.

Photograph 14: TP06 spoil.

APPENDIX E - LABORATORY CERTIFICATES

Units 7-8 Hawarden Business Park
Manor Road (off Manor Lane)
Hawarden
Deeside
CH5 3US
Tel: (01244) 528777
email: hawardencustomerservices@alsglobal.com
Website [redacted]

WSP UK Limited
8 First Street
Manchester
Lancashire
M15 4RP

Attention: Luke McFadden

CERTIFICATE OF ANALYSIS

Date of report Generation:	08 November 2022
Customer:	WSP UK Limited
Sample Delivery Group (SDG):	221020-66
Your Reference:	70072063
Location:	Drax FCA
Report No:	667610
Order Number:	70072063-3X7

This report has been revised and directly supersedes 667193 in its entirety.

We received 12 samples on Thursday October 20, 2022 and 12 of these samples were scheduled for analysis which was completed on Tuesday November 08, 2022. 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 Laboratories (UK) Limited Hawarden.

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.

App[redacted]

Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Received Sample Overview

Lab Sample No(s)	Cu tomer Sample Ref	AGS Ref.	Depth (m)	Sampled Date
27048472	TP01	ES	0.10 - 0.20	18/10/2022
27048493	TP01	ES	2.70 - 2.80	18/10/2022
27048497	TP02	ES	1.10 - 1.20	18/10/2022
27048509	TP02	ES	1.80 - 1.90	18/10/2022
27048517	TP03	ES	0.90 - 1.00	18/10/2022
27048524	TP03	ES	2.60 - 2.70	18/10/2022
27048531	TP04	ES	0.90 - 1.00	18/10/2022
27048537	TP04	ES	2.20 - 2.30	18/10/2022
27048545	TP05	ES	0.70 - 0.80	18/10/2022
27048476	TP05	ES	1.20 - 1.30	18/10/2022
27048480	TP06	ES	0.20 - 0.30	18/10/2022
27048488	TP06	ES	1.50 - 1.60	18/10/2022

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

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

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)	27048472			27048493			27048497			27048509			27048517			27048524			27048531			27048537
			Customer Sample Reference	TP01			TP01			TP02			TP02			TP03			TP03			TP04			TP04	
			AGS Reference	ES			ES			ES			ES			ES			ES			ES			ES	
			Depth (m)	0.10 - 0.20			2.70 - 2.80			1.10 - 1.20			1.80 - 1.90			0.90 - 1.00			2.60 - 2.70			0.90 - 1.00			2.20 - 2.30	
			Container	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
			Sample Type	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
Ammoniacal N as NH4 in 2:1 extract	All	NDPs: 0 Tests: 12			X			X			X			X			X		X		X			X
Ammoniacal Nitrogen	All	NDPs 0 Tests: 6						X			X		X											X
ANC at pH4 and ANC at pH 6	All	NDPs: 0 Tests: 12			X			X			X			X			X		X		X			X
Anions by Kone (soil)	All	NDPs: 0 Tests: 12			X			X			X			X			X		X		X			X
Anions by Kone (w)	All	NDPs: 0 Tests: 12			X			X			X			X			X		X		X			X
Asbestos ID in Solid Samples	All	NDPs: 0 Tests: 10	X			X			X			X			X								X	
Asbestos Quantification - Full	All	NDPs: 0 Tests: 1																					X	
Boron Water Soluble	All	NDPs: 0 Tests: 12			X			X			X			X			X		X		X			X
CEN Readings	All	NDPs: 0 Tests: 13			X			X			X		X	X			X		X		X			X
Chromium III	All	NDPs: 0 Tests: 6						X			X		X											X
Coronene	All	NDPs: 0 Tests: 12			X			X			X			X			X		X		X			X
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 13			X			X			X		X	X			X		X		X			X
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 13			X			X			X		X	X			X		X		X			X
Dissolved Organic/Inorganic Carbon	All	NDPs: 0 Tests: 12			X			X			X			X			X		X		X			X
EPH by GCxGC-FID	All	NDPs: 0 Tests 12			X			X			X			X			X		X		X			X

27048488	TP06	ES	1.50 - 1.60	60g VOC (ALE215)	S															
				250g Amber Jar (ALE210)	S	X		X	X	X			X	X		X	X	X	X	X
				1kg TUB with Handle (ALE260)	S						X									
27048480	TP06	ES	0.20 - 0.30	60g VOC (ALE215)	S															
				250g Amber Jar (ALE210)	S	X	X	X	X	X			X	X	X	X	X	X	X	X
				1kg TUB with Handle (ALE260)	S						X									
27048476	TP05	ES	1.20 - 1.30	60g VOC (ALE215)	S															
				250g Amber Jar (ALE210)	S	X	X	X	X	X			X	X	X	X	X	X	X	X
				1kg TUB with Handle (ALE260)	S						X									
27048545	TP05	ES	0.70 - 0.80	60g VOC (ALE215)	S															
				250g Amber Jar (ALE210)	S	X		X	X	X			X	X		X	X	X	X	X
				1kg TUB with Handle (ALE260)	S						X									
27048537	TP04	ES	2.20 - 2.30	60g VOC (ALE215)	S															

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

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)	27048472			27048493			27048497			27048509			27048 5 7			27048524			27048531			27048537
			Cu tomer Sample Reference	TP01			TP01			TP02			TP02			TP03			TP03			TP04			TP04
			AGS Reference	ES			ES			ES			ES			ES			ES			ES			ES
			Depth (m)	0.10 - 0.20			2.70 - 2.80			1.10 - 1.20			1.80 - 1.90			0.90 - 1.00			2.60 - 2.70			0.90 - 1.00			2.20 - 2.30
			Container	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
			Sample Type	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 6						X			X		X												X
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 6						X			X		X												X
EPH CWG GC (S)	All	NDPs: 0 Tests: 12			X			X			X			X			X			X			X		X
Fluoride	All	NDPs: 0 Tests: 12			X			X			X			X			X			X			X		X
GRO by GC-FID (S)	All	NDPs: 0 Tests: 12				X			X			X			X			X			X			X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6						X			X		X												X
Hexavalent Chromium (s)	All	NDPs: 0 Tests: 12			X			X			X			X			X			X			X		X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 6						X			X		X												X
Loss on Ignition in soils	All	NDPs: 0 Tests: 12			X			X			X			X			X			X			X		X
Mercury Dissolved	All	NDPs: 0 Tests 13			X			X			X		X	X			X			X			X		X
Metals in solid samples by OES	All	NDPs: 0 Tests: 12			X			X			X			X			X			X			X		X
PAH 16 & 17 Calc	All	NDPs: 0 Tests: 12			X			X			X			X			X			X			X		X
PAH by GCMS	All	NDPs: 0 Tests: 12				X		X			X			X			X			X			X		X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 6						X			X		X												X
PCBs by GCMS	All	NDPs: 0 Tests: 12			X			X			X			X			X			X			X		X

27048488	TP06	ES	1.50 - 1.60	60g VOC (ALE215)	S	
				250g Amber Jar (ALE210)	S	
				1kg TUB with Handle (ALE260)	S	
27048480	TP06	ES	0.20 - 0.30	60g VOC (ALE215)	S	
				250g Amber Jar (ALE210)	S	
				1kg TUB with Handle (ALE260)	S	
27048476	TP05	ES	1.20 - 1.30	60g VOC (ALE215)	S	
				250g Amber Jar (ALE210)	S	
				1kg TUB with Handle (ALE260)	S	
27048545	TP05	ES	0.70 - 0.80	60g VOC (ALE215)	S	
				250g Amber Jar (ALE210)	S	
				1kg TUB with Handle (ALE260)	S	
27048537	TP04	ES	2.20 - 2.30	60g VOC (ALE215)	S	
				250g Amber Jar (ALE210)	S	
				1kg TUB with Handle (ALE260)	S	

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

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)																					
			27048472			27048493			27048497			27048509			27048517			27048524			27048531			27048537
			Cu tomer Sample Reference																					
			TP01			TP01			TP02			TP02			TP03			TP03			TP04			TP04
			AGS Reference																					
			ES			ES			ES			ES			ES			ES			ES			ES
			Depth (m)																					
			0.10 - 0.20			2.70 - 2.80			1.10 - 1.20			1.80 - 1.90			0.90 - 1.00			2.60 - 2.70			0.90 - 1.00			2.20 - 2.30
			Container																					
			1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	250g Amber Jar (ALE210)	60g VOC (ALE215)	1kg TUB with Handle (ALE260)	250g Amber Jar (ALE210)
			Sample Type																					
			S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S	S
pH	All	NDPs: 0 Tests: 12		X			X			X			X			X		X		X			X
pH Value of Filtered Water	All	NDPs: 0 Tests: 13		X			X			X		X	X			X		X		X			X
Phenols by HPLC (W)	All	NDPs: 0 Tests: 13		X			X			X		X	X			X		X		X			X
Phenols Spec MS (S)	All	NDPs: 0 Tests: 12		X			X			X			X			X		X		X			X
Sample description	All	NDPs: 0 Tests: 12		X			X			X			X			X		X		X			X
Semi Volatile Organic Compounds	All	NDPs: 0 Tests: 12		X			X			X			X			X		X		X			X
Total Organic Carbon	All	NDPs: 0 Tests: 12		X			X			X			X			X		X		X			X
TPH CWG (W)	All	NDPs: 0 Tests: 6					X			X		X												X
TPH CWG GC (S)	All	NDPs: 0 Tests: 12		X			X			X			X			X		X		X			X
VOC MS (S)	All	NDPs: 0 Tests 12			X			X			X			X			X		X		X			
VOC MS (W)	All	NDPs: 0 Tests: 6					X			X		X												X

27048488	TP06	ES	1.50 - 1.60	60g VOC (ALE215)	S											X		
				250g Amber Jar (ALE210)	S		X		X		X		X		X		X		X	
				1kg TUB with Handle (ALE260)	S															
27048480	TP06	ES	0.20 - 0.30	60g VOC (ALE215)	S												X			
				250g Amber Jar (ALE210)	S		X		X		X		X		X		X		X	X
				1kg TUB with Handle (ALE260)	S															
27048476	TP05	ES	1.20 - 1.30	60g VOC (ALE215)	S												X			
				250g Amber Jar (ALE210)	S		X		X		X		X		X		X		X	X
				1kg TUB with Handle (ALE260)	S															
27048545	TP05	ES	0.70 - 0.80	60g VOC (ALE215)	S												X			
				250g Amber Jar (ALE210)	S		X		X		X		X		X		X			
				1kg TUB with Handle (ALE260)	S															
27048537	TP04	ES	2.20 - 2.30	60g VOC (ALE215)	S												X			

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Sample Descriptions

Grain Sizes

very fine	<0.063mm	fine	0.063mm - 0.1mm	medium	0. mm - 2mm	coarse	2mm - 10mm	very coarse	>10mm

Lab Sample No(s)	Customer Sample Ref.	Depth (m)	Colour	Description	Inclusions	Inclusions 2
27048472	TP01	0 10 0 20	Light Brown	Sandy Loam	Stones	Vegetation
27048493	TP01	2.70 - 2.80	Light Brown	Loamy Sand	Stones	None
27048497	TP02	1.10 - 1.20	Light Brown	Sandy Loam	Stones	None
27048509	TP02	1.80 - 1.90	Light Brown	Silt Loam	Stones	None
27048517	TP03	0 90 1 00	Light Brown	Silty Clay Loam	Stones	None
27048524	TP03	2.60 - 2.70	Light Brown	Silty Clay	None	None
27048531	TP04	0.90 - 1.00	Light Brown	Sandy Clay Loam	Stones	Vegetation
27048537	TP04	2.20 - 2.30	Light Brown	Sandy Clay Loam	Stones	None
27048476	TP05	1 20 1 0	Dark Brown	Sandy Clay Loam	None	None
27048545	TP05	0.70 - 0.80	Light Brown	Silty Clay	None	None
27048480	TP06	0.20 - 0.30	Light Brown	Sandy Clay Loam	Stones	Vegetation
27048488	TP06	1.50 - 1.60	Dark Brown	Sandy Clay Loam	Stones	None

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

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

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

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[#] Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		13	14	11	13	11	18
Loss on ignition	<0.7 %	TM018		4 96 M	2.12 M	3 31 M	3.42 M	3.9 M	7.61 M
Organic Carbon, Total	<0.2 %	TM132		1.03 M	0 396 M	0.542 M	0.627 M	0.712 M	0.656 M
Soil Organic Matter (SOM)	<0.35 %	TM132		1.78 #	0.683 #	0.934 #	1.08 #	1 23 #	1.13 #
pH	1 pH Units	TM133		7.07 M	7.48 M	5.61 M	7.28 M	6.7 M	7.87 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 M	<0.6 M	<0.6 M	<0.6 M	<0.6 M	<0.6 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Cyanide, Free	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Cyanide, Complex	<1 mg/kg	TM153		<1	<1	<1	<1	<1	<1
PCB congener 28	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 52	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 101	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 118	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 138	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 153	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 180	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168		<0.021	<0.021	<0.021	<0.021	<0.021	<0.021
Arsenic	<0.6 mg/kg	TM181		8.07 M	4.52 M	5 58 M	6.72 M	7.43 M	10 2 M
Barium	<0.6 mg/kg	TM181		78.6 #	37.1 #	46.2 #	48 9 #	55 #	164 #
Beryllium	<0.01 mg/kg	TM181		0.664 M	0 316 M	0.384 M	0.448 M	0.574 M	1.71 M
Cadmium	<0.02 mg/kg	TM181		0.467 M	0 249 M	0.301 M	0 358 M	0.414 M	0.781 M
Chromium	<0.9 mg/kg	TM181		13.3 M	6.59 M	8.06 M	9.74 M	11.8 M	28 9 M
Copper	<1.4 mg/kg	TM181		14.5 M	7.61 M	10.5 M	11.6 M	12.7 M	29.6 M
Lead	<0.7 mg/kg	TM181		31.3 M	17.4 M	29.7 M	29.6 M	26.9 M	22 2 M
Mercury	<0.1 mg/kg	TM181		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Nickel	<0.2 mg/kg	TM181		12.8 M	6.26 M	6 94 M	8.11 M	9.9 M	54.7 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vanadium	<0.2 mg/kg	TM181		21.9 #	11 #	15.2 #	17.1 #	22.8 #	45 #
Zinc	<1.9 mg/kg	TM181		47.3 M	25.6 M	32 M	34.4 M	42.7 M	79.1 M
ANC @ pH 4	<0.03 mol/kg	TM182		0.0421	0.0794	0.0457	0.0405	0.0539	0.0654
ANC @ pH 6	<0.03 mol/kg	TM182		<0.03	<0.03	<0.03	<0.03	<0.03	<0.03
Boron, water soluble	<1 mg/kg	TM222		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+5@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	.	.	.	.	.	.
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
Chloride (soluble)	<5 mg/kg	TM243		16 M	20.1 M	7 57 M	13 3 M	9.84 M	30.7 M
Soluble Sulphate 2:1 extract as SO4 BRE	<0.004 g/l	TM243		0.0188 M	<0.004 M	0.274 M	0.0047 M	0.0522 M	0.0989 M
Ammoniacal N as NH4 in 2:1 extract BRE	<0.0003 g/l	TM248		0.00264	0.0076	0.00858	0.00963	0.00395	0.00289
PAH Total 17 (inc Coronene) Moisture Corrected	<10 mg/kg	TM410		<10	<10	<10	<10	<10	<10
Coronene	<0.2 mg/kg	TM410		<0.2	<0 2	<0.2	<0 2	<0.2	<0 2
EPH Surrogate % recovery**	%	TM415		102	99 3	102	107	106	107
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415		9.83	<5	11.1	10 5	15.6	<5

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+b@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
Moisture Content Ratio (% of as received sample)	%	PM024		11	23	20	18	15	15
Loss on ignition	<0.7 %	TM018		5 33 M	6.24 M	7 58 M	4.28 M	6 92 M	4.9 M
Organic Carbon, Total	<0.2 %	TM132		1 27 M	2.02 M	0.476 M	0.778 M	1.41 M	1.22 M
Soil Organic Matter (SOM)	<0.35 %	TM132		2.19 #	3.48 #	0.821 #	1.34 #	2.43 #	2.1 #
pH	1 pH Units	TM133		7.63 M	7.69 M	7.49 M	7.81 M	7.72 M	6.71 M
Chromium, Hexavalent	<0.6 mg/kg	TM151		<0.6 M	<0.6 M	<0.6 M	<0.6 M	<0.6 M	<0.6 M
Cyanide, Total	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Cyanide, Free	<1 mg/kg	TM153		<1 M	<1 M	<1 M	<1 M	<1 M	<1 M
Cyanide, Complex	<1 mg/kg	TM153		<1	<1	<1	<1	<1	<1
PCB congener 28	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 52	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 101	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 118	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 138	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 153	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
PCB congener 180	<0.003 mg/kg	TM168		<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M	<0.003 M
Sum of detected PCB 7 Congeners	<0.021 mg/kg	TM168		<0.021	<0.021	<0.021	<0.021	<0.021	<0.021
Arsenic	<0.6 mg/kg	TM181		10.2 M	7.42 M	12.5 M	4.79 M	10.7 M	7.49 M
Barium	<0.6 mg/kg	TM181		87.5 #	117 #	99.8 #	65 2 #	113 #	79.7 #
Beryllium	<0.01 mg/kg	TM181		0.691 M	0.747 M	1.04 M	0 555 M	0.957 M	0.688 M
Cadmium	<0.02 mg/kg	TM181		0.345 M	0 343 M	<0.02 M	0.11 M	0.19 M	0.47 M
Chromium	<0.9 mg/kg	TM181		13.3 M	15.4 M	18.4 M	12.8 M	15.1 M	13 9 M
Copper	<1.4 mg/kg	TM181		18.1 M	16 5 M	15.2 M	9.56 M	33.9 M	17.6 M
Lead	<0.7 mg/kg	TM181		37.5 M	35.6 M	19.8 M	23.6 M	44 M	36 M
Mercury	<0.1 mg/kg	TM181		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Nickel	<0.2 mg/kg	TM181		13.4 M	15 5 M	19.7 M	10 3 M	17.8 M	13 M
Selenium	<1 mg/kg	TM181		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Vanadium	<0.2 mg/kg	TM181		23.2 #	26.1 #	41.1 #	22.4 #	29.6 #	23.4 #
Zinc	<1.9 mg/kg	TM181		65.9 M	66.4 M	55.4 M	448 M	67.3 M	49.8 M
ANC @ pH 4	<0.03 mol/kg	TM182		0.0594	0.0607	0.061	0.068	0.0697	0.0692
ANC @ pH 6	<0.03 mol/kg	TM182		<0.03	0.0359	<0.03	0.0423	<0.03	<0.03
Boron, water soluble	<1 mg/kg	TM222		<1 M	2.85 M	<1 M	<1 M	<1 M	1.09 M

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4[50]	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	.	.	.	.	.	.
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
Chloride (soluble)	<5 mg/kg	TM243		11 M	133 M	8 94 M	33 5 M	10.4 M	21.7 M
Soluble Sulphate 2:1 extract as SO4 BRE	<0.004 g/l	TM243		0.0072 M	0.0432 M	0.0303 M	<0.004 M	0.0229 M	0.0221 M
Ammoniacal N as NH4 in 2:1 extract BRE	<0.0003 g/l	TM248		0.00218	0.0189	0.00247	0.0116	0.00219	0.00907
Asbestos Quantification - Gravimetric - %	<0.001 %	TM304			<0.001 #				
Asbestos Quantification - PCOM Evaluation - %	<0.001 %	TM304			<0.001 #				
Additional Asbestos Components (Using TM048)		TM304			None #				
Analysts Comments		TM304			N/A				
Asbestos Quantification - Total - %	<0.001 %	TM304			<0.001 #				
PAH Total 17 (inc Coronene) Moisture Corrected	<10 mg/kg	TM410		<10	<10	<10	<10	<10	<10
Coronene	<0.2 mg/kg	TM410		<0.2	<0 2	<0.2	<0 2	<0.2	<0 2
EPH Surrogate % recovery**	%	TM415		97.4	104	105	98	97.1	99.4
Mineral Oil >C10-C40 (EH_2D_AL)	<5 mg/kg	TM415		11.7	15 5	15.8	42.4	5 95	6.1

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4=b@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
Naphthalene-d8 % recovery**	%	TM218		86.2	80 9	81.8	84 2	86.1	85.4
Acenaphthene-d10 % recovery**	%	TM218		88	85 3	87.8	87	89.8	87.1
Phenanthrene-d10 % recovery**	%	TM218		85	84 5	87	82.8	85.4	80.8
Chrysene-d12 % recovery**	%	TM218		84.3	77.4	77.7	76 9	80.8	77.6
Perylene-d12 % recovery**	%	TM218		85.7	74	72.8	84 2	88.6	80 9
Naphthalene	<0.009 mg/kg	TM218		<0.009 M	<0.009 M	<0.009 M	<0.009 M	<0.009 M	<0.009 M
Acenaphthylene	<0.012 mg/kg	TM218		<0.012 M	<0.012 M	<0.012 M	<0.012 M	<0.012 M	<0.012 M
Acenaphthene	<0.008 mg/kg	TM218		<0.008 M	<0.008 M	<0.008 M	<0.008 M	<0.008 M	<0.008 M
Fluorene	<0.01 mg/kg	TM218		<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M	<0.01 M
Phenanthrene	<0.015 mg/kg	TM218		0.0308 M	<0.015 M	0.0307 M	0.0438 M	0.0291 M	<0.015 M
Anthracene	<0.016 mg/kg	TM218		<0.016 M	<0.016 M	<0.016 M	<0.016 M	<0.016 M	<0.016 M
Fluoranthene	<0.017 mg/kg	TM218		0.0361 M	<0.017 M	0.0394 M	0.0491 M	0.0464 M	<0.017 M
Pyrene	<0.015 mg/kg	TM218		0.0319 M	<0.015 M	0.0336 M	0.0421 M	0.0394 M	<0.015 M
Benz(a)anthracene	<0.014 mg/kg	TM218		0.021 M	<0.014 M	0.0197 M	0.0253 M	0.0209 M	<0.014 M
Chrysene	<0.01 mg/kg	TM218		0.0344 M	<0.01 M	0.0257 M	0.0286 M	0.0253 M	<0.01 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.0307 M	<0.015 M	0.0289 M	0.0403 M	0.0343 M	<0.015 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		<0.014 M	<0.014 M	<0.014 M	<0.014 M	<0.014 M	<0.014 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.0178 M	<0.015 M	<0.015 M	0.0193 M	<0.015 M	<0.015 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		<0.018 M	<0.018 M	<0.018 M	<0.018 M	<0.018 M	<0.018 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		<0.023 M	<0.023 M	<0.023 M	<0.023 M	<0.023 M	<0.023 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		<0.024 M	<0.024 M	<0.024 M	<0.024 M	<0.024 M	<0.024 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		0.203	<0.118	0.178	0 249	0.195	<0.118

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

PAH by GCMS

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4[b0]	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
Naphthalene-d8 % recovery**	%	TM218		82.5	75.6	86.3	77 9	84.5	85
Acenaphthene-d10 % recovery**	%	TM218		88	81.1	90.1	82.6	87.7	89 2
Phenanthrene-d10 % recovery**	%	TM218		88.5	82.7	86.4	83.1	84.5	87 2
Chrysene-d12 % recovery**	%	TM218		82.2	73 2	84.4	74.4	81.5	84.8
Perylene-d12 % recovery**	%	TM218		78.6	71.7	86.5	71.8	86.7	87 9
Naphthalene	<0.009 mg/kg	TM218		<0.009 M	<0.009 M	<0.009 M	0.0924 M	0.0111 M	<0.009 M
Acenaphthylene	<0.012 mg/kg	TM218		<0.012 M	<0.012 M	<0.012 M	<0.012 M	<0.012 M	<0.012 M
Acenaphthene	<0.008 mg/kg	TM218		<0.008 M	<0.008 M	<0.008 M	0.0436 M	<0.008 M	<0.008 M
Fluorene	<0.01 mg/kg	TM218		<0.01 M	<0.01 M	<0.01 M	0.0393 M	<0.01 M	<0.01 M
Phenanthrene	<0.015 mg/kg	TM218		0.0618 M	0.044 M	<0.015 M	0 219 M	0.0523 M	0.021 M
Anthracene	<0.016 mg/kg	TM218		<0.016 M	<0.016 M	<0.016 M	<0.016 M	<0.016 M	<0.016 M
Fluoranthene	<0.017 mg/kg	TM218		0.0709 M	0.0759 M	<0.017 M	0.182 M	0.0596 M	0.0252 M
Pyrene	<0.015 mg/kg	TM218		0.0639 M	0.0655 M	<0.015 M	0.167 M	0.0525 M	0.0219 M
Benz(a)anthracene	<0.014 mg/kg	TM218		0.0352 M	0.0355 M	<0.014 M	0.0522 M	0.0336 M	<0.014 M
Chrysene	<0.01 mg/kg	TM218		0.0539 M	0.0457 M	<0.01 M	0.0941 M	0.0484 M	0.015 M
Benzo(b)fluoranthene	<0.015 mg/kg	TM218		0.0469 M	0.0507 M	<0.015 M	0.0882 M	0.0498 M	0.0193 M
Benzo(k)fluoranthene	<0.014 mg/kg	TM218		<0.014 M	<0.014 M	<0.014 M	0.0303 M	<0.014 M	<0.014 M
Benzo(a)pyrene	<0.015 mg/kg	TM218		0.0274 M	0.0299 M	<0.015 M	0.0519 M	0.0278 M	<0.015 M
Indeno(1,2,3-cd)pyrene	<0.018 mg/kg	TM218		0.0225 M	0.0274 M	<0.018 M	0.046 M	<0.018 M	<0.018 M
Dibenzo(a,h)anthracene	<0.023 mg/kg	TM218		<0.023 M	<0.023 M	<0.023 M	<0.023 M	<0.023 M	<0.023 M
Benzo(g,h,i)perylene	<0.024 mg/kg	TM218		<0.024 M	<0.024 M	<0.024 M	0.0344 M	<0.024 M	<0.024 M
PAH, Total Detected USEPA 16	<0.118 mg/kg	TM218		0.382	0 375	<0.118	1.14	0.335	<0.118

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Phenols Spec MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+b@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
4-Nitrophenol	<0.001 mg/kg	TM072		<0.001	<0.001	0.00141	<0.001	0.00201	<0.001
2,4,6-Trichlorophenol	<0.001 mg/kg	TM072		0.00207	<0.001	0.00117	<0.001	<0.001	<0.001
2-Nitrophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2,4-Dichlorophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Pentachlorophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	0.00221
4-Chloro-3-methylphenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2,4-Dimethylphenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sum of Detected Phenols	<0.009 mg/kg	TM072		<0.009	<0.009	<0.009	<0.009	<0.009	<0.009

Phenols Spec MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+b@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
4-Nitrophenol	<0.001 mg/kg	TM072		0.00157	<0.001	<0.001	0.00555	<0.001	<0.001
2,4,6-Trichlorophenol	<0.001 mg/kg	TM072		0.00166	<0.001	<0.001	<0.001	<0.001	<0.001
2-Nitrophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2,4-Dichlorophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Pentachlorophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phenol	<0.001 mg/kg	TM072		0.0012	<0.001	<0.001	0.00697	<0.001	0.002
4-Chloro-3-methylphenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2,4-Dimethylphenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
2-Chlorophenol	<0.001 mg/kg	TM072		<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sum of Detected Phenols	<0.009 mg/kg	TM072		<0.009	<0.009	<0.009	0.0125	<0.009	<0.009

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Semi Volatile Organic Compounds

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+[x] Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
Phenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-Nitroso-n-dipropylamine	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isophorone	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachloroethane	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-Dioctyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-Dibutyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbazole	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Butylbenzyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bis(2-Ethylhexyl) phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bis(2-Chloroethoxy)methane	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bis(2-Chloroethyl)ether	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Azobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Methylphenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chlorophenylphenylether	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Bromophenylphenylether	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylphenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-Trichlorobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Semi Volatile Organic Compounds

Results Legend		Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
#	ISO17025 accredited.							
M	mCERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
diss.filt	Dissolved / filtered sample.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
tot.unfilt	Total / unfiltered sample.	Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
*	Subcontracted - refer to subcontractor report for accreditation status.	Sampled Time	.	.	.	.	.	.
**	% 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	Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
		SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
(F)	Trigger breach confirmed	Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
1-4+5@	Sample deviation (see appendix)	AGS Reference	ES	ES	ES	ES	ES	ES

Component	LOD/Units	Method						
2-Chlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Naphthalene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-chloroisopropyl) ether	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+b@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	.	.	.	.	.	.
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
Phenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Pentachlorophenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-Nitroso-n-dipropylamine	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Nitrobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Isophorone	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachloroethane	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorocyclopentadiene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobutadiene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Hexachlorobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-Dioctyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dimethyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Diethyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
n-Dibutyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dibenzofuran	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Carbazole	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Butylbenzyl phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bis(2-Ethylhexyl) phthalate	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bis(2-Chloroethoxy)methane	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
bis(2-Chloroethyl)ether	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Azobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitrophenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Nitroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Methylphenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chlorophenylphenylether	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Chloro-3-methylphenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Bromophenylphenylether	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
3-Nitroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitrophenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Nitroaniline	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylphenol	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2,4-Trichlorobenzene	<0.1 mg/kg	TM157		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Semi Volatile Organic Compounds

Results Legend	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
# ISO17025 accredited.	Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
M mCERTS accredited.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq Aqueous / settled sample.	Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
diss.filt Dissolved / filtered sample.	Sampled Time	.	.	.	.	.	.
tot.unfilt Total / unfiltered sample.	Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
(F) Trigger breach confirmed	AGS Reference	ES	ES	ES	ES	ES	ES
1-4+5@ Sample deviation (see appendix)							

Component	LOD/Units	Method						
2-Chlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,6-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dinitrotoluene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dimethylphenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4-Dichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,6-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2,4,5-Trichlorophenol	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,4-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,2-Dichlorobenzene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Chloronaphthalene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
2-Methylnaphthalene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Benzo(a)anthracene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Chrysene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	0.163	<0.1	<0.1
Naphthalene	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bis(2-chloroisopropyl) ether	<0.1 mg/kg	TM157	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+5@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
GRO Surrogate % recovery**	%	TM089		95.5	106	92.3	91.7	92.2	86.7
Aliphatics >C5-C6 (HS_1D_AL)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aliphatics >C6-C8 (HS_1D_AL)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	0.0173	<0.01	<0.01
Aliphatics >C8-C10 (HS_1D_AL)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	0.0127	<0.01	<0.01
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1 mg/kg	TM414		1 32 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aliphatics >C16-C35 (EH_2D_AL_#1)	<1 mg/kg	TM414		16	2.16	5.47	2.24	5.85	<1
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1 mg/kg	TM414		14.7 #	2.16 #	5.47 #	2.24 #	5.85 #	<1 #
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1 mg/kg	TM414		1.06	<1	<1	<1	<1	<1
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5 mg/kg	TM414		17.1	<5	5.47	<5	6.09	<5
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10 mg/kg	TM414		42.8	<10	<10	<10	<10	<10
Aromatics >EC5-EC7 (HS_1D_AR)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatics >EC7-EC8 (HS_1D_AR)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatics >EC8-EC10 (HS_1D_AR)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aromatics > EC12-EC16 (EH_2D_AR_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1 mg/kg	TM414		1.43 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aromatics > EC16-EC35 (EH_2D_AR_#1)	<1 mg/kg	TM414		18.7	<1	2 26	3.35	2.69	<1
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1 mg/kg	TM414		17.2 #	<1 #	2 26 #	3.35 #	2 56 #	<1 #
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414		7.09	<1	<1	<1	<1	<1
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414		1.13	<1	<1	<1	<1	<1
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5 mg/kg	TM414		25.7	<5	<5	<5	<5	<5
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10 mg/kg	TM414		42.8	<10	<10	<10	<10	<10
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<0.05 mg/kg	TM089		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<0.05 mg/kg	TM089		<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
GRO >C5-C10 (HS_1D_TOTAL)	<0.02 mg/kg	TM089		<0.02	<0.02	<0.02	<0.02	<0.02	<0.02

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+5@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
GRO Surrogate % recovery**	%	TM089		94.3	93 5	92.1	117	103	120
Aliphatics >C5-C6 (HS_1D_AL)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	0.0431	<0.01	<0.01
Aliphatics >C6-C8 (HS_1D_AL)	<0.01 mg/kg	TM089		<0.01	0.0117	0.02	0.0861	<0.01	<0.01
Aliphatics >C8-C10 (HS_1D_AL)	<0.01 mg/kg	TM089		<0.01	<0.01	0.015	0.171	<0.01	<0.01
Aliphatics >C10-C12 (EH_2D_AL_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aliphatics >C12-C16 (EH_2D_AL_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aliphatics >C16-C21 (EH_2D_AL_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aliphatics >C16-C35 (EH_2D_AL_#1)	<1 mg/kg	TM414		11.4	4.75	1.71	10 2	2	7.47
Aliphatics >C21-C35 (EH_2D_AL_#1)	<1 mg/kg	TM414		11 #	4.56 #	1.71 #	9.95 #	2 #	7.47 #
Aliphatics >C35-C44 (EH_2D_AL_#1)	<1 mg/kg	TM414		<1	<1	<1	<1	<1	<1
Total Aliphatics >C10-C44 (EH_2D_AR_#1)	<5 mg/kg	TM414		11.7	<5	<5	10.6	<5	7.83
Total Aliphatics & Aromatics >C10-C44 (EH_2D_Total_#1)	<10 mg/kg	TM414		21.4	10.1	<10	19.8	<10	13
Aromatics >EC5-EC7 (HS_1D_AR)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatics >EC7-EC8 (HS_1D_AR)	<0.01 mg/kg	TM089		<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Aromatics >EC8-EC10 (HS_1D_AR)	<0.01 mg/kg	TM089		<0.01	<0.01	0.01	0.114	<0.01	<0.01
Aromatics > EC10-EC12 (EH_2D_AR_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aromatics > EC12-EC16 (EH_2D_AR_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aromatics > EC16-EC21 (EH_2D_AR_#1)	<1 mg/kg	TM414		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Aromatics > EC16-EC35 (EH_2D_AR_#1)	<1 mg/kg	TM414		8.7	4.02	3	7.99	3.89	4.19
Aromatics > EC21-EC35 (EH_2D_AR_#1)	<1 mg/kg	TM414		8.7 #	4.02 #	3 #	7.91 #	3.89 #	4.19 #
Aromatics >EC35-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414		<1	<1	<1	<1	<1	<1
Aromatics > EC40-EC44 (EH_2D_AR_#1)	<1 mg/kg	TM414		<1	<1	<1	<1	<1	<1
Total Aromatics > EC10-EC44 (EH_2D_AR_#1)	<5 mg/kg	TM414		9.7	5.29	<5	9.16	5 22	5.19
Total Aliphatics & Aromatics >C5-C44 (EH_2D_Total_#1+HS_1D_Total)	<10 mg/kg	TM414		21.4	<10	<10	20 2	<10	13
Total Aliphatics >C5-C10 (HS_1D_AL_TOTAL)	<0.05 mg/kg	TM089		<0.05	<0.05	<0.05	0.3	<0.05	<0.05
Total Aromatics >EC5-EC10 (HS_1D_AR_TOTAL)	<0.05 mg/kg	TM089		<0.05	<0.05	<0.05	0.114	<0.05	<0.05
GRO >C5-C10 (HS_1D_TOTAL)	<0.02 mg/kg	TM089		<0.02	<0.02	<0.02	0.415	<0.02	<0.02

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+b@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
Dibromofluoromethane**	%	TM116		110	110	111	121	111	118
Toluene-d8**	%	TM116		99.6	99.6	100	101	99.9	101
4-Bromofluorobenzene**	%	TM116		93.3	97	91.1	93 2	91.4	88 5
Dichlorodifluoromethane	<0.006 mg/kg	TM116		<0.06 #	<0.06 #	<0.06 #	<0.06 #	<0.06 #	<0.06 #
Chloromethane	<0.007 mg/kg	TM116		<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #
Vinyl Chloride	<0.006 mg/kg	TM116		<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M
Bromomethane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Chloroethane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Trichlorofluorormethane	<0.006 mg/kg	TM116		<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M
1,1-Dichloroethene	<0.01 mg/kg	TM116		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Carbon Disulphide	<0.007 mg/kg	TM116		<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
Dichloromethane	<0.01 mg/kg	TM116		<0.1 #	<0.1 #	<0.145 #	<0.18 #	<0.14 #	<0.165 #
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
trans-1,2-Dichloroethene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
1,1-Dichloroethane	<0.008 mg/kg	TM116		<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M
cis-1,2-Dichloroethene	<0.006 mg/kg	TM116		<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M
2,2-Dichloropropane	<0.01 mg/kg	TM116		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Chloroform	<0.008 mg/kg	TM116		<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M
1,1,1-Trichloroethane	<0.007 mg/kg	TM116		<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
1,1-Dichloropropene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Carbontetrachloride	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
1,2-Dichloroethane	<0.005 mg/kg	TM116		<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M
Benzene	<0.009 mg/kg	TM116		<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M
Trichloroethene	<0.009 mg/kg	TM116		<0.09 #	<0.09 #	<0.09 #	<0.09 #	<0.09 #	<0.09 #
1,2-Dichloropropane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Dibromomethane	<0.009 mg/kg	TM116		<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M
Bromodichloromethane	<0.007 mg/kg	TM116		<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
cis-1,3-Dichloropropene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Toluene	<0.007 mg/kg	TM116		<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
trans-1,3-Dichloropropene	<0.01 mg/kg	TM116		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-Trichloroethane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M

VOC MS (S)

Results Legend	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
ISO17025 accredited.	Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
M mCERTS accredited.	Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
aq Aqueous / settled sample.	Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
diss.filt Dissolved / filtered sample.	Sampled Time	.	.	.	.	.	.
tot.unfilt Total / unfiltered sample.	Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
* Subcontracted - refer to subcontractor report for accreditation status.	SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
(F) Trigger breach confirmed	AGS Reference	ES	ES	ES	ES	ES	ES
1-4+5@ Sample deviation (see appendix)							

Component	LOD/Units	Method											
1,3-Dichloropropane	<0.007	mg/kg	TM116	<0.07	M	<0.07	M	<0.07	M	<0.07	M	<0.07	M	<0.07	M
Tetrachloroethene	<0.005	mg/kg	TM116	<0.05	M	<0.05	M	<0.05	M	<0.05	M	<0.05	M	<0.05	M
Dibromochloromethane	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
1,2-Dibromoethane	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
Chlorobenzene	<0.005	mg/kg	TM116	<0.05	M	<0.05	M	<0.05	M	<0.05	M	<0.05	M	<0.05	M
1,1,1,2-Tetrachloroethane	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
Ethylbenzene	<0.004	mg/kg	TM116	<0.04	M	<0.04	M	<0.04	M	<0.04	M	<0.04	M	<0.04	M
p/m-Xylene	<0.01	mg/kg	TM116	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#
o-Xylene	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
Styrene	<0.01	mg/kg	TM116	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#
Bromoform	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
Isopropylbenzene	<0.005	mg/kg	TM116	<0.05	#	<0.05	#	<0.05	#	<0.05	#	<0.05	#	<0.05	#
1,1,2,2-Tetrachloroethane	<0.01	mg/kg	TM116	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#
1,2,3-Trichloropropane	<0.016	mg/kg	TM116	<0.16	M	<0.16	M	<0.16	M	<0.16	M	<0.16	M	<0.16	M
Bromobenzene	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
Propylbenzene	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
2-Chlorotoluene	<0.009	mg/kg	TM116	<0.09	M	<0.09	M	<0.09	M	<0.09	M	<0.09	M	<0.09	M
1,3,5-Trimethylbenzene	<0.008	mg/kg	TM116	<0.08	M	<0.08	M	<0.08	M	<0.08	M	<0.08	M	<0.08	M
4-Chlorotoluene	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
tert-Butylbenzene	<0.014	mg/kg	TM116	<0.14	#	<0.14	#	<0.14	#	<0.14	#	<0.14	#	<0.14	#
1,2,4-Trimethylbenzene	<0.009	mg/kg	TM116	<0.09	#	<0.09	#	<0.09	#	<0.09	#	<0.09	#	<0.09	#
sec-Butylbenzene	<0.01	mg/kg	TM116	<0.1		<0.1		<0.1		<0.1		<0.1		<0.1	
4-Isopropyltoluene	<0.01	mg/kg	TM116	<0.1		<0.1		<0.1		<0.1		<0.1		<0.1	
1,3-Dichlorobenzene	<0.008	mg/kg	TM116	<0.08	M	<0.08	M	<0.08	M	<0.08	M	<0.08	M	<0.08	M
1,4-Dichlorobenzene	<0.005	mg/kg	TM116	<0.05	M	<0.05	M	<0.05	M	<0.05	M	<0.05	M	<0.05	M
n-Butylbenzene	<0.011	mg/kg	TM116	<0.11		<0.11		<0.11		<0.11		<0.11		<0.11	
1,2-Dichlorobenzene	<0.01	mg/kg	TM116	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M	<0.1	M
1,2-Dibromo-3-chloropropane	<0.014	mg/kg	TM116	<0.14	M	<0.14	M	<0.14	M	<0.14	M	<0.14	M	<0.14	M
Tert-amyl methyl ether	<0.01	mg/kg	TM116	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#	<0.1	#
1,2,4-Trichlorobenzene	<0.02	mg/kg	TM116	<0.2		<0 2		<0.2		<0 2		<0.2		<0 2	
Hexachlorobutadiene	<0.02	mg/kg	TM116	<0.2		<0 2		<0.2		<0 2		<0.2		<0 2	
Naphthalene	<0.013	mg/kg	TM116	<0.13	M	<0.13	M	<0.13	M	<0.13	M	<0.13	M	<0.13	M

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+5@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP01	TP01	TP02	TP02	TP03	TP03
			Depth (m)	0.10 - 0.20	2.70 - 2.80	1.10 - 1.20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	.	.	.	.	.	.
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048472	27048493	27048497	27048509	27048517	27048524
			AGS Reference	ES	ES	ES	ES	ES	ES
1,2,3-Trichlorobenzene	<0.02 mg/kg	TM116		<0.2 #	<0 2 #	<0.2 #	<0 2 #	<0.2 #	<0 2 #
1,3,5-Trichlorobenzene	<0.02 mg/kg	TM116		<0.2	<0 2	<0.2	<0 2	<0.2	<0 2
Sum of BTEX	<0.04 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

CERTIFICATE OF ANALYSIS

Validated

SDG: 221020-66 **Client Ref.:** 70072063 **Report Number:** 667610 **Location:** Drax FCA **Superseded Report:** 667193

VOC MS (S)

Results Legend
- # ISO17025 accredited.
- M mCERTS accredited.
- aq Aqueous / settled sample.
- diss.filt Dissolved / filtered sample.
- tot.unfilt Total / unfiltered sample.
- * Subcontracted - refer to subcontractor report for accreditation status.
- ** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
- (F) Trigger breach confirmed
- 1-4+§@ Sample deviation (see appendix)

Component	LOD/Units	Method	TP04	TP04	TP05	TP05	TP06	TP06
Depth (m)			0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
Sample Type			Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Date Sampled			18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
Sampled Time			-	-	-	-	-	-
Date Received			20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
SDG Ref			221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
Lab Sample No.(s)			27048531	27048537	27048545	27048476	27048480	27048488
AGS Reference			ES	ES	ES	ES	ES	ES
Dibromofluoromethane**	%	TM116	109	118	112	110	110	110
Toluene-d8**	%	TM116	99.9	99.8	101	97.8	100	99.7
4-Bromofluorobenzene**	%	TM116	94.1	95	92.2	87.1	95.1	95.3
Dichlorodifluoromethane	<0.006 mg/kg	TM116	<0.06 #	<0.06 #	<0.06 #	<0.06 #	<0.06 #	<0.06 #
Chloromethane	<0.007 mg/kg	TM116	<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #	<0.07 #
Vinyl Chloride	<0.006 mg/kg	TM116	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M
Bromomethane	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Chloroethane	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Trichlorofluoromethane	<0.006 mg/kg	TM116	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M
1,1-Dichloroethene	<0.01 mg/kg	TM116	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Carbon Disulphide	<0.007 mg/kg	TM116	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
Dichloromethane	<0.01 mg/kg	TM116	<0.1 #	<0.1 #	<0.145 #	<0.1 #	<0.1 #	<0.1 #
Methyl Tertiary Butyl Ether	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
trans-1,2-Dichloroethene	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
1,1-Dichloroethane	<0.008 mg/kg	TM116	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M
cis-1,2-Dichloroethene	<0.006 mg/kg	TM116	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M	<0.06 M
2,2-Dichloropropane	<0.01 mg/kg	TM116	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Bromochloromethane	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Chloroform	<0.008 mg/kg	TM116	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M
1,1,1-Trichloroethane	<0.007 mg/kg	TM116	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
1,1-Dichloropropene	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Carbontetrachloride	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
1,2-Dichloroethane	<0.005 mg/kg	TM116	<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M
Benzene	<0.009 mg/kg	TM116	<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M
Trichloroethene	<0.009 mg/kg	TM116	<0.09 #	<0.09 #	<0.09 #	<0.09 #	<0.09 #	<0.09 #
1,2-Dichloropropane	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Dibromomethane	<0.009 mg/kg	TM116	<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M
Bromodichloromethane	<0.007 mg/kg	TM116	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
cis-1,3-Dichloropropene	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Toluene	<0.007 mg/kg	TM116	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
trans-1,3-Dichloropropene	<0.01 mg/kg	TM116	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,1,2-Trichloroethane	<0.01 mg/kg	TM116	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M

VOC MS (S)

Results Legend
ISO17025 accredited.
M mCERTS accredited.
aq Aqueous / settled sample.
diss.filt Dissolved / filtered sample.
tot.unfilt Total / unfiltered sample.
* Subcontracted - refer to subcontractor report for accreditation status.
** % recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F) Trigger breach confirmed
1-4+&@ Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	-	-	-	-	-	-
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
1,3-Dichloropropane	<0.007 mg/kg	TM116		<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M	<0.07 M
Tetrachloroethene	<0.005 mg/kg	TM116		<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M
Dibromochloromethane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
1,2-Dibromoethane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Chlorobenzene	<0.005 mg/kg	TM116		<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M
1,1,1,2-Tetrachloroethane	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Ethylbenzene	<0.004 mg/kg	TM116		<0.04 M	<0.04 M	<0.04 M	<0.04 M	<0.04 M	<0.04 M
p/m-Xylene	<0.01 mg/kg	TM116		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
o-Xylene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Styrene	<0.01 mg/kg	TM116		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
Bromoform	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Isopropylbenzene	<0.005 mg/kg	TM116		<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #	<0.05 #
1,1,2,2-Tetrachloroethane	<0.01 mg/kg	TM116		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
1,2,3-Trichloropropane	<0.016 mg/kg	TM116		<0.16 M	<0.16 M	<0.16 M	<0.16 M	<0.16 M	<0.16 M
Bromobenzene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
Propylbenzene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
2-Chlorotoluene	<0.009 mg/kg	TM116		<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M	<0.09 M
1,3,5-Trimethylbenzene	<0.008 mg/kg	TM116		<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M
4-Chlorotoluene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
tert-Butylbenzene	<0.014 mg/kg	TM116		<0.14 #	<0.14 #	<0.14 #	<0.14 #	<0.14 #	<0.14 #
1,2,4-Trimethylbenzene	<0.009 mg/kg	TM116		<0.09 #	<0.09 #	<0.09 #	<0.09 #	<0.09 #	<0.09 #
sec-Butylbenzene	<0.01 mg/kg	TM116		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
4-Isopropyltoluene	<0.01 mg/kg	TM116		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
1,3-Dichlorobenzene	<0.008 mg/kg	TM116		<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M	<0.08 M
1,4-Dichlorobenzene	<0.005 mg/kg	TM116		<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M	<0.05 M
n-Butylbenzene	<0.011 mg/kg	TM116		<0.11	<0.11	<0.11	<0.11	<0.11	<0.11
1,2-Dichlorobenzene	<0.01 mg/kg	TM116		<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M	<0.1 M
1,2-Dibromo-3-chloropropane	<0.014 mg/kg	TM116		<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M	<0.14 M
Tert-amyl methyl ether	<0.01 mg/kg	TM116		<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #	<0.1 #
1,2,4-Trichlorobenzene	<0.02 mg/kg	TM116		<0.2	<0 2	<0.2	<0 2	<0.2	<0 2
Hexachlorobutadiene	<0.02 mg/kg	TM116		<0.2	<0 2	<0.2	<0 2	<0.2	<0 2
Naphthalene	<0.013 mg/kg	TM116		<0.13 M	<0.13 M	<0.13 M	0 211 M	<0.13 M	<0.13 M

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted - refer to subcontractor report for accreditation status.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-4+5@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	TP04	TP04	TP05	TP05	TP06	TP06
			Depth (m)	0.90 - 1.00	2.20 - 2.30	0.70 - 0.80	1.20 - 1.30	0.20 - 0.30	1.50 - 1.60
			Sample Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
			Date Sampled	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022	18/10/2022
			Sampled Time	.	.	.	.	.	.
			Date Received	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022	20/10/2022
			SDG Ref	221020-66	221020-66	221020-66	221020-66	221020-66	221020-66
			Lab Sample No.(s)	27048531	27048537	27048545	27048476	27048480	27048488
			AGS Reference	ES	ES	ES	ES	ES	ES
1,2,3-Trichlorobenzene	<0.02 mg/kg	TM116		<0.2 #	<0 2 #	<0.2 #	<0 2 #	<0.2 #	<0 2 #
1,3,5-Trichlorobenzene	<0.02 mg/kg	TM116		<0.2	<0 2	<0.2	<0 2	<0.2	<0 2
Sum of BTEX	<0.04 mg/kg	TM116		<0.4	<0.4	<0.4	<0.4	<0.4	<0.4

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Asbestos Identification - Solid Samples

Results Legend
ISO17025 accredited.
M *m*CERTS accredited.
* Subcontracted test.
(F) Trigger breach confirmed
1-5&+§@ Sample deviation (see appendix)

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP01ES 0.10 - 0.20 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048472 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP01ES 2.70 - 2.80 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048493 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP02ES 1.10 - 1.20 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048497 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP02ES 1.80 - 1.90 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048509 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP03ES 0.90 - 1.00 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048517 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP04ES 2.20 - 2.30 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048537 TM048	31/10/2022	Emily Anderton	Loose fibre in soil	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP05ES 0.70 - 0.80 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048545 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP05ES 1.20 - 1.30 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048476 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Asbestos Actinolite	Asbestos Anthophyllite	Asbestos Tremolite	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Non-Asbestos Fibre
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP06ES 0.20 - 0.30 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048480 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected
Cust. Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP06ES 1.50 - 1.60 SOLID 18/10/2022 00:00:00 20/10/2022 05:00:00 221020-66 27048488 TM048	31/10/2022	Emily Anderton	-	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Asbestos Quantification - Full

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
*	Subcontracted test.
(F)	Trigger breach confirmed
1-5&+$@	Sample deviation (see appendix)

		Additional Asbestos Components	Analysts Comments	Asbestos Quantification - Gravimetric - %	Asbestos Quantification - PCOM	Asbestos Quantification - Total - %
Cust. Sample Ref.	TP04ES 2.20 - 2.30	None (#)	N/A	<0.001 (#)	<0 001 (#)	<0.001 (#)
Depth (m)	SOLID					
Sample Type	18/10/2022 00:00:00					
Date Sampled	20/10/2022 05:00:00					
Date Receieved	221020-66					
SDG	27048537					
Original Sample	TM304					
Method Number						

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.213	**Natural Moisture Content (%)**	22.7
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	81.5
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048476
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP05 ESZ
Depth (m)	1.20 - 1.30

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
Ammoniacal Nitrogen as N	13.7	<0.2	27.4	<0.4
Chromium III	<0.03	<0.03	<0.06	<0.06
Hexavalent Chromium	<0.03	<0.03	<0.06	<0.06
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.00002
Total Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Arsenic	0.0104	<0.0005	0.0208	<0.001
Free Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Barium	0.0446	<0.0002	0.0892	<0.0004
Complex Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Phenol by HPLC (W)	0.02	<0.002	0.04	<0.004
Beryllium	<0.0001	<0.0001	<0.0002	<0.0002
Cresols by HPLC (W)	<0.006	<0.006	<0.012	<0.012
Xylenols by HPLC (W)	<0.008	<0.008	<0.016	<0.016
Boron	0.604	<0.01	1.21	<0.02
Cadmium	<0.00008	<0.00008	<0.00016	<0.00016
Total Monohydric Phenols (W)	0.02	<0.016	0.04	<0.032
Chromium	0.00625	<0.001	0.0125	<0.002
Copper	0.0312	<0.0003	0.0624	<0.0006
Lead	0.0102	<0.0002	0.0204	<0.0004
Nickel	0.0103	<0.0004	0.0206	<0.0008
Selenium	0.00335	<0.001	0.0067	<0.002
Zinc	0.126	<0.001	0.252	<0.002
PAH Spec MS - Aqueous (W)				
Naphthalene by GCMS	0.0000164	<0.00001	0.0000328	<0.00002
Acenaphthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Acenaphthylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Phenanthrene by GCMS	0.00000979	<0.000005	0.0000196	<0.00001
Fluorene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Chrysene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benz(a)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(b)fluoranthene by GCMS	0.0000077	<0.000005	0.0000154	<0.00001
Benzo(k)fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(a)pyrene by GCMS	<0.000002	<0.000002	<0.000004	<0.000004

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	8.31
Conductivity (µS/cm)	229
Volume Leachant (Litres)	0 312
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.213	**Natural Moisture Content (%)**	22.7
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	81.5
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048476
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP05 ESZ
Depth (m)	1.20 - 1.30

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
PAH Spec MS - Aqueous (W)				
Dibenzo(ah)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(ghi)perylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Indeno(123cd)pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
PAH 16 EPA Total by GCMS	<0.000082	<0.000082	<0.000164	<0.000164
TPH CWG (W)				
Surrogate Recovery	-	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.1	<0.1
Aliphatics C5-C6	<0.01	<0.01	<0.02	<0.02
Aliphatics >C6-C8	<0.01	<0.01	<0.02	<0.02
Aliphatics >C8-C10	<0.01	<0.01	<0.02	<0.02
Aliphatics >C10-C12	<0.01	<0.01	<0.02	<0.02
Aliphatics >C12-C16	<0.05	<0.05	<0.1	<0.1
Aliphatics >C16-C21	<0.05	<0.05	<0.1	<0.1
Aliphatics >C21-C35	<0.05	<0.05	<0.1	<0.1
Total Alipha ics >C12-C35	<0.05	<0.05	<0.1	<0.1
Aromatics C6-C7	<0.01	<0.01	<0.02	<0.02
Aromatics >C7-C8	<0.01	<0.01	<0.02	<0.02
Aromatics >EC8 -EC10	<0.01	<0.01	<0.02	<0.02
Aromatics >EC10-EC12	<0.01	<0.01	<0.02	<0.02
Aromatics >EC12-EC16	<0.05	<0.05	<0.1	<0.1
Aromatics >EC16-EC21	<0.05	<0.05	<0.1	<0.1
Aromatics >EC21-EC35	<0.05	<0.05	<0.1	<0.1
Total Aromatics >EC12-EC35	<0.05	<0.05	<0.1	<0.1
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.05	<0.05	<0.1	<0.1
Aliphatics >C16-C35	<0.05	<0.05	<0.1	<0.1
Aromatics >EC16-EC35	<0.05	<0.05	<0.1	<0.1
VOC MS (W)				
Tert-butyl methyl ether	<0.001	<0.001	<0.002	<0.002
Benzene	<0.001	<0.001	<0.002	<0.002
Toluene	<0.001	<0.001	<0.002	<0.002
Ethylbenzene	<0.001	<0.001	<0.002	<0.002
p/m-Xylene	<0.001	<0.001	<0.002	<0.002
o-Xylene	<0.001	<0.001	<0.002	<0.002
Tert-amyl methyl ether	<0.001	<0.001	<0.002	<0.002
Total Xylenes	<0.002	<0.002	<0.004	<0.004

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	8.31
Conductivity (µS/cm)	229
Volume Leachant (Litres)	0 312
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.206	**Natural Moisture Content (%)**	17.2
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	85.3
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048480
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP06 ESZ
Depth (m)	0.20 - 0.30

Eluate Analysis	**Conc^n in 2:1 eluate (mg/l)**		**2:1 conc^n leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
Ammoniacal Nitrogen as N	<0.2	<0.2	<0.4	<0.4
Chromium III	<0.03	<0.03	<0.06	<0.06
Hexavalent Chromium	<0.03	<0.03	<0.06	<0.06
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.00002
Total Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Arsenic	0.000976	<0.0005	0.00195	<0.001
Free Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Barium	0.0354	<0.0002	0.0708	<0.0004
Complex Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Phenol by HPLC (W)	<0.002	<0.002	<0.004	<0.004
Beryllium	<0.0001	<0.0001	<0.0002	<0.0002
Cresols by HPLC (W)	<0.006	<0.006	<0.012	<0.012
Xylenols by HPLC (W)	<0.008	<0.008	<0.016	<0.016
Boron	0.0534	<0.01	0.107	<0.02
Cadmium	<0.00008	<0.00008	<0.00016	<0.00016
Total Monohydric Phenols (W)	<0.016	<0.016	<0.032	<0.032
Chromium	<0.001	<0.001	<0.002	<0.002
Copper	0.00891	<0.0003	0.0178	<0.0006
Lead	0.000462	<0.0002	0.000924	<0.0004
Nickel	0.00207	<0.0004	0.00414	<0.0008
Selenium	<0.001	<0.001	<0.002	<0.002
Zinc	0.00278	<0.001	0.00556	<0.002
PAH Spec MS - Aqueous (W)				
Naphthalene by GCMS	<0.00006	<0.00006	<0.00012	<0.00012
Acenaphthene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Acenaphthylene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Fluoranthene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Anthracene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Phenanthrene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Fluorene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Chrysene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Pyrene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Benz(a)anthracene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Benzo(b)fluoranthene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Benzo(k)fluoranthene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Benzo(a)pyrene by GCMS	<0.000012	<0.000012	<0.000024	<0.000024

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	8.34
Conductivity (µS/cm)	130
Volume Leachant (Litres)	0 319
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.206	**Natural Moisture Content (%)**	17.2
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	85.3
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048480
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP06 ESZ
Depth (m)	0.20 - 0.30

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
PAH Spec MS - Aqueous (W)				
Dibenzo(ah)anthracene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Benzo(ghi)perylene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Indeno(123cd)pyrene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
PAH 16 EPA Total by GCMS	<0.000492	<0.000492	<0.000984	<0.000984
TPH CWG (W)				
Surrogate Recovery	-	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.1	<0.1
Aliphatics C5-C6	<0.01	<0.01	<0.02	<0.02
Aliphatics >C6-C8	<0.01	<0.01	<0.02	<0.02
Aliphatics >C8-C10	<0.01	<0.01	<0.02	<0.02
Aliphatics >C10-C12	<0.01	<0.01	<0.02	<0.02
Aliphatics >C12-C16	<0.06	<0.06	<0.12	<0.12
Aliphatics >C16-C21	<0.06	<0.06	<0.12	<0.12
Aliphatics >C21-C35	<0.06	<0.06	<0.12	<0.12
Total Alipha ics >C12-C35	<0.06	<0.06	<0.12	<0.12
Aromatics C6-C7	<0.01	<0.01	<0.02	<0.02
Aromatics >C7-C8	<0.01	<0.01	<0.02	<0.02
Aromatics >EC8 -EC10	<0.01	<0.01	<0.02	<0.02
Aromatics >EC10-EC12	<0.01	<0.01	<0.02	<0.02
Aromatics >EC12-EC16	<0.06	<0.06	<0.12	<0.12
Aromatics >EC16-EC21	<0.06	<0.06	<0.12	<0.12
Aromatics >EC21-EC35	<0.06	<0.06	<0.12	<0.12
Total Aromatics >EC12-EC35	<0.06	<0.06	<0.12	<0.12
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.06	<0.06	<0.12	<0.12
Aliphatics >C16-C35	<0.06	<0.06	<0.12	<0.12
Aromatics >EC16-EC35	<0.06	<0.06	<0.12	<0.12
VOC MS (W)				
Tert-butyl methyl ether	<0.01	<0.01	<0.02	<0.02
Benzene	<0.01	<0.01	<0.02	<0.02
Toluene	<0.01	<0.01	<0.02	<0.02
Ethylbenzene	<0.01	<0.01	<0.02	<0.02
p/m-Xylene	<0.01	<0.01	<0.02	<0.02
o-Xylene	<0.01	<0.01	<0.02	<0.02
Tert-amyl methyl ether	<0.01	<0.01	<0.02	<0.02
Total Xylenes	<0.02	<0.02	<0.04	<0.04

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	8.34
Conductivity (µS/cm)	130
Volume Leachant (Litres)	0 319
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.204	**Natural Moisture Content (%)**	16.3
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	86
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048493
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP01 ESZ
Depth (m)	2.70 - 2.80

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
Ammoniacal Nitrogen as N	6.9	<0.2	13.8	<0.4
Chromium III	<0.03	<0.03	<0.06	<0.06
Hexavalent Chromium	<0.03	<0.03	<0.06	<0.06
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.00002
Total Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Arsenic	0.0084	<0.0005	0.0168	<0.001
Free Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Barium	0.104	<0.0002	0.208	<0.0004
Complex Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Phenol by HPLC (W)	<0.002	<0.002	<0.004	<0.004
Beryllium	<0.0001	<0.0001	<0.0002	<0.0002
Cresols by HPLC (W)	<0.006	<0.006	<0.012	<0.012
Xylenols by HPLC (W)	<0.008	<0.008	<0.016	<0.016
Boron	0.581	<0.01	1.16	<0.02
Cadmium	<0.00008	<0.00008	<0.00016	<0.00016
Total Monohydric Phenols (W)	<0.016	<0.016	<0.032	<0.032
Chromium	<0.001	<0.001	<0.002	<0.002
Copper	0.00771	<0.0003	0.0154	<0.0006
Lead	<0.0002	<0.0002	<0.0004	<0.0004
Nickel	0.00412	<0.0004	0.00824	<0.0008
Selenium	0.00213	<0.001	0.00426	<0.002
Zinc	0.00258	<0.001	0.00516	<0.002
PAH Spec MS - Aqueous (W)				
Naphthalene by GCMS	<0.00001	<0.00001	<0.00002	<0.00002
Acenaphthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Acenaphthylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Phenanthrene by GCMS	0.00000837	<0.000005	0.0000167	<0.00001
Fluorene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Chrysene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benz(a)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(b)fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(k)fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(a)pyrene by GCMS	<0.000002	<0.000002	<0.000004	<0.000004

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	7.59
Conductivity (µS/cm)	55
Volume Leachant (Litres)	0 321
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.204	**Natural Moisture Content (%)**	16.3
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	86
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048493
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP01 ESZ
Depth (m)	2.70 - 2.80

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
PAH Spec MS - Aqueous (W)				
Dibenzo(ah)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(ghi)perylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Indeno(123cd)pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
PAH 16 EPA Total by GCMS	<0.000082	<0.000082	<0.000164	<0.000164
TPH CWG (W)				
Surrogate Recovery	-	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.1	<0.1
Aliphatics C5-C6	<0.01	<0.01	<0.02	<0.02
Aliphatics >C6-C8	<0.01	<0.01	<0.02	<0.02
Aliphatics >C8-C10	<0.01	<0.01	<0.02	<0.02
Aliphatics >C10-C12	<0.01	<0.01	<0.02	<0.02
Aliphatics >C12-C16	<0.02	<0.02	<0.04	<0.04
Aliphatics >C16-C21	<0.02	<0.02	<0.04	<0.04
Aliphatics >C21-C35	<0.02	<0.02	<0.04	<0.04
Total Alipha ics >C12-C35	<0.02	<0.02	<0.04	<0.04
Aromatics C6-C7	<0.01	<0.01	<0.02	<0.02
Aromatics >C7-C8	<0.01	<0.01	<0.02	<0.02
Aromatics >EC8 -EC10	<0.01	<0.01	<0.02	<0.02
Aromatics >EC10-EC12	<0.01	<0.01	<0.02	<0.02
Aromatics >EC12-EC16	<0.02	<0.02	<0.04	<0.04
Aromatics >EC16-EC21	<0.02	<0.02	<0.04	<0.04
Aromatics >EC21-EC35	<0.02	<0.02	<0.04	<0.04
Total Aromatics >EC12-EC35	<0.02	<0.02	<0.04	<0.04
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.02	<0.02	<0.04	<0.04
Aliphatics >C16-C35	<0.02	<0.02	<0.04	<0.04
Aromatics >EC16-EC35	<0.02	<0.02	<0.04	<0.04
VOC MS (W)				
Tert-butyl methyl ether	<0.001	<0.001	<0.002	<0.002
Benzene	<0.001	<0.001	<0.002	<0.002
Toluene	<0.001	<0.001	<0.002	<0.002
Ethylbenzene	<0.001	<0.001	<0.002	<0.002
p/m-Xylene	<0.001	<0.001	<0.002	<0.002
o-Xylene	<0.001	<0.001	<0.002	<0.002
Tert-amyl methyl ether	<0.001	<0.001	<0.002	<0.002
Total Xylenes	<0.002	<0.002	<0.004	<0.004

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	7.59
Conductivity (µS/cm)	55
Volume Leachant (Litres)	0 321
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.197	**Natural Moisture Content (%)**	12.5
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	88.9
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048497
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP02 ESZ
Depth (m)	1.10 - 1.20

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
Ammoniacal Nitrogen as N	8.29	<0.2	16.6	<0.4
Chromium III	<0.03	<0.03	<0.06	<0.06
Hexavalent Chromium	<0.03	<0.03	<0.06	<0.06
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.00002
Total Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Arsenic	0.00115	<0.0005	0.0023	<0.001
Free Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Barium	0.093	<0.0002	0.186	<0.0004
Complex Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Phenol by HPLC (W)	<0.002	<0.002	<0.004	<0.004
Beryllium	0.000165	<0.0001	0.00033	<0.0002
Cresols by HPLC (W)	<0.006	<0.006	<0.012	<0.012
Xylenols by HPLC (W)	<0.008	<0.008	<0.016	<0.016
Boron	0.342	<0.01	0.684	<0.02
Cadmium	0.00125	<0.00008	0.0025	<0.00016
Total Monohydric Phenols (W)	<0.016	<0.016	<0.032	<0.032
Chromium	<0.001	<0.001	<0.002	<0.002
Copper	0.0052	<0.0003	0.0104	<0.0006
Lead	<0.0002	<0.0002	<0.0004	<0.0004
Nickel	0.0123	<0.0004	0.0246	<0.0008
Selenium	<0.001	<0.001	<0.002	<0.002
Zinc	0.0953	<0.001	0.191	<0.002
PAH Spec MS - Aqueous (W)				
Naphthalene by GCMS	<0.00001	<0.00001	<0.00002	<0.00002
Acenaphthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Acenaphthylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Phenanthrene by GCMS	0.0000058	<0.000005	0.0000116	<0.00001
Fluorene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Chrysene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benz(a)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(b)fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(k)fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(a)pyrene by GCMS	<0.000002	<0.000002	<0.000004	<0.000004

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	6.83
Conductivity (µS/cm)	162
Volume Leachant (Litres)	0 328
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.197	**Natural Moisture Content (%)**	12.5
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	88.9
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048497
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP02 ESZ
Depth (m)	1.10 - 1.20

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
PAH Spec MS - Aqueous (W)				
Dibenzo(ah)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(ghi)perylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Indeno(123cd)pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
PAH 16 EPA Total by GCMS	<0.000082	<0.000082	<0.000164	<0.000164
TPH CWG (W)				
Surrogate Recovery	-	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.1	<0.1
Aliphatics C5-C6	<0.01	<0.01	<0.02	<0.02
Aliphatics >C6-C8	<0.01	<0.01	<0.02	<0.02
Aliphatics >C8-C10	<0.01	<0.01	<0.02	<0.02
Aliphatics >C10-C12	<0.01	<0.01	<0.02	<0.02
Aliphatics >C12-C16	<0.02	<0.02	<0.04	<0.04
Aliphatics >C16-C21	<0.02	<0.02	<0.04	<0.04
Aliphatics >C21-C35	<0.02	<0.02	<0.04	<0.04
Total Alipha ics >C12-C35	<0.02	<0.02	<0.04	<0.04
Aromatics C6-C7	<0.01	<0.01	<0.02	<0.02
Aromatics >C7-C8	<0.01	<0.01	<0.02	<0.02
Aromatics >EC8 -EC10	<0.01	<0.01	<0.02	<0.02
Aromatics >EC10-EC12	<0.01	<0.01	<0.02	<0.02
Aromatics >EC12-EC16	<0.02	<0.02	<0.04	<0.04
Aromatics >EC16-EC21	<0.02	<0.02	<0.04	<0.04
Aromatics >EC21-EC35	<0.02	<0.02	<0.04	<0.04
Total Aromatics >EC12-EC35	<0.02	<0.02	<0.04	<0.04
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.02	<0.02	<0.04	<0.04
Aliphatics >C16-C35	<0.02	<0.02	<0.04	<0.04
Aromatics >EC16-EC35	<0.02	<0.02	<0.04	<0.04
VOC MS (W)				
Tert-butyl methyl ether	<0.001	<0.001	<0.002	<0.002
Benzene	<0.001	<0.001	<0.002	<0.002
Toluene	<0.001	<0.001	<0.002	<0.002
Ethylbenzene	<0.001	<0.001	<0.002	<0.002
p/m-Xylene	<0.001	<0.001	<0.002	<0.002
o-Xylene	<0.001	<0.001	<0.002	<0.002
Tert-amyl methyl ether	<0.001	<0.001	<0.002	<0.002
Total Xylenes	<0.002	<0.002	<0.004	<0.004

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	6.83
Conductivity (µS/cm)	162
Volume Leachant (Litres)	0 328
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.202	**Natural Moisture Content (%)**	15.2
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	86.8
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048509
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP02 ESZ
Depth (m)	1.80 - 1.90

Eluate Analysis	**Conc^n in 2:1 eluate (mg/l)**		**2:1 conc^n leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
Ammoniacal Nitrogen as N	8.3	<0.2	16.6	<0.4
Chromium III	<0.03	<0.03	<0.06	<0.06
Hexavalent Chromium	<0.03	<0.03	<0.06	<0.06
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.00002
Total Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Arsenic	0.00301	<0.0005	0.00602	<0.001
Free Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Barium	0.0488	<0.0002	0.0976	<0.0004
Complex Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Phenol by HPLC (W)	<0.002	<0.002	<0.004	<0.004
Beryllium	<0.0001	<0.0001	<0.0002	<0.0002
Cresols by HPLC (W)	<0.006	<0.006	<0.012	<0.012
Xylenols by HPLC (W)	<0.008	<0.008	<0.016	<0.016
Boron	0.108	<0.01	0.216	<0.02
Cadmium	0.00123	<0.00008	0.00246	<0.00016
Total Monohydric Phenols (W)	<0.016	<0.016	<0.032	<0.032
Chromium	<0.001	<0.001	<0.002	<0.002
Copper	0.00999	<0.0003	0.02	<0.0006
Lead	0.00583	<0.0002	0.0117	<0.0004
Nickel	0.00353	<0.0004	0.00706	<0.0008
Selenium	0.00174	<0.001	0.00348	<0.002
Zinc	0.0299	<0.001	0.0598	<0.002
PAH Spec MS - Aqueous (W)				
Naphthalene by GCMS	<0.00003	<0.00003	<0.00006	<0.00006
Acenaphthene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Acenaphthylene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Fluoranthene by GCMS	0.0000234	<0.000015	0.0000468	<0.00003
Anthracene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Phenanthrene by GCMS	0.0000175	<0.000015	0.000035	<0.00003
Fluorene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Chrysene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Pyrene by GCMS	0.0000219	<0.000015	0.0000438	<0.00003
Benz(a)anthracene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Benzo(b)fluoranthene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Benzo(k)fluoranthene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Benzo(a)pyrene by GCMS	<0.000006	<0.000006	<0.000012	<0.000012

Leach Test Information

Date Prepared	28-Oct-2022
pH (pH Units)	8.02
Conductivity (µS/cm)	139
Volume Leachant (Litres)	0 324
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.202	**Natural Moisture Content (%)**	15.2
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	86.8
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048509
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP02 ESZ
Depth (m)	1.80 - 1.90

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
PAH Spec MS - Aqueous (W)				
Dibenzo(ah)anthracene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Benzo(ghi)perylene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
Indeno(123cd)pyrene by GCMS	<0.000015	<0.000015	<0.00003	<0.00003
PAH 16 EPA Total by GCMS	<0.000246	<0.000246	<0.000492	<0.000492
TPH CWG (W)				
Surrogate Recovery	-	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.1	<0.1
Aliphatics C5-C6	<0.01	<0.01	<0.02	<0.02
Aliphatics >C6-C8	<0.01	<0.01	<0.02	<0.02
Aliphatics >C8-C10	<0.01	<0.01	<0.02	<0.02
Aliphatics >C10-C12	<0.01	<0.01	<0.02	<0.02
Aliphatics >C12-C16	<0.03	<0.03	<0.06	<0.06
Aliphatics >C16-C21	<0.03	<0.03	<0.06	<0.06
Aliphatics >C21-C35	<0.03	<0.03	<0.06	<0.06
Total Alipha ics >C12-C35	<0.03	<0.03	<0.06	<0.06
Aromatics C6-C7	<0.01	<0.01	<0.02	<0.02
Aromatics >C7-C8	<0.01	<0.01	<0.02	<0.02
Aromatics >EC8 -EC10	<0.01	<0.01	<0.02	<0.02
Aromatics >EC10-EC12	<0.01	<0.01	<0.02	<0.02
Aromatics >EC12-EC16	<0.03	<0.03	<0.06	<0.06
Aromatics >EC16-EC21	<0.03	<0.03	<0.06	<0.06
Aromatics >EC21-EC35	<0.03	<0.03	<0.06	<0.06
Total Aromatics >EC12-EC35	<0.03	<0.03	<0.06	<0.06
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.02	<0.02
Aliphatics >C16-C35	<0.03	<0.03	<0.06	<0.06
Aromatics >EC16-EC35	<0.03	<0.03	<0.06	<0.06
VOC MS (W)				
Tert-butyl methyl ether	<0.01	<0.01	<0.02	<0.02
Benzene	<0.01	<0.01	<0.02	<0.02
Toluene	<0.01	<0.01	<0.02	<0.02
Ethylbenzene	<0.01	<0.01	<0.02	<0.02
p/m-Xylene	<0.01	<0.01	<0.02	<0.02
o-Xylene	<0.01	<0.01	<0.02	<0.02
Tert-amyl methyl ether	<0.01	<0.01	<0.02	<0.02
Total Xylenes	<0.02	<0.02	<0.04	<0.04

Leach Test Information

Date Prepared	28-Oct-2022
pH (pH Units)	8.02
Conductivity (µS/cm)	139
Volume Leachant (Litres)	0 324
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.227	**Natural Moisture Content (%)**	30
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	76.9
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048537
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP04 ESZ
Depth (m)	2.20 - 2.30

Eluate Analysis	**Conc^n in 2:1 eluate (mg/l)**		**2:1 conc^n leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
Ammoniacal Nitrogen as N	16.5	<0.2	33	<0.4
Chromium III	<0.03	<0.03	<0.06	<0.06
Hexavalent Chromium	<0.03	<0.03	<0.06	<0.06
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.00002	<0.00002
Total Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Arsenic	0.00604	<0.0005	0.0121	<0.001
Free Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Barium	0.0777	<0.0002	0.155	<0.0004
Complex Cyanide (W)	<0.05	<0.05	<0.1	<0.1
Phenol by HPLC (W)	<0.002	<0.002	<0.004	<0.004
Beryllium	<0.0001	<0.0001	<0.0002	<0.0002
Cresols by HPLC (W)	<0.006	<0.006	<0.012	<0.012
Xylenols by HPLC (W)	<0.008	<0.008	<0.016	<0.016
Boron	0.235	<0.01	0.47	<0.02
Cadmium	<0.00008	<0.00008	<0.00016	<0.00016
Total Monohydric Phenols (W)	<0.016	<0.016	<0.032	<0.032
Chromium	0.00109	<0.001	0.00218	<0.002
Copper	0.0159	<0.0003	0.0318	<0.0006
Lead	<0.0002	<0.0002	<0.0004	<0.0004
Nickel	0.00617	<0.0004	0.0123	<0.0008
Selenium	0.00196	<0.001	0.00392	<0.002
Zinc	0.00355	<0.001	0.0071	<0.002
PAH Spec MS - Aqueous (W)				
Naphthalene by GCMS	<0.00001	<0.00001	<0.00002	<0.00002
Acenaphthene by GCMS	0.00000608	<0.000005	0.0000122	<0.00001
Acenaphthylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Phenanthrene by GCMS	0.00000604	<0.000005	0.0000121	<0.00001
Fluorene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Chrysene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benz(a)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(b)fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(k)fluoranthene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(a)pyrene by GCMS	<0.000002	<0.000002	<0.000004	<0.000004

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	8.23
Conductivity (µS/cm)	215
Volume Leachant (Litres)	0 298
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 2:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/1

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.227	**Natural Moisture Content (%)**	30
Mass of dry sample (kg)	0.175	**Dry Matter Content (%)**	76.9
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048537
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP04 ESZ
Depth (m)	2.20 - 2.30

Eluate Analysis	**Concⁿ in 2:1 eluate (mg/l)**		**2:1 concⁿ leached (mg/kg)**	
	Result	**Limit of Detection**	**Result**	**Limit of Detection**
PAH Spec MS - Aqueous (W)				
Dibenzo(ah)anthracene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Benzo(ghi)perylene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
Indeno(123cd)pyrene by GCMS	<0.000005	<0.000005	<0.00001	<0.00001
PAH 16 EPA Total by GCMS	<0.000082	<0.000082	<0.000164	<0.000164
TPH CWG (W)				
Surrogate Recovery	-	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.1	<0.1
Aliphatics C5-C6	<0.01	<0.01	<0.02	<0.02
Aliphatics >C6-C8	<0.01	<0.01	<0.02	<0.02
Aliphatics >C8-C10	<0.01	<0.01	<0.02	<0.02
Aliphatics >C10-C12	<0.01	<0.01	<0.02	<0.02
Aliphatics >C12-C16	<0.02	<0.02	<0.04	<0.04
Aliphatics >C16-C21	<0.02	<0.02	<0.04	<0.04
Aliphatics >C21-C35	<0.02	<0.02	<0.04	<0.04
Total Alipha ics >C12-C35	<0.02	<0.02	<0.04	<0.04
Aromatics C6-C7	<0.01	<0.01	<0.02	<0.02
Aromatics >C7-C8	<0.01	<0.01	<0.02	<0.02
Aromatics >EC8 -EC10	<0.01	<0.01	<0.02	<0.02
Aromatics >EC10-EC12	<0.01	<0.01	<0.02	<0.02
Aromatics >EC12-EC16	<0.02	<0.02	<0.04	<0.04
Aromatics >EC16-EC21	<0.02	<0.02	<0.04	<0.04
Aromatics >EC21-EC35	<0.02	<0.02	<0.04	<0.04
Total Aromatics >EC12-EC35	<0.02	<0.02	<0.04	<0.04
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.02	<0.02
Aliphatics >C16-C35	<0.02	<0.02	<0.04	<0.04
Aromatics >EC16-EC35	<0.02	<0.02	<0.04	<0.04
VOC MS (W)				
Tert-butyl methyl ether	<0.01	<0.01	<0.02	<0.02
Benzene	<0.01	<0.01	<0.02	<0.02
Toluene	<0.01	<0.01	<0.02	<0.02
Ethylbenzene	<0.01	<0.01	<0.02	<0.02
p/m-Xylene	<0.01	<0.01	<0.02	<0.02
o-Xylene	<0.01	<0.01	<0.02	<0.02
Tert-amyl methyl ether	<0.01	<0.01	<0.02	<0.02
Total Xylenes	<0.02	<0.02	<0.04	<0.04

Leach Test Information

Date Prepared	26-Oct-2022
pH (pH Units)	8.23
Conductivity (µS/cm)	215
Volume Leachant (Litres)	0 298
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)
Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:26

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.103	**Natural Moisture Content (%)**	14.7
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	87.2
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048472
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP01 ESZ
Depth (m)	0.10 - 0.20

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	1.03	3	5	6
Loss on Ignition (%)	4.96	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	9.83	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.07	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0421	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	<0.0005	<0.0005	<0.005	<0.005	0.5	2	25
Barium	0.00454	<0.0002	0.0454	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00365	<0.0003	0.0365	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.00135	<0.0004	0.0135	<0.004	0.4	10	40
Lead	0.000441	<0.0002	0.00441	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00141	<0.001	0.0141	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.642	<0.5	6.42	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	25.1	<5	251	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	7	<3	70	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	7.57
Conductivity (µS/cm)	33
Volume Leachant (Litres)	0 887

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.213	**Natural Moisture Content (%)**	22.7
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	81.5
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048476
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP05 ESZ
Depth (m)	1.20 - 1.30

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	0.778	3	5	6
Loss on Ignition (%)	4.28	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	42.4	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.81	-	>6	-
ANC to pH 6 (mol/kg)	0.0423	-	-	-
ANC to pH 4 (mol/kg)	0 068	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00453	<0.0005	0.0453	<0.005	0.5	2	25
Barium	0.0301	<0.0002	0.301	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	0.00121	<0.001	0.0121	<0.01	0.5	10	70
Copper	0.0104	<0.0003	0.104	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0146	<0.003	0.146	<0.03	0.5	10	30
Nickel	0.00322	<0.0004	0.0322	<0.004	0.4	10	40
Lead	0.00117	<0.0002	0.0117	<0.002	0.5	10	50
Antimony	0.00246	<0.001	0.0246	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.0119	<0.001	0.119	<0.01	4	50	200
Chloride	2.7	<2	27	<20	800	15000	25000
Fluoride	0.695	<0.5	6.95	<5	10	150	500
Sulphate (soluble)	2	<2	20	<20	1000	20000	50000
Total Dissolved Solids	175	<5	1750	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	31.3	<3	313	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	8.31
Conductivity (µS/cm)	229
Volume Leachant (Litres)	0 880

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.206	**Natural Moisture Content (%)**	17.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	85.3
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048480
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP06 ESZ
Depth (m)	0.20 - 0.30

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	1.41	3	5	6
Loss on Ignition (%)	6.92	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	5.95	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.72	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0697	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00154	<0.0005	0.0154	<0.005	0.5	2	25
Barium	0.0188	<0.0002	0.188	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00619	<0.0003	0.0619	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00574	<0.003	0.0574	<0.03	0.5	10	30
Nickel	0.00174	<0.0004	0.0174	<0.004	0.4	10	40
Lead	0.000326	<0.0002	0.00326	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00323	<0.001	0.0323	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	1.14	<0.5	11.4	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	99.7	<5	997	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	12	<3	120	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	8.34
Conductivity (µS/cm)	130
Volume Leachant (Litres)	0 884

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.106	**Natural Moisture Content (%)**	18.3
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	84.5
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048488
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP06 ESZ
Depth (m)	1.50 - 1.60

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	1.22	3	5	6
Loss on Ignition (%)	4.9	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	6.1	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	6.71	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0692	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00529	<0.0005	0.0529	<0.005	0.5	2	25
Barium	0.0279	<0.0002	0.279	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00204	<0.0003	0.0204	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00674	<0.003	0.0674	<0.03	0.5	10	30
Nickel	0.0016	<0.0004	0.016	<0.004	0.4	10	40
Lead	0.000237	<0.0002	0.00237	<0.002	0.5	10	50
Antimony	0.00186	<0.001	0.0186	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00163	<0.001	0.0163	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.865	<0.5	8.65	<5	10	150	500
Sulphate (soluble)	53.9	<2	539	<20	1000	20000	50000
Total Dissolved Solids	125	<5	1250	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	9.25	<3	92.5	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	7.85
Conductivity (µS/cm)	162
Volume Leachant (Litres)	0 884

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.204	**Natural Moisture Content (%)**	16.3
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	86
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048493
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP01 ESZ
Depth (m)	2.70 - 2.80

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	0 396	3	5	6
Loss on Ignition (%)	2.12	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	<5	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.48	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0794	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00317	<0.0005	0.0317	<0.005	0.5	2	25
Barium	0.00651	<0.0002	0.0651	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00891	<0.0003	0.0891	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00529	<0.003	0.0529	<0.03	0.5	10	30
Nickel	0.00202	<0.0004	0.0202	<0.004	0.4	10	40
Lead	0.000586	<0.0002	0.00586	<0.002	0.5	10	50
Antimony	0.00209	<0.001	0.0209	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.0027	<0.001	0.027	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.987	<0.5	9.87	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	41.6	<5	416	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	12.2	<3	122	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	7.59
Conductivity (µS/cm)	55
Volume Leachant (Litres)	0 885

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.197	**Natural Moisture Content (%)**	12.5
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	88.9
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048497
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP02 ESZ
Depth (m)	1.10 - 1.20

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	0 542	3	5	6
Loss on Ignition (%)	3.31	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	11.1	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	5.61	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0457	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.000619	<0.0005	0.00619	<0.005	0.5	2	25
Barium	0.0338	<0.0002	0.338	<0.002	20	100	300
Cadmium	0.000152	<0.00008	0.00152	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00114	<0.0003	0.0114	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.00185	<0.0004	0.0185	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00977	<0.001	0.0977	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	<0.5	<0.5	<5	<5	10	150	500
Sulphate (soluble)	67.2	<2	672	<20	1000	20000	50000
Total Dissolved Solids	124	<5	1240	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.02	<3	40.2	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	6.83
Conductivity (µS/cm)	162
Volume Leachant (Litres)	0 889

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.202	**Natural Moisture Content (%)**	15.2
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	86.8
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048509
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP02 ESZ
Depth (m)	1.80 - 1.90

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	0 627	3	5	6
Loss on Ignition (%)	3.42	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	10.5	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.28	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0405	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.0039	<0.0005	0.039	<0.005	0.5	2	25
Barium	0.00378	<0.0002	0.0378	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00766	<0.0003	0.0766	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.00584	<0.003	0.0584	<0.03	0.5	10	30
Nickel	0.00146	<0.0004	0.0146	<0.004	0.4	10	40
Lead	0.000877	<0.0002	0.00877	<0.002	0.5	10	50
Antimony	0.00172	<0.001	0.0172	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00286	<0.001	0.0286	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	1.19	<0.5	11.9	<5	10	150	500
Sulphate (soluble)	<2	<2	<20	<20	1000	20000	50000
Total Dissolved Solids	39.3	<5	393	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	7.76	<3	77.6	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	7.77
Conductivity (µS/cm)	51
Volume Leachant (Litres)	0 887

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.101	**Natural Moisture Content (%)**	11.9
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	89.3
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048517
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP03 ESZ
Depth (m)	0.90 - 1.00

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	0.712	3	5	6
Loss on Ignition (%)	3.9	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	15.6	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	6.7	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0539	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00124	<0.0005	0.0124	<0.005	0.5	2	25
Barium	0.0122	<0.0002	0.122	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00433	<0.0003	0.0433	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.00104	<0.0004	0.0104	<0.004	0.4	10	40
Lead	0.00102	<0.0002	0.0102	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00373	<0.001	0.0373	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	0.617	<0.5	6.17	<5	10	150	500
Sulphate (soluble)	33.9	<2	339	<20	1000	20000	50000
Total Dissolved Solids	78.5	<5	785	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	6.22	<3	62.2	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	7.44
Conductivity (µS/cm)	102
Volume Leachant (Litres)	0 889

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.109	**Natural Moisture Content (%)**	22.7
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	81.5
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048524
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP03 ESZ
Depth (m)	2.60 - 2.70

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	0 656	3	5	6
Loss on Ignition (%)	7.61	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	<5	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.87	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0654	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	<0.0005	<0.0005	<0.005	<0.005	0.5	2	25
Barium	0.00936	<0.0002	0.0936	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.000498	<0.0003	0.00498	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.000547	<0.0004	0.00547	<0.004	0.4	10	40
Lead	<0.0002	<0.0002	<0.002	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00132	<0.001	0.0132	<0.01	4	50	200
Chloride	2.8	<2	28	<20	800	15000	25000
Fluoride	0.799	<0.5	7.99	<5	10	150	500
Sulphate (soluble)	31.1	<2	311	<20	1000	20000	50000
Total Dissolved Solids	94.7	<5	947	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	4.53	<3	45.3	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	7.94
Conductivity (µS/cm)	123
Volume Leachant (Litres)	0 880

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.101	**Natural Moisture Content (%)**	12.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	89
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048531
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP04 ESZ
Depth (m)	0.90 - 1.00

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	1.27	3	5	6
Loss on Ignition (%)	5.33	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	11.7	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.63	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0.0594	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00118	<0.0005	0.0118	<0.005	0.5	2	25
Barium	0.0193	<0.0002	0.193	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00596	<0.0003	0.0596	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0181	<0.003	0.181	<0.03	0.5	10	30
Nickel	0.00209	<0.0004	0.0209	<0.004	0.4	10	40
Lead	0.000283	<0.0002	0.00283	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00233	<0.001	0.0233	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	1.5	<0.5	15	<5	10	150	500
Sulphate (soluble)	20.6	<2	206	<20	1000	20000	50000
Total Dissolved Solids	118	<5	1180	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	8.11	<3	81.1	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	8.35
Conductivity (µS/cm)	154
Volume Leachant (Litres)	0 889

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.227	**Natural Moisture Content (%)**	30
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	76.9
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048537
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP04 ESZ
Depth (m)	2.20 - 2.30

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	2.02	3	5	6
Loss on Ignition (%)	6.24	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	15.5	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.69	-	>6	-
ANC to pH 6 (mol/kg)	0.0359	-	-	-
ANC to pH 4 (mol/kg)	0.0607	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00467	<0.0005	0.0467	<0.005	0.5	2	25
Barium	0.0321	<0.0002	0.321	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	<0.001	<0.001	<0.01	<0.01	0.5	10	70
Copper	0.00891	<0.0003	0.0891	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	0.0193	<0.003	0.193	<0.03	0.5	10	30
Nickel	0.00305	<0.0004	0.0305	<0.004	0.4	10	40
Lead	0.00125	<0.0002	0.0125	<0.002	0.5	10	50
Antimony	0.00266	<0.001	0.0266	<0.01	0.06	0.7	5
Selenium	0.00127	<0.001	0.0127	<0.01	0.1	0.5	7
Zinc	0.00454	<0.001	0.0454	<0.01	4	50	200
Chloride	2.8	<2	28	<20	800	15000	25000
Fluoride	1.13	<0.5	11.3	<5	10	150	500
Sulphate (soluble)	19.4	<2	194	<20	1000	20000	50000
Total Dissolved Solids	165	<5	1650	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	23.4	<3	234	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	8.23
Conductivity (µS/cm)	215
Volume Leachant (Litres)	0 873

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Validated

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

CEN 10:1 SINGLE STAGE LEACHATE TEST

CEN ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	Drax FCA
Mass Sample taken (kg)	0.112	**Natural Moisture Content (%)**	25.4
Mass of dry sample (kg)	0.090	**Dry Matter Content (%)**	79.7
Particle Size <4mm	>95%		

Case	
SDG	221020-66
Lab Sample Number(s)	27048545
Sampled Date	18-Oct-2022
Customer Sample Ref.	TP05 ESZ
Depth (m)	0.70 - 0.80

Solid Waste Analysis	**Result**	**Landfill Waste Acceptance Criteria Limits**		
		Inert Waste Landfill	**Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill**	**Hazardous Waste Landfill**
Total Organic Carbon (%)	0.476	3	5	6
Loss on Ignition (%)	7.58	-	-	10
Sum of BTEX (mg/kg)	<0.4	6	-	-
Sum of 7 PCBs (mg/kg)	<0 021	1	-	-
Mineral Oil (mg/kg) (EH_2D_AL)	15.8	500	-	-
PAH Sum of 17 (mg/kg)	<10	100	-	-
pH (pH Units)	7.49	-	>6	-
ANC to pH 6 (mol/kg)	<0.03	-	-	-
ANC to pH 4 (mol/kg)	0 061	-	-	-

Eluate Analysis	**C_2** Concⁿ in 10:1 eluate (mg/l)		**A_2** 10:1 concⁿ leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00126	<0.0005	0.0126	<0.005	0.5	2	25
Barium	0.00485	<0.0002	0.0485	<0.002	20	100	300
Cadmium	<0.00008	<0.00008	<0.0008	<0.0008	0.04	1	5
Chromium	0.00132	<0.001	0.0132	<0.01	0.5	10	70
Copper	0.00523	<0.0003	0.0523	<0.003	2	50	100
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	0.01	0.2	2
Molybdenum	<0.003	<0.003	<0.03	<0.03	0.5	10	30
Nickel	0.00164	<0.0004	0.0164	<0.004	0.4	10	40
Lead	0.00102	<0.0002	0.0102	<0.002	0.5	10	50
Antimony	<0.001	<0.001	<0.01	<0.01	0.06	0.7	5
Selenium	<0.001	<0.001	<0.01	<0.01	0.1	0.5	7
Zinc	0.00346	<0.001	0.0346	<0.01	4	50	200
Chloride	<2	<2	<20	<20	800	15000	25000
Fluoride	<0.5	<0.5	<5	<5	10	150	500
Sulphate (soluble)	2.2	<2	22	<20	1000	20000	50000
Total Dissolved Solids	35.5	<5	355	<50	4000	60000	100000
Total Monohydric Phenols (W)	<0.016	<0.016	<0.16	<0.16	1	-	-
Dissolved Organic Carbon	10.3	<3	103	<30	500	800	1000

Leach Test Information

Date Prepared	24-Oct-2022
pH (pH Units)	7.50
Conductivity (µS/cm)	46
Volume Leachant (Litres)	0 878

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable

Leachates prepared in accordance with BS EN 12457 will be carried out at room temperature (20±5°C)

Stated limits are for guidance only and ALS Laboratories (UK) Limited cannot be held responsible for any discrepancies with current legislation

08/11/2022 11:45:46

Table of Results - Appendix

Method No	Reference	Description
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step
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
TM072	Modified: US EPA Method 8141A	Determination of Phenols by GC-MS
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) by Headspace GC-FID (C4-C12)
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
TM104	Method 4500F, AWWA/APHA, 20th Ed., 1999	Determination of Fluoride using the Kone Analyser
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
TM152	ISO 17294-2 2016 Water quality - Application of inductively coupled plasma mass spectrometry (ICP-MS)	Analysis of Aqueous Samples by ICP-MS
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES
TM182	CEN/TC 292 - WI 292046-chacterization of waste-leaching Behaviour Tests- Acid and Base Neutralization Capacity Test	Determination of Acid Neutralisation Capacity (ANC) Using Autotitration in Soils
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
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 ICP OES.
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
TM243		Mixed Anions In Soils By Kone
TM245	By GC-FID	Determination of GRO by Headspace in waters
TM248	In-House Method	Determination of Ammonium BRE (2:1 Extract) on solids
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4, Standard Methods for the examination of waters and wastewaters 20th Edition, PHA, Washington DC, USA. ISBN 0-87553-235-7 and The Determination of Alkalinity and Acidity in water HMSO, 1981, ISBN 0 11 751601 5.	Determination of pH, EC, TDS and Alkalinity in Aqueous samples
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC
TM304	HSE Contract research Report no 83/1996	Asbestos Quantification in Soil: Fibres identified by morphology only
TM410	Shaker extraction-In house coronene method	Determination of Coronene in soils by GCMS
TM414	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GCxGC-F D
TM415	Analysis of Petroleum Hydrocarbons in Environmental Media.	Determination of Extractable Petroleum Hydrocarbons in Soils by GCxGC-F D

NA = not applicable.

Chemical testing (unless subcontracted) performed at ALS Laboratories (UK) Limited Hawarden (Method codes TM).

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Test Completion Dates

Lab Sample No(s)	27048472	27048493	27048497	27048509	27048517	27048524	27048531	27048537	27048476	27048545
Cu tomer Sample Ref	TP0	P0	TP02	TP02	TP03	TP03	P0	TP0	TP05	TP05
AGS Ref.	ES	ES	ES	ES	ES	ES	ES	ES	ES	ES
Depth	0.10 - 0.20	2.70 - 2.80	1.10 - 1 20	1.80 - 1.90	0.90 - 1.00	2.60 - 2.70	0.90 - 1.00	2 20 - 2 30	1.20 - 1.30	0.70 - 0.80
Type	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)	Soil/Solid (S)
Ammoniacal N as NH4 in 2:1 extract	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022
Ammoniacal Nitrogen		31-Oct-2022	31-Oct-2022	02-Nov-2022				31-Oct-2022	01-Nov-2022	
ANC at pH4 and ANC at pH 6	25-Oct-2022	25-Oct-2022	24-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022
Anions by Kone (soil)	26 Oct 2022	26 Oct 2022	24 Oct 2022	26 Oct 2022	26 Oct 2022	26 Oct 2022	26 Oct 2022	26 Oct 2022	26 Oct 2022	26 Oct 2022
Anions by Kone (w)	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022
Asbestos ID in Solid Samples	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022			31-Oct-2022	31-Oct-2022	31-Oct-2022
Asbestos Quantification - Full								08-Nov-2022		
Boron Water Soluble	25-Oct-2022	25-Oct-2022	24-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022
CEN 10:1 Leachate (1 Stage)	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022
CEN 2:1 Leachate (1 Stage)		27-Oct-2022	27-Oct-2022	28-Oct-2022				27-Oct-2022	27-Oct-2022	
CEN Readings	26-Oct-2022	26-Oct-2022	26-Oct-2022	02-Nov-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022
Chromium III		01-Nov-2022	01-Nov-2022	02-Nov-2022				01-Nov-2022	01-Nov-2022	
Coronene	24-Oct-2022	24-Oct-2022	24-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	26-Oct-2022
Cyanide Comp/Free/Total/Thiocyanate	25-Oct-2022	02-Nov-2022	02-Nov-2022	04-Nov-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	02-Nov-2022	02-Nov-2022	25-Oct-2022
Dissolved Metals by ICP MS	27-Oct-2022	01-Nov-2022	01-Nov-2022	03-Nov-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	01-Nov-2022	01-Nov-2022	27-Oct-2022
Dissolved Organic/Inorganic Carbon	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022
EPH by GCxGC-FID	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022
EPH CWG (Aliphatic) Aqueous GC (W)		01-Nov-2022	01-Nov-2022	02-Nov-2022				01-Nov-2022	01-Nov-2022	
EPH CWG (Aromatic) Aqueous GC (W)		01-Nov-2022	01-Nov-2022	02-Nov-2022				01-Nov-2022	01-Nov-2022	
EPH CWG GC (S)	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022
Fluoride	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022
GRO by GC-FID (S)	24-Oct-2022	24-Oct-2022	21-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	24-Oct-2022	25-Oct-2022	24-Oct-2022	26-Oct-2022
GRO by GC-FID (W)		01-Nov-2022	01-Nov-2022	01-Nov-2022				01-Nov-2022	01-Nov-2022	
Hexavalent Chromium (s)	24 Oct 2022	24 Oct 2022	24 Oct 2022	24 Oct 2022	24 Oct 2022	24 Oct 2022	24 Oct 2022	24 Oct 2022	24 Oct 2022	24 Oct 2022
Hexavalent Chromium (w)		01-Nov-2022	01-Nov-2022	02-Nov-2022				01-Nov-2022	01-Nov-2022	
Loss on Ignition in soils	25-Oct-2022	25-Oct-2022	26-Oct-2022	26-Oct-2022	25-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022
Mercury Dissolved	27-Oct-2022	31-Oct-2022	31-Oct-2022	03-Nov-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	31-Oct-2022	31-Oct-2022	27-Oct-2022
Metals in solid samples by OES	25-Oct-2022	25-Oct-2022	24-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022
Moisture at 105C	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022
PAH 16 & 17 Calc	26-Oct-2022	24-Oct-2022	24-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	26-Oct-2022
PAH by GCMS	26-Oct-2022	24-Oct-2022	24-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	25-Oct-2022
PAH Spec MS - Aqueous (W)		31-Oct-2022	31-Oct-2022	02-Nov-2022				31-Oct-2022	31-Oct-2022	
PCBs by GCMS	24-Oct-2022	24-Oct-2022	24-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	25-Oct-2022
pH	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022
pH Value of Filtered Water	26-Oct-2022	01-Nov-2022	01-Nov-2022	02-Nov-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	01-Nov-2022	01-Nov-2022	26-Oct-2022
Phenols by HPLC (W)	27-Oct-2022	01-Nov-2022	01-Nov-2022	02-Nov-2022	27-Oct-2022	27-Oct-2022	27-Oct-2022	01-Nov-2022	01-Nov-2022	27-Oct-2022
Phenols Spec MS (S)	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022	31-Oct-2022
Sample description	21-Oct-2022	21-Oct-2022	20-Oct-2022	21-Oct-2022	21-Oct-2022	21-Oct-2022	20-Oct-2022	20-Oct-2022	20-Oct-2022	21-Oct-2022
Semi Volatile Organic Compounds	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022
Total Organic Carbon	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022
TPH CWG (W)		01-Nov-2022	01-Nov-2022	02-Nov-2022				01-Nov-2022	01-Nov-2022	
TPH CWG GC (S)	25-Oct-2022	25-Oct-2022	25-Oct-2022	26-Oct-2022	26-Oct-2022	26-Oct-2022	25-Oct-2022	25-Oct-2022	25-Oct-2022	26-Oct-2022
VOC MS (S)	24-Oct-2022	24-Oct-2022	21-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022	24-Oct-2022
VOC MS (W)		31 Oct 2022	31 Oct 2022	01 Nov 2022				31 Oct 2022	31 Oct 2022	

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Lab Sample No(s)	27048480	27048488
Customer Sample Ref.	TP06	P06
AGS Ref.	ES	ES
Depth	0.20 - 0.30	1.50 - 1.60
Type	Soil/Solid (S)	Soil/Solid (S)
Ammoniacal N as NH4 in 2:1 extract	24-Oct-2022	24-Oct-2022
Ammoniacal Nitrogen	31-Oct-2022	
ANC at pH4 and ANC at pH 6	25-Oct-2022	25-Oct-2022
Anions by Kone (soil)	26-Oct-2022	26-Oct-2022
Anions by Kone (w)	27-Oct-2022	27-Oct-2022
Asbestos ID in Solid Samples	31-Oct-2022	31-Oct-2022
Boron Water Soluble	25-Oct-2022	25-Oct-2022
CEN 10:1 Leachate (1 Stage)	24 Oct 2022	24 Oct 2022
CEN 2:1 Leachate (1 Stage)	27-Oct-2022	
CEN Readings	26-Oct-2022	26-Oct-2022
Chromium III	01-Nov-2022	
Coronene	26-Oct-2022	26-Oct-2022
Cyanide Comp/Free/Total/Thiocyanate	02-Nov-2022	25-Oct-2022
Dissolved Metals by ICP-MS	01-Nov-2022	27-Oct-2022
Dissolved Organic/Inorganic Carbon	27-Oct-2022	27-Oct-2022
EPH by GCxGC-FID	24-Oct-2022	24-Oct-2022
EPH CWG (Aliphatic) Aqueous GC (W)	01-Nov-2022	
EPH CWG (Aromatic) Aqueous GC (W)	01-Nov-2022	
EPH CWG GC (S)	25-Oct-2022	25-Oct-2022
Fluoride	27-Oct-2022	27-Oct-2022
GRO by GC-FID (S)	24-Oct-2022	24-Oct-2022
GRO by GC-FID (W)	01-Nov-2022	
Hexavalent Chromium (s)	24-Oct-2022	24-Oct-2022
Hexavalent Chromium (w)	01-Nov-2022	
Loss on Ignition in soils	26-Oct-2022	25-Oct-2022
Mercury Dissolved	31-Oct-2022	27-Oct-2022
Metals in solid samples by OES	25-Oct-2022	25-Oct-2022
Moisture at 105C	24 Oct 2022	24 Oct 2022
PAH 16 & 17 Calc	26-Oct-2022	26-Oct-2022
PAH by GCMS	25-Oct-2022	25-Oct-2022
PAH Spec MS - Aqueous (W)	01-Nov-2022	
PCBs by GCMS	25-Oct-2022	25-Oct-2022
pH	25-Oct-2022	25-Oct-2022
pH Value of Filtered Water	01-Nov-2022	26-Oct-2022
Phenols by HPLC (W)	01-Nov-2022	27-Oct-2022
Phenols Spec MS (S)	31-Oct-2022	31-Oct-2022
Sample description	21-Oct-2022	21-Oct-2022
Semi Volatile Organic Compounds	25-Oct-2022	25-Oct-2022
Total Organic Carbon	25-Oct-2022	25-Oct-2022
TPH CWG (W)	01-Nov-2022	
TPH CWG GC (S)	25-Oct-2022	25-Oct-2022
VOC MS (S)	24-Oct-2022	24-Oct-2022
VOC MS (W)	31-Oct-2022	

CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

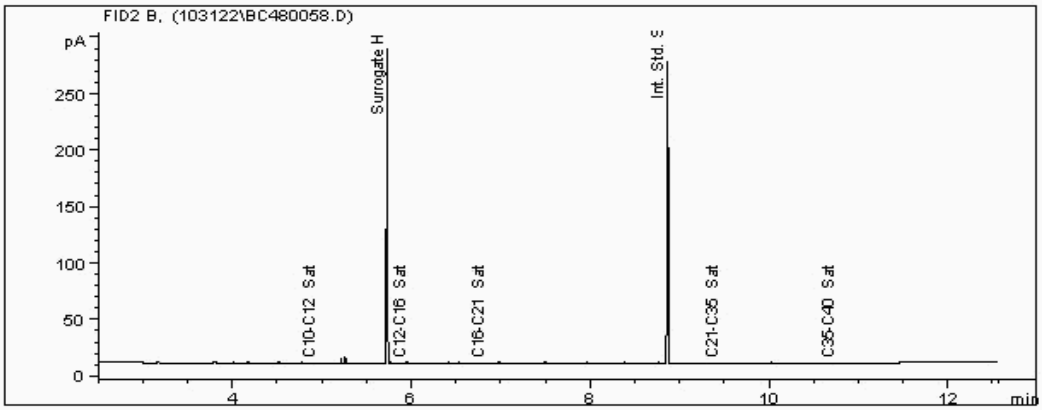
Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) **Sample No :** 27091499 **Depth :** 0.20 - 0.30
Sample ID : TP06

Speciated TPH - SATS (C12 - C40)

Sample Identity: 25200439-
Date Acquired : 01/11/2022 15:04:57 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.150

#	Compound Name	Main Peak Area	Amount
1	C10-C12 Sat	0.0	0.000
2	Surrogate H	205.6	1.316
3	C12-C16 Sat	0.0	0.000
4	C16-C21 Sat	0.0	0.000
5	Int. Std. S	211.3	1.500
6	C21-C35 Sat	0.0	0.000
7	C35-C40 Sat	0.0	0.000
	Total Peak Area	417.0	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

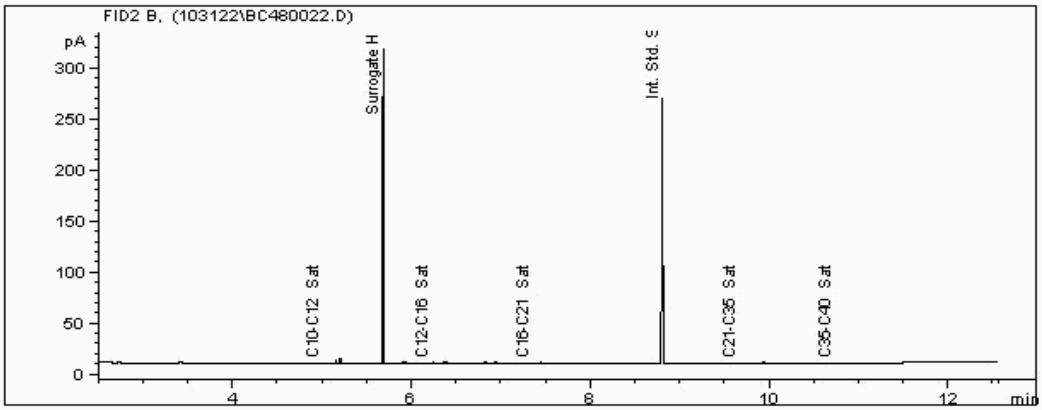
Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) **Sample No :** 27094276 **Depth :** 2.70 - 2.80
Sample ID : TP01

Speciated TPH - SATS (C12 - C40)

Sample Identity: 25200468-
Date Acquired : 31/10/2022 19:36:13 PM
Units : ppb
Dilution : CEN 2 1 ->
CF : 1
Multiplier : 0.050

#	Compound Name	Main Peak Area	Amount
1	C10-C12 Sat	0.0	0.000
2	Surrogate H	205.5	0.471
3	C12-C16 Sat	0.0	0.000
4	C16-C21 Sat	0.0	0.000
5	Int. Std. S	200.3	0.500
6	C21-C35 Sat	0.0	0.000
7	C35-C40 Sat	0.0	0.000
	Total Peak Area	405.8	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

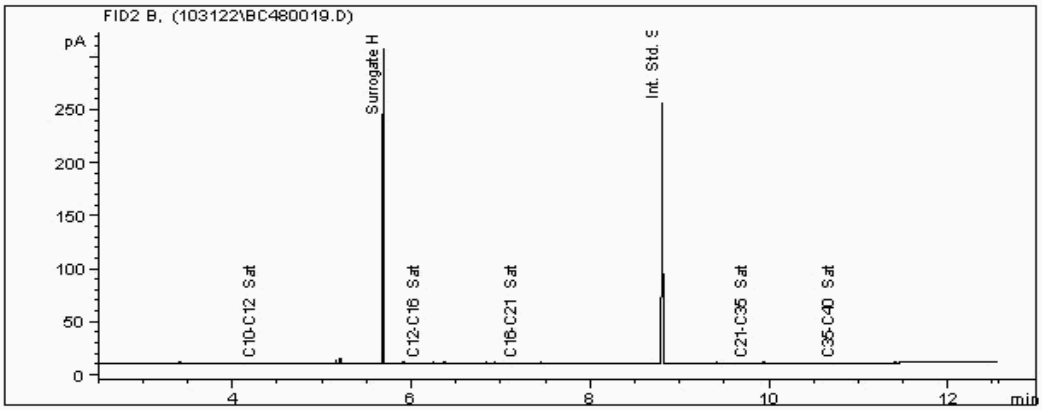
Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) **Sample No :** 27094286 **Depth :** 2.20 - 2.30
Sample ID : TP04

Speciated TPH - SATS (C12 - C40)

Sample Identity: 25200368-
Date Acquired : 31/10/2022 18:26:59 PM
Units : ppb
Dilution : CEN 2 1 ->
CF : 1
Multiplier : 0.050

#	Compound Name	Main Peak Area	Amount
1	C10-C12 Sat	0.0	0.000
2	Surrogate H	193.7	0.457
3	C12-C16 Sat	0.0	0.000
4	C16-C21 Sat	0.0	0.000
5	Int. Std. S	194.6	0.500
6	C21-C35 Sat	0.0	0.000
7	C35-C40 Sat	0.0	0.000
	Total Peak Area	388.3	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

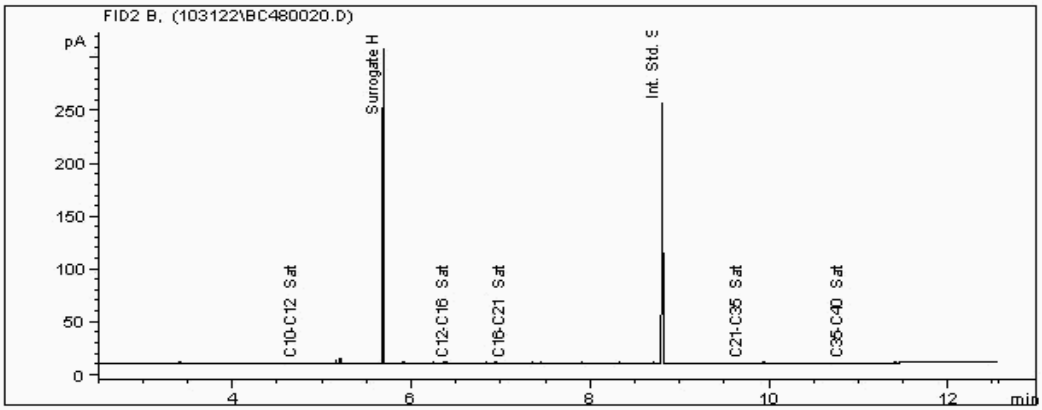
Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) **Sample No :** 27094287 **Depth :** 1.20 - 1.30
Sample ID : TP05

Speciated TPH - SATS (C12 - C40)

Sample Identity: 25200405-
Date Acquired : 31/10/2022 18:50:04 PM
Units : ppb
Dilution : CEN 2 1 ->
CF : 1
Multiplier : 0.125

#	Compound Name	Main Peak Area	Amount
1	C10-C12 Sat	0.0	0.000
2	Surrogate H	206.6	1.201
3	C12-C16 Sat	0.0	0.000
4	C16-C21 Sat	0.0	0.000
5	Int. Std. S	197.3	1.250
6	C21-C35 Sat	0.0	0.000
7	C35-C40 Sat	0.0	0.000
	Total Peak Area	403.9	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

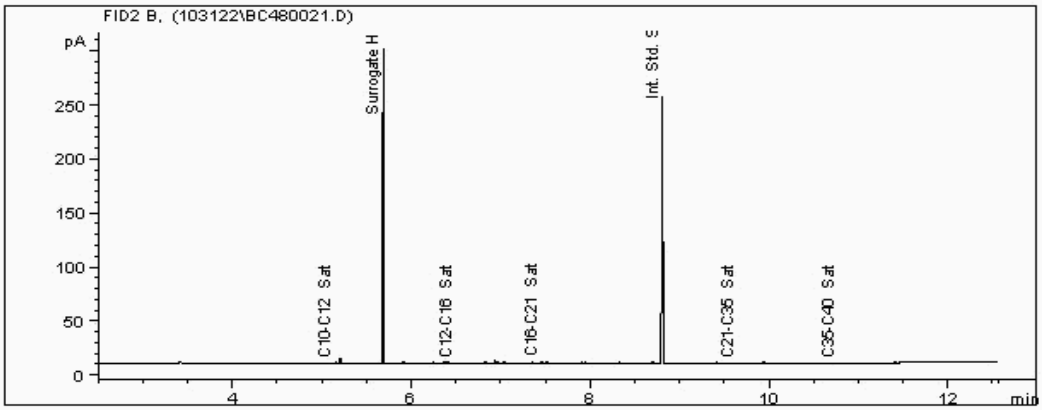
Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) **Sample No :** 27094289 **Depth :** 1.10 - 1.20
Sample ID : TP02

Speciated TPH - SATS (C12 - C40)

Sample Identity: 25200489-
Date Acquired : 31/10/2022 19:12:54 PM
Units : ppb
Dilution : CEN 2 1 ->
CF : 1
Multiplier : 0.050

#	Compound Name	Main Peak Area	Amount
1	C10-C12 Sat	0.0	0.000
2	Surrogate H	196.7	0.458
3	C12-C16 Sat	0.0	0.000
4	C16-C21 Sat	0.0	0.000
5	Int. Std. S	197.1	0.500
6	C21-C35 Sat	0.0	0.000
7	C35-C40 Sat	0.0	0.000
	Total Peak Area	393.8	

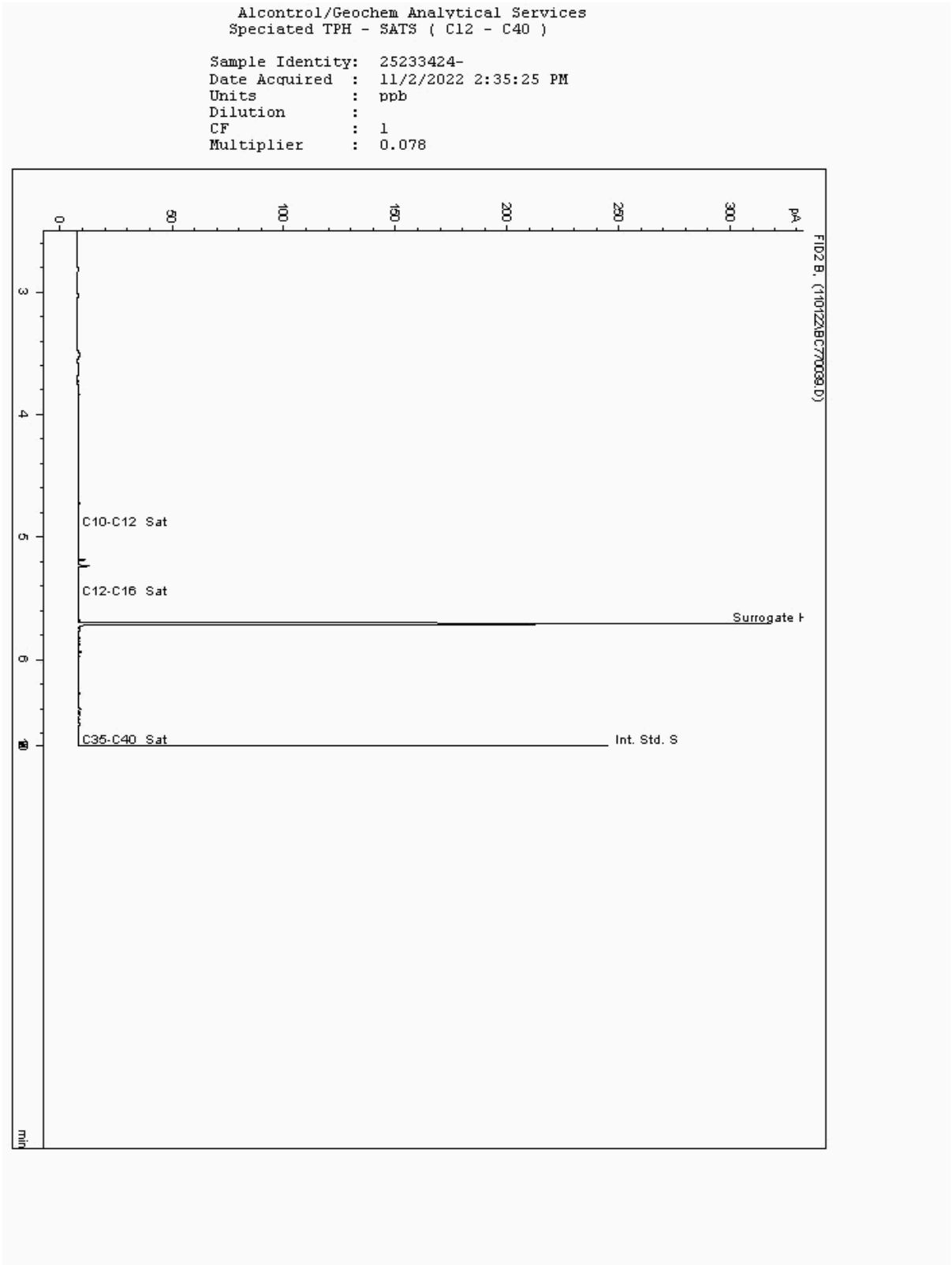


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG (Aliphatic) Aqueous GC (W) **Sample No :** 27101892 **Depth :** 1.80 - 1.90
Sample ID : TP02



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

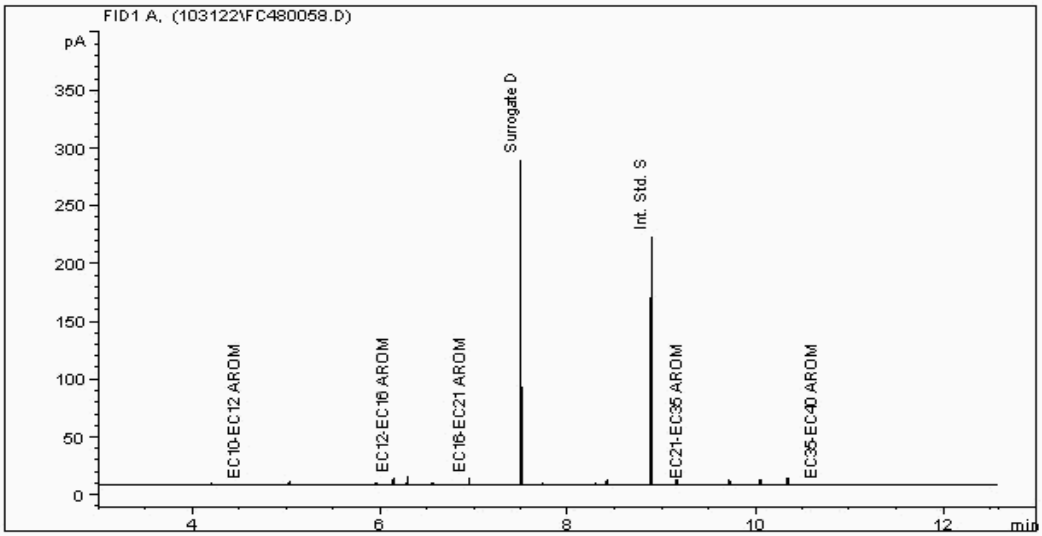
Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 27091499 **Depth :** 0.20 - 0.30
Sample ID : TP06

Speciated TPH - AROM (C12 - C40)

Sample Identity: 25200440-
Date Acquired : 01/11/2022 15:04:57 PM
Units : ppb
Dilution:

#	Compound Name	Main Peak Area	Amount
1	EC10-EC12 AROM	0.0	0.000
2	EC12-EC16 AROM	0.0	0.000
3	EC16-EC21 AROM	0.0	0.000
4	Surrogate D	177.2	1.368
5	Int. Std. S	171.2	1.500
6	EC21-EC35 AROM	0.0	0.000
7	EC35-EC40 AROM	0.0	0.000
	Total Peak Area	348.4	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

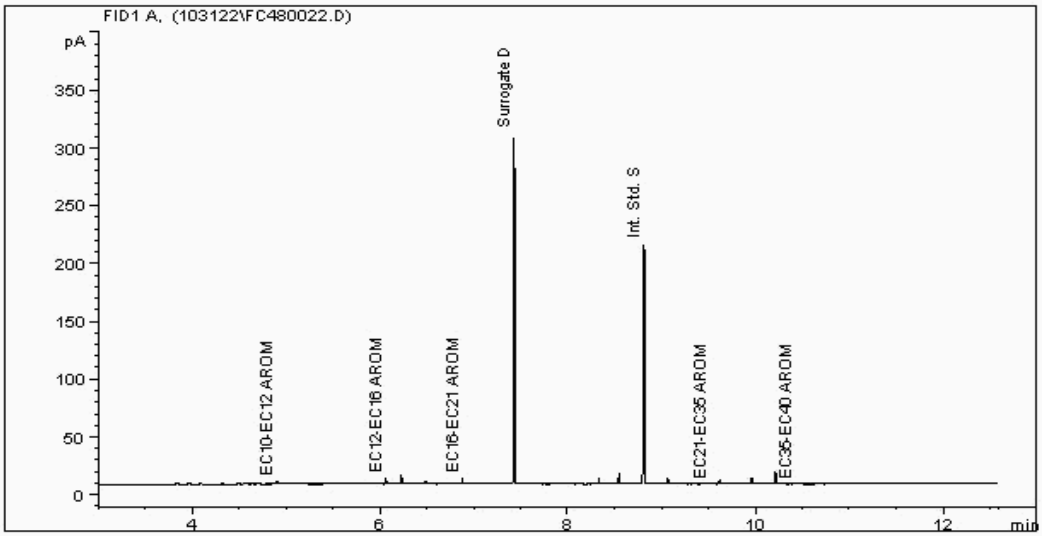
Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 27094276 **Depth :** 2.70 - 2.80
Sample ID : TP01

Speciated TPH - AROM (C12 - C40)

Sample Identity: 25200469-
Date Acquired : 31/10/2022 19:36:12 PM
Units : ppb
Dilution: CEN_2_1 ->

#	Compound Name	Main Peak Area	Amount
1	EC10-EC12 AROM	0.0	0.000
2	EC12-EC16 AROM	0.0	0.000
3	EC16-EC21 AROM	0.0	0.000
4	Surrogate D	178.4	0.487
5	Int. Std. S	170.4	0.500
6	EC21-EC35 AROM	0.0	0.000
7	EC35-EC40 AROM	0.0	0.000
	Total Peak Area	348.8	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

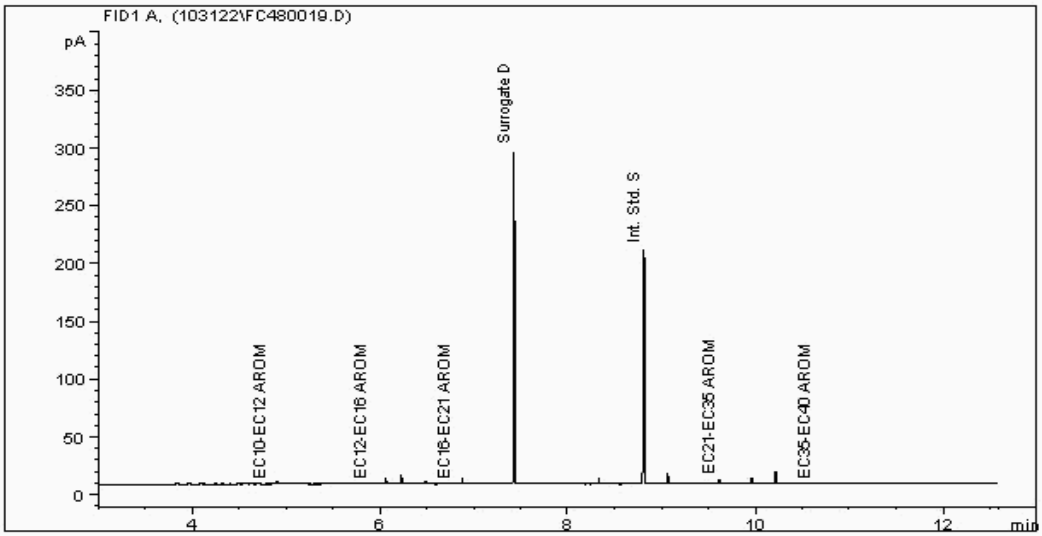
Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 27094286 **Depth :** 2.20 - 2.30
Sample ID : TP04

Speciated TPH - AROM (C12 - C40)

Sample Identity: 25200369-
Date Acquired : 31/10/2022 18:26:59 PM
Units : ppb
Dilution: CEN_2_1 ->

#	Compound Name	Main Peak Area	Amount
1	EC10-EC12 AROM	0.0	0.000
2	EC12-EC16 AROM	0.0	0.000
3	EC16-EC21 AROM	0.0	0.000
4	Surrogate D	177.3	0.476
5	Int. Std. S	173.3	0.500
6	EC21-EC35 AROM	0.0	0.000
7	EC35-EC40 AROM	0.0	0.000
	Total Peak Area	350.5	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

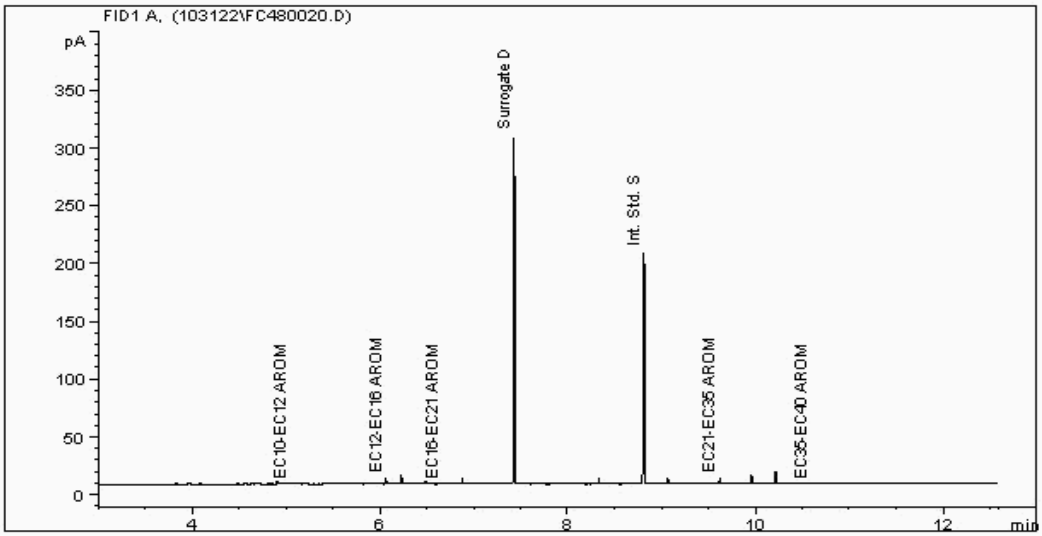
Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 27094287 **Depth :** 1.20 - 1.30
Sample ID : TP05

Speciated TPH - AROM (C12 - C40)

Sample Identity: 25200406-
Date Acquired : 31/10/2022 18:50:04 PM
Units : ppb
Dilution: CEN_2_1 ->

#	Compound Name	Main Peak Area	Amount
1	EC10-EC12 AROM	0.0	0.000
2	EC12-EC16 AROM	0.0	0.000
3	EC16-EC21 AROM	0.0	0.000
4	Surrogate D	183.6	1.283
5	Int. Std. S	166.6	1.250
6	EC21-EC35 AROM	0.0	0.000
7	EC35-EC40 AROM	0.0	0.000
	Total Peak Area	350.2	



CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

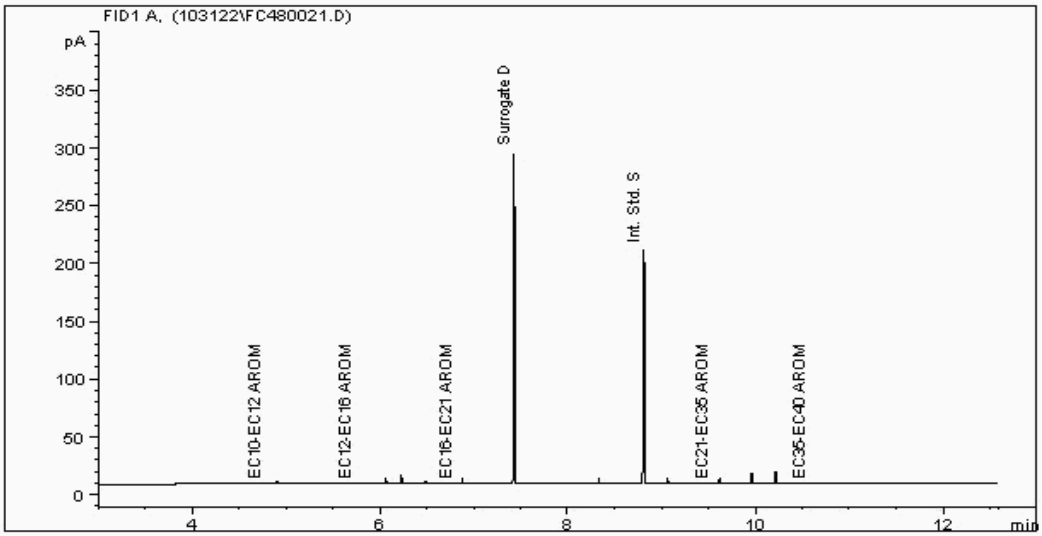
Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 27094289 **Depth :** 1.10 - 1.20
Sample ID : TP02

Speciated TPH - AROM (C12 - C40)

Sample Identity: 25200490-
Date Acquired : 31/10/2022 19:12:54 PM
Units : ppb
Dilution: CEN_2_1 ->

#	Compound Name	Main Peak Area	Amount
1	EC10-EC12 AROM	0.0	0.000
2	EC12-EC16 AROM	0.0	0.000
3	EC16-EC21 AROM	0.0	0.000
4	Surrogate D	176.5	0.482
5	Int. Std. S	170.5	0.500
6	EC21-EC35 AROM	0.0	0.000
7	EC35-EC40 AROM	0.0	0.000
	Total Peak Area	347.0	



CERTIFICATE OF ANALYSIS

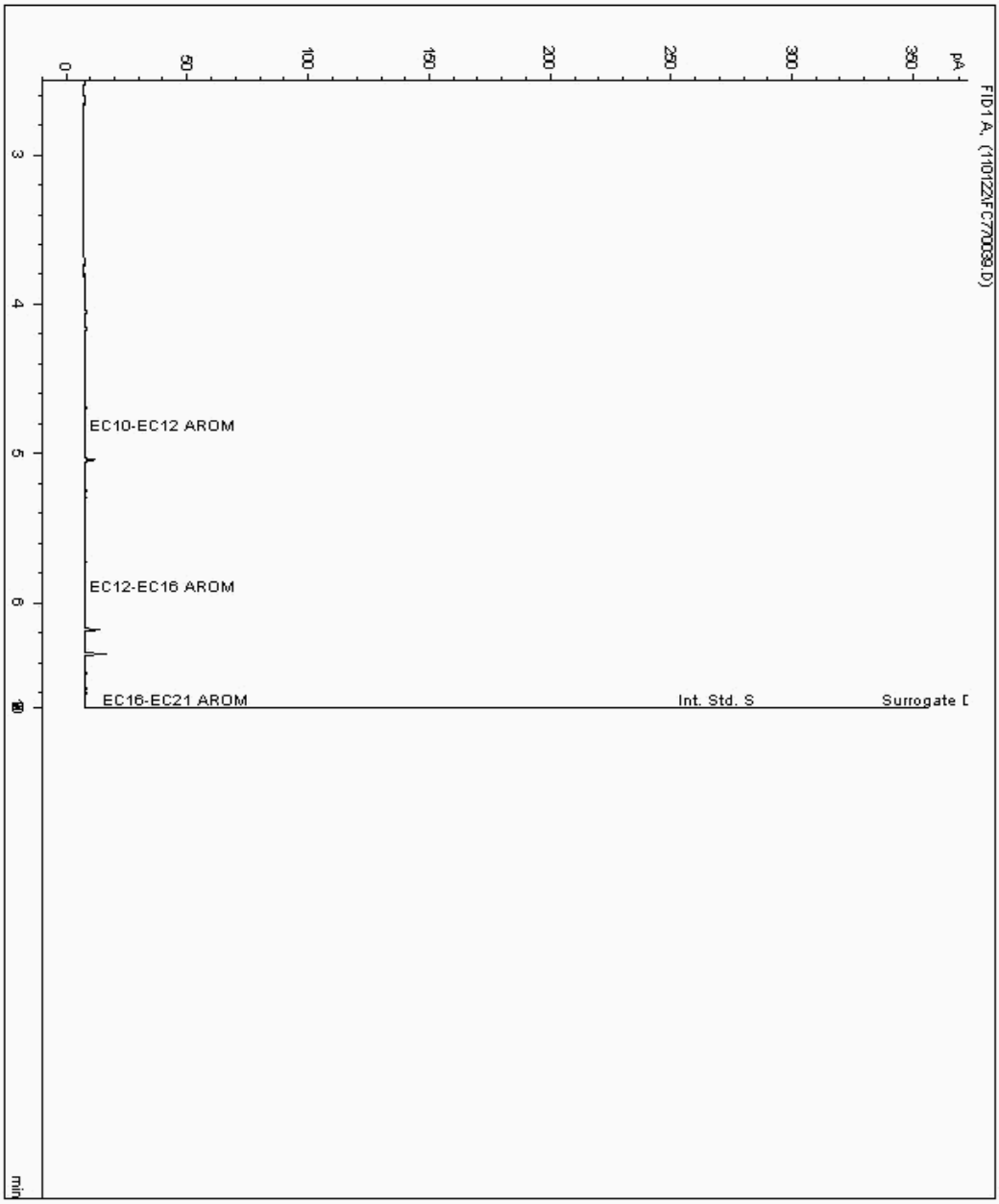
SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG (Aromatic) Aqueous GC (W) **Sample No :** 27101892 **Depth :** 1.80 - 1.90
Sample ID : TP02

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

Sample Identity: 25233425-
Date Acquired : 11/2/2022 2:35:25 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.078



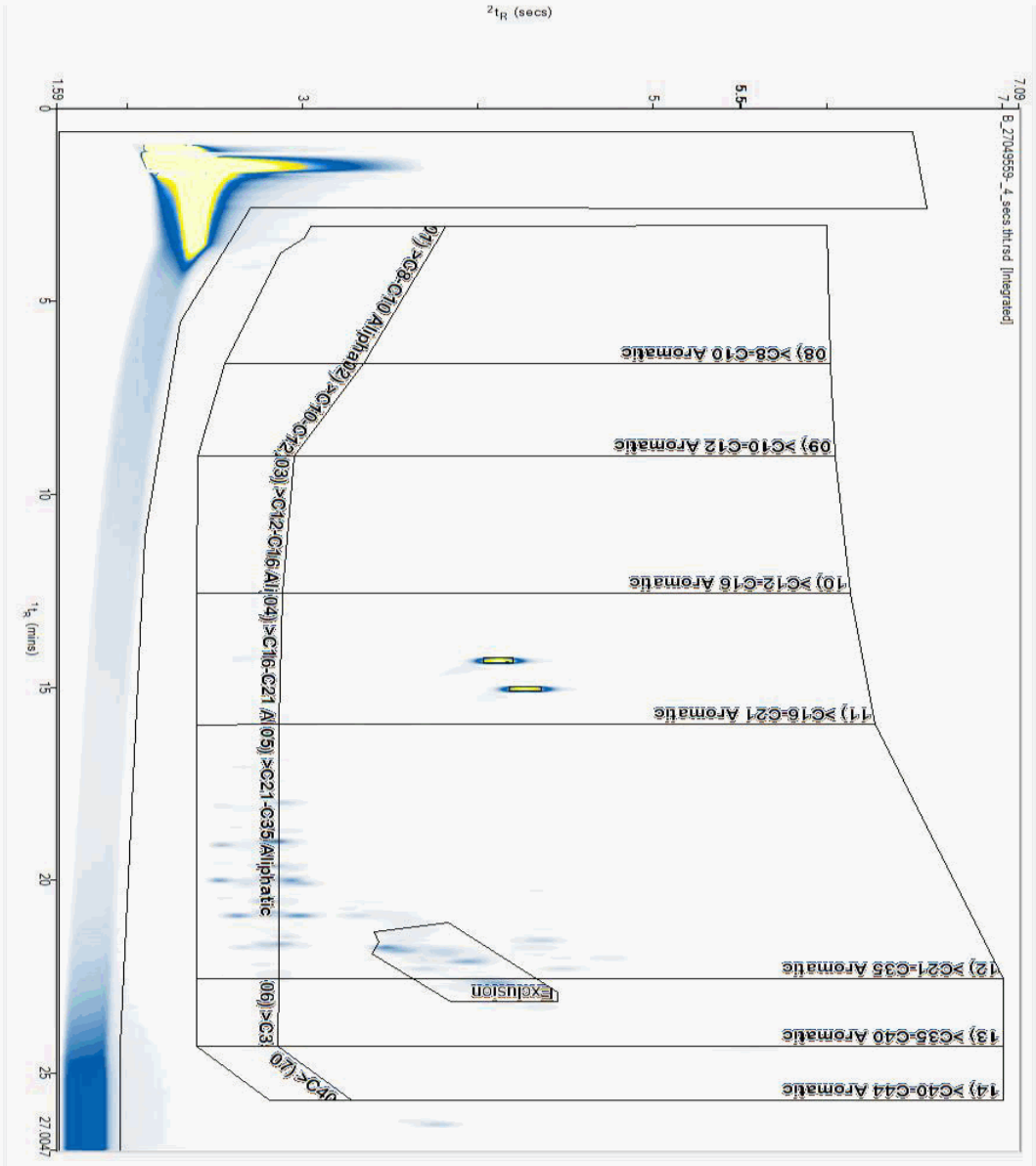
CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27049559 **Depth :** 1.20 - 1.30
Sample ID : TP05

```
  ChromSpace LIMS export
 Current batch
Sample Identity:  B_27049559-_4_secs.tht
Date Acquired   :  24/10/22 04:56:42
Units           :  ppm
Dilution        :  0
CF              :
Multiplier      :
```

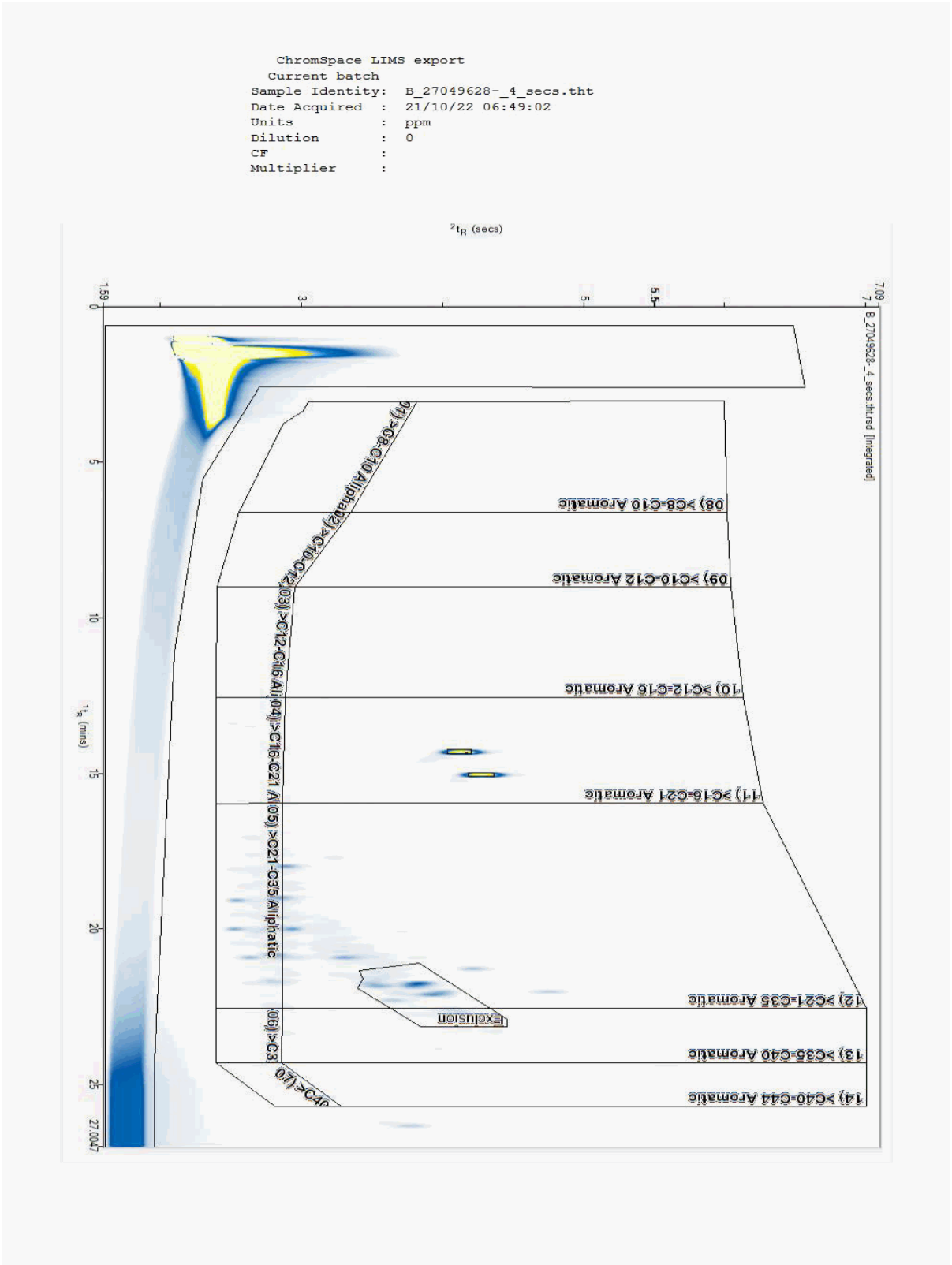


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27049628 **Depth :** 0.90 - 1.00
Sample ID : TP04



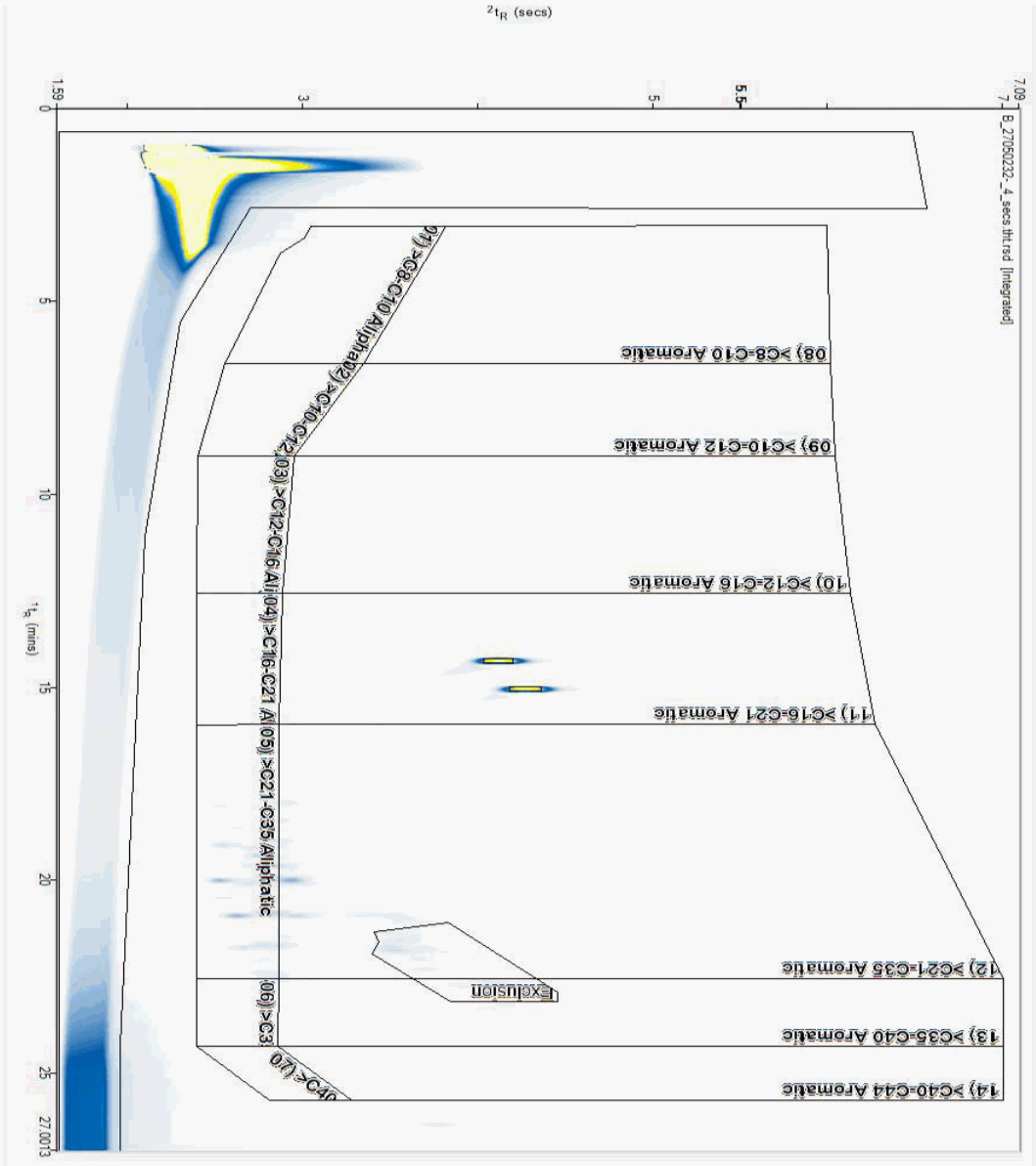
CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27050232 **Depth :** 1.10 - 1.20
Sample ID : TP02

```
   ChromSpace LIMS export
  Current batch
Sample Identity:  B_27050232-_4_secs.tht
Date Acquired   :  21/10/22 06:17:25
Units           :  ppm
Dilution        :  0
CF              :
Multiplier      :
```

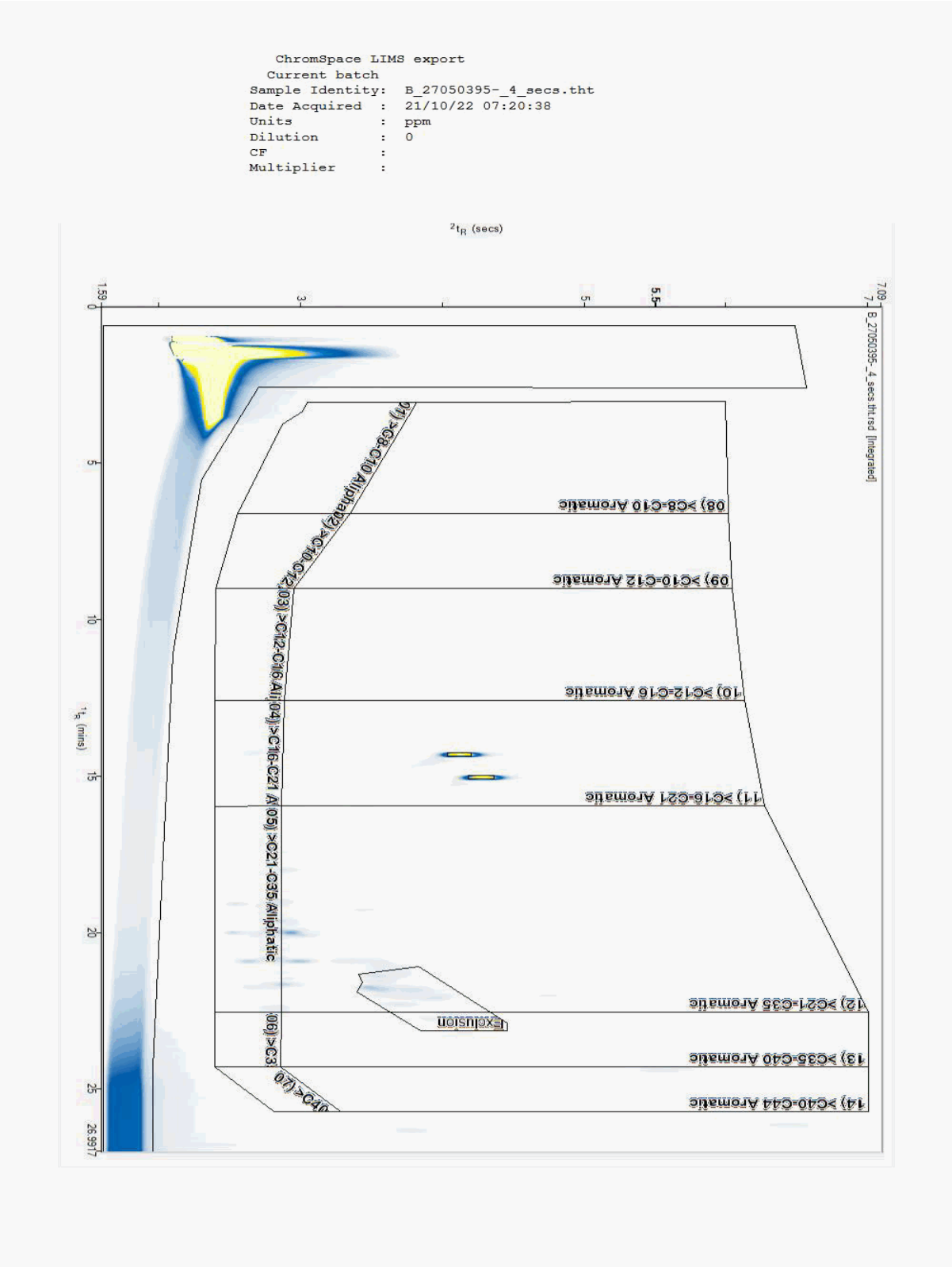


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27050395 **Depth :** 2.20 - 2.30
Sample ID : TP04



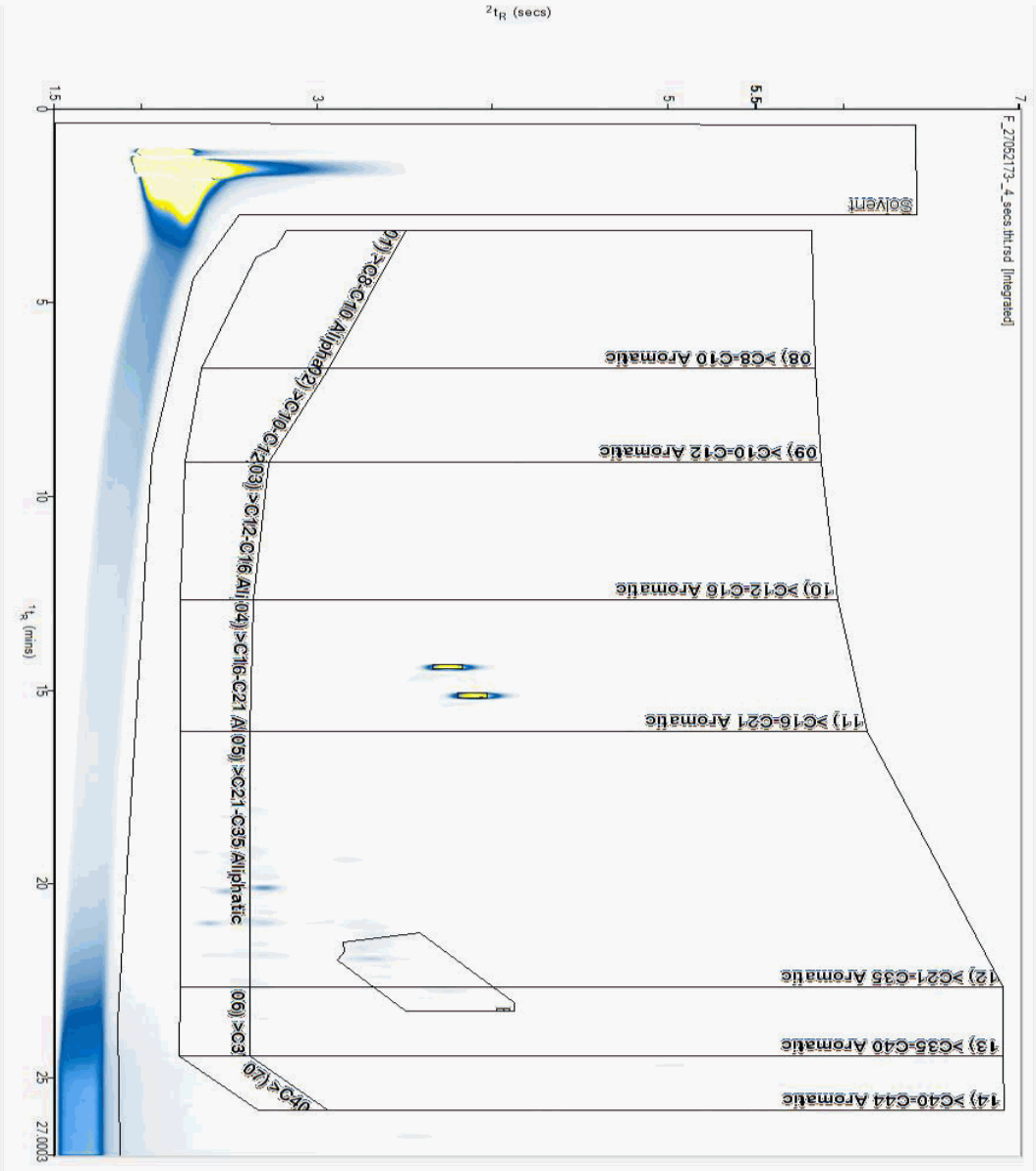
CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052173 **Depth :** 1.80 - 1.90
Sample ID : TP02

```
  ChromSpace LIMS export
 Current batch
Sample Identity:  F_27052173-_4_secs.tht
Date Acquired  :  22/10/22 05:13:30
Units          :  ppm
Dilution       :  0
CF             :
Multiplier     :
```

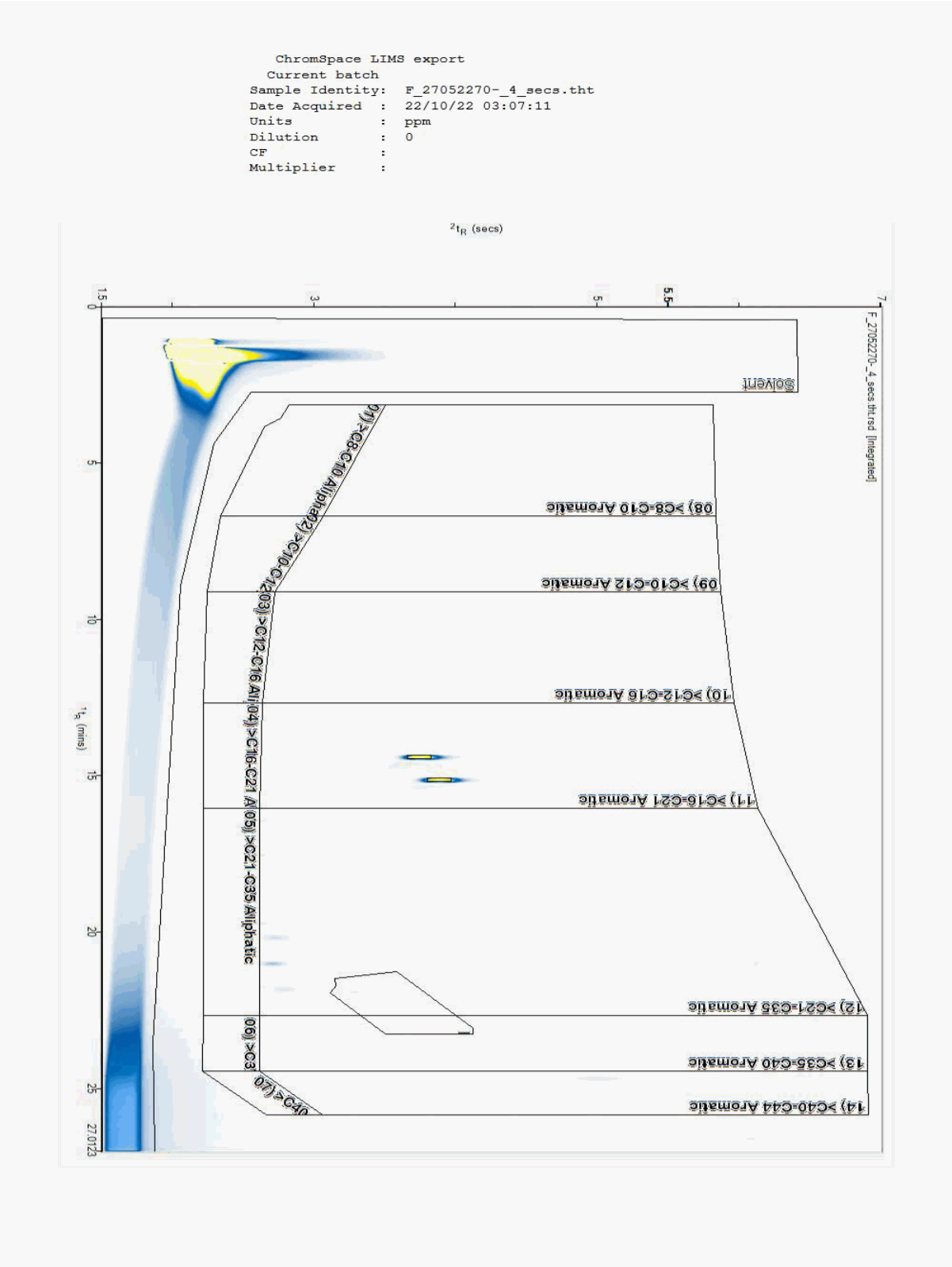


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052270 **Depth :** 2.60 - 2.70
Sample ID : TP03



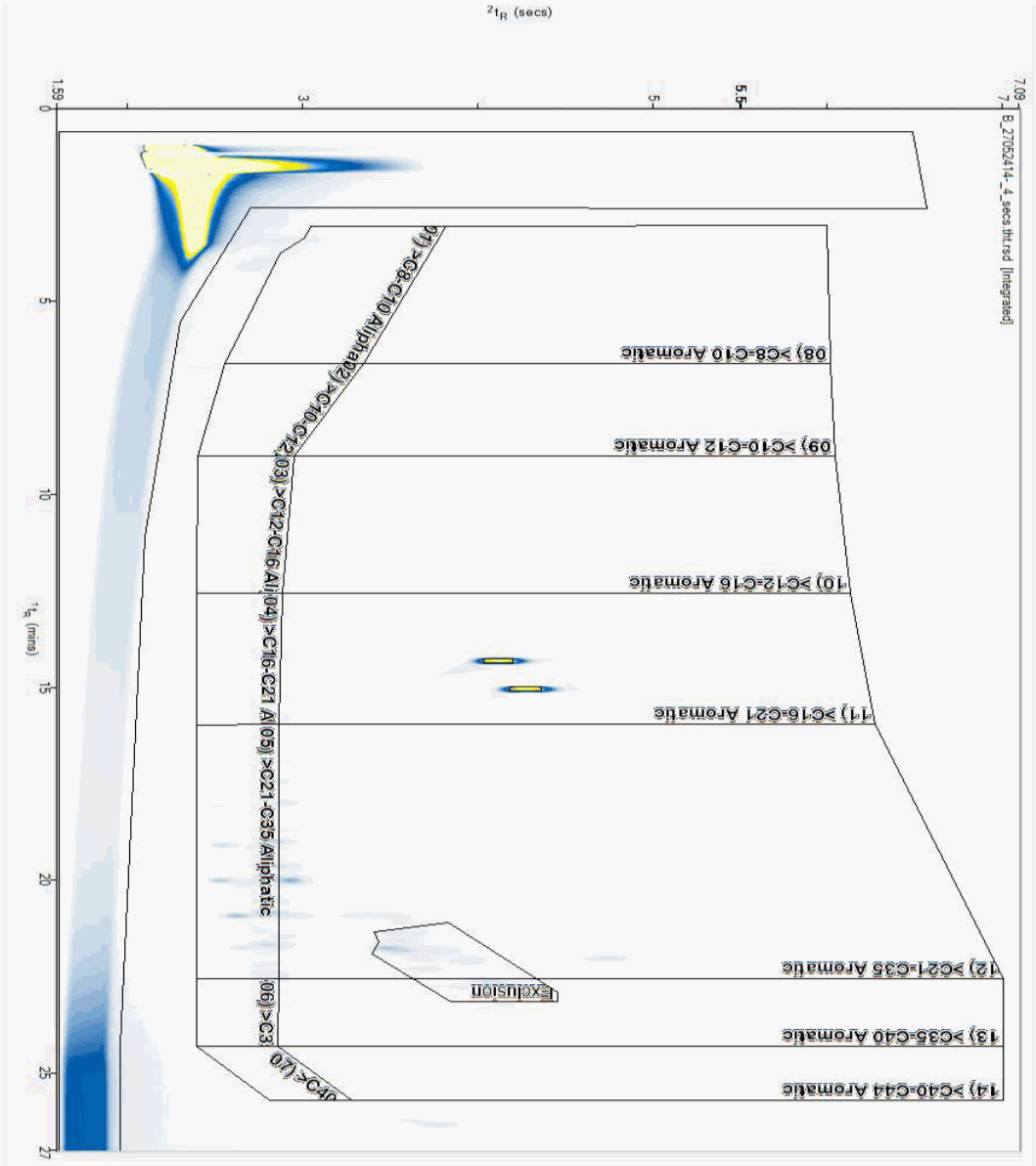
CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052414 **Depth :** 0.90 - 1.00
Sample ID : TP03

```
   ChromSpace LIMS export
  Current batch
Sample Identity:  B_27052414-_4_secs.tht
Date Acquired   :  24/10/22 03:21:50
Units           :  ppm
Dilution        :  0
CF              :
Multiplier      :
```



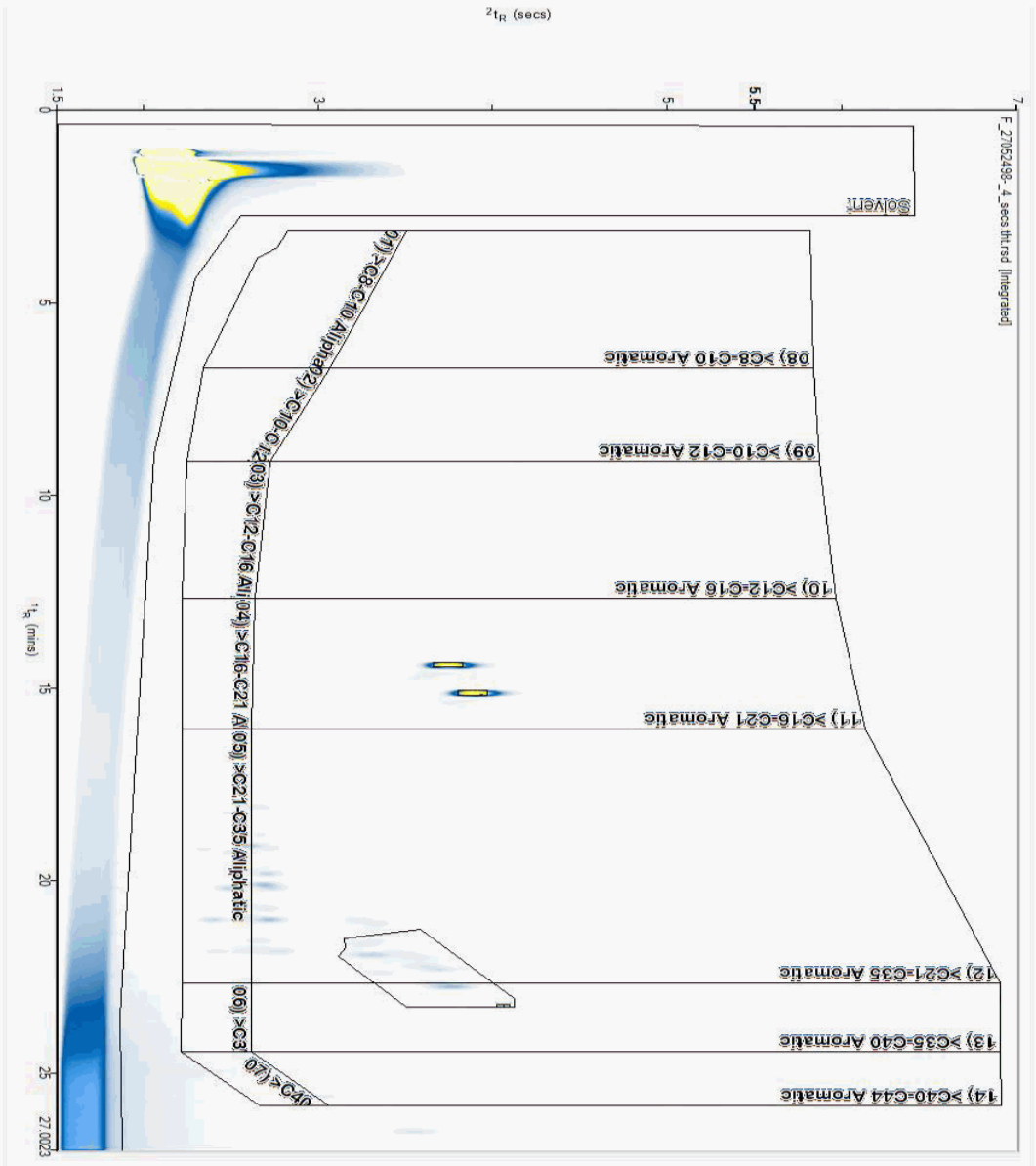
CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052498 **Depth :** 0.70 - 0.80
Sample ID : TP05

```
   ChromSpace LIMS export
  Current batch
Sample Identity:  F_27052498-_4_secs.tht
Date Acquired   :  22/10/22 04:41:54
Units           :  ppm
Dilution        :  0
CF              :
Multiplier      :
```

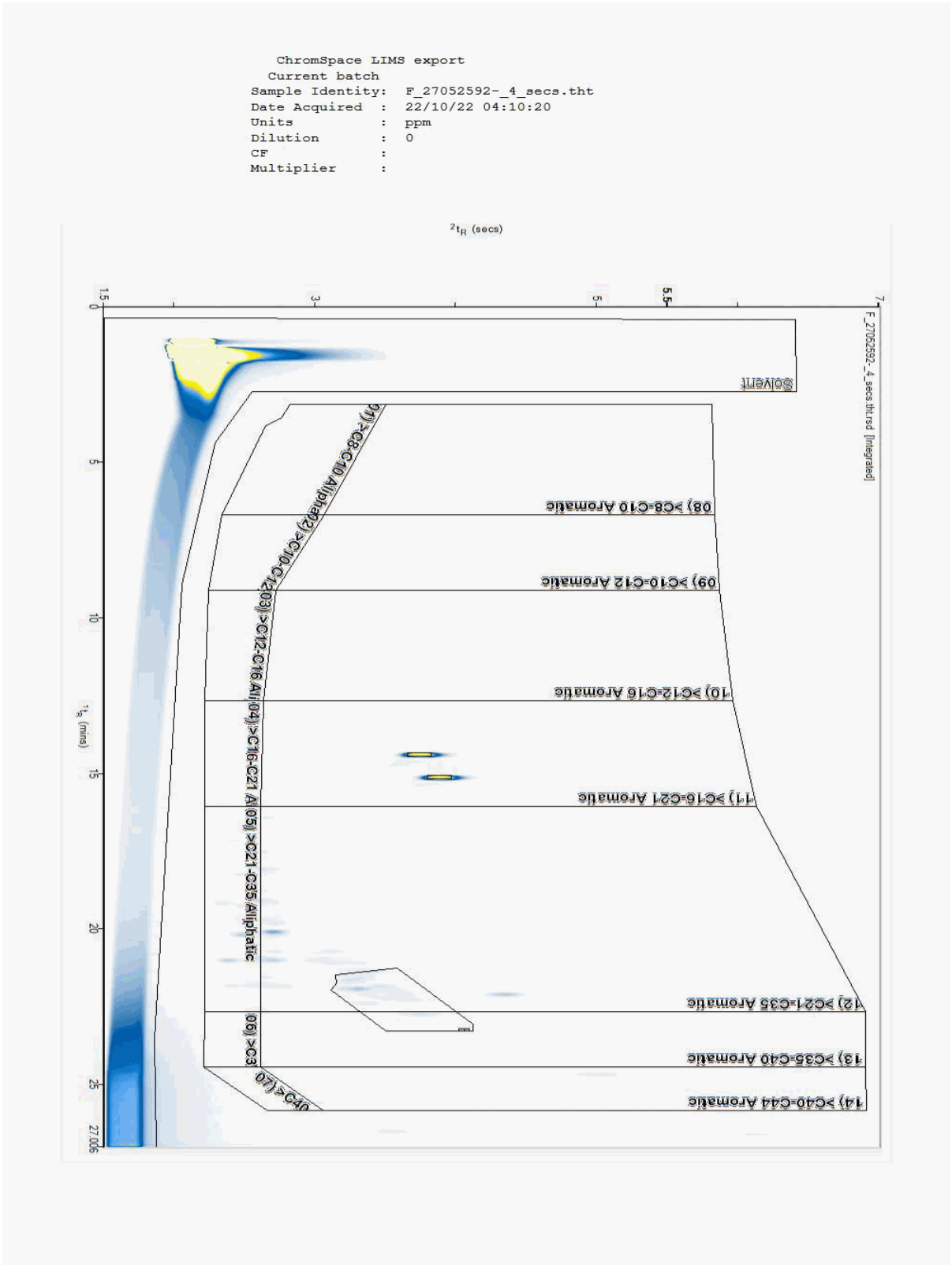


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052592 **Depth :** 0.20 - 0.30
Sample ID : TP06

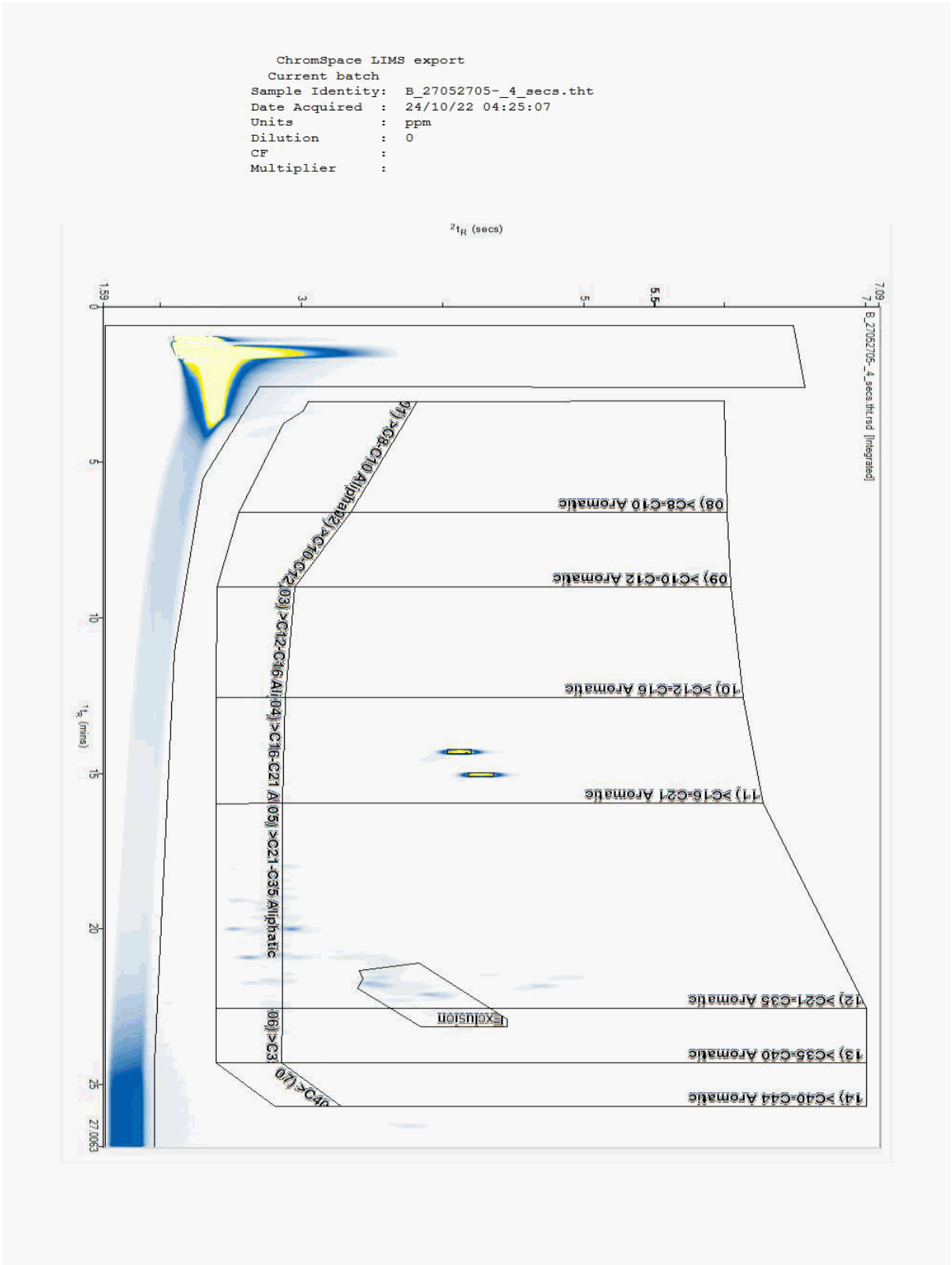


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052705 **Depth :** 1.50 - 1.60
Sample ID : TP06

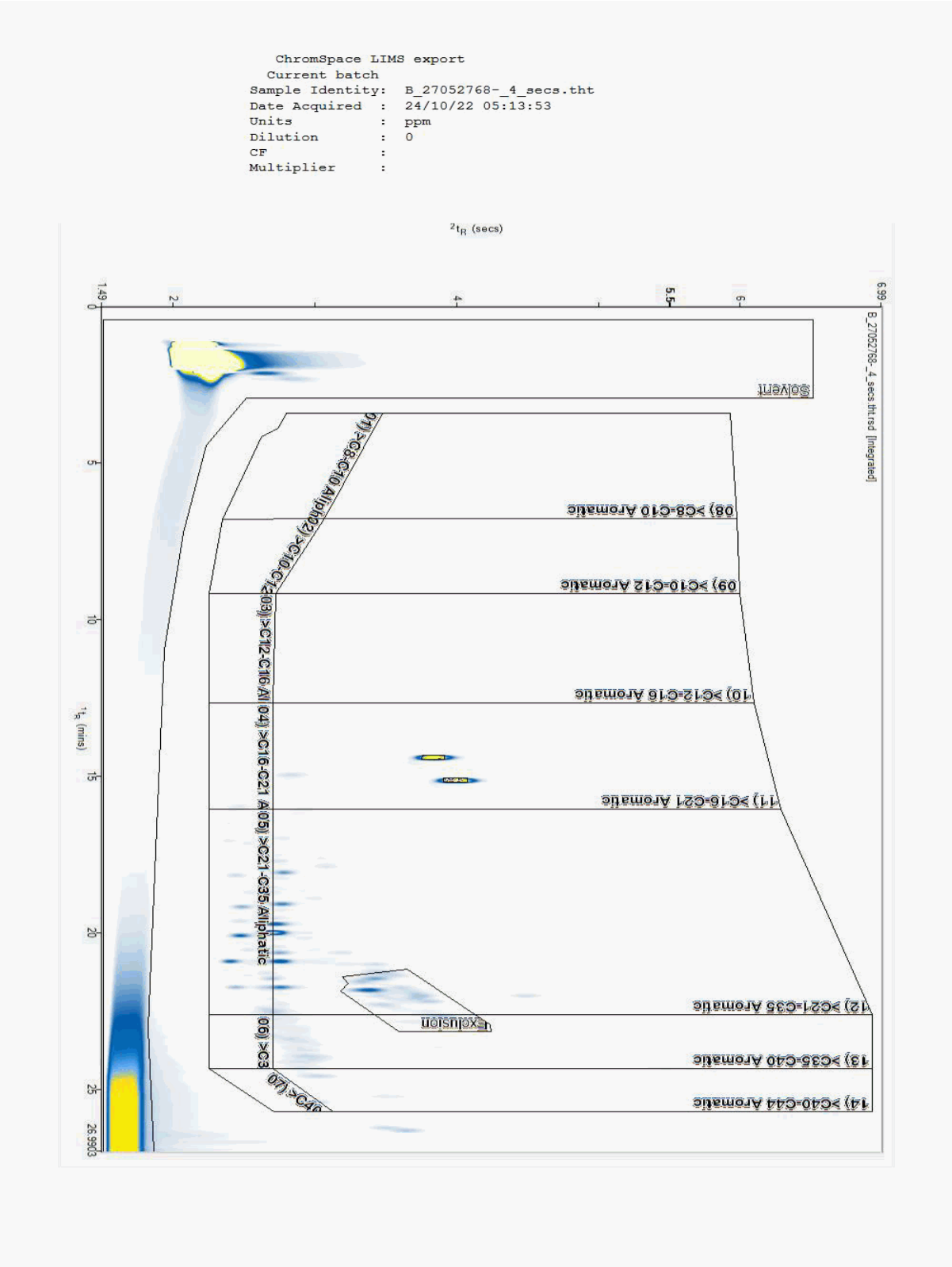


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052768 **Depth :** 0.10 - 0.20
Sample ID : TP01

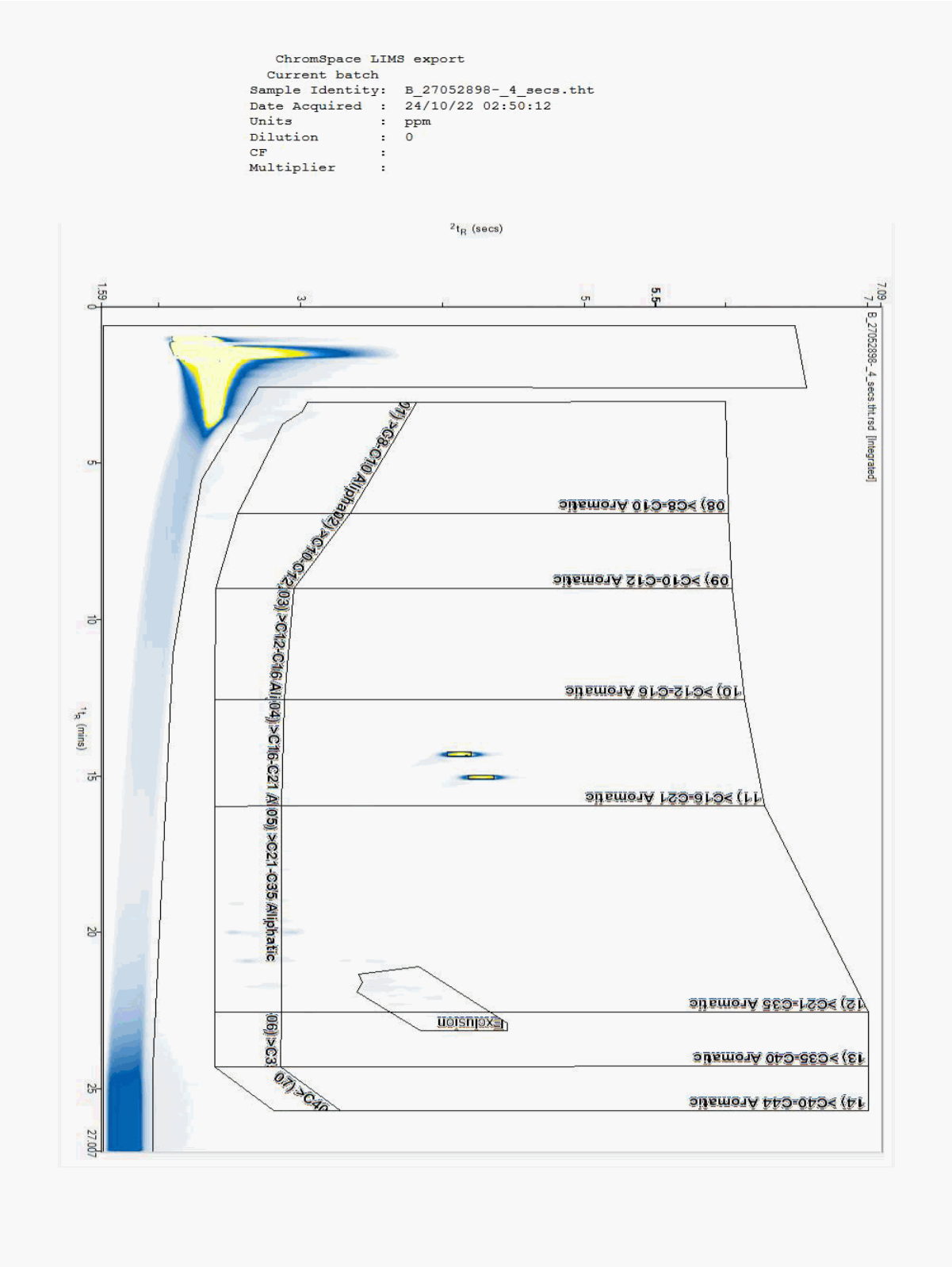


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH CWG GC (S) **Sample No :** 27052898 **Depth :** 2.70 - 2.80
Sample ID : TP01

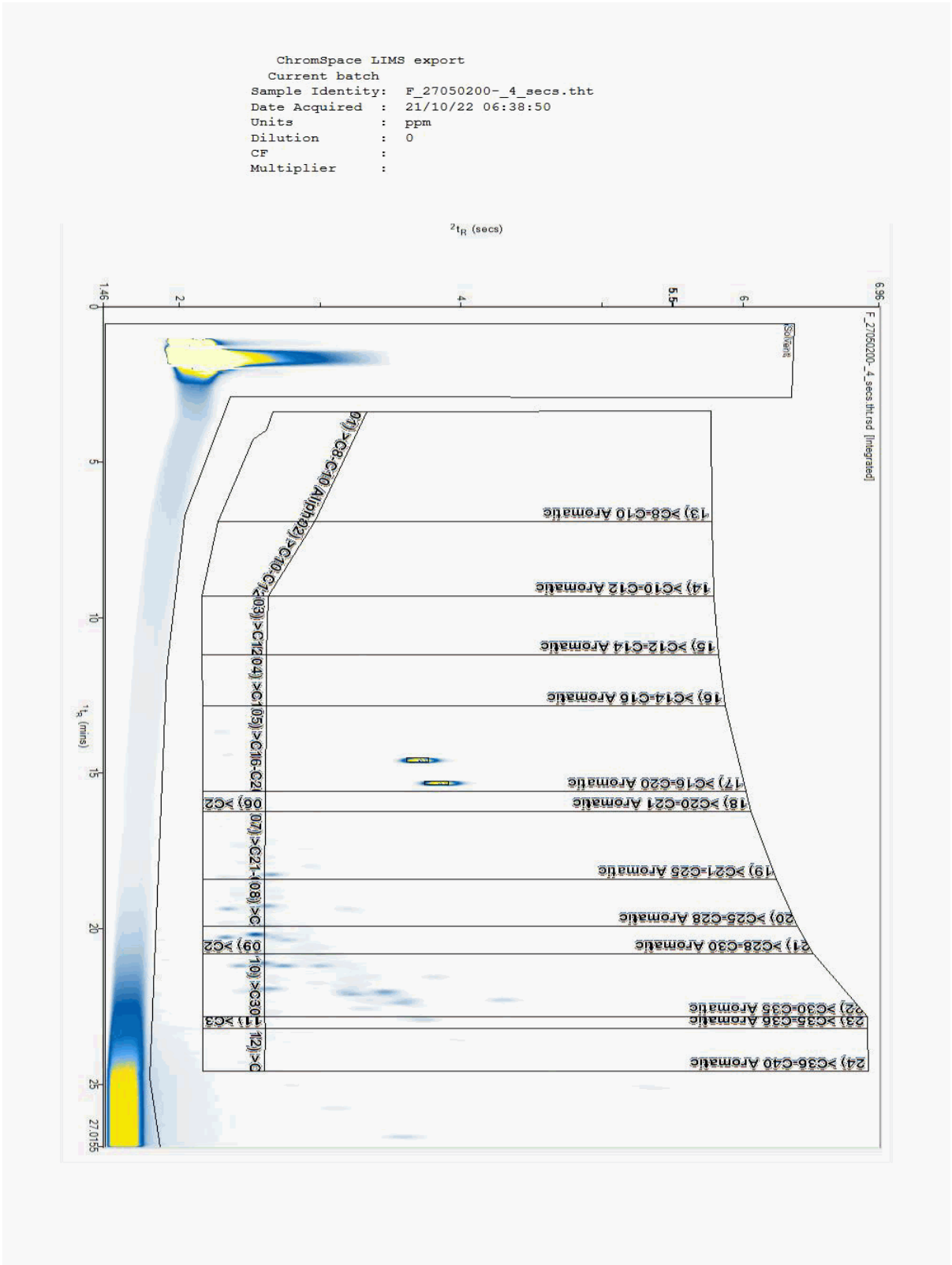


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27050200 **Depth :** 0.90 - 1.00
Sample ID : TP04

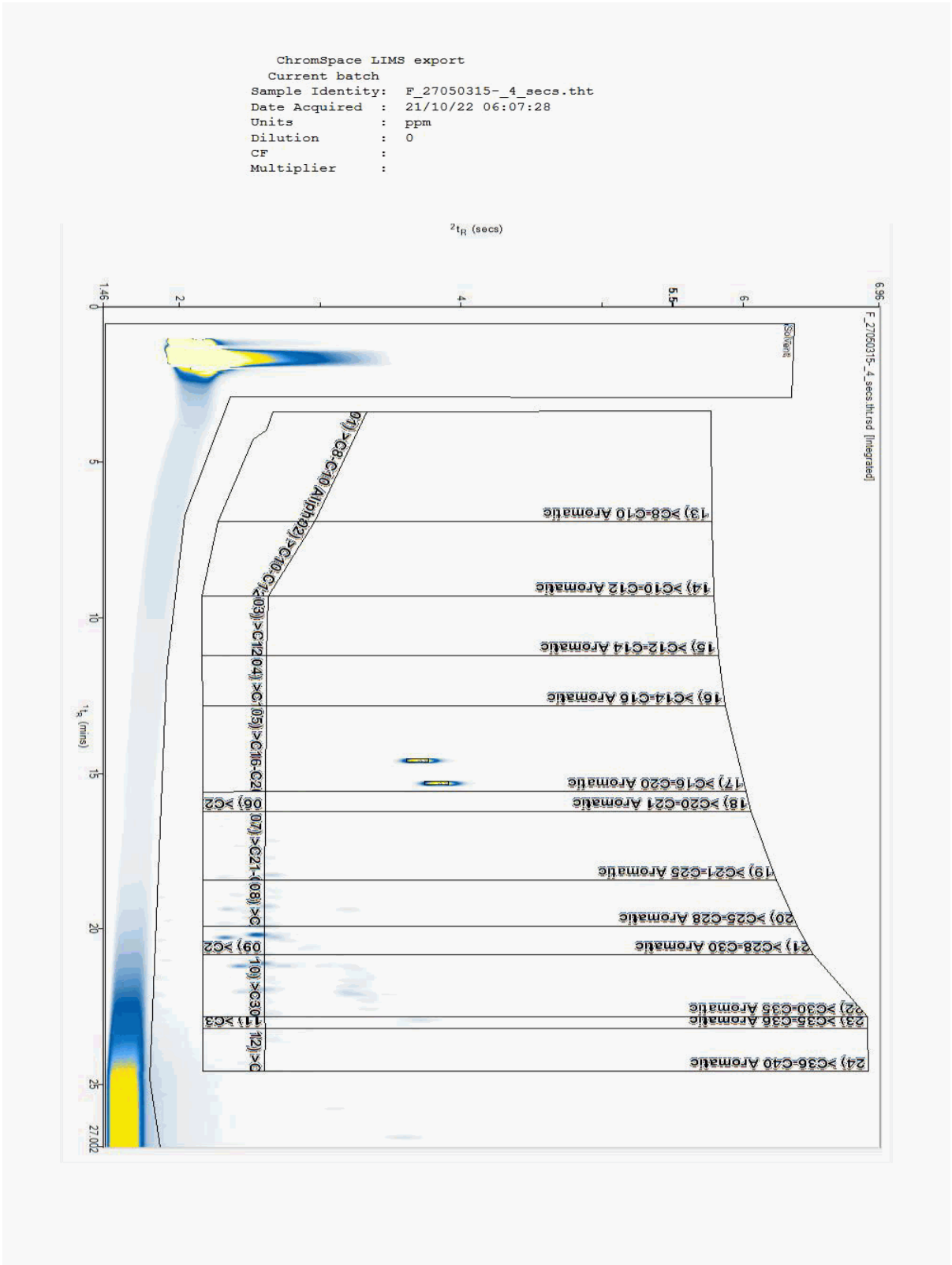


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27050315 **Depth :** 1.10 - 1.20
Sample ID : TP02

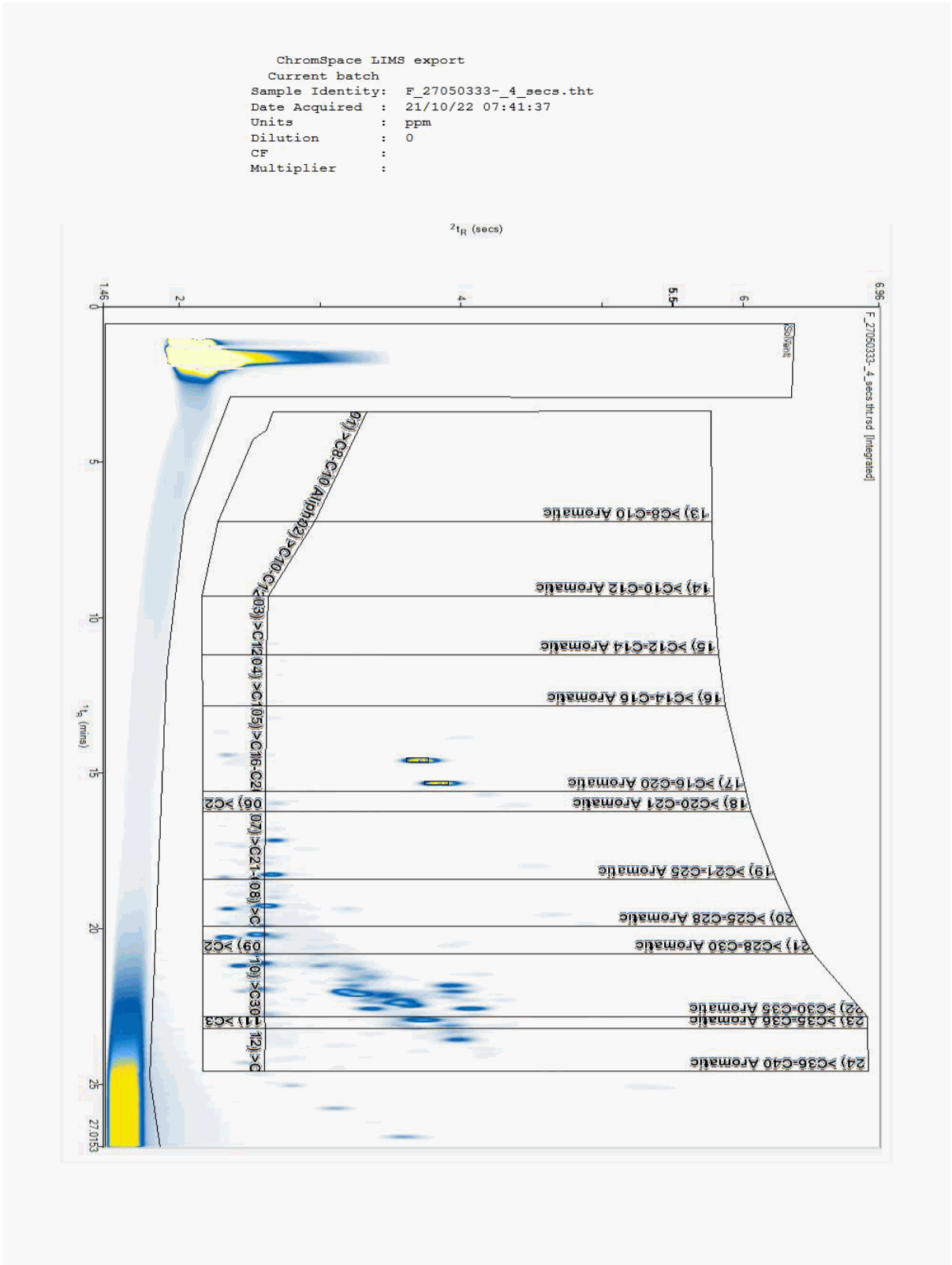


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27050333 **Depth :** 1.20 - 1.30
Sample ID : TP05



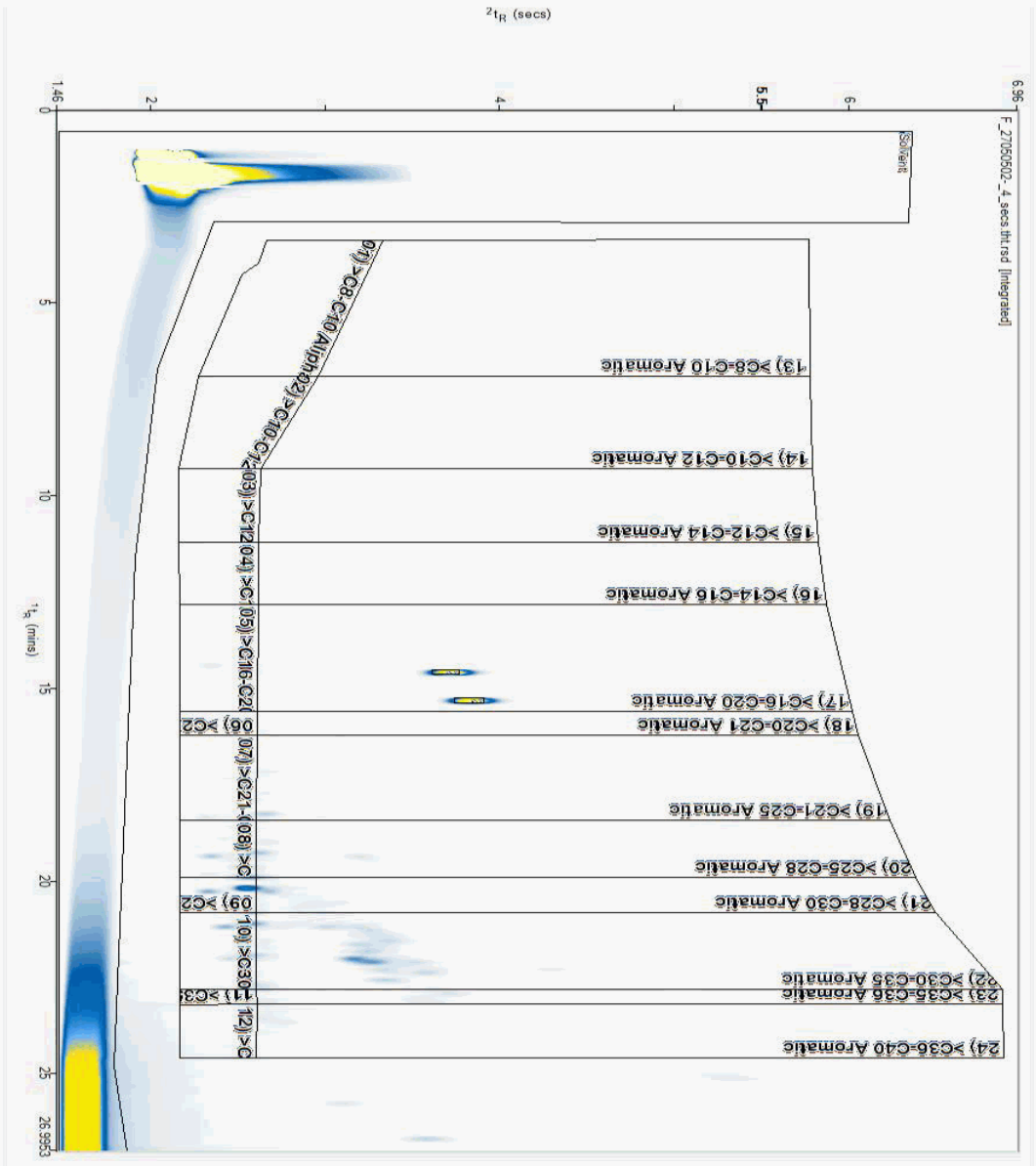
CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27050502 **Depth :** 2.20 - 2.30
Sample ID : TP04

```
  ChromSpace LIMS export
 Current batch
Sample Identity:  F_27050502-_4_secs.tht
Date Acquired   :  21/10/22 07:10:14
Units           :  ppm
Dilution        :  0
CF              :
Multiplier      :
```

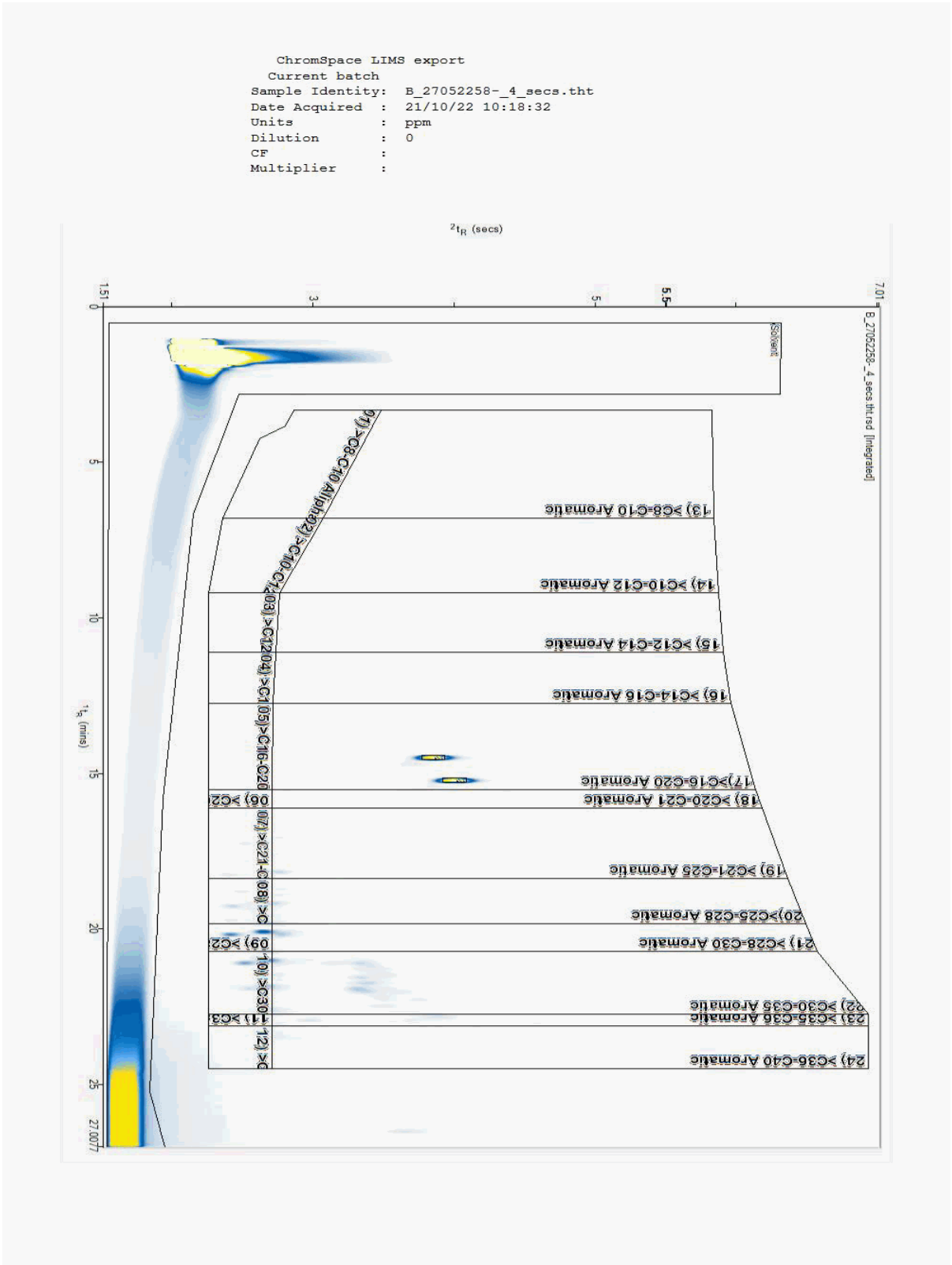


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27052258 **Depth :** 1.80 - 1.90
Sample ID : TP02

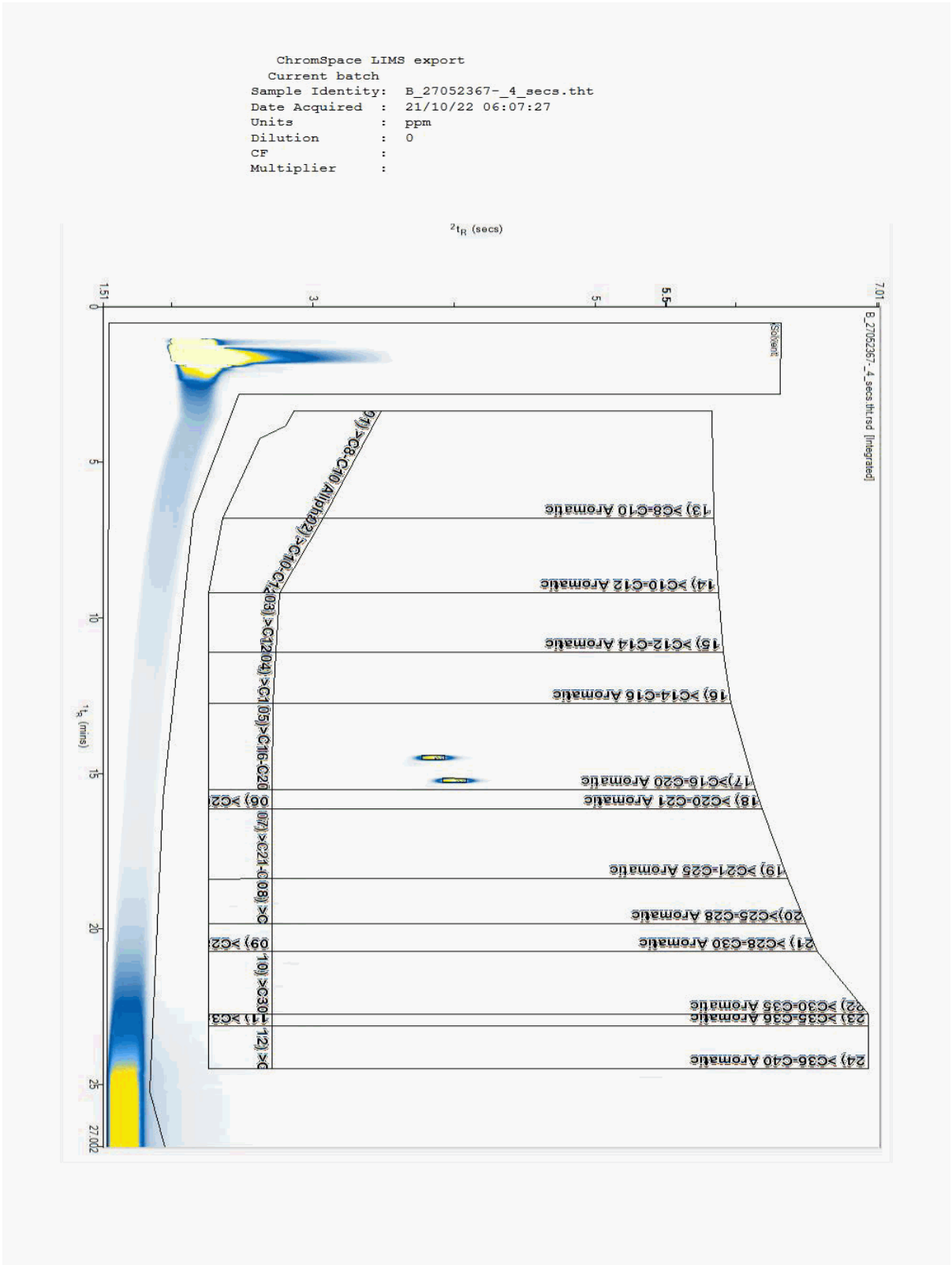


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27052367 **Depth :** 2.60 - 2.70
Sample ID : TP03

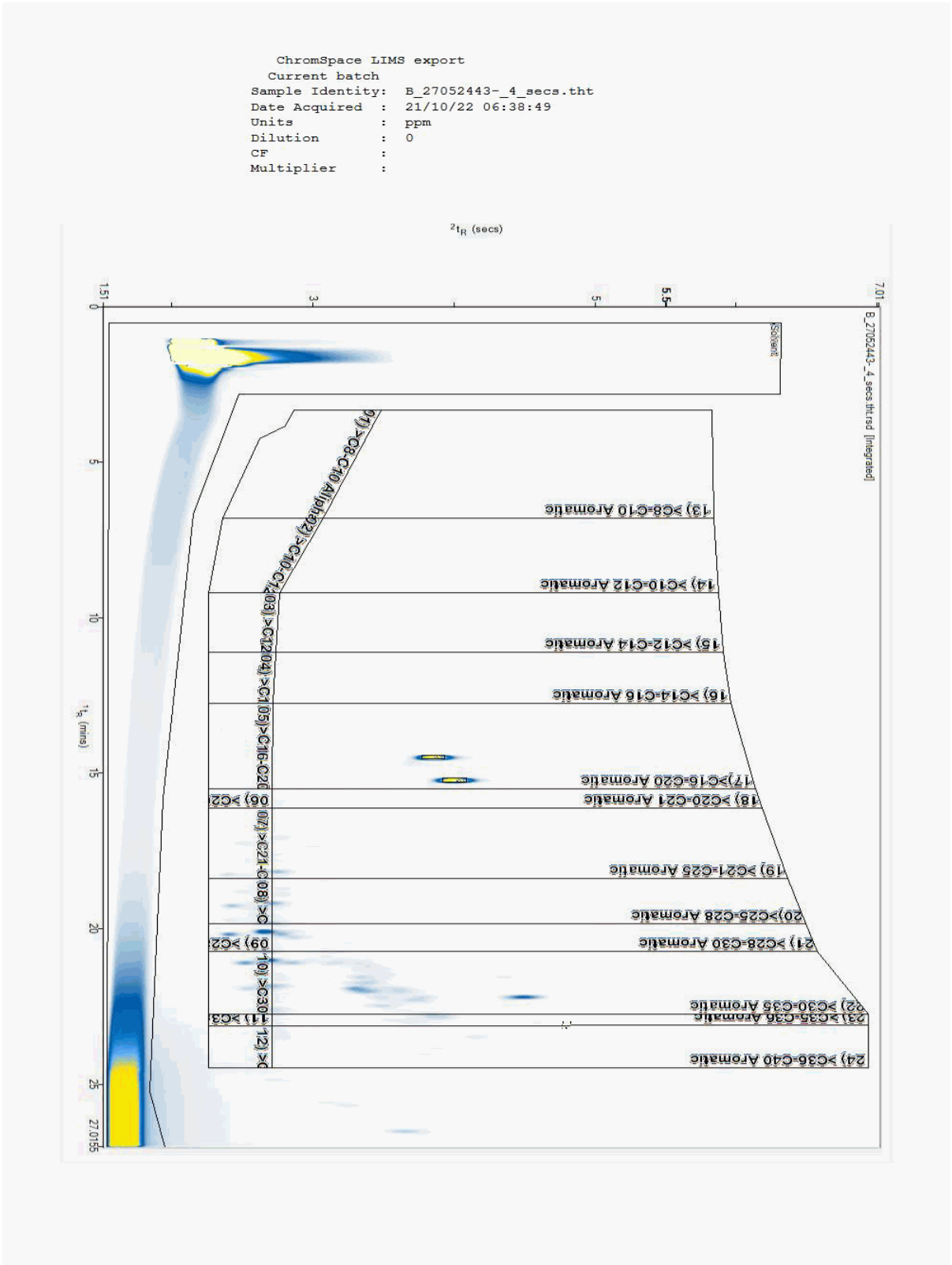


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27052443 **Depth :** 0.90 - 1.00
Sample ID : TP03

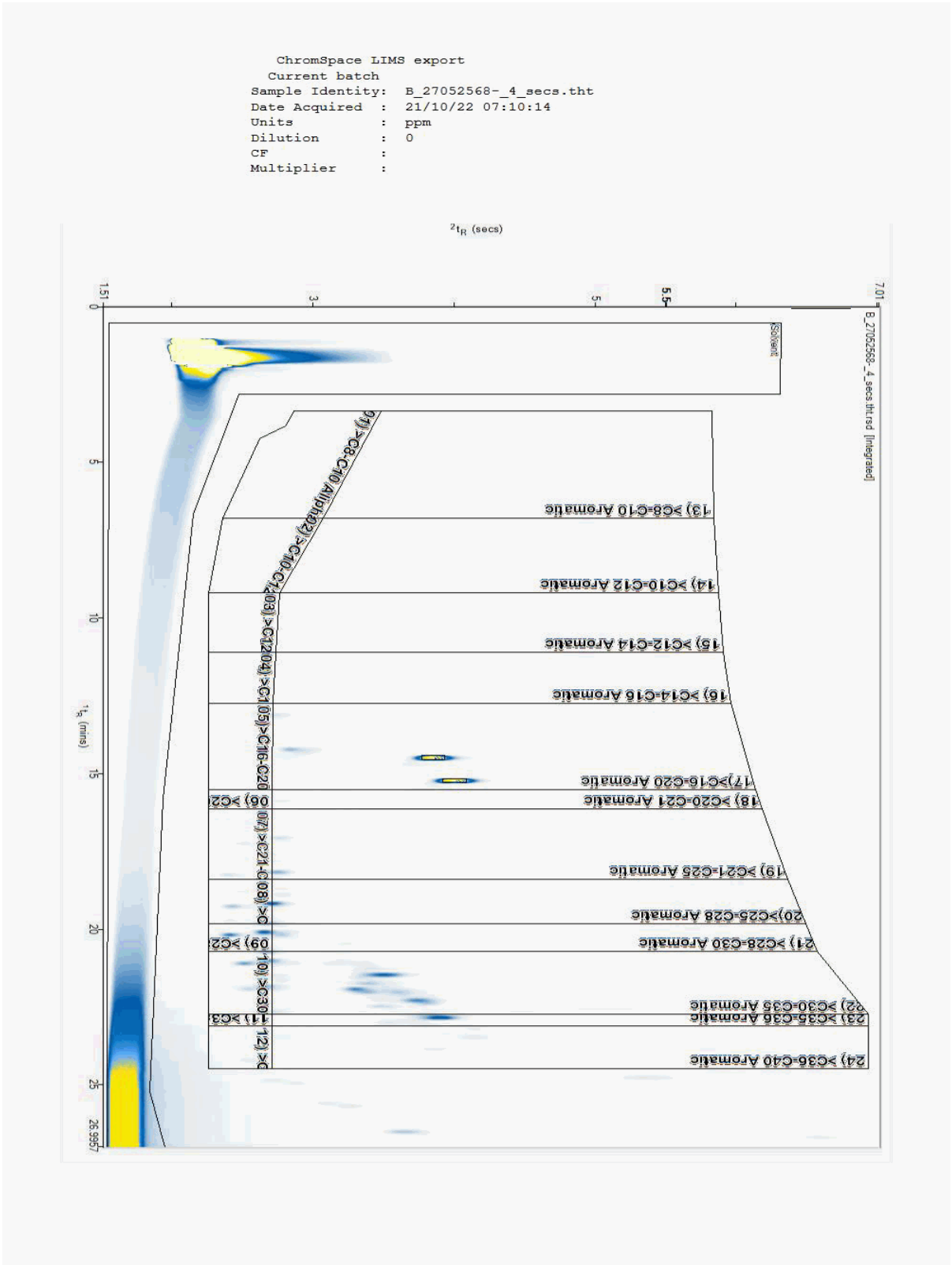


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27052568 **Depth :** 0.70 - 0.80
Sample ID : TP05

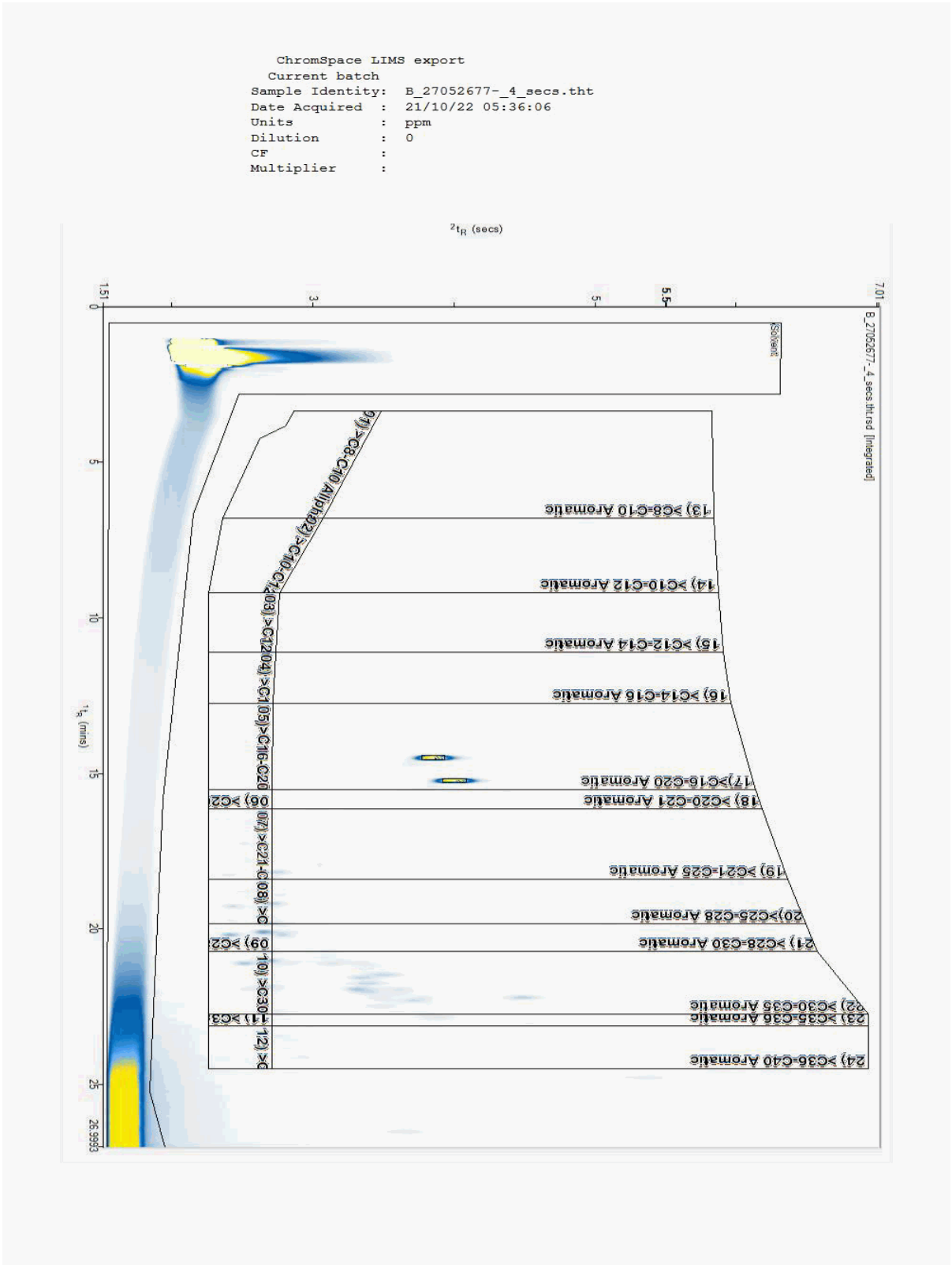


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27052677 **Depth :** 0.20 - 0.30
Sample ID : TP06

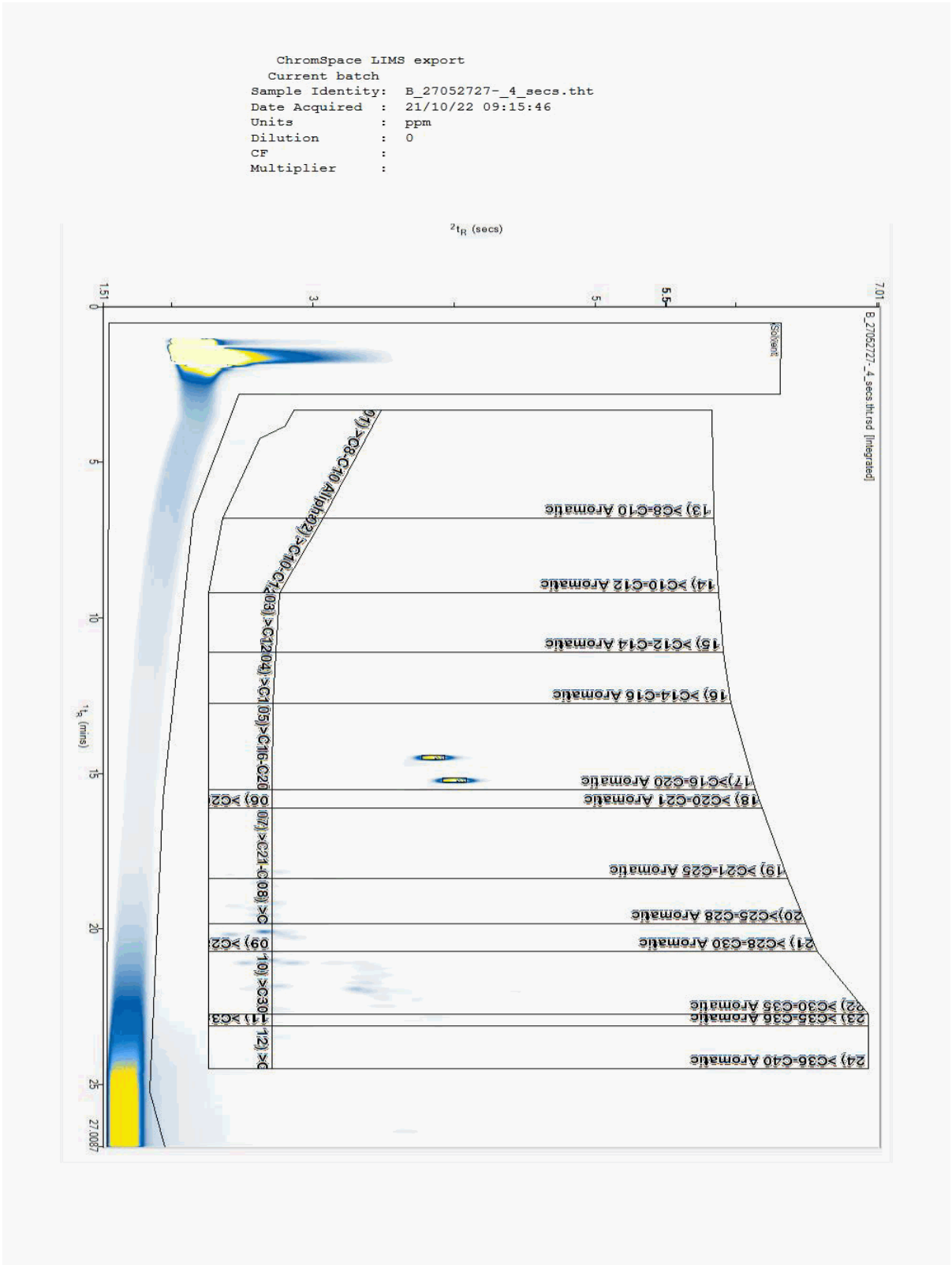


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27052727 **Depth :** 1.50 - 1.60
Sample ID : TP06

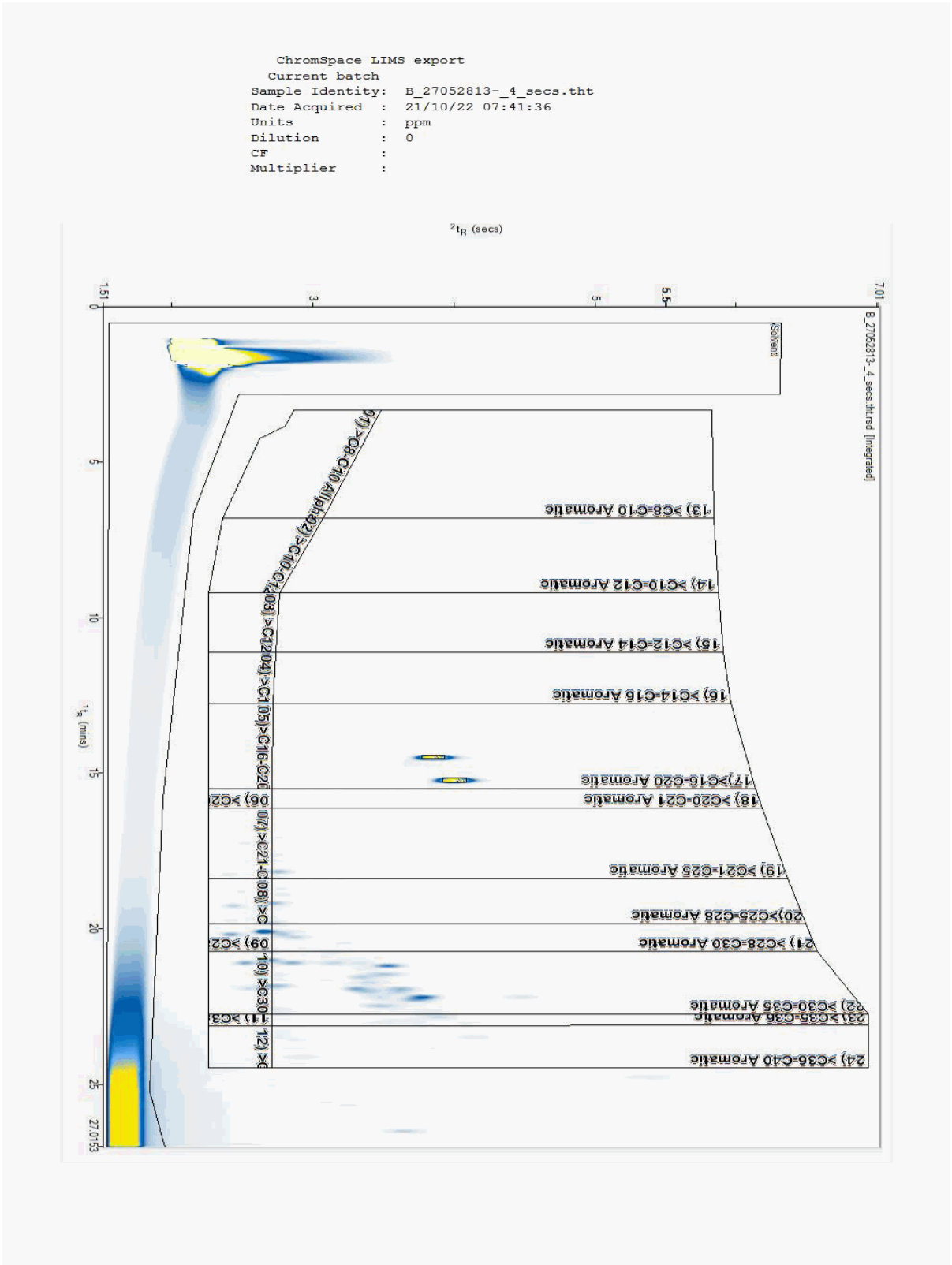


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27052813 **Depth :** 0.10 - 0.20
Sample ID : TP01

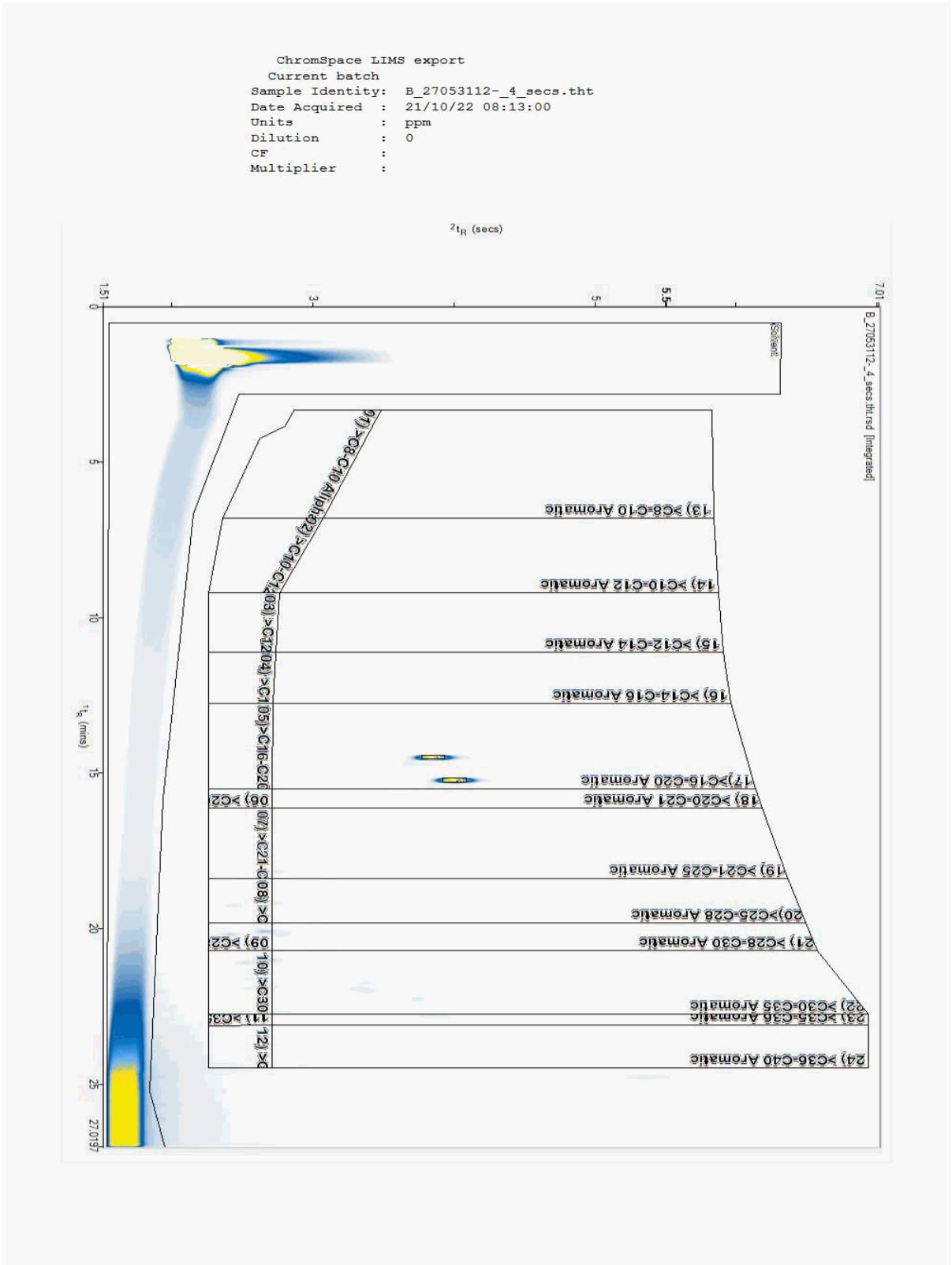


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: EPH by GCxGC-FID **Sample No :** 27053112 **Depth :** 2.70 - 2.80
Sample ID : TP01

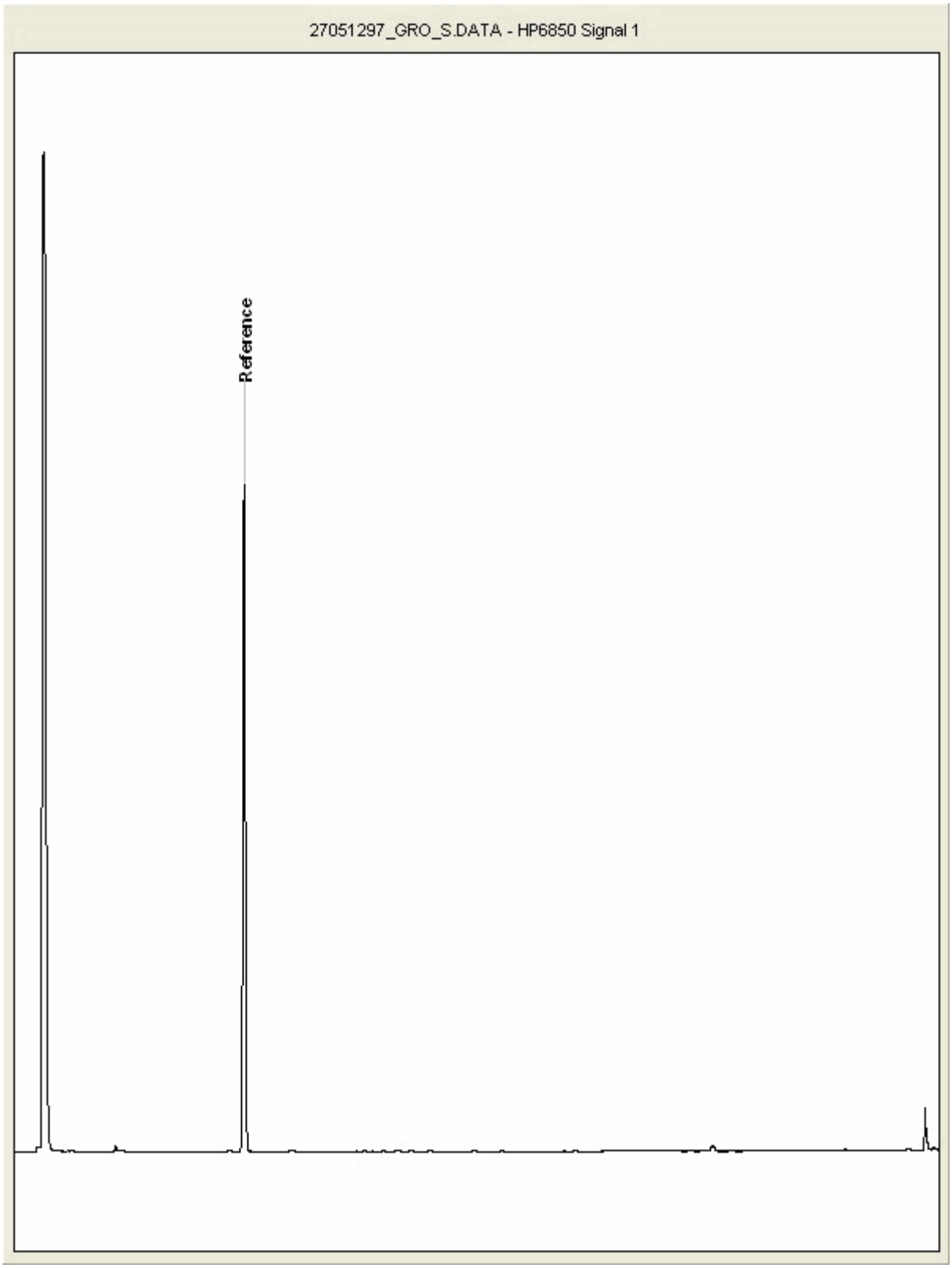


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27051297 **Depth :** 0.70 - 0.80
Sample ID : TP05

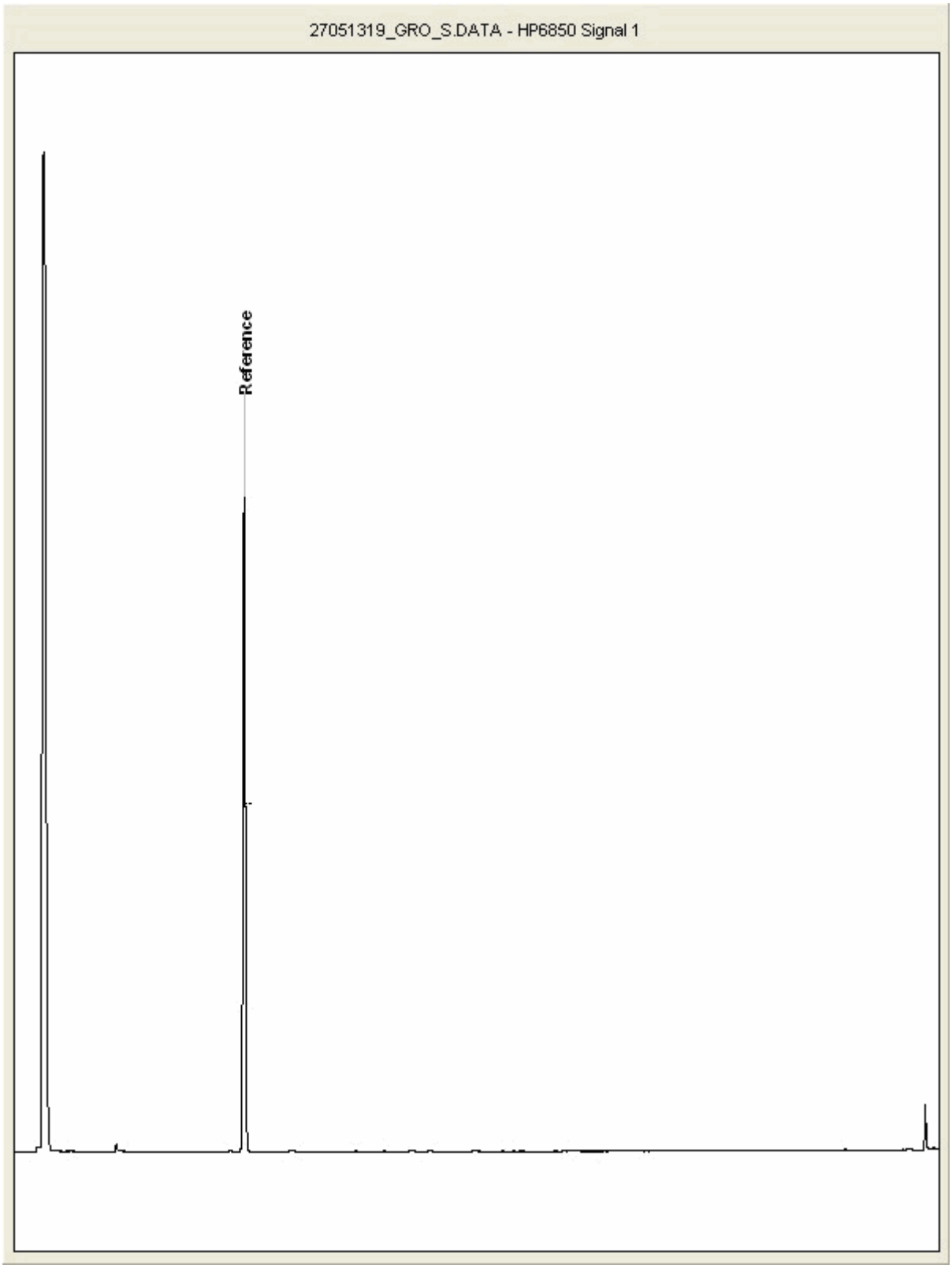


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27051319 **Depth :** 2.60 - 2.70
Sample ID : TP03

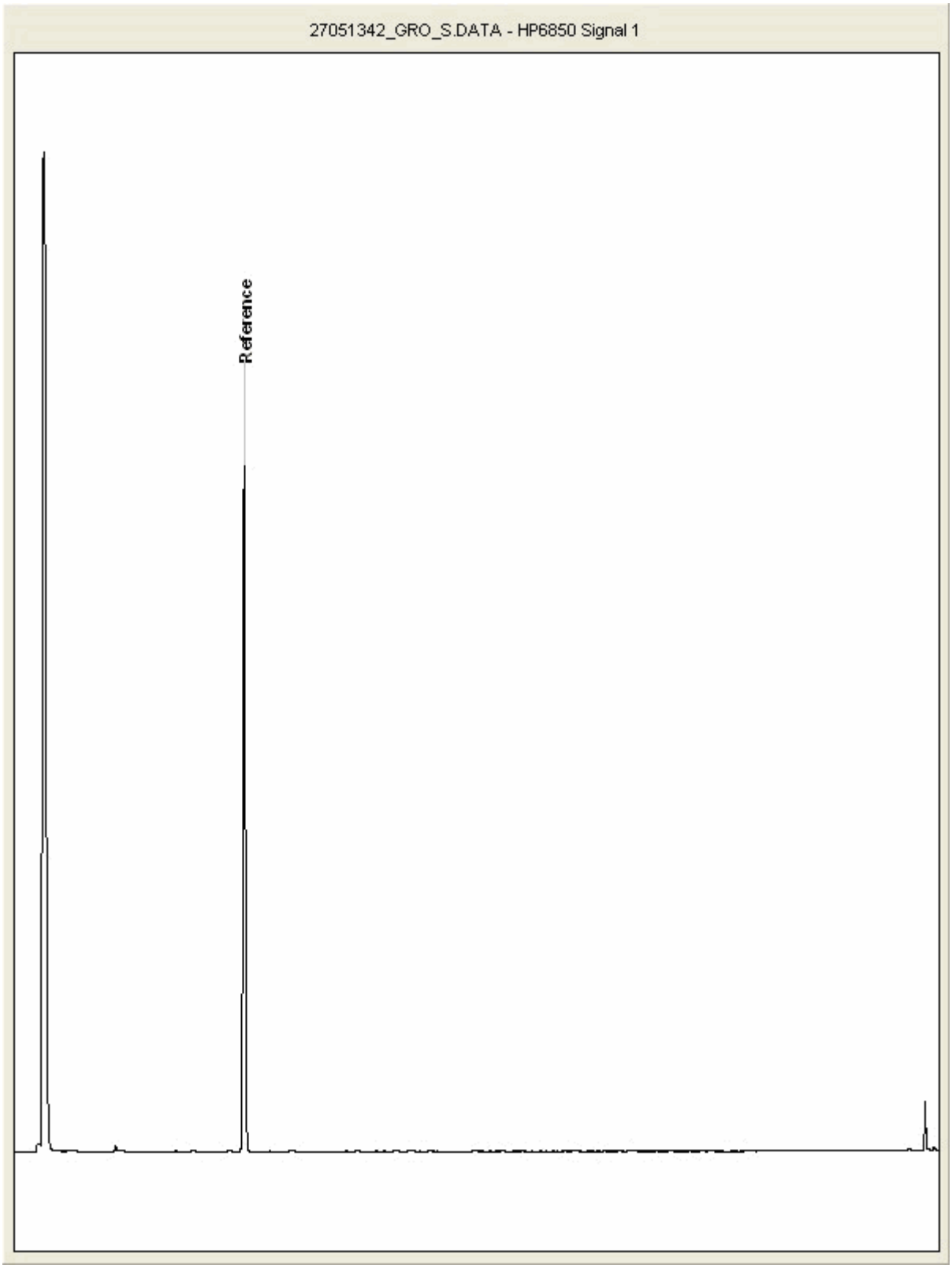


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27051342 **Depth :** 1.80 - 1.90
Sample ID : TP02

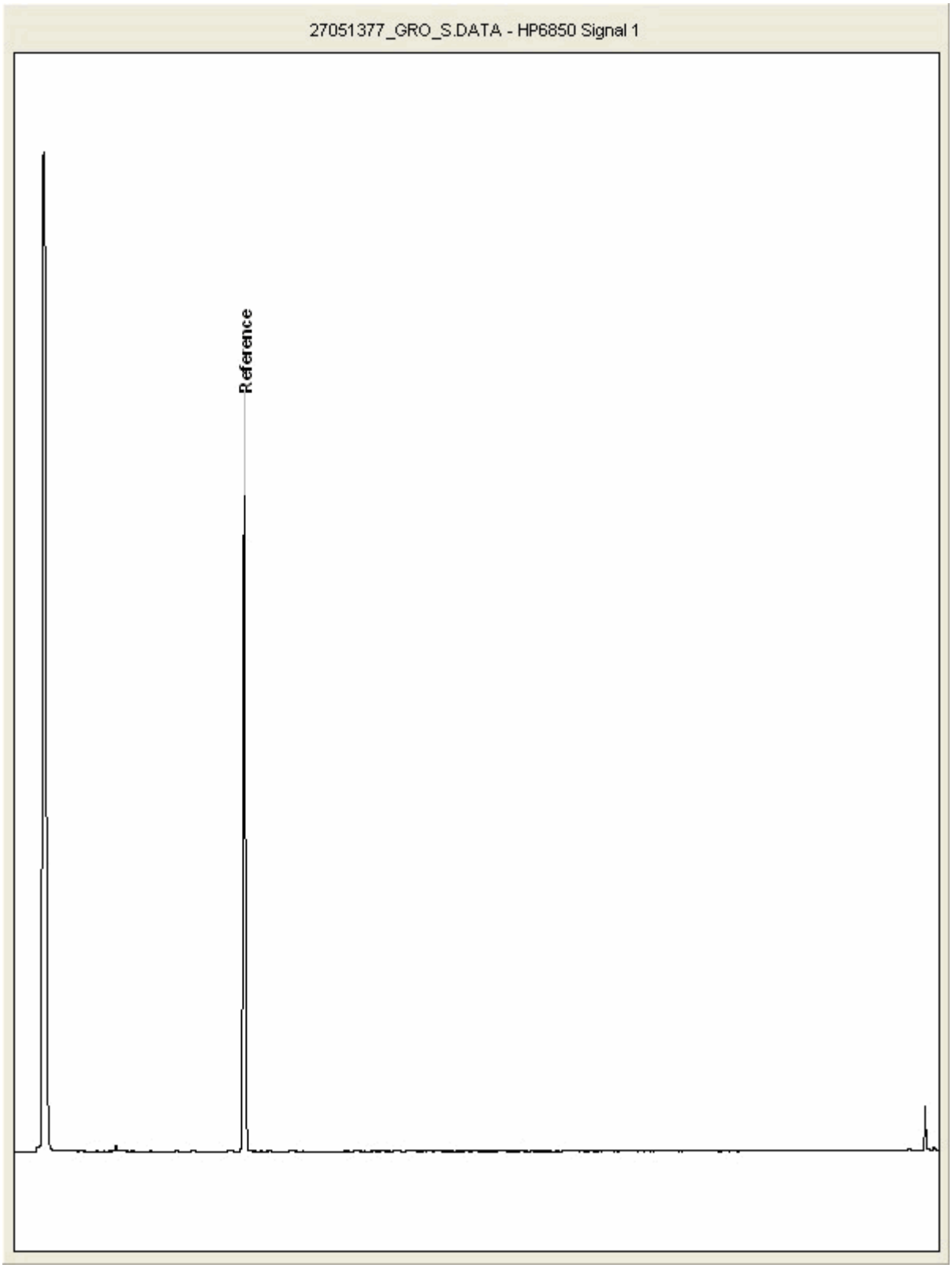


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27051377 **Depth :** 0.90 - 1.00
Sample ID : TP03

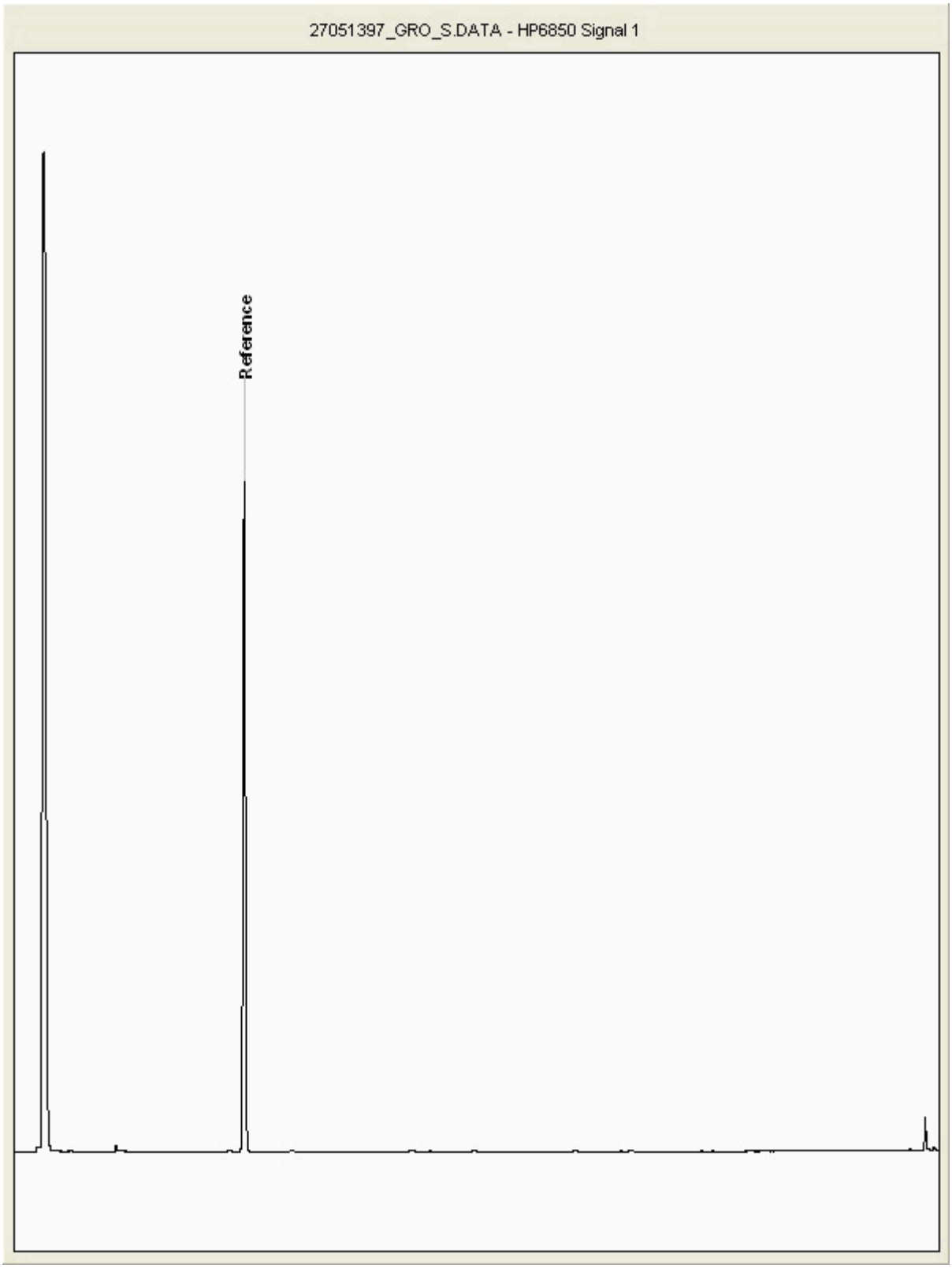


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27051397 **Depth :** 1.10 - 1.20
Sample ID : TP02

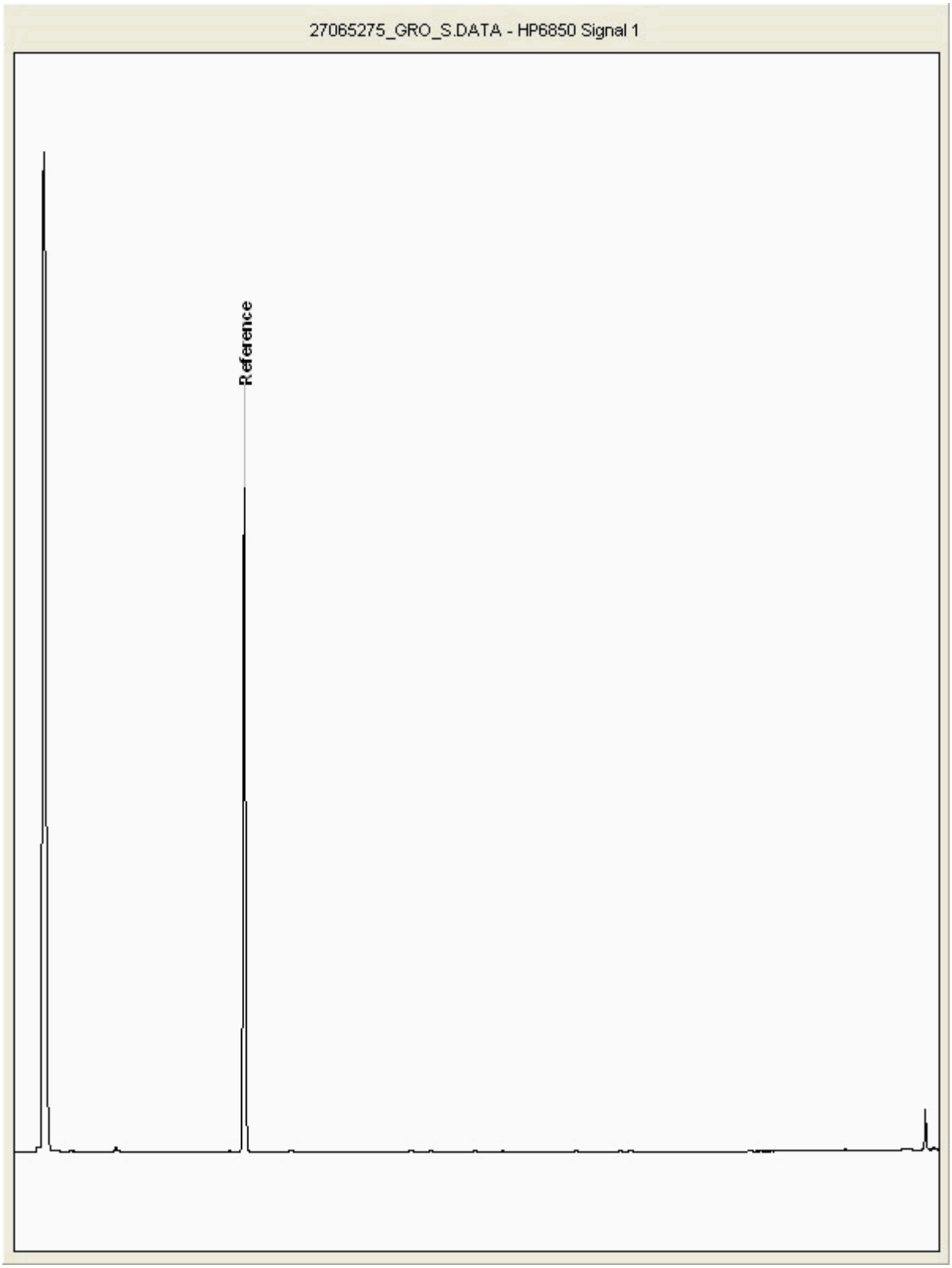


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27065275 **Depth :** 0.90 - 1.00
Sample ID : TP04

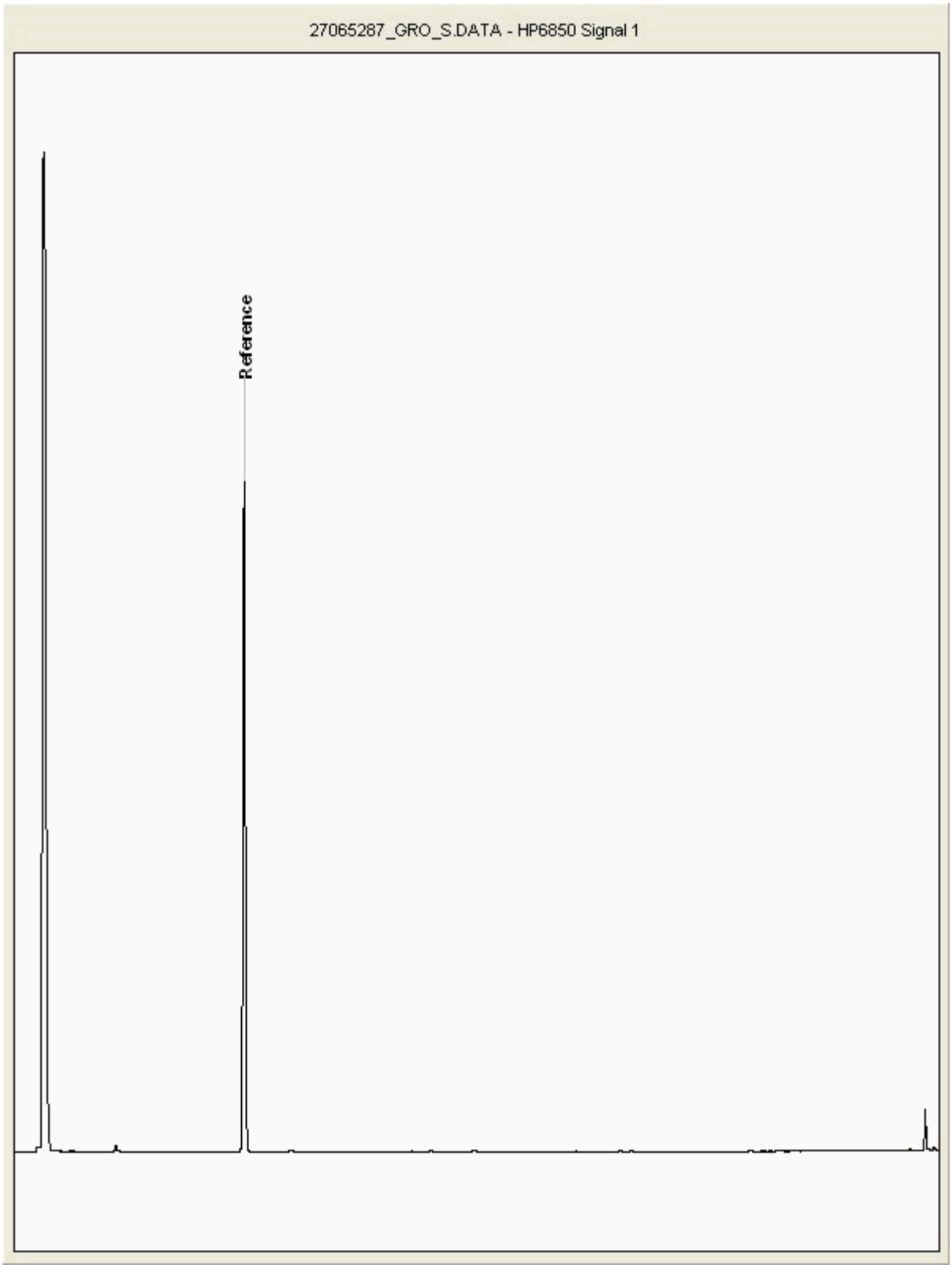


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27065287 **Depth :** 0.10 - 0.20
Sample ID : TP01

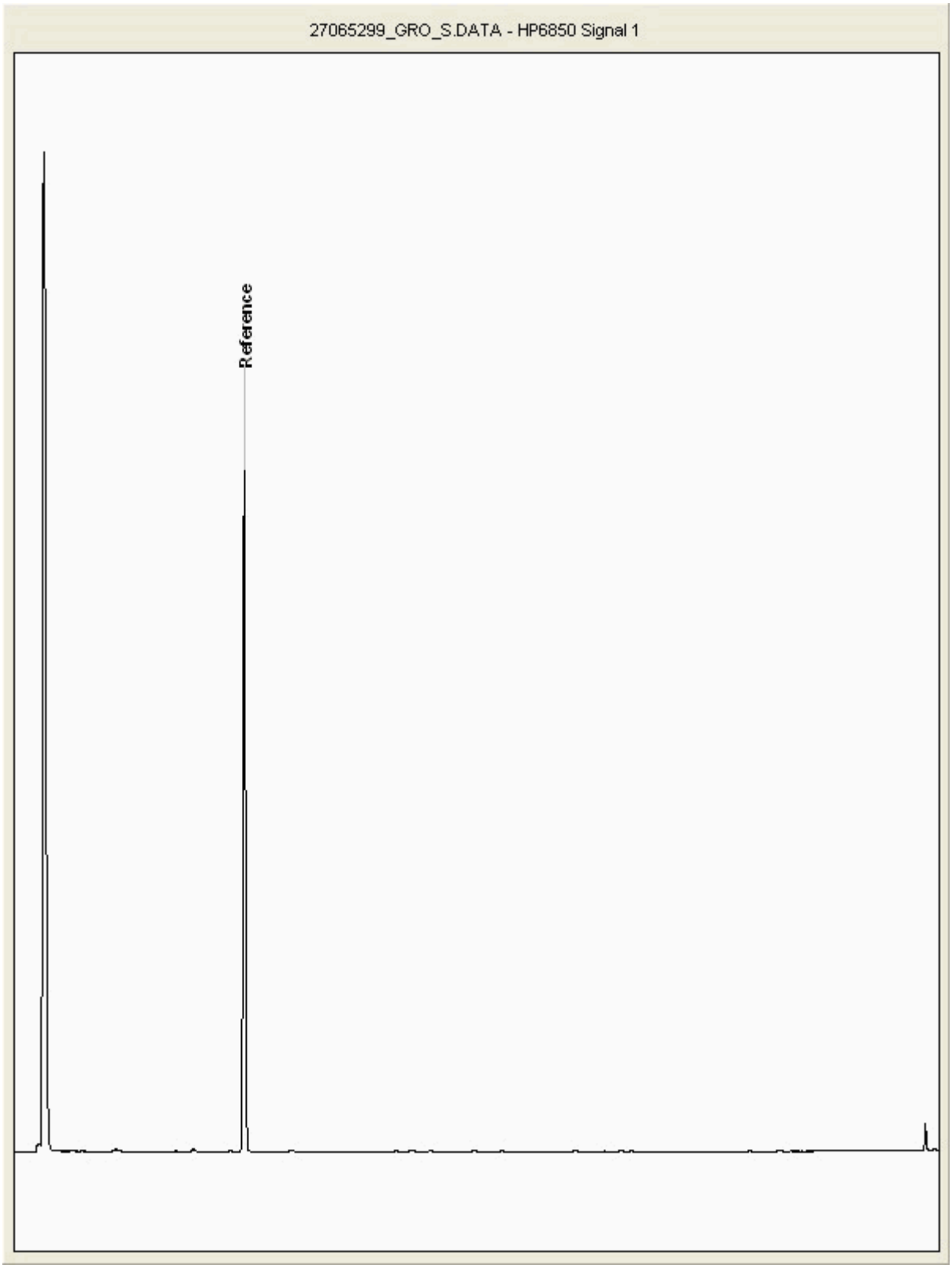


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27065299 **Depth :** 2.70 - 2.80
Sample ID : TP01

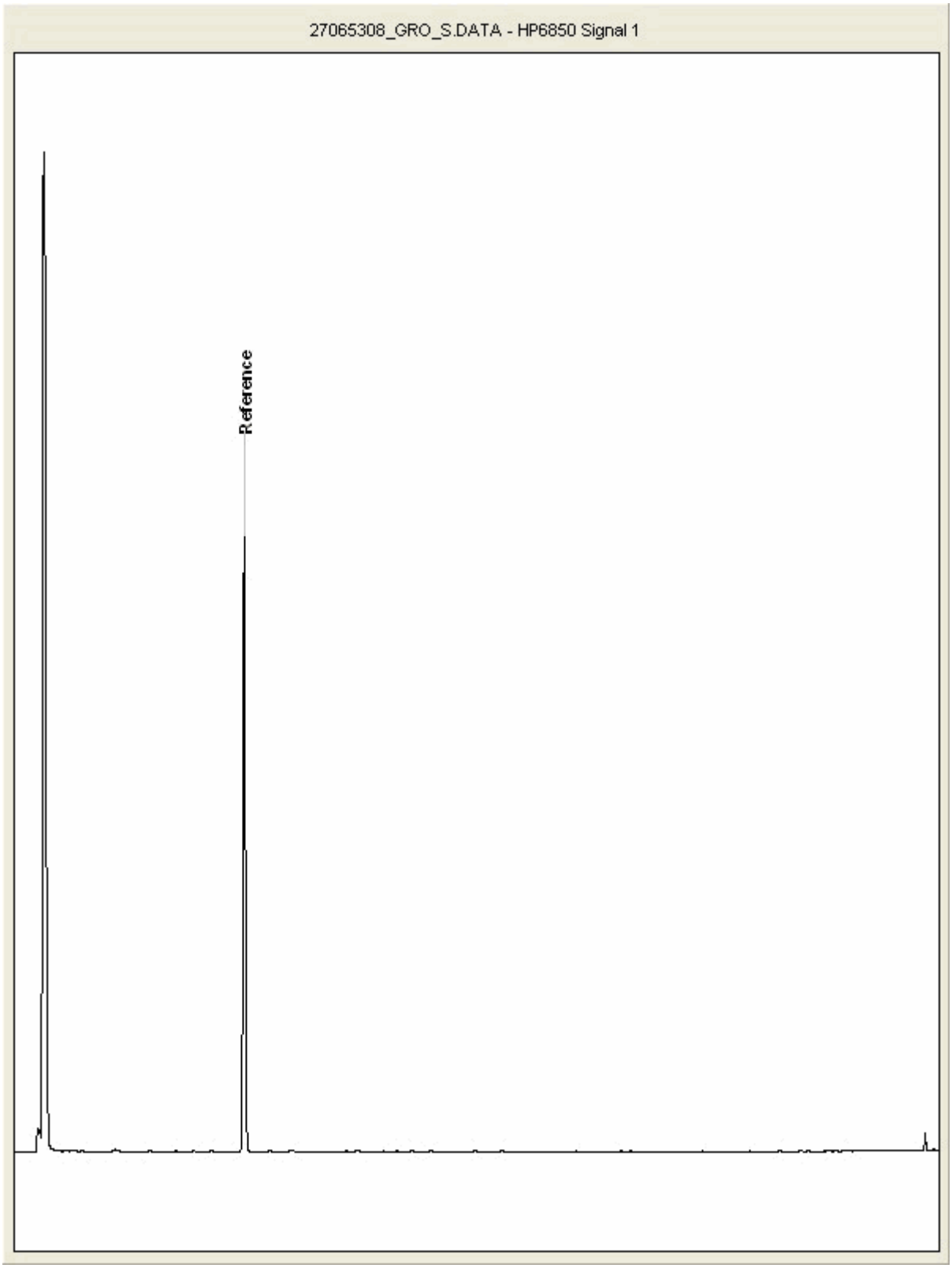


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27065308 **Depth :** 2.20 - 2.30
Sample ID : TP04

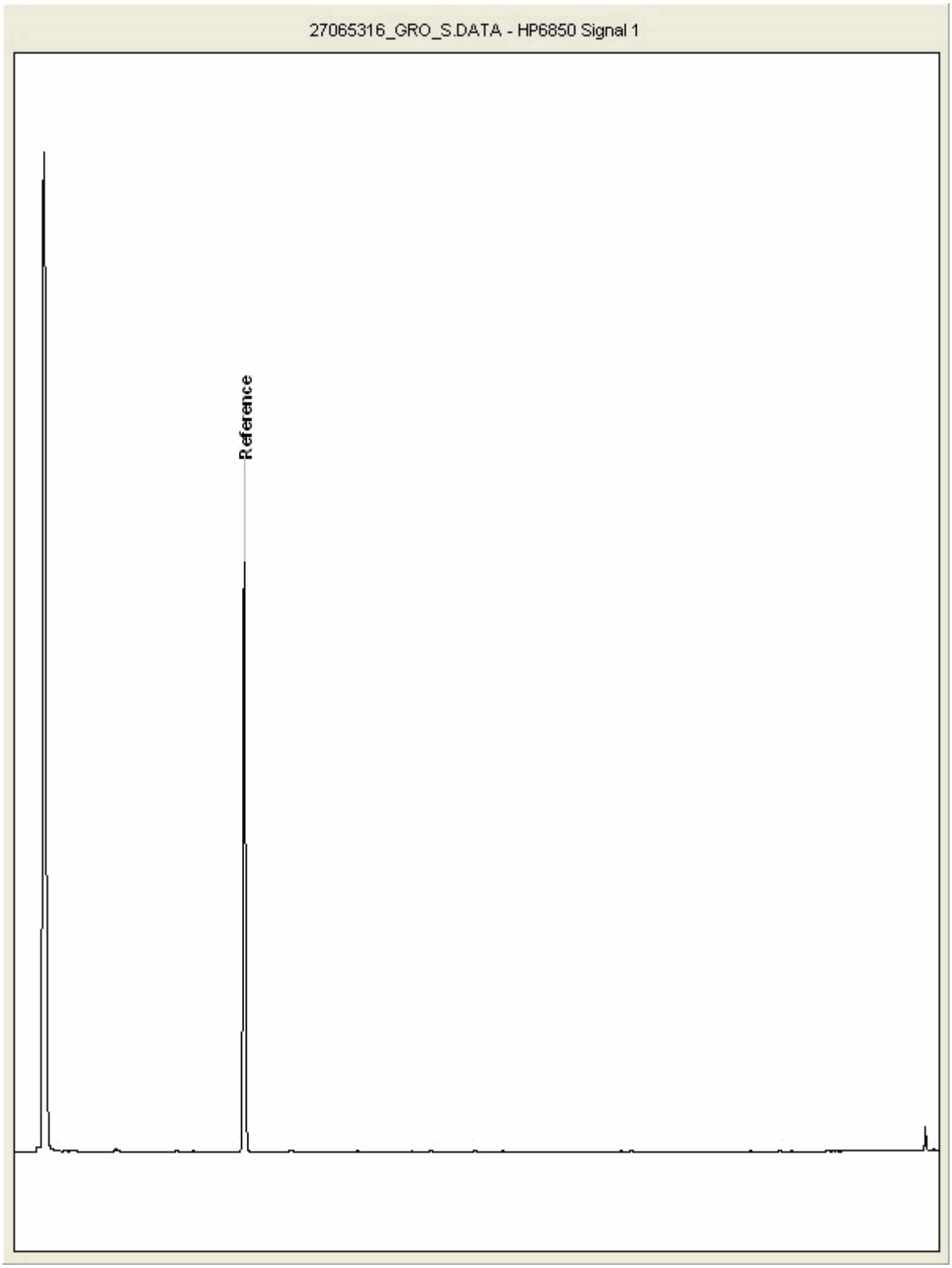


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27065316 **Depth :** 1.50 - 1.60
Sample ID : TP06

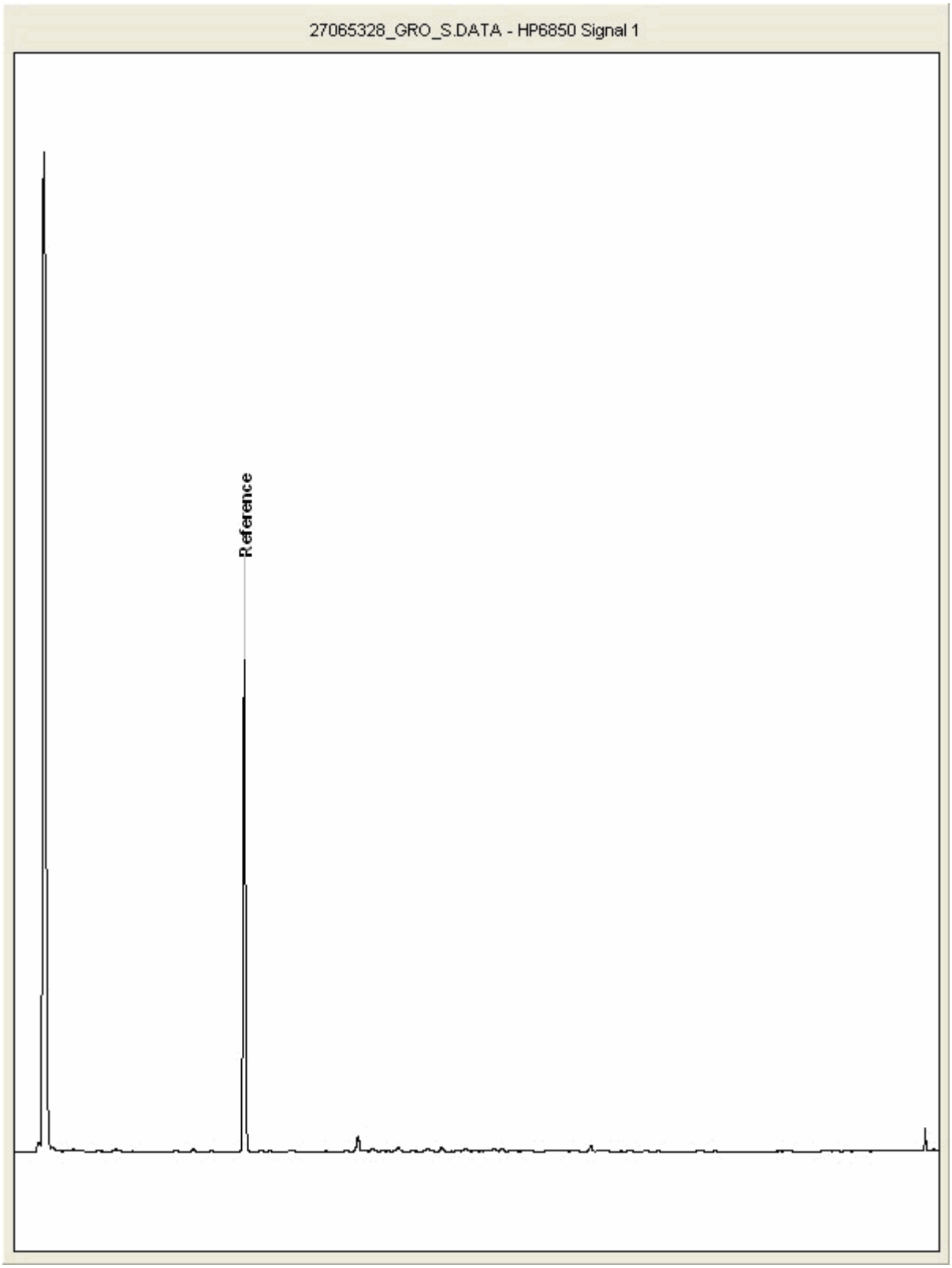


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27065328 **Depth :** 1.20 - 1.30
Sample ID : TP05

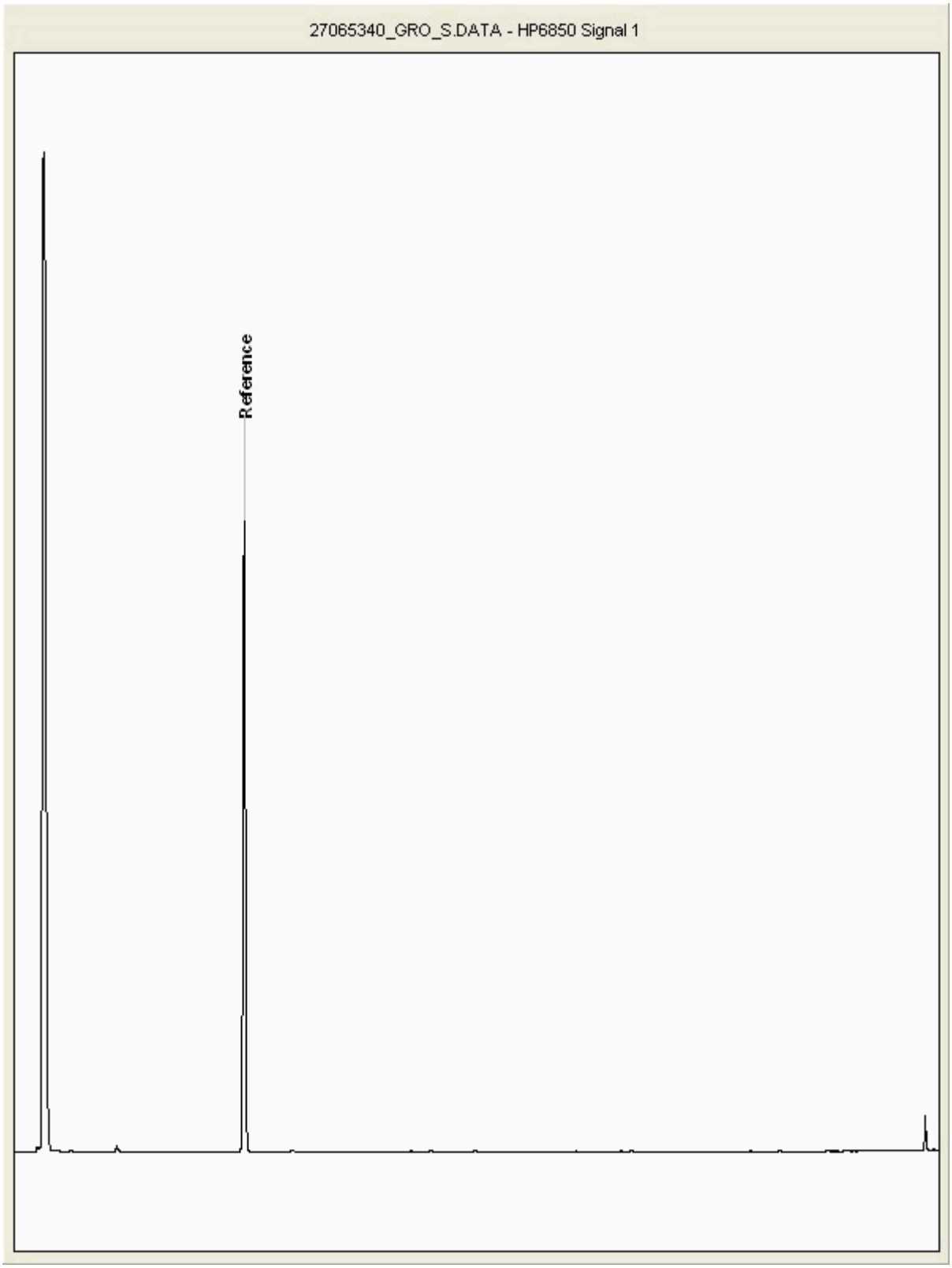


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27065340 **Depth :** 0.20 - 0.30
Sample ID : TP06

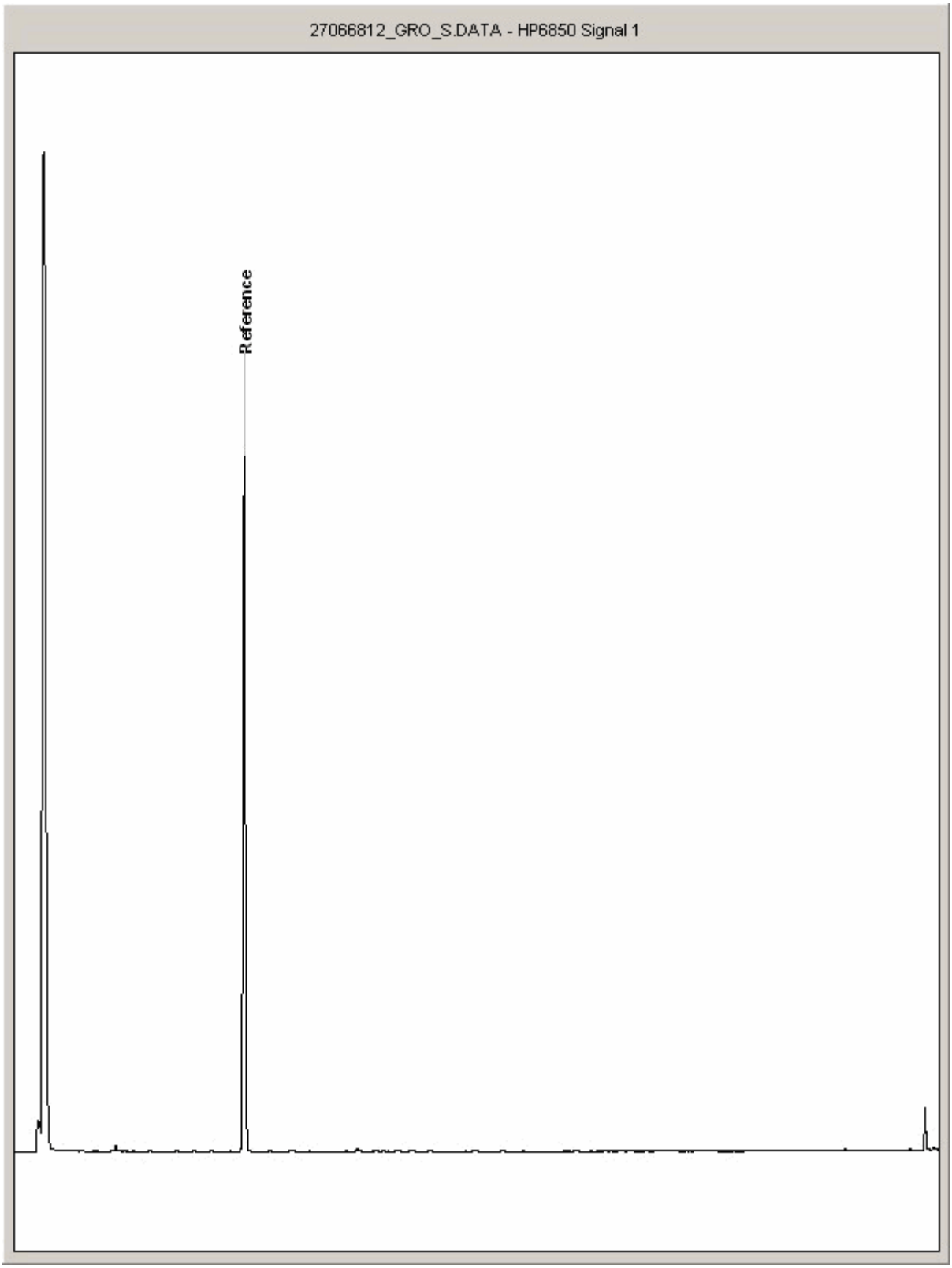


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (S) **Sample No :** 27066812 **Depth :** 2.20 - 2.30
Sample ID : TP04

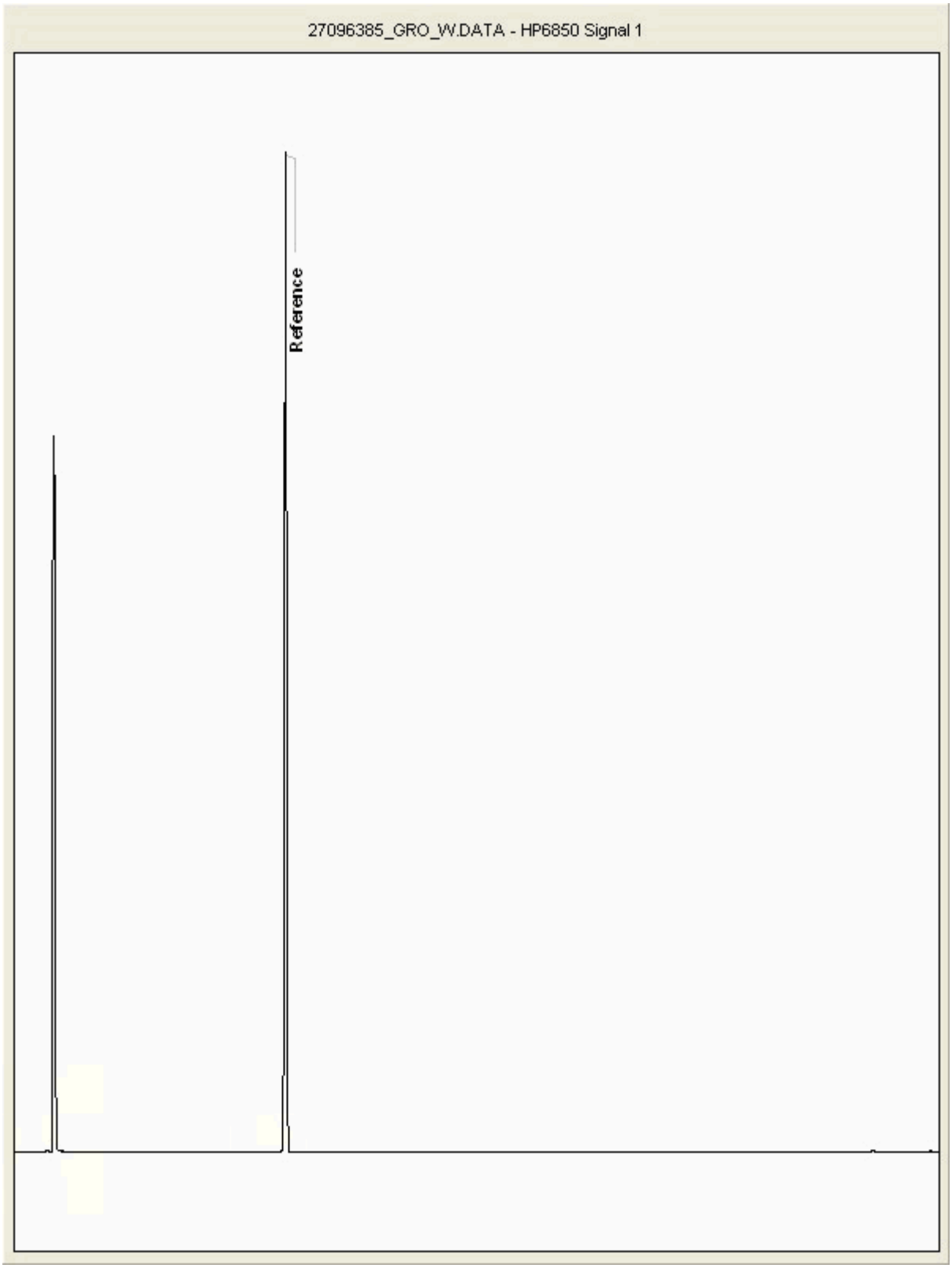


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 27096385 **Depth :** 1.10 - 1.20
Sample ID : TP02

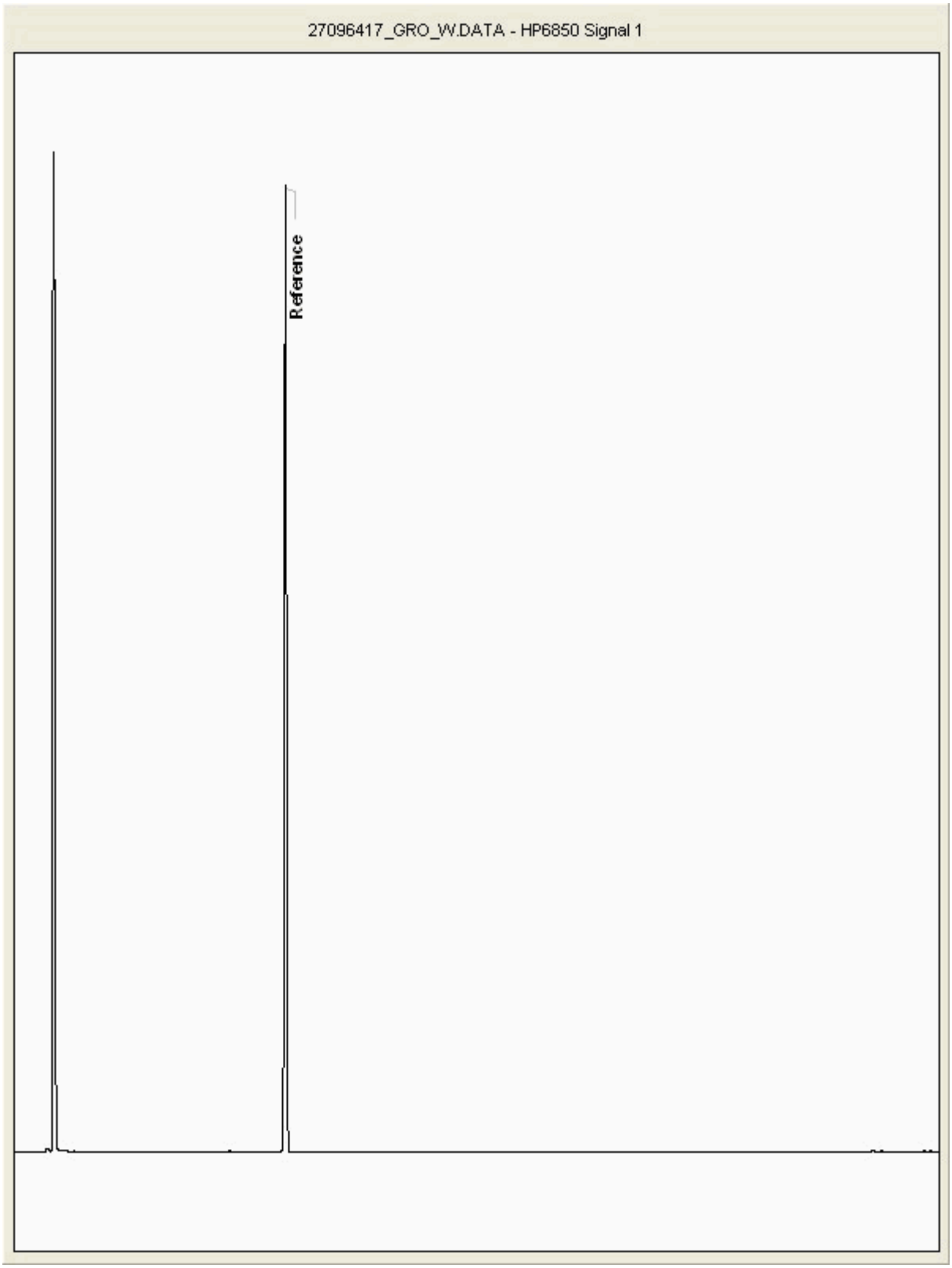


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 27096417 **Depth :** 2.70 - 2.80
Sample ID : TP01

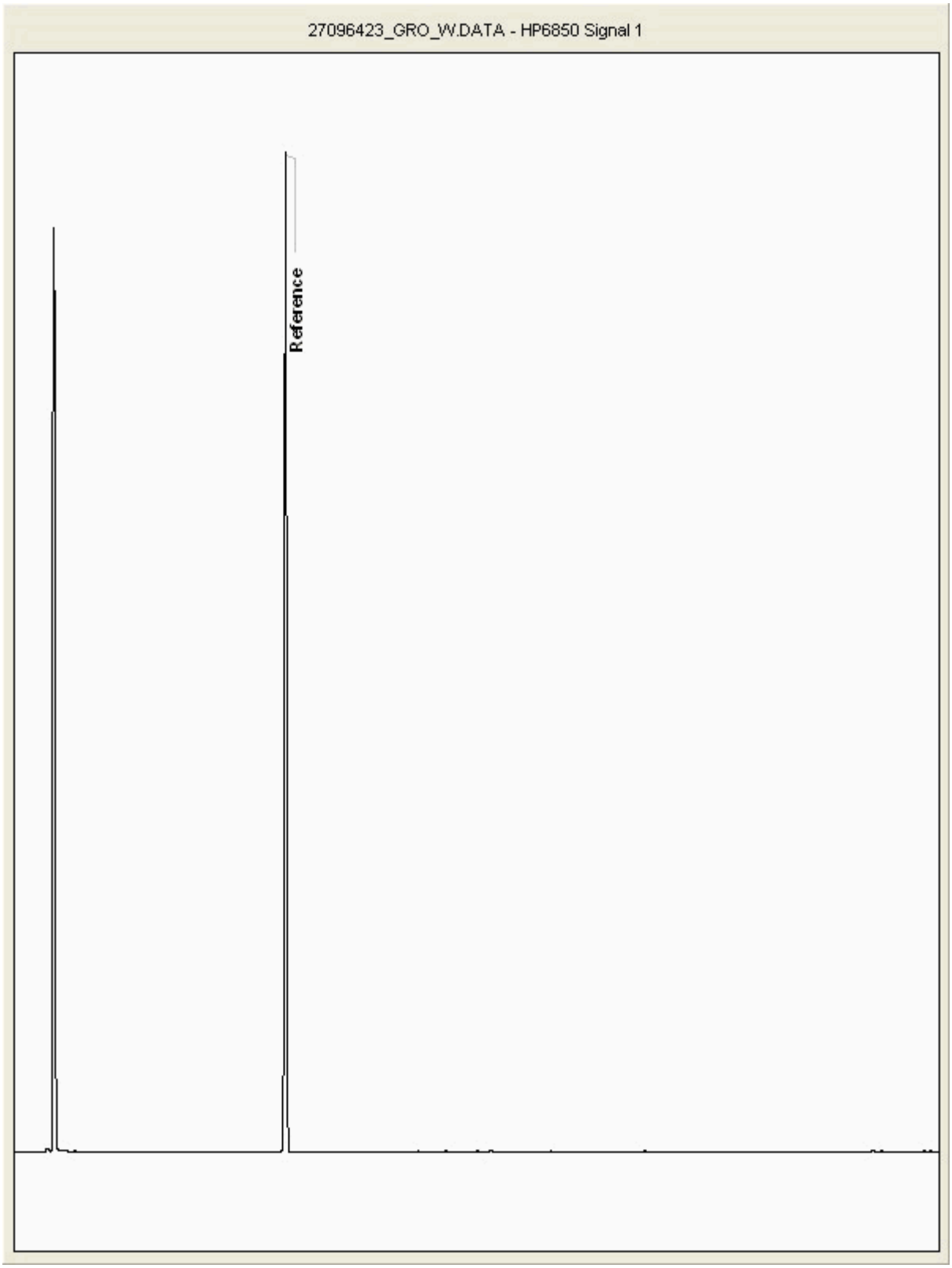


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 27096423 **Depth :** 1.20 - 1.30
Sample ID : TP05

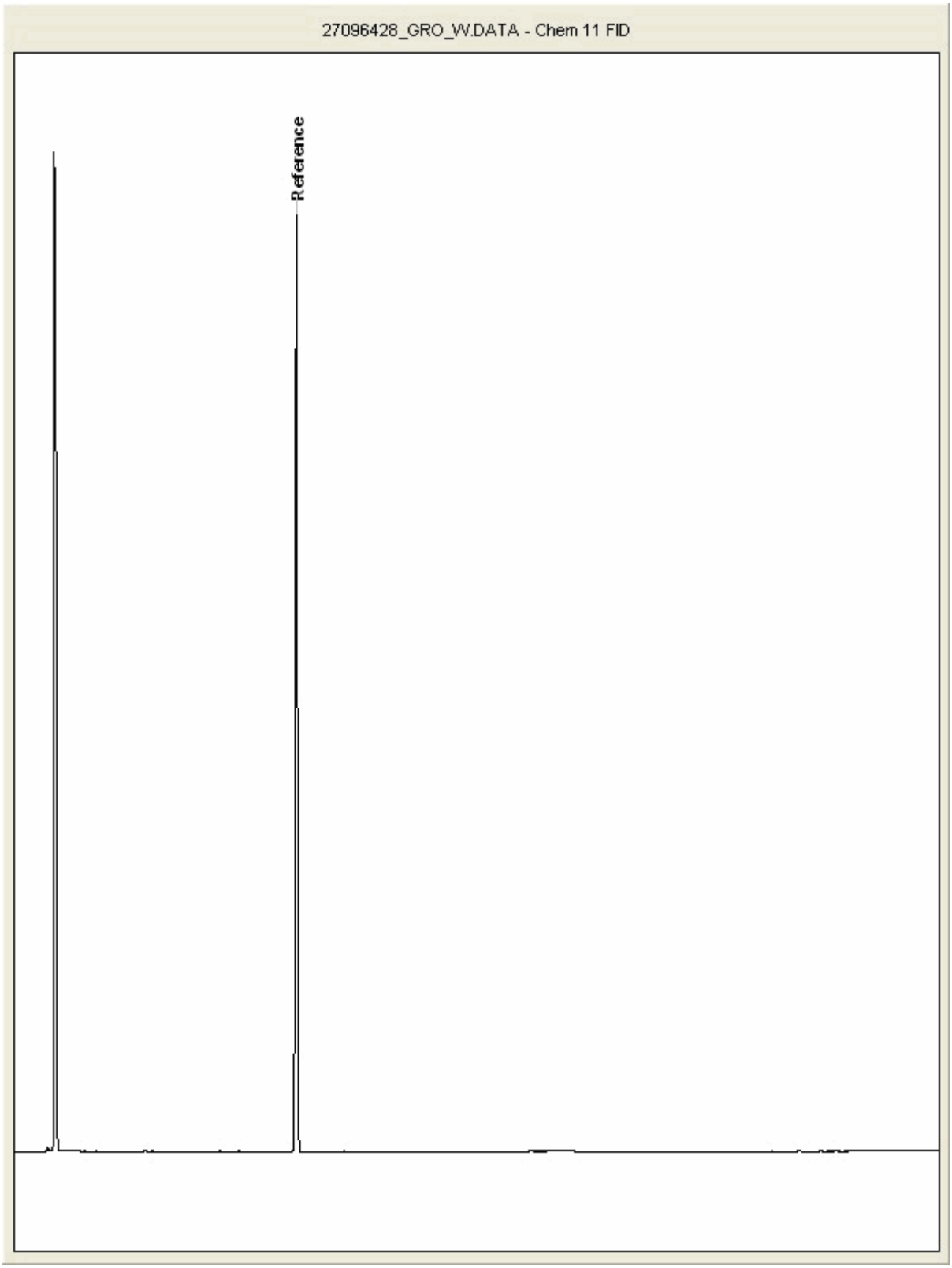


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 27096428 **Depth :** 2.20 - 2.30
Sample ID : TP04

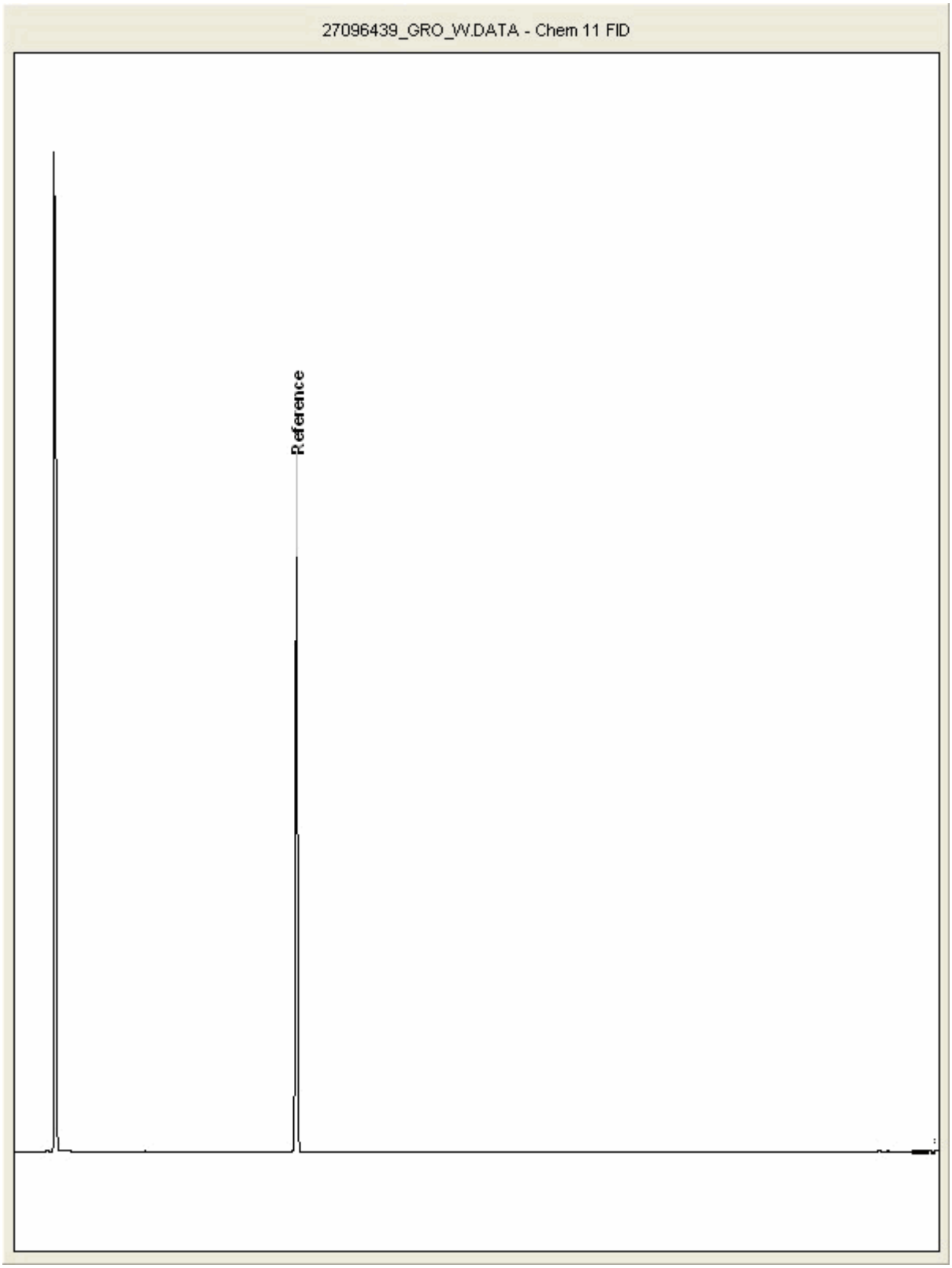


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 27096439 **Depth :** 0.20 - 0.30
Sample ID : TP06

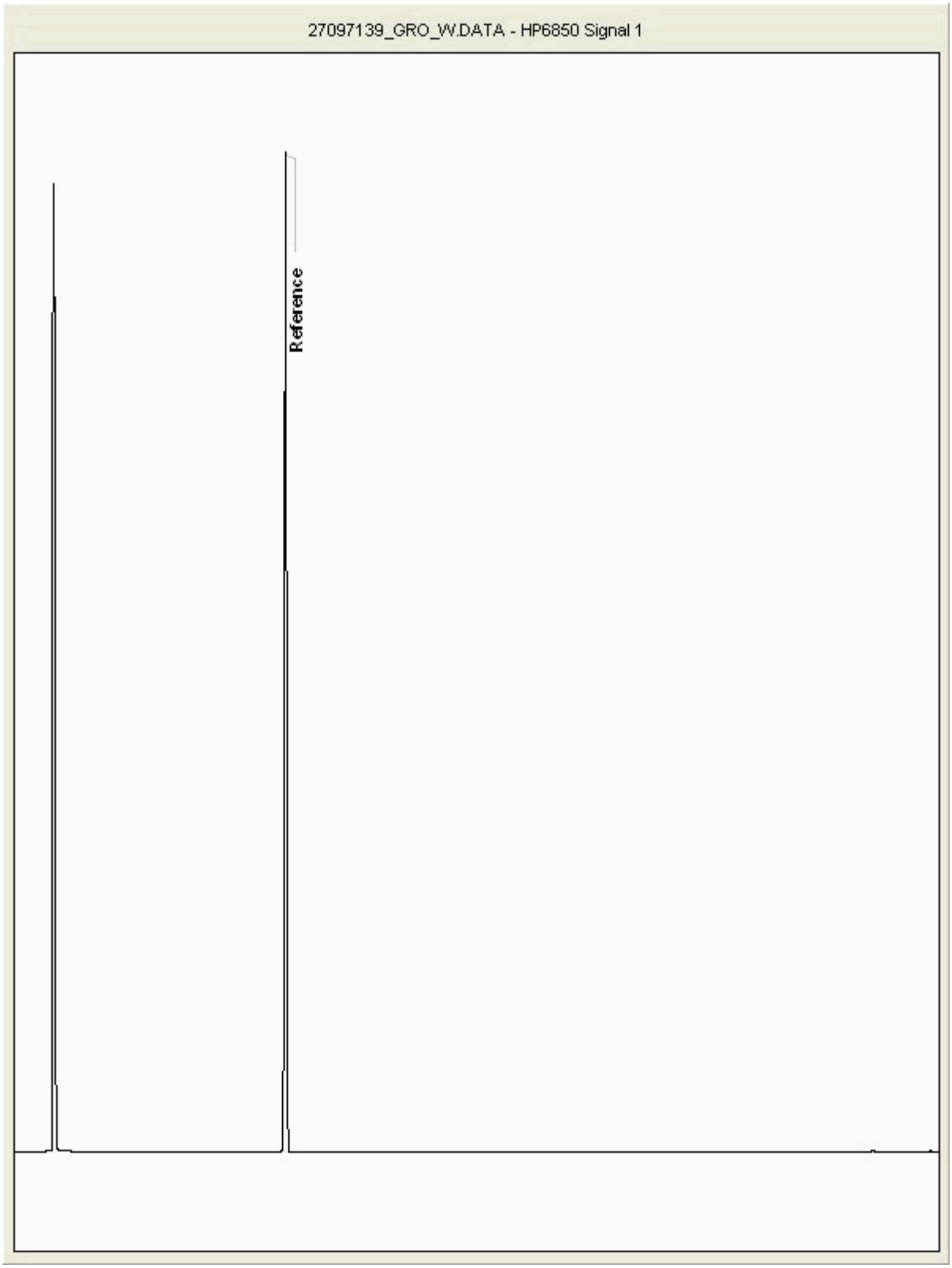


CERTIFICATE OF ANALYSIS

SDG: 221020-66 **Report Number:** 667610 **Superseded Report:** 667193
Client Ref.: 70072063 **Location:** Drax FCA

Chromatogram

Analysis: GRO by GC-FID (W) **Sample No :** 27097139 **Depth :** 1.80 - 1.90
Sample ID : TP02



Appendix

General

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

2. 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. For dried and crushed preparations of soils volatile loss may occur e.g volatile mercury.

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. t 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 Data retention. All records, communications and reports pertaining to the analysis are archived for seven years from the date of issue of the final report.

18. **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.

19. **Sample Deviations**

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

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

20. **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 (2021), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as "Not detected". If no asbestos fibre types are found all will be reported as "Not detected" and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible (NDP). The quantity of asbestos present is not determined unless specifically requested.

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials and soils are obtained from supplied bulk materials andd soils 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 (2021).

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.

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.

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

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

APPENDIX F - ASSESSMENT METHODOLOGIES

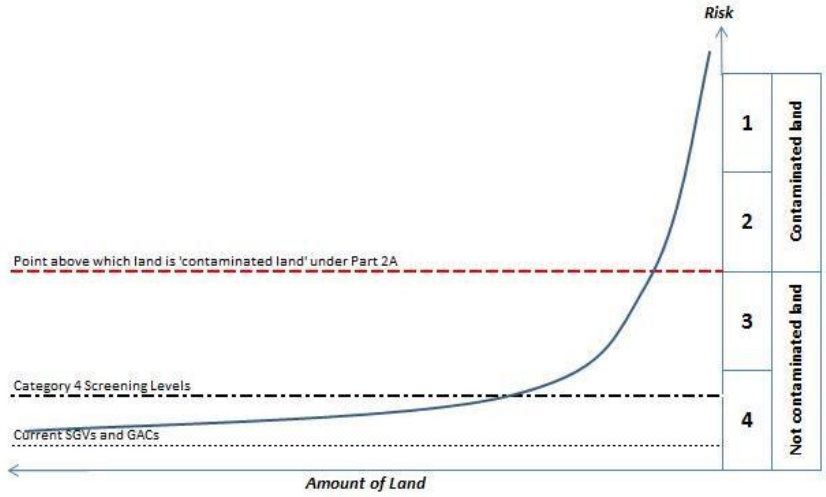
METHODOLOGY FOR THE DERIVATION OF GENERIC QUANTITATIVE ASSESSMENT CRITERIA TO EVALUATE RISKS TO HUMAN HEALTH FROM SOIL & GROUNDWATER CONTAMINATION

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 SR2[1] and SR3[2]. 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 guidance[3] 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: Applicatons in Real Environments (CL:AIRE),SP1010[4] and endorsed by Defra[5] 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 context[6].

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 SR4[7] to produce a set of minimal risk GACs. The chemical-specific data within two key publications were considered during their production: CL:AIRE 2010[8] and LQM 2015[9]. 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 and two bespoke exposure scenarios (highways):

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

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 rates[10] and the consumption rates for homegrown produce[11] 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.

HIGHWAYS EXPOSURE SCENARIOS

Human health GAC for a Highways exposure scenario have been derived. The site area is defined by publicly accessible land adjacent to highways, comprising both hard and soft landscaped areas. Exposure is considered to be largely transitory.

There are no publicly available GAC for this exposure scenario. Consequently, WSP have derived GAC for the following exposure scenarios:

- à Highways (surface soils); and
- à Highways (sub-surface soils).

Surface soils GAC are for soil at ground level and within 300mm of the surface. Conversely, subsurface GAC are for soils at a depth exceeding 0.3m bgl. These GAC are not to be used as import criteria.

The critical receptor is a young female child, CLEA age classes 4-9. This is consistent with the critical receptor for the POS(resi) exposure scenario, and considered to be appropriate for a child potentially playing outside without direct adult supervision.

For all GAC, a sandy loam soil and a soil organic matter content of 1% is assumed. There is no building on site.

Exposure scenarios for surface and subsurface soils are detailed below. These are considered to be conservative estimates, due to the mostly transitory use of publically accessible lands adjacent to highways.

HIGHWAYS GAC (SURFACE SOILS)

The relevant exposure pathways include direct soil and dust ingestion, dermal contact (outdoors) and the inhalation of outdoor dust and vapour.

The exposure frequency is 170 days per annum, and the occupancy period outdoors is 1 hour per day (as per the POS (resi) exposure scenario). The soil and dust ingestion rate has been set at 50 mg/day, consistent with a POS(park) exposure scenario.

HIGHWAYS GAC (SUBSURFACE SOILS)

The single relevant exposure pathway is the inhalation of outdoor vapour. Direct exposure pathways are not viable due to the depth of the soils below ground level.

The exposure frequency is 170 days per annum, and the occupancy period outdoors is 1 hour per day (as per the POS (resi) exposure scenario). The soil and dust ingestion rate has been set to zero, as direct exposure pathways to soils at this depth are not viable.

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 10ºC (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:

- à DWI data from water company tap water testing from previous years;
- à COT; and
- à 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 Resource[12], 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 2010[13].

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/CIEH[14].

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 1992[15] 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 2010[16] 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 $\mu gkg^{-1}_{bw}day^{-1}$ to μgm^{-3} using the standard conversions quoted in Table 3.3 of SR2, thereby replacing the need to model C_{air} in the equation:

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

Where:

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

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

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

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.

INTERNAL GUIDANCE NOTE

GROUNDWATER & SURFACE WATER RISK ASSESSMENT

WSP APPROACH TO SELECTING APPROPRIATE UK SCREENING CRITERIA

GENERAL INFORMATION

For **sites in the UK,** the regulators are the Environment Agency (EA), Natural Resources Wales (NRW) and the Scottish Environment Protection Agency (SEPA). NRW generally refers to EA documentation, unless otherwise specified.

We apply the requirements of the Water Framework Directive (WFD), Groundwater Daughter Directive (GWDD), Environmental Quality Standards Directive (EQSD), UK Regulations and Directions, and follow the EA Remedial Targets Methodology and SEPA WAT-PS-10-01 guidance.

The GWDD and applicable guidance states that where a **hazardous** substance is present in the soil beneath a site but is yet to enter groundwater, **no discernible entry** of that hazardous substance is allowed into **groundwater** under the concept of **"*prevent*"**. This effectively requires the allowable concentration of the contaminant of concern to be only either background or the limit of detection within the groundwater body. The EA has produced a list Minimum Reporting Values (MRVs) to support the assessment of 'discernible entry' which SEPA also uses. For hazardous substances that do not have an MRV, the limit of detection should be used.

Where a hazardous substance has already entered the groundwater to a discernible level the regulators may accept a pragmatic approach and appropriate quality standards may be used to quantify the risk under the concept of seeking to ***"limit"*** an existing impact.

Where **non-hazardous** pollutants in groundwater are concerned, under the concept of **"*limit*"**, **no new pollution** (or substantial risk of pollution) of groundwater is allowable and quality standards are generally an acceptable concentration.

For surface water bodies or groundwater-dependent terrestrial ecosystems, under the EQSD, quality standards are generally an acceptable concentration irrespective of whether the substance is hazardous or non-hazardous.

Both RTM and WAT-PS-10-01 state that any standard used must also be **relevant to the nature of the receptor** and that they should be ***'fit for purpose'*** in terms of the specific period of time over which they should be measured. For example, **drinking water standards should not be used to protect a river.**

The WSP approach is as follows:

- Quantitative risk assessment is to be undertaken by comparing modelled or actual concentrations in groundwater or surface water with an appropriate standard.
- The hierarchy of sources of screening criteria used is:
    1. UK published values;
    2. EU published values; and
    3. WHO published values.
- Country-specific values **should not be used** with the following exceptions:
- Where SEPA has specified that their use is acceptable.
- Where a client has specifically requested. In these circumstances, we should advise our client of the **limitations** of using the values.
- Where the limit of detection (LOD) is greater than a published screening criterion, we should ensure that the best available LOD has been used. Where the best available LOD has been used, the assessor **should not** determine

that a potential risk exists to the water body. This is in line with the approach that the EA and SEPA take in determining the classification status of the water bodies. **Where the LOD could have been lower, this should be highlighted as a limitation in our assessment.**

- Where no published standard is available, we determine on a case-by-case basis whether site-specific or chemical-specific criteria should be derived through additional research or studies.
- In the absence of additional information being available, WSP will determine whether the limit of detection is considered to be an appropriate assessment criterion, or whether we disregard the substance from assessment.

HAZARDOUS SUBSTANCES IN GROUNDWATER

The GWDD seeks to prevent environmental damage and hence requires no discernible entry of hazardous substances into groundwater.

ENGLAND & WALES	SCOTLAND
■ Where discernible entry into groundwater has not yet occurred, soil leachate concentrations or theoretical partitioning calculations should be used to determine the presence or absence of hazardous substances. In this case, MRVs should be used as the target concentration. ■ Where no MRV exists, an appropriate LOD should be used for each hazardous substance. ■ Where discernible entry has already occurred, i.e. concentrations are detectable in groundwater, an appropriate target concentration based on a published standard can be used i.e. the requirement of WFD is relaxed by the EA in order to achieve a more pragmatic remedial target than background concentrations.	■ Theoretically, where the receptor is a groundwater body, SEPA requires MRVs to be used as the assessment limit for hazardous substances. ■ However, where an assessment of 'significant' pollution under Part 2A is required, the consideration of MRVs can be superseded. So in reality, where discernible entry has already occurred, i.e. concentrations are detectable in groundwater, an appropriate target concentration based on a published standard can be used i.e. the requirement of WFD is relaxed to achieve a more pragmatic remedial target than background concentrations. ■ Where concentrations are detected up-gradient, SEPA allows this to be taken into account in the MRV beneath a site. ■ Where no MRV exists, an appropriate LOD should be used for each hazardous substance.

Note: where a groundwater sample matrix is not suitable for analysis by sensitive analytical methods, for example, samples of landfill leachate containing high ionic concentrations, the EA has produced a list of alternative MRVs which may be appropriate. These have not been included in gINT.

IMPACT TO AQUATIC LIFE IN SURFACE WATERS

Where a published EQS exists:

- **Use annual average (AA) EQS**. Bear in mind that we generally do not monitor regularly over a year so our analytical results provide a snap shot for further consideration. Highlight these limitations in your report. The EA states that monthly or quarterly monitoring with a minimum of nine samples over three years, and three samples per year, is required.[1] No equivalent specification is stated by SEPA.
- **Do not use Maximum Allowable Concentrations** (MAC) in the majority of cases. They are designed to assess acute exposure of the aquatic environment to pollutants. They may be applicable in a one-off catastrophic spill or leak in an **emergency response** situation. **Note: gINT only includes MACs for contaminants for which no AA exists.**

[1] EA '*Rules for Assessing Surface Water Body Status and Potential: Decision document for 2015 new building block (Cycle 2) Water Framework Directive classifications*' Version 2.0, (updated October 2015).

- Focus on **chemical status** of the surface water body:
  - Priority substances
  - Other pollutants
- We do not assess ecological status on a regular basis with the exception of specific pollutants. These are part of the overall ecological status.
- Priority substances, other pollutants and specific pollutant EQSs represent the boundary between Good status and failing surface water quality. Therefore, an **exceedance** highlights a potential risk that the surface water may not achieve or maintain a Good status which **contravenes the requirements of the WFD**.
- Adopt this approach for all surface water bodies, not just those where chemical quality has been assessed by the EA/NRW/SEPA.
- **Ammonia** is part of the ecological status of the surface water body. You may evaluate it if your site is a significant source e.g. gasworks. Compare your results to the **Good status**. Anything above this concentration may represent a contravention of WFD.
- A number of EQSs **do not come into force until 22 December 2018**. Consider whether it is pertinent to use these values as an indicator of long term contamination issues that may pose issues to your client in the near future.
- You should always consider the use of mBAT to determine the **bioavailable EQS** for copper, lead, manganese, nickel and zinc.
- Hardness, pH and dissolved organic carbon (DOC) and dissolved calcium should be retained **each and every time** from samples taken from the **receiving surface water** and **NOT** the groundwater on-site.
- Consider your results against the regulator's classification of the surface water body that you are assessing. How do your findings compare? Is your site potentially deteriorating the current chemical or ecological status? You can find links to the data in the RBMs as follows:
  - England - http://environment.data.gov.uk/catchment-planning/
  - Wales - http://waterwatchwales.naturalresourceswales.gov.uk/en/
  - Scotland - [redacted]

Where an EQS has not been published under WFD or EQSD the following can apply:

ENGLAND & WALES	SCOTLAND
■ Use EA operational Environmental Quality Standards for Environmental Permitting. (These standards are essentially the repealed Dangerous Substances Directive (DSD) substances. They have been advocated by SEPA for use in Scotland and, in the case of xylenes, by CL:AIRE 2017 in 'Petroleum Hydrocarbons in Groundwater: *Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies*' v1.1 March 2017).	■ Non-WFD EQSs have also been published by SEPA in WAT-SG-53. These comprise two lists: — repealed Dangerous Substances Directive (DSD) substances which are no longer discharged in significant quantities so are not considered under WFD but which have been derived using the rigorous process required for WFD substances. — non-statutory EQS from other sources, to be used with caution.
■ Ethylbenzene - the proposed EQS from EA '*Proposed Environmental Quality Standards for Ethylbenzene in Water*' R&D Technical Report P2-115/TR4. 2002 is used. (This is equivalent to the Scottish non-statutory EQS.)	■ Petroleum hydrocarbons - **where no equivalent VOC, SVOC or PAH data are available** use proxy compounds as per CL:AIRE 'Petroleum Hydrocarbons in Groundwater: *Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies*' v1.1 March 2017. **Do not use WHO Drinking Water Standards.**
■ Petroleum hydrocarbons - **where no equivalent VOC, SVOC or PAH data are available** use proxy compounds as per CL:AIRE 'Petroleum	

Hydrocarbons in Groundwater: *Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies*' v1.1 March 2017. **NEVER use WHO Drinking Water Standards.**	■ **NEVER** use the term "controlled waters" in Scotland it is "water environment".

IMPACT TO DRINKING WATER

Consider the current and potential future use of the aquifer when selecting the appropriate assessment criteria.

ABSTRACTION FOR PUBLIC AND PRIVATE POTABLE SUPPLY

In line with the RTM in England and Wales and WAT-PS-10-01 in Scotland, we use Drinking Water Quality Standards (DWS) to evaluate the potential risk to aquifers and surface waters which are abstracted for potable supply. Where an aquifer is not utilised for public potable supply, this is a conservative approach, but fits with the EA and SEPA's precautionary approach and protects the potential future exploitation of the groundwater. (We do not take this approach regularly for surface waters because they are less likely to be abstracted for potable supply.)

ENGLAND & WALES	SCOTLAND
The sources of drinking water standards are applied by WSP in the following hierarchy: ■ UK Drinking Water Standards (The Water Supply (Water Quality) Regulations of England, Wales and Scotland) ■ EC Drinking Water Directive 1998 ■ WHO Drinking Water Guidelines 2017 ■ WHO Petroleum Products in Drinking Water 2008	■ WAT-PS-10-01 provides a list of Resource Protection Values (RPV) which are equivalent to the England and Wales approach, except that US EPA National Primary Drinking Water Regulations are also used, where they are lower than the equivalent WHO standard. ■ Other WHO Drinking Water Guidelines 2017 ■ WHO Petroleum Products in Drinking Water 2008

Note: Values for radioactivity are also available but have not been included in gINT.

The Private Water Supplies Regulations of England, Scotland and Wales prescribe maximum concentrations and values of inorganic and organic constituents as well as radioactivity and bacteria for natural waters intended for private supply (Type B). The concentrations and values are now the same as those for public potable supply.

OTHER POTENTIAL RECEPTORS

Ensure that you consider other potential receptors in your risk assessments, including, but not limited to:

- *The Natural Mineral Water, Spring Water and Bottled Drinking Water Regulations* of England, Scotland and Wales which prescribe maximum concentrations and values of inorganic and organic constituents as well as radioactivity and bacteria for natural waters intended for sale for human consumption.
- *The Bathing Water Regulations 2013* which provides standards for the classification of the quality of bathing waters at specified locations on the basis of intestinal enterococci and *E. coli* levels.
- *WAT-SG-53, Table 9a: Operational Standards for Aquaculture* which provides the operational water quality standards used by SEPA for regulating the use of chemicals in aquaculture.

OVERVIEW OF RELEVANT LEGISLATION

EUROPEAN DIRECTIVES

WATER FRAMEWORK DIRECTIVE

The European Union (EU) Water Framework Directive 2000/60/EC (WFD) is a strategic framework designed to:

- protect, improve and enhance the status and to prevent further deterioration of aquatic ecosystems and associated wetlands which depend on the aquatic ecosystems;
- promote the sustainable use of water; and
- reduce and reverse all pollution of water, especially by 'priority' and 'priority hazardous' substances.

GROUNDWATER DAUGHTER DIRECTIVE

The EU Groundwater Daughter Directive 2006/118/EC (GWDD) provides additional detail on the methodologies to implement the WFD (listed above). It provides procedures, definitions, criteria and standards for achieving 'Good' groundwater chemical status and provides a requirement to define groundwater safeguard zones to protect drinking water supplies.

Hazardous substances must be prevented from entering groundwater and non-hazardous substances should be limited from entering groundwater to concentrations that do not cause pollution.

Key Points:

- All water bodies should achieve **Good** chemical and ecological status by 2021.
- *Hazardous substances* must not enter groundwater (**prevent**).
- *Non-hazardous substances* must be limited to prevent pollution of groundwater (**limit**).

Discharge of all pollutants directly into groundwater, without percolation through soils or sub-soils is prohibited, subject to certain limited exemptions.

ENVIRONMENTAL QUALITY STANDARDS DIRECTIVE

The Environmental Quality Standards Directive (EQSD), also known as the Priority Substances Directive 2008/105/EC (PSD) as amended by 2013/39/EU, lays out the requirement to protect surface waters and defines EQSs for hazardous and non-hazardous priority substances as well as 'other' chemical pollutants that are deemed to pose a threat to the aquatic environment.

UK LEGISLATION

WATER ENVIRONMENT (WATER FRAMEWORK DIRECTIVE) REGULATIONS

The WFD, GWDD and EQSD have been transposed into UK law through The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (SI 2017/407) and The Water Environment (River Basin Management Planning etc.) (Miscellaneous Amendments) (Scotland) Regulations 2015 (SI 2015/211). These regulations set out the requirements and remits of River Basin Management plans.

STANDARDS AND CLASSIFICATION DIRECTIONS

To support the UK WFD Regulations, the details of the latest system of standards and classification to support the River Basin Management Plans are set out in a series of Directions:

- The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015;
- The Scotland River Basin District (Standards) Directions 2014; and
- The Scotland River Basin District (Standards) Amendment Directions 2015.

Scottish Environment Protection Agency (SEPA) '*Supporting Guidance (WAT-SG-53): Environmental Quality Standards and Standards for Discharges to Surface Waters'* v6. December 2015 also summarises its approach, the standards provided in the Scottish Directions, plus a series of acceptable non-WFD additional standards.

CONTROL OF ACTIVE DISCHARGES TO WATER

The Environmental Permitting (England and Wales) Regulations 2016 (SI 2016/1154) and The Water Environment (Controlled Activities) (Scotland) Regulations 2011 transpose the parts of the WFD and GWDD that require the Environment Agency (EA) and SEPA to take all necessary measures to prevent the discharge of pollutants by direct or indirect input into groundwater as a result of current activities. The measures to prevent are regulated through permitted surface activities and controls. It is an offence to cause or knowingly permit a groundwater activity unless authorised by a permit or registered as exempt.

SEPA makes the distinction that a 'discharge' is from a point source, whereas an 'input' could be from a point or diffuse source.

Key Points:

- *Passive discharge* – **point source** release from ground contamination from an activity that has ceased **(historical)**.
- *Active discharge* – **point source** release from **current** activities. Must not contravene the requirements of the WFD so controls/permits required.
- Direct discharges to groundwater are **prohibited**. Pollutants must percolate soil or sub-soil before

CONTROL OF PASSIVE DISCHARGES TO WATER

Part 2A of The Environmental Protection Act 1990 (Part 2A) effectively controls the passive release of pollutants from land where the original activity that led to the contamination has ceased. (If subsequent activities disturb the land and cause a release of pollutants that discharge to groundwater, an Environmental Permit may be required at that stage.)

The control of passive discharges is also regulated through the planning system where the site, as a minimum, not be able to designated as 'contaminated land' as defined under Part 2A, and through Anti-Pollution Works Notices under Section 161A of the Water Resources Act 1991 (as amended).

Passive/historical releases of pollutants may also be controlled through voluntary remediation.

UK APPROACH TO EVALUATING WATER BODIES

RIVER BASIN MANAGEMENT PLANS

River Basin Management Plans (RBMP) are based on the detailed analysis of the impacts of human activity on the water environment within each river basin. They are designed to protect and improve the quality of our ground and surface water environment and are reviewed and updated every six years. They identify improvement measures to progress all ground and surface water bodies to 'Good' status by 2021.

SURFACE WATER BODY CLASSIFICATION

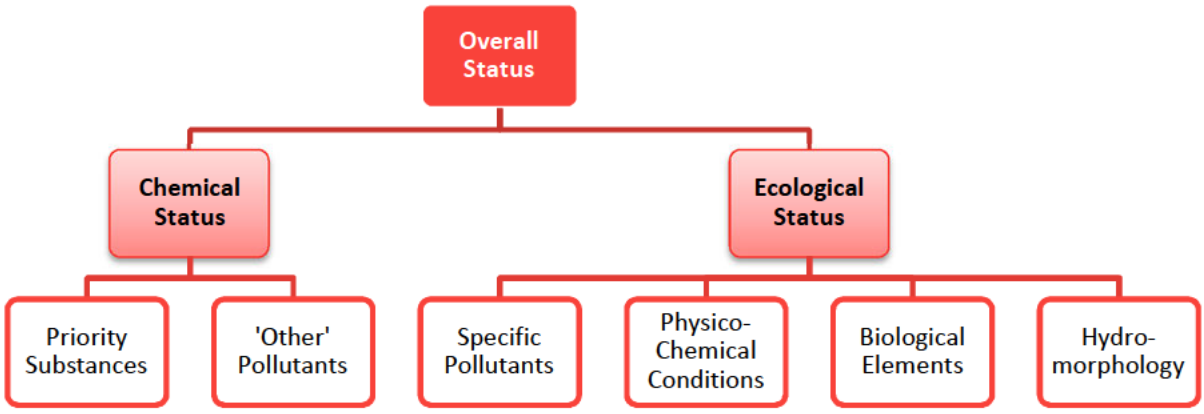
Environmental Quality Standards (EQSs) are used by the EA and SEPA to characterise, monitor and classify surface water bodies and to help these regulators establish measures to progress all water bodies to 'Good' status. For surface water bodies the following applies:

Surface Water Bodies:

- Inland waters - lakes, lochs, rivers, streams, canals, reservoirs
- Transitional waters - estuarine and brackish river mouths
- Coastal waters -within one nautical mile of land

- Chemical status is determined on a 'Good' or 'Fail' basis.
- Ecological status is determined on a scale of 'High', 'Good', 'Moderate', 'Poor' and 'Bad'.
- The overall ecological status is determined by the **lowest classification** of all the parameters that are assessed.
- For an overall 'Good' status both ecological and chemical status must be at least 'Good' (see **Figure 1**).

Figure 1: Elements of Surface Water Body Status Classification



Priority substances – are defined by the European Commission (EC) and are reviewed every six years to ensure they stay relevant and that the EQSs are up to date.

Other pollutants – not priority substances, but defined by the EC and with EQSs identical to those laid down in current legislation which was applicable prior to 13 January 2009.

Specific pollutants – European Union (EU) Member states are required to identify nationally significant pollutants to support the assessment of 'Good' ecological status.

Physico-chemical conditions – includes parameters such as dissolved oxygen, pH, ammonia and phosphate that define the general chemistry of the surface water body and may influence the degree to which the aquatic ecosystem can thrive.

Biological elements – the condition and abundance of fish and invertebrates within the surface water body including the presence of invasive species.

Hydromorphology – includes water flow, sediment composition and the structure of the habitat and its ability to support an aquatic ecosystem.

GROUNDWATER BODY CLASSIFICATION

Groundwater bodies are classified on their quantitative and chemical status.

The quantitative status comprises four tests which evaluate the impact of groundwater abstractions on: water balance; impact to surface water bodies; impact to water-dependent terrestrial ecosystems; and saline or other intrusions.

The chemical status requires analytical data collected by the EA and the SEPA across the water body to be evaluated against five tests to determine the groundwater quality in terms of: saline or other intrusion; potential impact to surface water bodies and groundwater-dependent terrestrial ecosystems; drinking water quality and general chemical loading. The EA and SEPA assess the groundwater analytical data against a series of Threshold Values (TRVs) set out in the Standards and Classification Directions (2014 and 2015). The TRVs are used to decide if further, specific evaluation is required. i.e. They are not used by the regulators to classify the groundwater bodies' chemical status and, as such, they are **not appropriate to be used as part of site-specific investigations.**

Groundwater:

- All water within the saturated zone below the surface of the ground.

Groundwater body:

- A volume of groundwater that is capable of supplying 10 m^3/day or 50 people on a continuous basis.
- Must be protected for future resource potential.

UK GUIDANCE ON THE SELECTION OF ASSESSMENT CRITERIA

The frameworks for assessing the risks to groundwater and surface water risk from pollutants are:

- EA 'Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination' 2006. (RTM).
- SEPA 'Position Statement (WAT-PS-10-01): Assigning Groundwater Assessment Criteria for Pollutant Inputs' v3.0, August 2014.

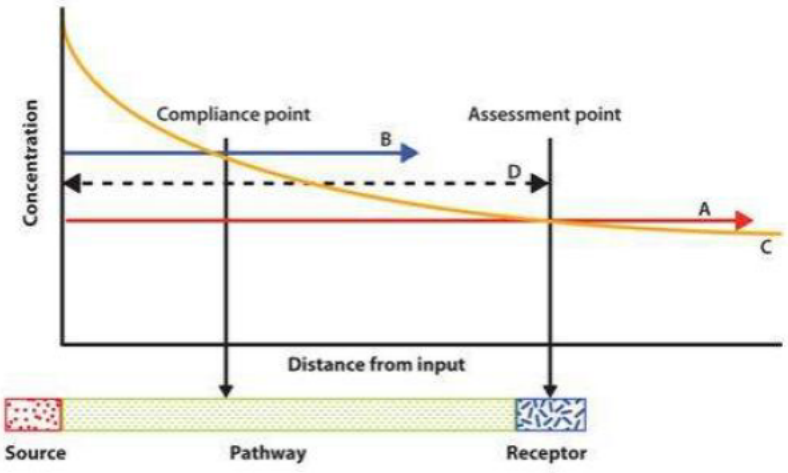
Although the RTM precedes the formal adoption of the WFD in England and Wales, the document was cognisant of the requirements of the forthcoming requirements of the WFD i.e. no entry of hazardous substances into water bodies, and no new pollution by all other substances.

RTM and WAT-PS-10-01 differ in their nomenclature as follows in **Table 1** and **Figure 2**:

Table 1: Common Definitions in Water Risk Assessments

DEFINITION	NAME IN ENGLAND & WALES	NAME IN SCOTLAND
Water bodies that are required to be assessed.	Controlled Waters	Water Environment
The assessment standard of a substance which should not be exceeded.	Target concentration (where the compliance point is set at or near the receptor)	Assessment limit
The point at or near a receptor where an assessment standard should be achieved.	Compliance point	Assessment point
Concentration of a substance at a certain point along the contaminant pathway, back-calculated using fate and transport modelling to ensure that the assessment standard is not exceeded at the receptor.	Target concentration	Compliance concentration (Rarely used)
The point along the contaminant pathway where a compliance/target concentration can be measured or predicted.	Compliance point	Compliance point (Rarely used)

Figure 2: Assessment and Compliance Points

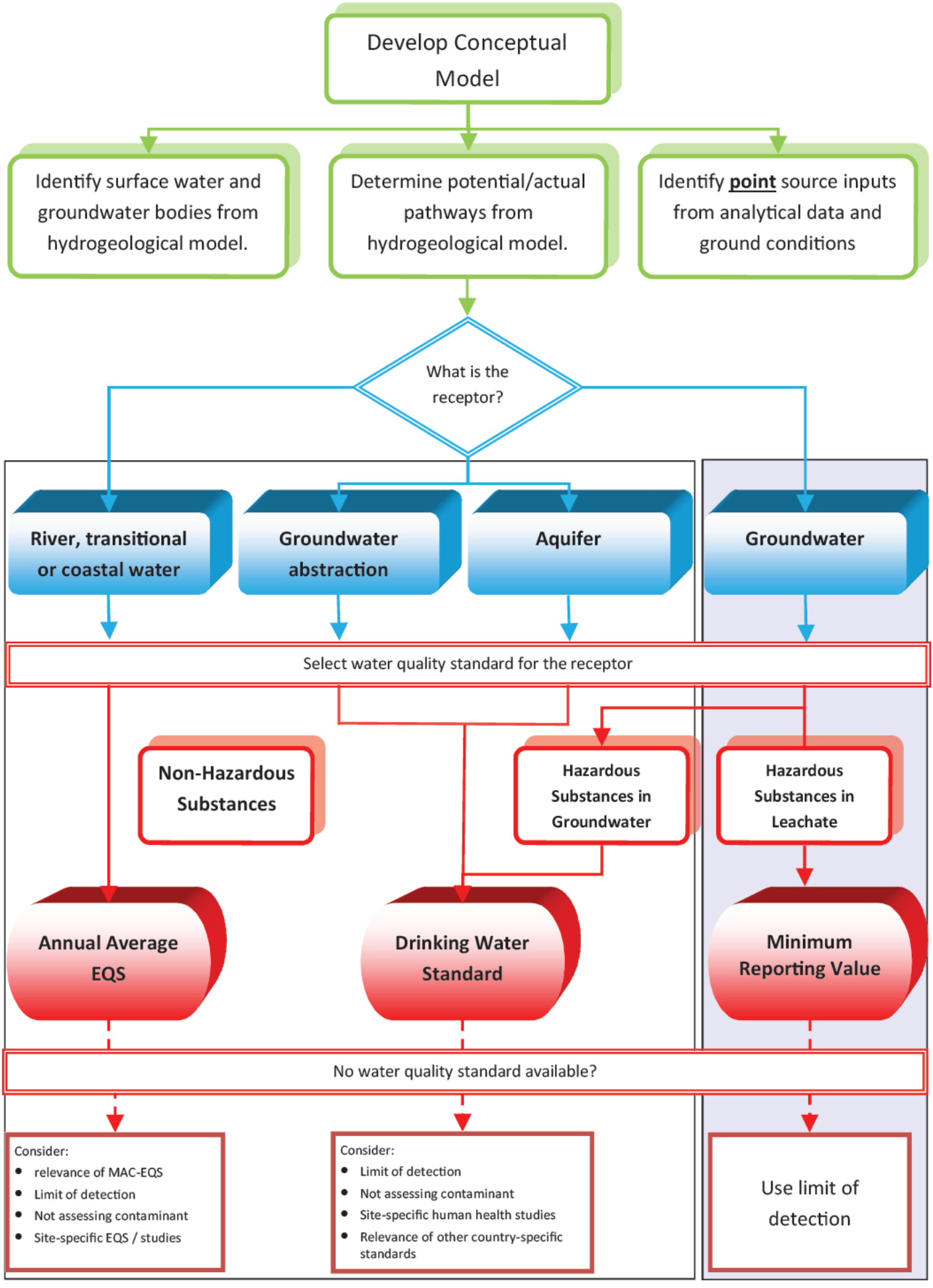


A = Concentration of **assessment limit**
B = **Compliance concentration**, set to ensure the assessment limit is met at the assessment point
C = Concentration of input
D = Possible range of compliance points according to specific site conditions - could be at the assessment point, or some other point along the pathway

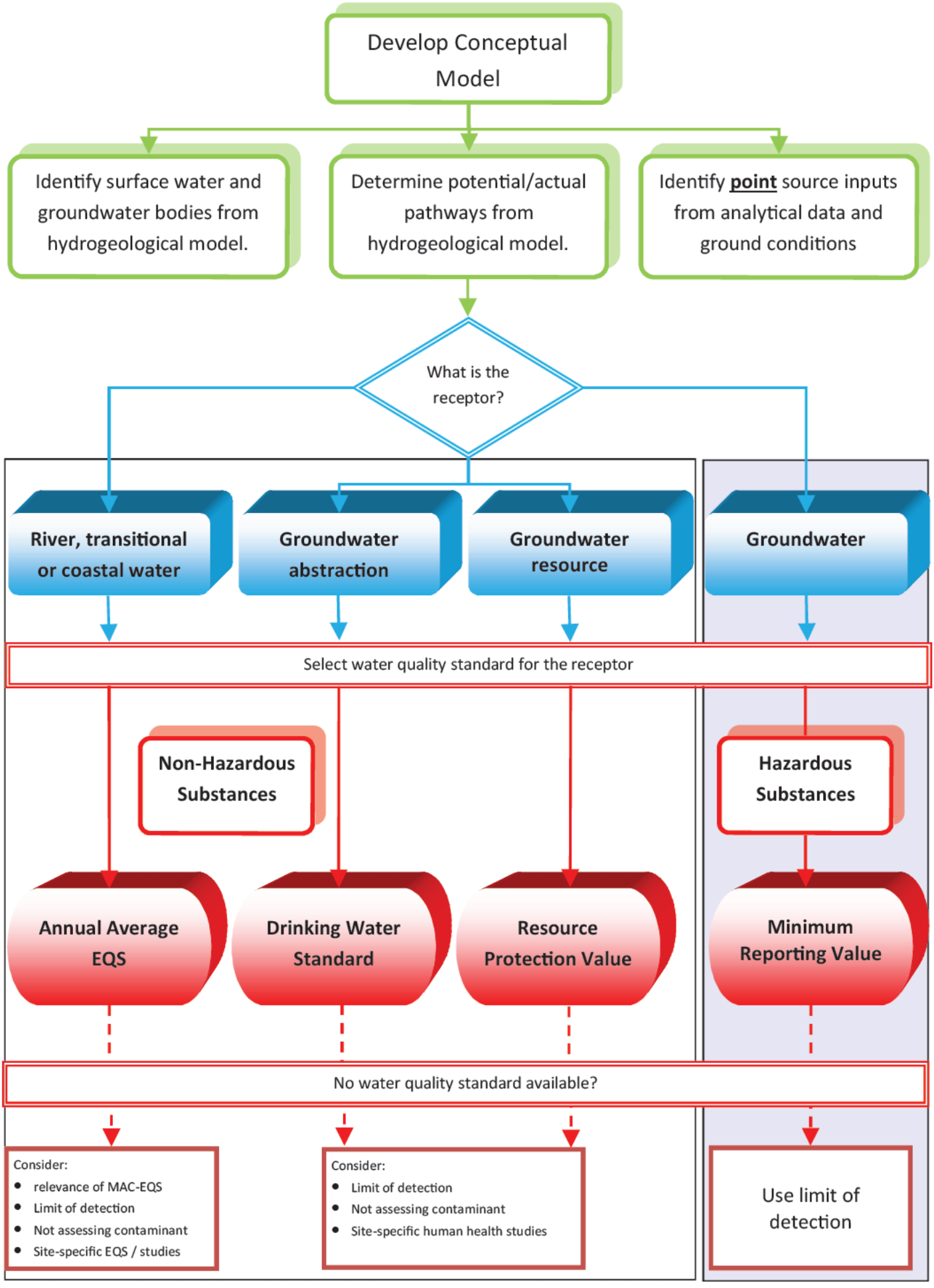
Note: the above one dimensional source-pathway-receptor relationship could translate into any number of possible 3D linkages

Adapted from UK TAG paper 11 (b) iii

ENGLAND & WALES
Process for the Selection of Assessment Standards



SCOTLAND
Process for the Selection of Assessment Standards



APPENDIX G – SCREENING RESULTS

PRE-REPORT DATA CHECK

- All GEOL_GEO2 codes are complete.
- All GEOL_GEO2 codes are recognised and suitable for this report.
- All SampleMatrix fields are complete
- All result and screening units match
- All TPH fractions are present for all samples to enable the calculation of the TPH Hazard Index

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Unrecognised analytes

ANALYTE	MADEGROUND			NATURAL GROUND			ASSESSMENT CRITERIA (AC)	UNITS	NO. OF LOCATIONS	NO. OF SAMPLES	NO. OF SAMPLES > LOD	NO. OF LOCATIONS >AC	LOCATIONS FAILING SCREENING
	MIN	MEAN*	MAX	MIN	MEAN*	MAX							
Aliphatics & Aromatics >C10-44 (Unrecognised code)	10.0	13.2	42.8	10.0	5.00	10.0	-	mg/kg	6	12	5	0	
Aliphatics >C5-10 (Unrecognised code)	0.050	0.053	0.30	0.050	0.025	0.050	-	mg/kg	6	12	1	0	
Aromatics >C5-10 (Unrecognised code)	0.050	0.034	0.11	0.050	0.025	0.050	-	mg/kg	6	12	1	0	
Bis(2-chloroisopropyl)ether (TIC) (Unrecognised code)	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
WAC (Unrecognised code)	10.0	10.0	10.0	10.0	10.0	10.0	-	mg/kg	6	12	12	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Aliphatics and Aromatics

ANALYTE	MADEGROUND			NATURAL GROUND			ASSESSMENT CRITERIA (AC)	UNITS	NO. OF LOCATIONS	NO. OF SAMPLES	NO. OF SAMPLES > LOD	NO. OF LOCATIONS >AC	LOCATIONS FAILING SCREENING
	MIN	MEAN*	MAX	MIN	MEAN*	MAX							
Aliphatic C05-C06	0.010	0.009	0.043	0.010	0.005	0.010	94,700	mg/kg	6	12	1	0	
Aliphatic C06-C08	0.010	0.015	0.086	0.010	0.011	0.017	146,000	mg/kg	6	12	4	0	
Aliphatic C08-C10	0.010	0.023	0.17	0.010	0.009	0.013	14,300	mg/kg	6	12	3	0	
Aliphatic C10-C12	1.00	0.50	1.00	1.00	0.50	1.00	20,900	mg/kg	6	12	0	0	
Aliphatic C10-C44	5.00	6.88	17.1	5.00	2.50	5.00	-	mg/kg	6	12	6	0	
Aliphatic C12-C16	1.00	0.50	1.00	1.00	0.50	1.00	24,700	mg/kg	6	12	0	0	
Aliphatic C16 C21	1 00	0 58	1 32	1 00	0 50	1 00		mg/kg	6	12	1	0	
Aliphatic C16-C35	1.71	6.70	16.0	1.00	1.37	2.24	455,000	mg/kg	6	12	11	0	
Aliphatic C21-C35	1.71	6.49	14.7	1.00	1.37	2.24	-	mg/kg	6	12	11	0	
Aliphatic C35-C44	1.00	0.56	1.06	1.00	0.50	1.00	455,000	mg/kg	6	12	1	0	
Aromatic C06-C07	0.010	0.005	0.010	0.010	0.005	0.010	-	mg/kg	6	12	0	0	
Aromatic C07-C08	0.010	0.005	0.010	0.010	0.005	0.010	86,800	mg/kg	6	12	0	0	
Aromatic C08-C10	0.010	0.016	0.11	0.010	0.005	0.010	7,220	mg/kg	6	12	2	0	
Aromatic C10-C12	1.00	0.50	1.00	1.00	0.50	1.00	9,240	mg/kg	6	12	0	0	
Aromatic C10-C44	5.00	7.03	25.7	5.00	2.50	5.00	-	mg/kg	6	12	6	0	
Aromatic C12-C16	1.00	0.50	1.00	1.00	0.50	1.00	10,200	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Aliphatics and Aromatics

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Aromatic C16-C21	1.00	0.59	1.43	1.00	0.50	1.00	7,630	mg/kg	6	12	1	0	
Aromatic C16-C35	1.00	5.59	18.7	1.00	1.93	3.35	-	mg/kg	6	12	10	0	
Aromatic C21-C35	1.00	5.42	17.2	1.00	1.93	3.35	7,820	mg/kg	6	12	10	0	
Aromatic C35-C44	1.00	1.16	7.09	1.00	0.50	1.00	7,820	mg/kg	6	12	1	0	
Aromatic C40-C44	1.00	0.56	1.13	1.00	0.50	1.00	-	mg/kg	6	12	1	0	
Total Aliphatics and Aromatics (C5-C44)	10.0	12.7	42.8	10.0	5.00	10.0	-	mg/kg	6	12	4	0	
TPH Hazard Index	0.0003	0.001	0.003	0.0003	0.0005	0.0007	1.00	mg/kg	6	12	N/A	0	

Alkali and Alkaline Earth Metals

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Barium	37.1	77.9	117	48.9	106	164	5,770	mg/kg	6	12	12	0	
Beryllium	0.32	0.66	1.04	0.45	1.08	1.71	63.0	mg/kg	6	12	12	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Asbestos

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Asbestos Quantification - Gravimetric	0.001	0.0005	0.001	-	-	-	-	%	1	1	0	0	
Asbestos Quantification - PCM Evaluation	0.001	0.0005	0.001	-	-	-	-	%	1	1	0	0	
Asbestos Quantification - Total %	0.001	0.0005	0.001	-	-	-	-	%	1	1	0	0	
Additional Asbestos Components using TM048 (Quantification)	-	-	-	-	-	-	-	No units	1	1	0	0	
Asbestos Ex. actinolite	-	-	-	-	-	-	-	No units	6	10	0	0	
Asbestos Ex. Amosite	-	-	-	-	-	-	-	No units	6	10	0	0	
Asbestos Ex. anthophyllite	-	-	-	-	-	-	-	No units	6	10	0	0	
Asbestos Ex. Chrysotile	-	-	-	-	-	-	-	No units	6	10	0	0	
Asbestos Ex crocidolite								No units	6	10	0	0	
Asbestos Ex. tremolite	-	-	-	-	-	-	-	No units	6	10	0	0	
Asbestos Quantification Comments	-	-	-	-	-	-	-	No units	1	1	0	0	
Non-Asbestos Fibres	-	-	-	-	-	-	-	No units	6	10	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

BTEX and Fuel Additives

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
1,2,4-Trimethylbenzene	0.090	0.045	0.090	0.090	0.045	0.090	3,260	mg/kg	6	12	0	0	
1,3,5-Trimethylbenzene	0.080	0.040	0.080	0.080	0.040	0.080	3,260	mg/kg	6	12	0	0	
Benzene	0.090	0.045	0.090	0.090	0.045	0.090	90.0	mg/kg	6	12	0	0	
BTEX	0.40	0.20	0.40	0.40	0.20	0.40	-	mg/kg	6	12	0	0	
Ethylbenzene	0.040	0.020	0.040	0.040	0.020	0.040	16,500	mg/kg	6	12	0	0	
Methyl t-butylether (MTBE)	0.10	0.050	0.10	0.10	0.050	0.10	98,400	mg/kg	6	12	0	0	
Tertiary Amyl Methyl Ether (TAME)	0 10	0 050	0 10	0 10	0 050	0 10		mg/kg	6	12	0	0	
Toluene	0.070	0.035	0.070	0.070	0.035	0.070	87,200	mg/kg	6	12	0	0	
Xylene - Total (Summed)	0.10	0.10	0.10	0.10	0.10	0.10	16,600	mg/kg	6	12	12	0	
Xylene-m & p	0.10	0.050	0.10	0.10	0.050	0.10	16,600	mg/kg	6	12	0	0	
Xylene-o	0.10	0.050	0.10	0.10	0.050	0.10	16,600	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Chlorinated Aliphatics

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
1,1,1,2-Tetrachloroethane	0.10	0.050	0.10	0.10	0.050	0.10	1,470	mg/kg	6	12	0	0	
1,1,1-Trichloroethane	0.070	0.035	0.070	0.070	0.035	0.070	110,000	mg/kg	6	12	0	0	
1,1,2,2-Tetrachloroethane	0.10	0.050	0.10	0.10	0.050	0.10	1,810	mg/kg	6	12	0	0	
1,1,2-Trichloroethane	0.10	0.050	0.10	0.10	0.050	0.10	1,110	mg/kg	6	12	0	0	
1,1-Dichloroethane	0.080	0.040	0.080	0.080	0.040	0.080	20,400	mg/kg	6	12	0	0	
1,1-Dichloroethene	0.10	0.050	0.10	0.10	0.050	0.10	3,500	mg/kg	6	12	0	0	
1,1 Dichloropropene	0 10	0 050	0 10	0 10	0 050	0 10		mg/kg	6	12	0	0	
1,2,3-Trichloropropane	0.16	0.080	0.16	0.16	0.080	0.16	-	mg/kg	6	12	0	0	
1,2-Dichloroethane	0.050	0.025	0.050	0.050	0.025	0.050	21.0	mg/kg	6	12	0	0	
1,2-Dichloropropane	0.10	0.050	0.10	0.10	0.050	0.10	158	mg/kg	6	12	0	0	
1,3-Dichloropropane	0.070	0.035	0.070	0.070	0.035	0.070	-	mg/kg	6	12	0	0	
2,2-Dichloropropane	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Carbon tetrachloride	0.10	0.050	0.10	0.10	0.050	0.10	1,250	mg/kg	6	12	0	0	
Chloroethane	0.10	0.050	0.10	0.10	0.050	0.10	154,000	mg/kg	6	12	0	0	
Chloroform	0.080	0.040	0.080	0.080	0.040	0.080	2,770	mg/kg	6	12	0	0	
Chloromethane	0.070	0.035	0.070	0.070	0.035	0.070	142	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Chlorinated Aliphatics

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Cis 1,2-Dichloroethene	0.060	0.030	0.060	0.060	0.030	0.060	692	mg/kg	6	12	0	0	
Cis 1,3-Dichloropropene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Dichloromethane	0.10	0.057	0.15	0.17	0.086	0.18	1,510	mg/kg	6	12	0	0	
Hexachlorobutadiene	0.10	0.050	0.10	0.10	0.050	0.10	48.0	mg/kg	6	12	0	0	
Hexachloroethane	0.10	0.050	0.10	0.10	0.050	0.10	158	mg/kg	6	12	0	0	
Tetrachloroethene (PCE)	0.050	0.025	0.050	0.050	0.025	0.050	812	mg/kg	6	12	0	0	
Trans-1,2-Dichloroethene	0.10	0.050	0.10	0.10	0.050	0.10	1,650	mg/kg	6	12	0	0	
Trans-1,3-Dichloropropene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Trichloroethene (TCE)	0.090	0.045	0.090	0.090	0.045	0.090	41.0	mg/kg	6	12	0	0	
Vinyl chloride	0.060	0.030	0.060	0.060	0.030	0.060	4.80	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Chlorinated Aromatics

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
1,2,3-Trichlorobenzene	0.20	0.10	0.20	0.20	0.10	0.20	765	mg/kg	6	12	0	0	
1,2,4-Trichlorobenzene	0.10	0.050	0.10	0.10	0.050	0.10	1,350	mg/kg	6	12	0	0	
1,2-Dichlorobenzene	0.10	0.050	0.10	0.10	0.050	0.10	24,400	mg/kg	6	12	0	0	
1,3,5-Trichlorobenzene	0.20	0.10	0.20	0.20	0.10	0.20	381	mg/kg	6	12	0	0	
1,3-Dichlorobenzene	0.080	0.040	0.080	0.080	0.040	0.080	454	mg/kg	6	12	0	0	
1,4-Dichlorobenzene	0.050	0.025	0.050	0.050	0.025	0.050	8,940	mg/kg	6	12	0	0	
2 Chlorotoluene	0 090	0 045	0 090	0 090	0 045	0 090		mg/kg	6	12	0	0	
4-Chlorotoluene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Chlorobenzene	0.050	0.025	0.050	0.050	0.025	0.050	1,770	mg/kg	6	12	0	0	
Hexachlorobenzene	0.10	0.050	0.10	0.10	0.050	0.10	30.0	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Chlorinated Phenols

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
2,4,5-Trichlorophenol	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
2,4,6-Trichlorophenol	0.001	0.0008	0.002	0.001	0.0005	0.001	1,050	mg/kg	6	12	3	0	
2,4-Dichlorophenol	0.001	0.0005	0.001	0.001	0.0005	0.001	1,050	mg/kg	6	12	0	0	
2-Chlorophenol	0.001	0.0005	0.001	0.001	0.0005	0.001	1,050	mg/kg	6	12	0	0	
4-Chloro-3-Methlphenol	0.001	0.0005	0.001	0.001	0.0005	0.001	-	mg/kg	6	12	0	0	
Chlorophenols - Total (Summed Isomers)	0.001	0.051	0.10	0.001	0.051	0.10	1,050	mg/kg	6	12	12	0	

Dioxins and Furans

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Dibenzofuran	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Dyes

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
3-Nitroaniline	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
4-Nitroaniline	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	

Explosives

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
2,4-Dinitrotoluene	0.10	0.050	0.10	0.10	0.050	0.10	928	mg/kg	6	12	0	0	
2,6-Dinitrotoluene	0.10	0.050	0.10	0.10	0.050	0.10	468	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

General Chemistry

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Acid Neutralisation Capacity at pH 6	0.030	0.020	0.042	0.030	0.015	0.030	-	mol/kg	6	12	2	0	
Acid Neutralisation Capacity pH4	0.042	0.061	0.079	0.041	0.053	0.065	-	mol/kg	6	12	12	0	
pH	5.61	7.19	7.81	7.28	7.58	7.87	-	pH Units	6	12	12	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Halogonated Hydrocarbons

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
1,2-Dibromo-3-Chloropropane	0.14	0.070	0.14	0.14	0.070	0.14	-	mg/kg	6	12	0	0	
1,2-Dibromoethane	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Bromobenzene	0.10	0.050	0.10	0.10	0.050	0.10	1,770	mg/kg	6	12	0	0	
Bromochloromethane	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Bromodichloromethane	0.070	0.035	0.070	0.070	0.035	0.070	56.0	mg/kg	6	12	0	0	
Bromoform	0.10	0.050	0.10	0.10	0.050	0.10	4,060	mg/kg	6	12	0	0	
Bromomethane	0 10	0 050	0 10	0 10	0 050	0 10		mg/kg	6	12	0	0	
Dibromochloromethane	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Dibromomethane	0.090	0.045	0.090	0.090	0.045	0.090	-	mg/kg	6	12	0	0	
Dichlorodifluoromethane	0.060	0.030	0.060	0.060	0.030	0.060	-	mg/kg	6	12	0	0	
Trichlorofluoromethane	0.060	0.030	0.060	0.060	0.030	0.060	-	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Inorganics

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Chloride	7.57	27.2	133	13.3	22.0	30.7	-	mg/kg	6	12	12	0	
Cyanide (Complex)	1.00	0.50	1.00	1.00	0.50	1.00	-	mg/kg	6	12	0	0	
Cyanide (Free)	1.00	0.50	1.00	1.00	0.50	1.00	15.0	mg/kg	6	12	0	0	
Cyanide (Total)	1.00	0.50	1.00	1.00	0.50	1.00	-	mg/kg	6	12	0	0	
2:1 Water Soluble Ammonium	2,180	6,918	18,900	2,890	6,260	9,630	-	ug/l	6	12	12	0	
Sulphate as SO4	4,000	47,470	274,000	4,700	51,800	98,900	-	ug/l	6	12	10	0	

Ketones

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Isophorone	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Metals

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Arsenic	4.52	7.87	12.5	6.72	8.46	10.2	168	mg/kg	6	12	12	0	
Boron	1.00	0.79	2.85	1.00	0.50	1.00	46,000	mg/kg	6	12	2	0	
Cadmium	0.020	0.29	0.47	0.36	0.57	0.78	555	mg/kg	6	12	11	0	
Chromium	6.59	12.9	18.4	9.74	19.3	28.9	-	mg/kg	6	12	12	0	
Copper	7.61	15.6	33.9	11.6	20.6	29.6	44,400	mg/kg	6	12	12	0	
Hexavalent Chromium	0.60	0.30	0.60	0.60	0.30	0.60	69.0	mg/kg	6	12	0	0	
Lead	17 4	30 2	44 0	22 2	25 9	29 6	808	mg/kg	6	12	12	0	
Mercury	0.10	0.050	0.10	0.10	0.050	0.10	242	mg/kg	6	12	0	0	
Nickel	6.26	12.6	19.7	8.11	31.4	54.7	804	mg/kg	6	12	12	0	
Selenium	1.00	0.50	1.00	1.00	0.50	1.00	1,850	mg/kg	6	12	0	0	
Vanadium	11.0	23.7	41.1	17.1	31.1	45.0	5,030	mg/kg	6	12	12	0	
Zinc	25.6	90.0	448	34.4	56.8	79.1	173,000	mg/kg	6	12	12	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Other

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Soil Organic Matter (SOM)	0.68	1.70	3.48	1.08	1.11	1.13	-	%	6	12	12	0	
Total organic carbon (TOC)	0.40	0.99	2.02	0.63	0.64	0.66	-	%	6	12	12	0	
2-Chloronaphthalene	0.10	0.050	0.10	0.10	0.050	0.10	1,180	mg/kg	6	12	0	0	
4-Bromophenylphenyl ether	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
4-Chloroaniline	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
4-Chlorophenyl phenyl ether	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Azobenzene	0 10	0 050	0 10	0 10	0 050	0 10		mg/kg	6	12	0	0	
Bis (2-chloroethoxy) methane	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Bis (2-chloroethyl) ether	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Carbazole	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Carbon Disulphide	0.070	0.035	0.070	0.070	0.035	0.070	1,320	mg/kg	6	12	0	0	
Nitrobenzene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
n-Nitrosodi-n-Propylamine	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Styrene	0.10	0.050	0.10	0.10	0.050	0.10	5,930	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

PAHs

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
2-Methylnaphthalene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Acenaphthene	0.008	0.008	0.044	0.008	0.004	0.008	-	mg/kg	6	12	1	0	
Acenaphthylene	0.012	0.006	0.012	0.012	0.006	0.012	-	mg/kg	6	12	0	0	
Anthracene	0.016	0.008	0.016	0.016	0.008	0.016	-	mg/kg	6	12	0	0	
Benzo (a) anthracene	0.014	0.024	0.052	0.014	0.016	0.025	-	mg/kg	6	12	8	0	
Benzo (a) pyrene	0.015	0.019	0.052	0.015	0.013	0.019	11.0	mg/kg	6	12	6	0	
Benzo (b) fluoranthene	0 015	0 036	0 088	0 015	0 024	0 040		mg/kg	6	12	9	0	
Benzo (ghi) perylene	0.024	0.014	0.034	0.024	0.012	0.024	-	mg/kg	6	12	1	0	
Benzo (k) fluoranthene	0.014	0.009	0.030	0.014	0.007	0.014	-	mg/kg	6	12	1	0	
Chrysene	0.010	0.042	0.16	0.010	0.017	0.029	-	mg/kg	6	12	9	0	
Coronene	0.20	0.10	0.20	0.20	0.10	0.20	-	mg/kg	6	12	0	0	
Dibenzo (ah) anthracene	0.023	0.012	0.023	0.023	0.012	0.023	-	mg/kg	6	12	0	0	
Fluoranthene	0.017	0.055	0.18	0.017	0.029	0.049	-	mg/kg	6	12	9	0	
Fluorene	0.010	0.008	0.039	0.010	0.005	0.010	-	mg/kg	6	12	1	0	
Indeno (1,2,3-cd) pyrene	0.018	0.016	0.046	0.018	0.009	0.018	-	mg/kg	6	12	3	0	
Naphthalene	0.009	0.026	0.21	0.009	0.005	0.009	1,240	mg/kg	6	12	2	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

PAHs

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
PAH Total (EPA 16)	0.12	0.30	1.14	0.12	0.15	0.25	-	mg/kg	6	12	8	0	
PAH Total (EPA 17)	10.0	5.00	10.0	10.0	5.00	10.0	-	mg/kg	6	12	0	0	
Phenanthrene	0.015	0.050	0.22	0.015	0.026	0.044	-	mg/kg	6	12	9	0	
Pyrene	0.015	0.049	0.17	0.015	0.025	0.042	-	mg/kg	6	12	9	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

PCBs

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
PCB101	0.003	0.002	0.003	0.003	0.002	0.003	-	mg/kg	6	12	0	0	
PCB118	0.003	0.002	0.003	0.003	0.002	0.003	-	mg/kg	6	12	0	0	
PCB138	0.003	0.002	0.003	0.003	0.002	0.003	-	mg/kg	6	12	0	0	
PCB153	0.003	0.002	0.003	0.003	0.002	0.003	-	mg/kg	6	12	0	0	
PCB180	0.003	0.002	0.003	0.003	0.002	0.003	-	mg/kg	6	12	0	0	
PCB28	0.003	0.002	0.003	0.003	0.002	0.003	-	mg/kg	6	12	0	0	
PCB52	0 003	0 002	0 003	0 003	0 002	0 003		mg/kg	6	12	0	0	
Total PCB Congeners ICES 7	0.021	0.011	0.021	0.021	0.011	0.021	2.60	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Pesticides, Herbicides and Insecticides

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Hexachlorocyclopentadiene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Pentachlorophenol	0.001	0.0005	0.001	0.001	0.0005	0.001	119	mg/kg	6	12	0	0	

Pharmaceuticals

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
2-Nitroaniline	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Phenols

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
2,4-Dimethylphenol	0.001	0.0005	0.001	0.001	0.0005	0.001	9,180	mg/kg	6	12	0	0	
2-Methylphenol (o-Cresol)	0.10	0.050	0.10	0.10	0.050	0.10	46,000	mg/kg	6	12	0	0	
2-Nitrophenol	0.001	0.0005	0.001	0.001	0.0005	0.001	-	mg/kg	6	12	0	0	
4-Methylphenol	0.10	0.050	0.10	0.10	0.050	0.10	46,000	mg/kg	6	12	0	0	
4-Nitrophenol	0.001	0.001	0.006	0.001	0.0005	0.001	-	mg/kg	6	12	4	0	
Methylphenols Total (Summed)	0.10	0.10	0.10	0.10	0.10	0.10	46,000	mg/kg	6	12	12	0	
Phenol	0 001	0 001	0 007	0 001	0 001	0 002	760	mg/kg	6	12	4	0	
Phenol (Total)	0.009	0.005	0.013	0.009	0.005	0.009	-	mg/kg	6	12	1	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

Phthalates

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Bis (2-ethylhexyl) phthalate	0.10	0.050	0.10	0.10	0.050	0.10	16,600	mg/kg	6	12	0	0	
Butyl benzyl phthalate	0.10	0.050	0.10	0.10	0.050	0.10	254,000	mg/kg	6	12	0	0	
Diethyl phthalate	0.10	0.050	0.10	0.10	0.050	0.10	89,300	mg/kg	6	12	0	0	
Dimethyl phthalate	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Di-n-butyl phthalate	0.10	0.050	0.10	0.10	0.050	0.10	2,630	mg/kg	6	12	0	0	
Di-n-octyl phthalate	0.10	0.050	0.10	0.10	0.050	0.10	20,000	mg/kg	6	12	0	0	

Physical

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
Loss on ignition	2.12	4.95	7.58	3.42	5.52	7.61	-	%	6	12	12	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

QA Standard

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
4-Bromofluorobenzene	87.1	93.2	97.0	88.5	90.9	93.2	-	%	6	12	12	0	
Acenaphthene-d10	81.1	87.0	90.1	87.0	87.1	87.1	-	%	6	12	12	0	
Chrysene-d12	73.2	80.1	84.8	76.9	77.3	77.6	-	%	6	12	12	0	
Dibromofluoromethane	109	111	118	118	120	121	-	%	6	12	12	0	
EPH Surrogate % recovery**	97.1	101	106	107	107	107	-	%	6	12	12	0	
Naphthalene-d8	75.6	82.7	86.3	84.2	84.8	85.4	-	%	6	12	12	0	
Perylene d12**	71 7	80 4	88 6	80 9	82 6	84 2		%	6	12	12	0	
Phenanthrene-d10**	82.7	85.4	88.5	80.8	81.8	82.8	-	%	6	12	12	0	
Toluene-d8 Surrogate	97.8	99.7	101	101	101	101	-	%	6	12	12	0	

Parks Public Open Space, SOM=1%

Site Area(s) Selected: Whole site
Phase(s): All phases

Notes: * For results below LOD, a value of half LOD is used in the calculation of the mean

TPH/EPH

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
GRO Surrogate	92.1	101	120	86.7	89.2	91.7	-	%	6	12	12	0	
Mineral oils	5.00	13.6	42.4	5.00	6.50	10.5	-	mg/kg	6	12	10	0	
PRO (>C5-C10)	0.020	0.051	0.42	0.020	0.010	0.020	-	mg/kg	6	12	1	0	

VOCs

Analyte	Madeground			Natural Ground			Assessment Criteria (AC)	Units	No. of Locations	No. of Samples	No. of Samples > LOD	No. of Locations >AC	Locations Failing Screening
	Min	Mean*	Max	Min	Mean*	Max							
4-Isopropyltoluene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
iso-Propylbenzene	0.050	0.025	0.050	0.050	0.025	0.050	22,500	mg/kg	6	12	0	0	
n-Butylbenzene	0.11	0.055	0.11	0.11	0.055	0.11	-	mg/kg	6	12	0	0	
n-Propylbenzene	0.10	0.050	0.10	0.10	0.050	0.10	35,600	mg/kg	6	12	0	0	
Sec-Butylbenzene	0.10	0.050	0.10	0.10	0.050	0.10	-	mg/kg	6	12	0	0	
Tert-Butylbenzene	0.14	0.070	0.14	0.14	0.070	0.14	-	mg/kg	6	12	0	0	

THERE WERE NO EXCEEDANCES OF Parks Public Open Space, SOM=1%

PRE-REPORT DATA CHECK

- All analyte codes are matched to the library
- All SampleMatrix fields are complete
- All result and screening units match

Region	Wales and England
Water Body	Surface water
Water Body Type	Inland
Surface Water Type	River or Stream

Hardness	0-50 mg/l
Recieving surface water status	Good (or below)
Altitude	< 80m Elevation

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Unrecognised analytes

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
C16-C35 Aliphatics (Unrecognised code)	20.0	16.7	60.0	-		ug/l	5	-	0	
C16-C35 Aromatics (Unrecognised code)	20.0	16.7	60.0	-		ug/l	5	-	0	

Aliphatics and Aromatics

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Aliphatic C05-C06	10.00	5.00	10.00	-		ug/l	5	-	0	
Aliphatic C06-C08	10.00	5.00	10.00	-		ug/l	5	-	0	
Aliphatic C08-C10	10.00	5.00	10.00	-		ug/l	5	-	0	
Aliphatic C10-C12	10.00	5.00	10.00	-		ug/l	5	-	0	
Aliphatic C12-C16	20.0	16.7	60.0	-		ug/l	5	-	0	
Aliphatic C16-C21	20.0	16.7	60.0	-		ug/l	5	-	0	
Aliphatic C21-C35	20.0	16.7	60.0	-		ug/l	5	-	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Aliphatics and Aromatics

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Aliphatics C12-C35	20.0	16.7	60.0	-		ug/l	5	-	0	
Aromatic C06-C07	10.00	5.00	10.00	10.0	CL:AIRE 2017	ug/l	5	-	0	
Aromatic C07-C08	10.00	5.00	10.00	74.0	CL:AIRE 2017	ug/l	5	-	0	
Aromatic C08-C10	10.00	5.00	10.00	20.0	CL:AIRE 2017	ug/l	5	-	0	
Aromatic C10-C12	10.00	5.00	10.00	2.00	CL:AIRE 2017	ug/l	5	-	0	
Aromatic C12-C16	20.0	16.7	60.0	2.00	CL:AIRE 2017	ug/l	5	-	0	
Aromatic C12-C35	20.0	16.7	60.0	-		ug/l	5	-	0	
Aromatic C16-C21	20.0	16.7	60.0	0.10	CL:AIRE 2017	ug/l	5	-	0	
Aromatic C21-C35	20.0	16.7	60.0	0.0002	CL:AIRE 2017	ug/l	5	-	0	
Total Aliphatics and Aromatics (C5-C35)	10.0	14.2	60.0	-		ug/l	5	-	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Alkali and Alkaline Earth Metals

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Barium	4.5	40.1	104.0	-		ug/l	6	12	0	
Beryllium	0.100	0.069	0.165	-		ug/l	5	1	0	

BTEX and Fuel Additives

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Benzene	1.00	2.75	10.00	10.0	EQS 2015	ug/l	5	-	0	
Ethylbenzene	1.00	2.75	10.00	20.0	Proposed EQS	ug/l	5	-	0	
Methyl t-butylether (MTBE)	1.00	2.75	10.00	-		ug/l	5	-	0	
Tertiary Amyl Methyl Ether (TAME)	1.00	2.75	10.00	-		ug/l	5	-	0	
Toluene	1.00	2.75	10.00	74.0	EQS 2015	ug/l	5	-	0	
Xylene	2.00	5.50	20.00	30.0	CL:AIRE 2017	ug/l	5	-	0	
Xylene - Total (Summed)	1.00	5.50	10.00	-		ug/l	5	6	0	
Xylene-m & p	1.00	2.75	10.00	-		ug/l	5	-	0	
Xylene-o	1.00	2.75	10.00	-		ug/l	5	-	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

General Chemistry

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
pH	7.17	7.98	8.52	6.00/9.00	EQS 2015	pH Units	6	12	0	
Electrical conductivity	33	129	229	-		uS/cm	6	12	0	

Inorganics

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Ammoniacal Nitrogen as N	200	8965	16500	300	EQS 2015	ug/l	5	5	4	TP01, TP02, TP04, TP05
Chloride	2000	1442	2800	-		ug/l	6	3	0	
Cyanide (Complex)	50.0	25.0	50.0	1.00	EQS 2015 - Assumes Free Cyanide	ug/l	5	-	0	
Cyanide (Free)	50.0	25.0	50.0	1.00	EQS 2015	ug/l	5	-	0	
Cyanide (Total)	50.0	25.0	50.0	1.00	EQS 2015 - Assumes Free Cyanide	ug/l	5	-	0	
Fluoride	500	839	1500	-		ug/l	6	10	0	
Sulphate as SO4	2000	19525	67200	-		ug/l	6	8	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Metals

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Antimony	1.00	1.19	2.66	-		ug/l	6	5	0	
Arsenic	0.50	3.41	10.40	50.0	EQS 2015	ug/l	6	10	0	
Boron	53	321	604	-		ug/l	5	6	0	
Cadmium	0.08	0.24	1.25	0.080	EQS 2015	ug/l	6	2	1	TP02
Chromium	1.00	1.10	6.25	4.70	EQS 2015	ug/l	6	3	1	TP05
Chromium III	30.0	15.0	30.0	4.70	EQS 2015	ug/l	5	-	0	
Copper	0.50	8.48	31.20	1.00	EQS 2015 - Bioavailable	ug/l	6	12	6	TP01, TP02, TP03, TP04, TP05, TP06
Hexavalent Chromium	30.0	15.0	30.0	3.40	EQS 2015	ug/l	5	-	0	
Lead	0.20	1.79	10.20	1.20	EQS 2015 - Bioavailable	ug/l	6	10	3	TP02, TP04, TP05
Mercury	0.010	0.005	0.010	0.070	EQS 2015 MAC	ug/l	6	-	0	
Molybdenum	3.00	6.93	19.30	-		ug/l	6	7	0	
Nickel	0.55	3.90	12.30	4.00	EQS 2015 - Bioavailable	ug/l	6	12	4	TP01, TP02, TP04, TP05
Selenium	1.00	1.10	3.35	-		ug/l	6	4	0	
Zinc	1.3	23.0	126.0	10.9	EQS 2015 - Bioavailable	ug/l	6	12	2	TP02, TP05

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Other

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
DOC	4020	11341	31300	-		ug/l	6	12	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

PAHs

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Acenaphthene	0.005	0.006	0.030	-		ug/l	5	1	0	
Acenaphthylene	0.005	0.005	0.030	-		ug/l	5	-	0	
Anthracene	0.005	0.005	0.030	0.10	EQS 2015	ug/l	5	-	0	
Benzo (a) anthracene	0.005	0.005	0.030	-		ug/l	5	-	0	
Benzo (a) pyrene	0.002	0.002	0.012	0.0002	EQS 2015	ug/l	5	-	0	
Benzo (b) fluoranthene	0.005	0.006	0.030	-		ug/l	5	1	0	
Benzo (ghi) perylene	0.005	0.005	0.030	-		ug/l	5	-	0	
Benzo (k) fluoranthene	0.005	0.005	0.030	-		ug/l	5	-	0	
Chrysene	0.005	0.005	0.030	-		ug/l	5	-	0	
Dibenzo (ah) anthracene	0.005	0.005	0.030	-		ug/l	5	-	0	
Fluoranthene	0.005	0.008	0.030	0.006	EQS 2015	ug/l	5	1	1	TP02
Fluorene	0.005	0.005	0.030	-		ug/l	5	-	0	
Indeno (1,2,3-cd) pyrene	0.005	0.005	0.030	-		ug/l	5	-	0	
Naphthalene	0.010	0.013	0.060	2.00	EQS 2015	ug/l	5	1	0	
PAH (Total)	0.082	0.089	0.492	-		ug/l	5	-	0	
Phenanthrene	0.006	0.010	0.030	-		ug/l	5	5	0	
Pyrene	0.005	0.008	0.030	-		ug/l	5	1	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Phenols

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Cresols	6.00	3.00	6.00	-		ug/l	5	-	0	
Phenol	2.00	4.17	20.00	7.70	EQS 2015	ug/l	5	1	1	TP05
Phenol (Monohydric)	16.00	9.00	20.00	-		ug/l	6	1	0	
Xylenols	8.00	4.00	8.00	-		ug/l	5	-	0	

TPH/EPH

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
GRO Surrogate	57.0	75.2	97.0	-		%	5	6	0	
PRO (C5-C12)	50.0	25.0	50.0	-		ug/l	5	-	0	

EXCEEDANCES OF THRESHOLDS

Sample matrix: LEACHATE

Inorganics

Analyte	Point ID	Sample Depth (m bgl)	Result	Criteria Source	Threshold	Units	Stratum
Ammoniacal Nitrogen as N	TP01	2.70 - 2.80	6900	EQS 2015	300	ug/l	Made Ground
	TP02	1.10 - 1.20	8290	EQS 2015	300	ug/l	Made Ground
		1.80 - 1.90	8300	EQS 2015	300	ug/l	Alluvium
	TP04	2.20 - 2.30	16500	EQS 2015	300	ug/l	Made Ground
	TP05	1.20 - 1.30	13700	EQS 2015	300	ug/l	Made Ground

Metals

Analyte	Point ID	Sample Depth (m bgl)	Result	Criteria Source	Threshold	Units	Stratum
Cadmium	TP02	1.10 - 1.20	1.25	EQS 2015	0.080	ug/l	Made Ground
		1.80 - 1.90	1.23	EQS 2015	0.080	ug/l	Alluvium
Chromium	TP05	1.20 - 1.30	6.25	EQS 2015	4.70	ug/l	Made Ground
Copper	TP01	0.10 - 0.20	3.65	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
		2.70 - 2.80	8.91	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
	TP02	1.10 - 1.20	5.20	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
		1.80 - 1.90	9.99	EQS 2015 - Bioavailable	1.00	ug/l	Alluvium
	TP03	0.90 - 1.00	4.33	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
	TP04	0.90 - 1.00	5.96	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
		2.20 - 2.30	15.9	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
	TP05	0.70 - 0.80	5.23	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
		1.20 - 1.30	31.2	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
	TP06	0.20 - 0.30	8.91	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
		1.50 - 1.60	2.04	EQS 2015 - Bioavailable	1.00	ug/l	Made Ground
Lead	TP02	1.80 - 1.90	5.83	EQS 2015 - Bioavailable	1.20	ug/l	Alluvium
	TP04	2.20 - 2.30	1.25	EQS 2015 - Bioavailable	1.20	ug/l	Made Ground
	TP05	1.20 - 1.30	10.2	EQS 2015 - Bioavailable	1.20	ug/l	Made Ground
Nickel	TP01	2.70 - 2.80	4.12	EQS 2015 - Bioavailable	4.00	ug/l	Made Ground
	TP02	1.10 - 1.20	12.3	EQS 2015 - Bioavailable	4.00	ug/l	Made Ground
	TP04	2.20 - 2.30	6.17	EQS 2015 - Bioavailable	4.00	ug/l	Made Ground

EXCEEDANCES OF THRESHOLDS

Sample matrix: LEACHATE

Metals

Analyte	Point ID	Sample Depth (m bgl)	Result	Criteria Source	Threshold	Units	Stratum
Nickel	TP05	1.20 - 1.30	10.3	EQS 2015 - Bioavailable	4.00	ug/l	Made Ground
Zinc	TP02	1.10 - 1.20	95.3	EQS 2015 - Bioavailable	10.9	ug/l	Made Ground
		1.80 - 1.90	29.9	EQS 2015 - Bioavailable	10.9	ug/l	Alluvium
	TP05	1.20 - 1.30	126	EQS 2015 - Bioavailable	10.9	ug/l	Made Ground

PAHs

Analyte	Point ID	Sample Depth (m bgl)	Result	Criteria Source	Threshold	Units	Stratum
Fluoranthene	TP02	1.80 - 1.90	0.023	EQS 2015	0.006	ug/l	Alluvium

Phenols

Analyte	Point ID	Sample Depth (m bgl)	Result	Criteria Source	Threshold	Units	Stratum
Phenol	TP05	1.20 - 1.30	20.0	EQS 2015	7.70	ug/l	Made Ground

PRE-REPORT DATA CHECK

- All analyte codes are matched to the library
- All SampleMatrix fields are complete
- All result and screening units match

Region	Wales and England	**Hardness**	NA
Water Body	Groundwater	**Recieving surface water status**	NA
Water Body Type	NA		
Surface Water Type	NA	**Altitude**	NA

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Unrecognised analytes

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
C16-C35 Aliphatics (Unrecognised code)	20.0	16.7	60.0	-		ug/l	5	-	0	
C16-C35 Aromatics (Unrecognised code)	20.0	16.7	60.0	-		ug/l	5	-	0	

Aliphatics and Aromatics

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Aliphatic C05-C06	10.00	5.00	10.00	15,000	WHO 2008	ug/l	5	-	0	
Aliphatic C06-C08	10.00	5.00	10.00	15,000	WHO 2008	ug/l	5	-	0	
Aliphatic C08-C10	10.00	5.00	10.00	300	WHO 2008	ug/l	5	-	0	
Aliphatic C10-C12	10.00	5.00	10.00	300	WHO 2008	ug/l	5	-	0	
Aliphatic C12-C16	20.0	16.7	60.0	300	WHO 2008	ug/l	5	-	0	
Aliphatic C16-C21	20.0	16.7	60.0	-		ug/l	5	-	0	
Aliphatic C21-C35	20.0	16.7	60.0	-		ug/l	5	-	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Aliphatics and Aromatics

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Aliphatics C12-C35	20.0	16.7	60.0	-		ug/l	5	-	0	
Aromatic C06-C07	10.00	5.00	10.00	-		ug/l	5	-	0	
Aromatic C07-C08	10.00	5.00	10.00	-		ug/l	5	-	0	
Aromatic C08-C10	10.00	5.00	10.00	300	WHO 2008	ug/l	5	-	0	
Aromatic C10-C12	10.00	5.00	10.00	90.0	WHO 2008	ug/l	5	-	0	
Aromatic C12-C16	20.0	16.7	60.0	90.0	WHO 2008	ug/l	5	-	0	
Aromatic C12-C35	20.0	16.7	60.0	-		ug/l	5	-	0	
Aromatic C16-C21	20.0	16.7	60.0	90.0	WHO 2008	ug/l	5	-	0	
Aromatic C21-C35	20.0	16.7	60.0	90.0	WHO 2008	ug/l	5	-	0	
Total Aliphatics and Aromatics (C5-C35)	10.0	14.2	60.0	-		ug/l	5	-	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Alkali and Alkaline Earth Metals

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Barium	4.5	40.1	104.0	700	WHO 2017	ug/l	6	12	0	
Beryllium	0.100	0.069	0.165	12.0	WHO 2017	ug/l	5	1	0	

BTEX and Fuel Additives

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Benzene	1.00	2.75	10.00	1.00	UK DWS	ug/l	5	-	0	
Ethylbenzene	1.00	2.75	10.00	300	WHO 2017	ug/l	5	-	0	
Methyl t-butylether (MTBE)	1.00	2.75	10.00	15.0	WHO 2017	ug/l	5	-	0	
Tertiary Amyl Methyl Ether (TAME)	1.00	2.75	10.00	-		ug/l	5	-	0	
Toluene	1.00	2.75	10.00	700	WHO 2017	ug/l	5	-	0	
Xylene	2.00	5.50	20.00	500	WHO 2017	ug/l	5	-	0	
Xylene - Total (Summed)	1.00	5.50	10.00	-		ug/l	5	6	0	
Xylene-m & p	1.00	2.75	10.00	-		ug/l	5	-	0	
Xylene-o	1.00	2.75	10.00	-		ug/l	5	-	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

General Chemistry

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
pH	7.17	7.98	8.52	6.50/10.0	UK DWS	pH Units	6	12	0	
Electrical conductivity	33	129	229	2,500	UK DWS	uS/cm	6	12	0	

Inorganics

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Ammoniacal Nitrogen as N	200	8965	16500	389	UK DWS	ug/l	5	5	4	TP01, TP02, TP04, TP05
Chloride	2000	1442	2800	250,000	UK DWS	ug/l	6	3	0	
Cyanide (Complex)	50.0	25.0	50.0	50.0	UK DWS - Assumes Total Cyanide	ug/l	5	-	0	
Cyanide (Free)	50.0	25.0	50.0	50.0	UK DWS - Assumes Total Cyanide	ug/l	5	-	0	
Cyanide (Total)	50.0	25.0	50.0	50.0	UK DWS	ug/l	5	-	0	
Fluoride	500	839	1500	1,500	UK DWS	ug/l	6	10	0	
Sulphate as SO4	2000	19525	67200	250,000	UK DWS	ug/l	6	8	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Metals

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Antimony	1.00	1.19	2.66	5.00	UK DWS	ug/l	6	5	0	
Arsenic	0.50	3.41	10.40	10.0	UK DWS	ug/l	6	10	1	TP05
Boron	53	321	604	1,000	UK DWS	ug/l	5	6	0	
Cadmium	0.08	0.24	1.25	5.00	UK DWS	ug/l	6	2	0	
Chromium	1.00	1.10	6.25	50.0	UK DWS	ug/l	6	3	0	
Chromium III	30.0	15.0	30.0	-		ug/l	5	-	0	
Copper	0.50	8.48	31.20	2,000	UK DWS	ug/l	6	12	0	
Hexavalent Chromium	30.0	15.0	30.0	-		ug/l	5	-	0	
Lead	0.20	1.79	10.20	10.0	UK DWS	ug/l	6	10	1	TP05
Mercury	0.010	0.005	0.010	1.00	UK DWS	ug/l	6	-	0	
Molybdenum	3.00	6.93	19.30	70.0	WHO 2017	ug/l	6	7	0	
Nickel	0.55	3.90	12.30	20.0	UK DWS	ug/l	6	12	0	
Selenium	1.00	1.10	3.35	10.0	UK DWS	ug/l	6	4	0	
Zinc	1.3	23.0	126.0	-		ug/l	6	12	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Other

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
DOC	4020	11341	31300	-		ug/l	6	12	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

PAHs

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Acenaphthene	0.005	0.006	0.030	-		ug/l	5	1	0	
Acenaphthylene	0.005	0.005	0.030	-		ug/l	5	-	0	
Anthracene	0.005	0.005	0.030	-		ug/l	5	-	0	
Benzo (a) anthracene	0.005	0.005	0.030	-		ug/l	5	-	0	
Benzo (a) pyrene	0.002	0.002	0.012	0.010	UK DWS	ug/l	5	-	0	
Benzo (b) fluoranthene	0.005	0.006	0.030	-		ug/l	5	1	0	
Benzo (ghi) perylene	0.005	0.005	0.030	-		ug/l	5	-	0	
Benzo (k) fluoranthene	0.005	0.005	0.030	-		ug/l	5	-	0	
Chrysene	0.005	0.005	0.030	-		ug/l	5	-	0	
Dibenzo (ah) anthracene	0.005	0.005	0.030	-		ug/l	5	-	0	
Fluoranthene	0.005	0.008	0.030	-		ug/l	5	1	0	
Fluorene	0.005	0.005	0.030	-		ug/l	5	-	0	
Indeno (1,2,3-cd) pyrene	0.005	0.005	0.030	-		ug/l	5	-	0	
Naphthalene	0.010	0.013	0.060	-		ug/l	5	1	0	
PAH (Total)	0.082	0.089	0.492	-		ug/l	5	-	0	
Phenanthrene	0.006	0.010	0.030	-		ug/l	5	5	0	
Pyrene	0.005	0.008	0.030	-		ug/l	5	1	0	

Sample Matrix: LEACHATE

Site Area(s) Selected: Whole site
Event(s) Selected: All events

Phenols

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
Cresols	6.00	3.00	6.00	-		ug/l	5	-	0	
Phenol	2.00	4.17	20.00	-		ug/l	5	1	0	
Phenol (Monohydric)	16.00	9.00	20.00	-		ug/l	6	1	0	
Xylenols	8.00	4.00	8.00	-		ug/l	5	-	0	

TPH/EPH

Analyte	Min	Mean*	Max	Assessment Criteria (AC)	Assessment Criteria Source	Units	No. Locations Sampled	No. Samples > LOD	No. Locations > AC	Location(s) Failing Screening
GRO Surrogate	57.0	75.2	97.0	-		%	5	6	0	
PRO (C5-C12)	50.0	25.0	50.0	-		ug/l	5	-	0	

EXCEEDANCES OF THRESHOLDS

Sample matrix: LEACHATE

Inorganics

Analyte	Point ID	Sample Depth (m bgl)	Result	Criteria Source	Threshold	Units	Stratum
Ammoniacal Nitrogen as N	TP01	2.70 - 2.80	6900	UK DWS	389	ug/l	Made Ground
	TP02	1.10 - 1.20	8290	UK DWS	389	ug/l	Made Ground
		1.80 - 1.90	8300	UK DWS	389	ug/l	Alluvium
	TP04	2.20 - 2.30	16500	UK DWS	389	ug/l	Made Ground
	TP05	1.20 - 1.30	13700	UK DWS	389	ug/l	Made Ground

Metals

Analyte	Point ID	Sample Depth (m bgl)	Result	Criteria Source	Threshold	Units	Stratum
Arsenic	TP05	1.20 - 1.30	10.4	UK DWS	10.0	ug/l	Made Ground
Lead	TP05	1.20 - 1.30	10.2	UK DWS	10.0	ug/l	Made Ground