Groundwater Monitoring Review, 2015

On Behalf of South Hook LNG Terminal Company LTD.









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1 Introduction

1.1.1 RPS Planning and Development (RPS) have undertaken routine (monthly) groundwater monitoring on the South Hook LNG Terminal Company LTD. (the Company (SHLNG)) site in Milford Haven, Pembrokeshire since October 2012. The groundwater monitoring undertaken by RPS since 2012 builds on an extensive historical monitoring dataset collected for the site since its development. The entire monitoring dataset provides the Company with an on-going record of groundwater quality on the site that enables any significant changes to be identified and hence possible implications for the long-term site lease agreement with the site Landlord (Esso Petroleum Company Limited) to be defined.

1.1.2 In October 2013 RPS Planning and Development (RPS) produced the ñGroundwater Monitoring Review & Trend Analysis Report, 2013ò for the Company (*Report Ref. JER5575U R 131030 GWMonRevTA, Revison6*), a copy of which is provided in *Appendix 1*. That report (herein after referred to as the Trend Analysis Report, (RPS, 2013)) provided a comprehensive assessment of the entire groundwater monitoring dataset that typically extends from January or February 2005 up to March 2013. The objective of the Trend Analysis Report (RPS, 2013) was to identify any long-term trend in monitoring dataset and to develop recommendations regarding ongoing monitoring on the SHLNG site in accordance with all relevant legal, other requirements and associated guidance.

1.1.3 Upon receiving the report the Company decided to continue the existing monitoring regime, in order to gather further information thereby ensuring a comprehensive dataset was maintained. A further two and half years monitoring data has been collected in since the Trend Analysis Report (RPS, 2013) was produced.

1.1.4 SHLNG have now commissioned RPS to undertake a review of the extended two and half year dataset within the context of the original trend analysis presented in the Trend Analysis Report (RPS, 2013). As significant additional information has been gathered since October 2013, RPS is in a position to further re-evaluate the groundwater monitoring strategy implemented on the SHLNG site. Other elements of monitoring, such a pond level monitoring and spring monitoring, on the site have also been reviewed and recommendations been made for their modification where justified by the extended dataset.

2 Site Setting

2.1 Site Location

2.1.1 The SHLNG Terminal site is located on the Pembrokeshire coastline in south-west Wales, approximately 2.5 km west of Milford Haven. The site is located in a largely rural area comprising agricultural land, farms and small villages.

2.1.2 The site is centred at National Grid Reference SM 875 064 and covers a total area of approximately 210 Hectares (Ha). The site is located on two flat-topped hills with an elevation of approximately 56 metres above Ordnance Datum (mAOD) that are bisected by an approximately north-south oriented valley that historically discharged to the Milford Haven Waterway in the south.

2.1.3 A site plan is provided in *Drawing JER5575U-003*. The site elevation changes from the high flat-topped hills at approximately 56 m AOD through the northern and eastern areas of the site, to c. 5 mAOD in the valley bottom at its confluence with the sea at Little Wick Bay in the south. The valley marks the course of a former natural watercourse at this locality that now follows a highly modified channel and valley. The valley contains the ñskim pondò at its southern end, an impounded water body that discharges to the sea via a concrete pipe situated immediately down stream of weir situated at the southern end of the skim pond.

2.2 Site History

2.2.1 The SHLNG Terminal is situated upon the site of a former oil refinery that was constructed in the late 1950ôs and expanded in the 1970ôs. The Oil Refinery was closed in 1983 and fully decommissioned by 1986.

2.2.2 In 2004, SHLNG commissioned a ôSite Remediation Planô for the development of the site. Following their approval site preparation works were commenced with the SHLNG Terminal becoming fully operational in 2009. The generalised site history is summarised in *Table 2.1* and is shown on times-series water quality data presented in *Appendix 3* and *Appendix 7*.

Table 2.1 Key Development Phases on the SHLNG Terminal Site

Date	Development Phase
Pre-1983	Refinery Operation Phase
1983ï 1986	Refinery Decommissioning Phase
1993 ï 2003	Post Closure Site Characterisation works
2004 ï 2005	SHLNG Site Remediation & Site Preparation Phase
2005 ï 2010	SHLNG Site Construction Phase
2009 to date	SHLNG Operational Phase

2.3 Environmental Setting

2.3.1 The South Hook LNG Terminal site is located in an environmentally sensitive location afforded protection by a range of national and European legislation. In particularly the local environs of the site include:

- Part of the Pembrokeshire Coast National Park Authority (PCNPA);
- Waters of the Milford Haven Waterway; and
- Part of the Pembrokeshire Marine Special Area of Conservation (SAC).

2.3.2 A detailed description of the site geology, ground conditions and hydrogeology is given in the Trend Analysis Report (RPS, 2013) provided in *Appendix 1, so* is not repeated here.

3 SHLNG Monitoring Regime

3.1 Monitoring Objectives

3.1.1 The objective of groundwater monitoring undertaken on the SHLNG Terminal site is to provide an on-going assessment of groundwater quality following the remediation of the site, against which the legacy land quality issues can be assessed. An additional secondary benefit is that the programme may be used to inform of potential effects that may result from either the operation of the facility and/ or associated activities. As such, the significant additional and extended monitoring dataset constitutes a key record to be provided to the site landlord (Esso Petroleum Company Limited) from whom the site is leased. There is, however, no statutory or regulatory land quality or land use change driver for the monitoring regime currently implemented on the site, and this is considered further in the next section.

3.2 Regulatory & Permitting Framework

3.2.1 There is no statutory or regulatory land quality or land use change driver for the monitoring regime currently implemented by the Company on the site. However the original strategy for site monitoring was developed under the planning permissions for the development of the Terminal site in accordance with Part IIA of the Environmental Protection Act (EPA), as introduced by Section 57 of the Environment Act 1995 that came into effect in September 2001 with the implementation of the Contaminated Land Regulations 2000 (now superseded by The Contaminated Land Regulations 2006 and Amendment 2012). Furthermore the groundwater monitoring strategy developed for the site conforms to UK regulatory requirements, all relevant legal and other requirements, associated guidance and industry best practice including:

- Environment and Defra (2004) Model Procedures for the Management of Land Contamination (CLR11);
- Environment Agency (2013) Groundwater Protection: Principles and Practice (GP3); and
- CIRIA (1996) Construction Industry Research and Information Association R132: A Guide for Safe Working on Contaminated Sites;
- EPR Environmental Permit - Permit number EPR/XP3538LD, issued 14 October 2015
- SHLNG Application Site Report (ASR), September 2008;
- SHLNG Site Protection and Monitoring Programme (SPMP), September 2008;
- European Commission Guidance concerning baseline reports under Article 22(2) of Directive 2010/75/EU on industrial emissions (2014/C136/03), 6 May 2014;
- Regulatory Guidance Note, RGN 9 Surrender - Environmental Permitting Regulations (England and Wales) 2010, LIT 8220, Version 3.0 May 2013; and
- Core guidance for the Environmental Permitting (England and Wales) Regulations 2010, DEFRA/ WG March 2013;

- DEFRA/ WG Industrial emissions Directive (IED) EPR Guidance on Part A installations, February 2013; and
- Environmental Permitting Regulations Guidance for applicants H5 - site condition report guidance and templates, October 2014.

3.2.2 The Company operations comply with the site EPR Environmental Permit to operate and associated guidance. Although the there is no statutory land quality or land use change driver for the scope of monitoring works undertaken by the Company on the site, Condition 3 of that permit requires that the following monitoring is undertaken:

3 Emissions and monitoring

3.1 Emissions to water, air or land

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1, S3.2a and S3.2b.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.

3.2.3 Several Environmental Risk Assessments (ERAôs) have been undertaken to date for the terminal operations. These include those undertaken in support of the planning permissions for the development of the Terminal site, the application for EPR environmental permit to operate and the South Hook LNG Terminal Company LTD. COMAH Safety Report 2011.

3.2.4 The most recent Environmental Risk Assessment (ERA) was undertaken in accordance with the CDOIF Guideline on Environmental Risk Tolerability for COMAH Establishments version 2.0, to support the Companyôs COMAH Safety Report review and update in 2016. This determined that only the following substances were held on site at the COMAH establishmentôin sufficient quantities to potentially cause environmental harm:

1. LNG
2. Diesel
3. Caustic soda - Sodium hydroxide (NaOH) solution
4. Expandol Firefighting Foam.
5. Firewater
6. Hydraulic oil (in jetty unloading arms)
7. De-minimis miscellaneous oils, greases and ancillary chemicals
8. Transformer oil

3.2.5 The ERA 2016 concluded that the un-mitigated consequences of potential losses of containment of all of the above listed substances held at the South Hook LNG Terminal COMAH Establishment are sub-MATTE and are Broadly Acceptable.

3.2.6 Therefore, SHLNG groundwater monitoring programmes, as currently implemented and as proposed in this report moving forwards, are separate from, additional to and exceed the requirements required by condition 3.1.3 of the EPR Environmental Permit. In compliance with this permit condition, the Company has determined that periodic monitoring shall be carried out in accordance with the groundwater monitoring programme proposed in this report, as amended, and at a frequency of least once every 5 years, This is principally driven by the Industry Emissions Directive (IED) (2010/75/EU), including articles 14.1 (b) & (e).

3.3 Monitoring Regime

3.3.1 The existing monitoring regime implemented on the site comprises three elements namely: groundwater monitoring, spring monitoring and the monitoring of surface water levels within ponds found in the Nature Conservation Area (NCA).

Groundwater Monitoring

3.3.2 The historical monitoring regime implemented on the SHLNG Terminal site is described in detail in the Trend Analysis Report (RPS, 2013) provided in *Appendix 1*. The historical monitoring network on the SHLNG site comprises up to 77 boreholes located across the site area and its immediate environs. Since June 2011 a network comprising up to 30 boreholes has been routinely monitored, as shown on *Drawing JER5575U-003*. The borehole monitoring network is subdivided into 8 groups that include:

Main Excavation Area Boundary Wells (Group 1)

- Eastern Boundary Wells: BH30(A), BH36(A)
- Northern Boundary Well: BH65(A)
- North-eastern Boundary Well: BH59(A)

Monitoring Wells South of the Main Excavation Area (Group 2)

- Up-gradient: BHG2(A), BH18, BH19
- Mid-flow field: BH40(A), BH45(A, B), BH01
- Down-gradient: BH63(A)

Valley Area Up-stream of the Skim Pond (Group 3)

- Sludge Pit: BH41(A), BH42(A, B)
- Down-stream Sludge Pit: BH44
- Up-stream Sludge Pit (Jet Hammer Blinds) BH43

Valley Area Down-Stream of the Skim Pond (Group 4)

- Boreholes MW03, BH06, BH34B and MW01

Process Area (Group 5)

- Boreholes BH60B and BH61A.

Nature Conservation Area (NCA) (Group 6)

- Southern NCA: BH49, BH50
- Mid NCA: BH53
- Northern NCA: BH20, BH22

High Ground to West of Skim Pond (Group 7)

- Borehole BH47A

Northern Site Boundary groundwater inflow G

- Boreholes BH26, BH27A, BH55

3.3.3 The boreholes are monitored at the following frequency and for the stated analytical suite:

- *Monthly Monitoring Round:* Boreholes BH34b, BH41a, BH42b & BH43 (Gasoline Range Organics (GRO); Diesel Range Organics (DRO); and Semi Volatile Organic Compounds (SVOCs)).
- *Quarterly Monitoring Round:* Boreholes BH06, BH44, BH50, MW1 and MW3 (GRO, DRO and SVOCs, with the exception of BH50 that is only monitored for GRO and DRO);
- *6-Monthly (Biannual) Monitoring Round:* Boreholes BH01, BH18, BH19, BH20, BH22, BH26, BH27a, BH30a, BH36b, BH40a, BH45b, B47a, BH49, BH53, BH55, BH59, BH60b, BH61a, BH63a, BH65, BHG2b (GRO and DRO analysis).

3.3.4 A detailed summary of the monitoring regime for each borehole (including the dataset period, monitoring frequency and analytical suite) is provided in the summary table provided in *Appendix 6*. The laboratory certificates for additional analyses undertaken since the Trend Analysis report (RPS, 2013) are provided in *Appendix 2*.

Coastal Spring Monitoring

3.3.5 Seven springs situated on the coastal boundary of the terminal site are currently monitored on an annual basis. The location of each spring sampling point (i.e. SP1 to SP7) is shown in *Drawing JER5575U-003*. All spring samples are analysed for DRO and GRO. In addition the sample from Spring 5 is also analysed for copper.

Pond Levels

3.3.6 The surface water level in eight ponds located within the NCA has been recorded as part of routine monthly monitoring on the SHLNG Terminal Site since 2005. The monitoring of pond levels was initiated to determine whether any excavation works and/or site dewatering resulted in a measurable effect upon pond levels, thus providing an indication of the likely continuity between the ponds and underlying groundwater. Pond level measurements have typically been taken on a monthly basis, using free standing marker boards installed within each pond. Water level measurements are therefore made in metres as the marker boards have not been surveyed to Ordnance Datum.

4 Groundwater Quality Trend Analysis

4.1 General Assessment Approach

4.1.1 The general approach utilised in the original Trend Analysis Report (RPS, 2013) for data analysis and review has been repeated and used in this report for the extended monitoring dataset. The data assessment is based on a qualitative appraisal of the time-series datasets for each monitoring borehole and spring (presented graphically in *Appendix 3* and *Appendix 7* respectively), supported by the statistical description of the analytical dataset for each monitoring location (*Appendix 4* and *Appendix 5*). On the basis of this data the general trend at each monitoring location is determined and summarised in *Table 4.1* and *Table 4.2*, with a more detailed description provided in the table in *Appendix 6*.

4.1.2 The review presented herein is based on the entire monitoring dataset that extends up to and includes the September 2015 monitoring round.

4.2 Groundwater Monitoring Dataset

4.2.1 The time-series groundwater quality dataset for each borehole is provided in *Appendix 3*. These charts present the concentration of total Gasoline Range Organics (GRO), the concentration of total Diesel Range Organics (DRO) and annual average concentrations (for both GRO and DRO). The associated summary statistics are provided in *Appendix 4* and *Appendix 5*.

4.2.2 The qualitative Trend Analysis for each location is summarised in *Table 4.1* and *Table 4.2*, with a detailed description provided in the table within Appendix 6. *Table 4.1* presents the trend analysis for the borehole network situated within the internal green security fence, with the trend analysis for those boreholes situated outside the green fence provided in *Table 4.2*.

4.2.3 In *Table 4.1* and *Table 4.2* the trend analysis for the extended dataset (up to September 2015) is presented with earlier trend analyses undertaken by RPS (March 2013) and WSP (February 2012). This allows any changes in trend to be discerned. Trends have been defined in terms of the following:

- **No Detectable Contamination** ï Analytical results for a borehole are typically characterised by concentrations of DRO and/or GRO that do not exceed the laboratory analytical Limit of Detection (LOD).
- **No Trend of Concern** ï Stable hydrocarbon concentrations that are commonly low; or only the occasional presence of hydrocarbons at concentrations that exceed the LOD.
- **Declining** - General decline in the concentration of hydrocarbons (GRO or DRO) over monitoring period.
- **Increasing** - General increase in the concentration of hydrocarbons (GRO or DRO) over monitoring period.

Table 4.1 Summary of Trend Analysis – Inside Green Fence

Borehole ID	Monitoring Frequency	Parameter	Trend Summary (February 2012)	Trend Summary (March 2013)	Trend Summary (October 2015)
Inside Green Fence					
BH34b	Monthly	GRO	No Trend Identified	Declining	No Trend of Concern (Absent or Low Concentrations)
		DRO	Declining	Declining	Declining / stable
BH41a	Monthly	GRO	Declining	Declining	No Trend of Concern (Low or Absent Concentrations)
		DRO	Declining	Declining	No Trend of Concern (Stable Concentrations)
BH42a	Monthly	GRO	Increasing	No Trend of Concern	No Trend of Concern (Stable concentration)
		DRO	Increasing	No Trend of Concern	No Trend of Concern (Stable Concentration)
BH43	Monthly	GRO	Increasing	Declining	Declining (Concentrations now low and stable)
		DRO	Increasing	No Trend of Concern	No Trend of Concern (Lower and stable Concentration)
BH06	Quarterly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Concentration low and stable)
BH44	Quarterly	GRO	Declining	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Low / Absent Concentrations)

Table 4.1 Summary of Trend Analysis – Inside Green Fence (Continued)

Borehole ID	Monitoring Frequency	Parameter	Trend Summary (February 2012)	Trend Summary (March 2013)	Trend Summary (October 2015)
MW01	Quarterly	GRO	-	No Trend of Concern	No Detectable Contamination
		DRO	-	No Trend of Concern	No trend of concern (Occasional Occurrence)
MW03	Quarterly	GRO	-	No Trend of Concern	No trend of concern (Occasional Occurrence)
		DRO	-	No Trend of Concern	No trend of concern (Low and stable concentrations)
BH30a	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	Declining	No Detectable Contamination	No Detectable Contamination
BH40a	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	No Detectable Contamination	Possible Increasing (Dec-12 Spike)	Currently stable, but generally absent prior to 2013.
BH45b	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	No Detectable Contamination	Possible Increasing (Dec-12 Spike)	No Trend of Concern (generally stable)
BH63a	6-Monthly	GRO	-	No Detectable Contamination	No Detectable Contamination
		DRO	-	No Detectable Contamination	No Detectable Contamination
BHG2b	6-Monthly	GRO	Declining	Declining	No Detectable Contamination
		DRO	Declining	Declining	No Detectable Contamination

Table 4.2 Summary of Trend Analysis – Outside Green Fence

Borehole ID	Monitoring Frequency	Parameter	Trend Summary (February 2012)	Trend Summary (March 2013)	Trend Summary (October 2015)
Outside Green Fence					
BH50	Quarterly	GRO	No Trend Identified	Possible Increasing	Increasing
		DRO	No Trend Identified	Possible Increasing	Increasing (possibly stabilised)
BH01	6-Monthly	GRO	-	No Trend of Concern	No Trend of Concern (typically no contamination detected)
		DRO	-	No Trend of Concern (Dec-12 Spike)	No trend of Concern (low and variable concentrations)
BH18	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	Decreasing	No Trend of Concern (Elevated Dec-12)	Increasing
BH19	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern
BH20	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Trend of Concern
BH22	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Detectable Contamination
BH26	6-Monthly	GRO	Decreasing	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Trend of Concern
BH27a	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Generally absent)
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Generally absent)
BH36b	6-Monthly	GRO	Decreasing	No Trend of Concern	Generally No Contamination Detected
		DRO	Decreasing	No Trend of Concern	Not Trend of Concern (low and stable)

Table 4.2 Summary of Trend Analysis – Outside Green Fence (Continued)

Borehole ID	Monitoring Frequency	Parameter	Trend Summary (February 2012)	Trend Summary (March 2013)	Trend Summary (October 2015)
BH47a	6-Monthly	GRO	-	No Trend of Concern	No Contamination Detected
		DRO	-	Possible Increasing (Elevated Dec-12)	No Trend of Concern
BH49	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	No Detectable Contamination	No Trend of Concern (Elevated Dec-12)	No Contamination Detected
BH53	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	Decreasing	No Trend of Concern (Dec-12 Spike)	No Trend of Concern (although presence in gw only since 2013)
BH55	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Contamination Detected
BH59	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Contamination Detected (Since 2014)
BH60b	6-Monthly	GRO	-	No Trend of Concern	No Contamination Detected
		DRO	-	No Trend of Concern	No Trend of Concern
BH61a	6-Monthly	GRO	-	No Trend of Concern (Elevated Dec-12)	Increasing (possibly now stable or in decline)
		DRO	-	Possible Increasing (Dec-12 Spike)	Increasing (possibly now stable or in decline)
BH65	6-Monthly	GRO	-	No Trend of Concern	No Contamination Detected
		DRO	-	No Trend of Concern (Elevated Dec-12)	No Trend of Concern (generally absent)

4.2.4 The majority of boreholes are characterised by the general absence of hydrocarbon contamination and/or the absence of any trend of concern. The notable exceptions include the datasets for borehole BH18, BH40a, BH50 and BH61a, which are described below.

4.2.5 Borehole BH18 is located in Group 2 on high ground in the southeast of the site. The groundwater quality dataset for borehole BH18 is characterised by the routine occurrence of DRO since 2011 and a possible rising trend. In the absence of any activities by SHLNG within the area, the cause of this apparent trend is unclear, although the trend is not seen in down gradient monitoring locations and DRO concentrations remain low.

4.2.6 Borehole BH40a (Group 2) is situated within the valley upstream of the skim pond, in closest proximity to the Terminal facility. Groundwater was characterised by the general absence of hydrocarbon contamination during the construction and early operational phase. Since January 2012, DRO has been identified routinely in groundwater. During this period, DRO concentrations typically vary between 25 µg/l and 1,300 µg/l, with an anomalous peak of 6,150 µg/l in December 2013. There is evidence to suggest that DRO concentrations have recently been declining back to low levels. GRO is essentially absent throughout this period.

4.2.7 Borehole BH50 (Group 6) is located in the southwest of the NCA adjacent the site coastal boundary. Rising concentrations of DRO and GRO have been observed in BH50 since 2011. However the routine presence of DRO and GRO in groundwater is characteristic of groundwater at this borehole location throughout the entire monitoring dataset. Despite a possible rising trend since c. 2010 / 2011, the contamination status of this borehole has not changed as recent concentrations do not exceed the historical maximum. The Company have not undertaken any activities within this area and investigations at this location suggest it likely to be associated with residual, legacy land quality issues in southern area of the Nature Conservation Area,

4.2.8 During the pre-operational phase, groundwater quality at borehole BH61a (Group 5) was generally characterised by the absence of DRO and GRO, with the exception of a spike in DRO in late 2005. Since July 2008, both DRO and GRO have been routinely present in groundwater samples, with a possible rising trend observed, most notably for DRO, since 2010. The concentration of both DRO and GRO has exceeded 1,500 µg/l during this period.

4.2.9 The most contaminated boreholes present on the site are located within Group 3, situated in the valley area of upstream of the Skim Pond and include borehole BH41a, BH42a and BH43. Although elevated the hydrocarbon concentrations observed in groundwater at these monitoring locations are now significantly lower than respective historical maxima and are stable, possibly a reflection of monitoring of the inherent variability in groundwater quality at these locations. Petroleum hydrocarbons are also observed in boreholes situated within the valley, down hydraulic gradient from the Skim Pond (i.e. Group 4), namely borehole MW03, BH06 and BH34b. Concentrations at these localities are low and stable ranging between 100 and 200 µg/l over the past 3 or 4 years. Borehole MW01, situated closest to the coastal site boundary, shows

the occasional presence of GRO in groundwater although concentrations are low with no trend of concern.

4.3 Coastal Spring Monitoring Dataset

4.3.1 The time-series quality charts for the spring monitoring dataset are presented in *Appendix 7*. The monitoring dataset provided by WSP only provided monitoring data for the period of 2005 to 2009, inclusive. However in the earlier trend analysis report it is stated that WSP have undertaken 18 spring monitoring rounds ñApril 2005 and April 2012ò The general water quality observed at the springs is described below:

Spring 1 and Spring 2

4.3.2 Spring 1 and Spring 2 are situated on the western coastline and likely to derive groundwater flow from the northern NCA being situated down-gradient of the groundwater divide separating groundwater flow towards the western coastal boundary and the SHLNG Terminal site. Petroleum hydrocarbons are generally absent from groundwater emerging at these springs.

Spring 3 and Spring 4

4.3.3 Spring 3 and Spring 4 are situated on the western coastline, to the south of Spring 1 and Spring 2. Likely to receive groundwater from the central part of the NCA being situated down-gradient of the north-south divide separating groundwater flow towards the western coastal boundary and the SHLNG Terminal site / skim pond valley. Where there was sufficient flow to facilitate sampling the groundwater emerging at these springs is typically characterised by the absence of petroleum hydrocarbons.

Spring 5

4.3.4 Spring 5 is situated on the southwestern corner of the coastline. This spring is likely to receive groundwater from southern NCA being situated down-gradient of the divide that separates groundwater flow to the western / southern coastal boundary and the skim pond valley. This monitoring location does not represent a true spring discharge as the sample is taken from a metal pipe that discharges at the cliff-line at this point. It is possible that this pipe drains shallow waters from the former refinery site in the vicinity of borehole BH50.

4.3.5 Water from this sample point is generally characterised by the presence of low concentrations of DRO (typically below 300 µg/l) and occasional occurrence of very low concentrations of GRO. Although DRO has been observed in the last two monitoring rounds no trends of concern are apparent in the entire dataset for this location. Investigations at this location suggest the presence of hydrocarbons is likely to be associated with residual, legacy land quality issues in southern area of the Nature Conservation Area, as demonstrated by the historical monitoring dataset for borehole BH50. Furthermore RPS consider that the continued low concentration of petroleum hydrocarbons and small flow that characterise Spring 5 do not constitute a significant environmental risk.

Spring 6

4.3.6 Spring 6 is situated on the coastal boundary, immediately south of the central part of the skim pond valley. Spring 6 is located down hydraulic gradient from Borehole Group 4 (Valley area down-stream of skim pond) along the region of presumed axial groundwater flow towards the coastline. Spring six is characterised by the occasional presence of DRO and GRO at low concentrations with no trend of concern.

Spring 7

4.3.7 Spring 7 is situated on the southern coastal boundary near the south-east corner Terminal site boundary. This spring appears to be located on the opposite side of the groundwater divide beneath high ground to the east of the skim pond valley and the location of Borehole Group 2 (Monitoring well south of the Main Excavation Area). Groundwater quality is characterised by the occasional presence of DRO and GRO at low concentrations, with no trend of concern.

4.3.8 No trends of concern have been identified with respect to the spring monitoring dataset. DRO has been identified at Spring 5 with a concentration of 143 and 196 µg/l in the past two monitoring rounds, although this is consistent with the historical dataset for this location

5 Recommendations for SHLNG Monitoring Regime

5.1 Groundwater Monitoring

5.1.1 On the basis of the trend analysis summarised in Table 4.1 and Table 4.2, and described in detailed in Appendix 6, a reduction to the current groundwater monitoring regime for the site can be justified via the risk based assessment presented in this report. Proposed changes to monitoring regime are summarised in the table provided in Appendix 6 and described below.

Group 1 (Main Excavation Area Boundary Wells)

5.1.2 The c. 11 year water quality monitoring dataset for the boreholes in within Group 1 are characterised by either the general absence of contamination (BH30a, BH59 and BH65) or the absence of trends of concern (BH36b). It is therefore proposed to cease monitoring from all boreholes within Group 1 from the groundwater monitoring network.

Group 2 (Monitoring Wells South of the Main Excavation Area)

5.1.3 The c. 11 year water quality monitoring dataset for boreholes BHG2b and BH63a are characterised by the general absence of hydrocarbon contamination. Although hydrocarbon contamination is observed in groundwater from borehole BH01, BH19 and BH45b, no trends of concern have been identified from the extended dataset. In the absence of any activities by SHLNG within this area of the site it is therefore proposed that these boreholes are removed from the monitoring programme.

5.1.4 The anomalous increase in DRO concentrations observed at BH18 merit continued monitoring of petroleum hydrocarbon concentrations on a 6-monthly basis at this location. This monitoring location will also constitute an eastern site boundary monitoring location, relative to the South Hook LNG Terminal EPR permitted installation.

5.1.5 Similarly the recent occurrence of DRO at borehole BH40a also merits continued monitoring of petroleum hydrocarbon concentrations at this location on a 6-monthly basis.

Group 3 (Valley Area Up-stream of the Skim Pond)

5.1.6 The boreholes in Group 3 are characterised by the highest concentration of petroleum hydrocarbons and SVOCs seen on the site. However these locations are characterised by significantly reduced and now stable concentrations, with no clear evidence of seasonality in observed concentrations. It is proposed to continue monitoring these boreholes, although the monitoring frequency can be reduced from monthly to annual, as no activities are undertaken by SHLNG within this area of the site. These boreholes shall be monitored for petroleum hydrocarbon concentrations only as the additional SVOC analysis provides little useful additional information. It is proposed to retain borehole BH44 on the monitoring network, despite the absence of any trend of concern and/or absence of contamination, as it represents a

defensive monitoring location down hydraulic gradient from the most contaminated boreholes to the north.

5.1.7 The highest and most variable concentration of DRO and GRO occur in groundwater from BH42a. The variability of concentrations is related to the common presence of free phase hydrocarbons (i.e. Light Non Aqueous Phase Liquid) at this location. Considering the inherent difficulty associated with the analysis of samples containing free phase hydrocarbon contamination, it is proposed that laboratory analysis of samples from this borehole is discontinued. However, it is recommended that the depth of any free phase contamination present in the borehole is measured on an annual basis using an oil/water interface meter and records of the visual / olfactory evidence of contamination are also maintained.

Group 4 (Valley Area Down Gradient of Skim Pond)

5.1.8 The boreholes within Group 4 are typically characterised by low concentrations of petroleum hydrocarbons that exhibit no trend of concern (MW03, BH06 and BH34b) or the general absence of contamination (MW01). These boreholes are situated down hydraulic gradient from the Skim Pond and down gradient from the principal area of contamination associated with Group 3. These boreholes are therefore important with respect to the potential for off-site transport of contamination towards the Haven, should this occur. It is therefore proposed to retain three of these boreholes as ñdefensive monitoring locationsò to demonstrate the continued absence of any migration of petroleum hydrocarbon in groundwater along the axis of the valley towards the Haven. The boreholes to be retained include BH06, BH34b and MW01. BH06 and BH34b shall provide coverage across the valley with borehole MW01 providing coverage immediately up hydraulic gradient form the Haven. It is therefore proposed to drop borehole MW03 from the monitoring network. The three defensive monitoring boreholes shall be analysed for petroleum hydrocarbons. It is recommended that the annual sample taken from borehole BH06 and BH34b are alternated between summer and winter samples, to ensure complete seasonal coverage for both locations.

Group 5 (Process Area)

5.1.9 In the absence of any trend of concern at borehole BH60b it is proposed to cease monitoring from this borehole in the Monitoring programme. It is proposed to continue 6-monthly monitoring of borehole BH61a because of the possible óapparentô increase in petroleum hydrocarbon concentrations exhibited in this borehole since 2011.

Group 6 (Nature Conservation Area)

5.1.10 It is proposed to cease monitoring from boreholes BH49 and BH22 in the monitoring programme, as the c. 11 year monitoring dataset demonstrates the general absence of contamination at these locations.

5.1.11 Boreholes BH20 and BH53 shall be retained because of the incidence of DRO in recent years, despite the absence of any trend of concern. It is proposed that the monitoring frequency for

these two borehole will however be reduced from 6-monthly to an annual. These boreholes will therefore constitute western site boundary monitoring locations, relative to the South Hook LNG Terminal EPR permitted installation.

5.1.12 Water quality shall also continue to be monitored at borehole BH50 to demonstrate any continuing trends associated with the legacy contamination at this location. It is proposed to reduce the monitoring from 6-monthly to an annual.

Group 7 (High Ground to the West of Skim Pond)

5.1.13 It is proposed to continue monitoring the concentration of petroleum hydrocarbons at BH47a considering the more common occurrence of DRO in the recent dataset. It is proposed to reduce the monitoring frequency at this location from 6-monthly to an annual.

Group 8 (Northern Site Boundary)

5.1.14 The extended groundwater monitoring dataset for boreholes within Group 8 has identified no trends of concern, with only occasional occurrence of petroleum hydrocarbons at low concentrations. It is therefore proposed to cease monitoring from boreholes BH27a and BH55 in the monitoring programme.

5.1.15 It is proposed that borehole BH26 shall be retained on the monitoring network, as an up-gradient site boundary borehole defining groundwater quality flowing onto the site.

Summary of Proposed Revised Groundwater Monitoring Programme 2016

5.1.16 A summary of the proposed revised groundwater monitoring programme 2016 is presented in *Table 5.1* below and shown in *Drawing JER5575U-008*. It is proposed via the risk based assessment presented in this report, to reduce the current monthly monitoring requirements from the current programme that covers up to 30 boreholes, to a 6-monthly monitoring requirement from 3 boreholes, annual monitoring requirement from 12 boreholes, and depth of any free phase contamination and record of the visual / olfactory evidence of contamination from 1 borehole, This will provide a monitoring programme with coverage of up to 16 boreholes, as presented in Table 5.1 below:

Table 5.1 Proposed Revised Groundwater Monitoring Programme 2016

Borehole Group	Borehole ID	Position in Group	Location	REVISED MONITORING REGIME	
				Monitoring Suite	Monitoring Frequency
2. Monitoring Wells South of Main Excavation Area	BH18	Up-gradient	Outside Green Fence	DRO GRO	**6-Monthly (No Change)**
	BH40a	Mid-flow field	Inside Green Fence	DRO GRO	**6-Monthly (No change)**
	BH45b	Mid-flow field	Inside Green Fence	DRO GRO	**Annual**
3. Valley Area Up-stream of Skim Pond	BH41a	Sludge Pit	Inside Green Fence	DRO GRO	**Annual**
	BH42a	Sludge Pit	Inside Green Fence	N/A	**Product measuring with inter face meter and V/O notes**
	BH43	Up-stream of Sludge Pit	Inside Green Fence	DRO GRO	**Annual**
	BH44	Down-stream of Sludge Pit	Inside Green Fence	DRO GRO	**Annual**
4. Valley Area Down-Stream of Skim Pond	BH06	-	Inside Green Fence	DRO GRO	**Annual**
	BH34b	-	Inside Green Fence	DRO GRO	**Annual**
	MW01	-	Inside Green Fence	DRO GRO	**Annual**
5. Process Area	BH61a	-	Outside Green Fence	DRO GRO	**6-Monthly (No change)**
6. Nature Conservation Area (NCA)	BH50	Southern NCA	Outside Green Fence	DRO GRO	**Annual**
	BH53	Mid NCA	Outside Green Fence	DRO GRO	**Annual**
	BH20	Northern NCA	Outside Green Fence	DRO GRO	**Annual**
7. High Ground to West of Skim Pond	BH47a	-	Outside Green Fence	DRO GRO	**Annual**
8. Northern Site Boundary	BH26	-	Outside Green Fence	DRO GRO	**Annual**

5.2 Coastal Spring Monitoring

5.2.1 The SHLNG Terminal operations have not resulted in any trends of concern at the spring monitoring points. With the exception of Spring 6, the terminal site is also located in a different groundwater catchment area to the peripheral boundary springs historically monitored. The conceptual model for the hydrology and hydrogeology is understood, having been being underpinned by the extensive groundwater monitoring programme and comprehensive dataset that extends back to pre-development of the terminal site, typically from January or February 2005.

5.2.2 Spring 6 is located further down hydraulic gradient from the Skim Pond area. However defensive monitoring boreholes BH06, BH34b and MW01 provide sufficient groundwater coverage to identify any future risk to the Haven should the current status quo change significantly. For this reason it is proposed to discontinue monitoring at Spring 6, although this decision may be re-evaluated on an annual basis based on the water quality observed at the defensive monitoring boreholes.

5.2.3 Spring 5 has a history of low level hydrocarbon contamination. Although no trend of concern has been observed at Spring 5, the presence of low concentrations of petroleum hydrocarbons is a characteristic of this monitoring point and as such it is proposed to continue annual monitoring at Spring 5. It should be noted however that spring 5 does not represent a natural spring as it is associated with discharge from a metal pipe at this point within the coastal cliff.

5.2.4 Additional analysis of Spring 5 and Spring 6 was undertaken in December 2015. A larger suite of parameters was analysed for, which included EPH (DRO) (C10-C40), GRO and PAHûs. The results returned, confirm that Spring 6 has no detectable contamination and that Spring 5 showed low levels of DRO contamination, which is in keeping with the characteristics of this spring.

5.2.5 Therefore, it is proposed to cease monitoring from all other springs (SP1, SP2, SP3, SP4, SP6 and SP7) in the monitoring programme and only continue to monitor Spring 5 on an annual basis.

5.3 Pond Level Monitoring on the NCA

5.3.1 The available historical pond data has shown a strong climatic control on levels and little evidence of groundwater - surface water interaction associated with the ponds. For this reason, the continued monitoring of pond levels is considered unnecessary and shall be removed from the monitoring programme for the site.

Drawings



Hole ID	Easting	Northing	Ground Level (mAOD)	Total Depth (m)	Slotted Well Screen Interval (mbGL)
BH01	187593.90	205506.00	N/A	N/A	N/A
BH06	187407.39	205561.64	12.34	14.00	10.00 - 14.00
BH18	187682.98	205682.58	45.82	20.00	3.00 - 20.00
BH19	187760.40	205941.51	41.45	20.00	3.00 - 20.00
BH20	186536.41	206464.84	42.13	16.00	4.00 - 13.00
BH22	186768.06	206714.65	52.03	18.75	3.00 - 15.00
BH26	187305.24	206821.34	52.31	18.00	3.00 - 15.00
BH27A	187725.50	206717.08	46.70	15.00	9.40 - 15.00
BH30A	187724.00	206426.59	35.89	30.00	10.00 - 30.00
BH34B	187441.41	205533.91	11.96	12.00	N/A
BH36B	187768.51	206258.39	33.90	28.00	N/A
BH40A	187542.39	206014.49	18.27	18.00	6.00 - 18.00
BH41A	187450.56	205967.08	16.41	17.00	10.00 - 17.00
BH42A	187427.18	205956.96	17.68	5.75	N/A
BH43	187279.24	205920.69	20.23	15.00	3.00 - 12.00
BH44	187377.78	205818.78	17.70	28.00	3.00 - 27.00
BH45B	187566.09	205794.95	30.03	30.00	N/A
BH47A	187245.05	205681.33	34.22	43.00	10.00 - 43.00
BH49	187087.55	205439.67	38.64	30.50	12.50 - 27.50
BH50	186920.56	205495.86	31.95	20.00	6.40 - 18.40
BH53	186858.96	206175.40	34.62	24.50	3.00 - 12.00
BH55	188094.92	206454.79	44.22	15.00	3.00 - 12.00
BH59A	187890.43	206569.42	45.71	18.50	5.50 - 18.50
BH60B	187185.10	206409.02	36.48	25.00	N/A
BH61A	187188.55	206190.87	36.46	13.00	3.00 - 13.00
BH63A	187442.66	205667.95	11.26	17.00	5.00 - 17.00
BH65A	187574.60	206589.95	43.47	33.00	25.00 - 33.00
BHG2B	187615.64	205555.48	35.32	28.00	N/A
MW01	187428.35	205475.71	6.38	8.50	6.00 - 8.00
MW03	187419.78	205608.03	11.43	16.00	13.00 - 16.00
SPRING1	186732	206221	21.72		
SPRING2	186796	206198	30.04		
SPRING3	186883	205997	19.48		
SPRING4	186885	205962	7.20		
SPRING5	186810	205479	1.98		
SPRING6	187404	205438	1.50		
SPRING7	187839	205387	11.55		

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Notes
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2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.

Legend

- Site Boundary
- Green Fence Line
- Groundwater Divide
- Schematic Groundwater Flow Direction

Ongoing Site Monitoring Locations

- Monitoring Well Location
- Spring Location
- 1. Main Excavation Boundary
- 2. South of the Main Excavation Area
- 3. Valley Area Upstream of Skim Pond
- 4. Valley Area Downstream of Skim Pond
- 5. Process Area
- 6. Nature Conservation Area (NCA)
- 7. High Ground to the West of Skim Pond
- 8. Northern Site Boundary

Rev	Description	Date	Initial	Checked
A	Basemap changed to Aerial Photo	AUG 13	RJ	AG

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Client: SOUTH HOOK LNG

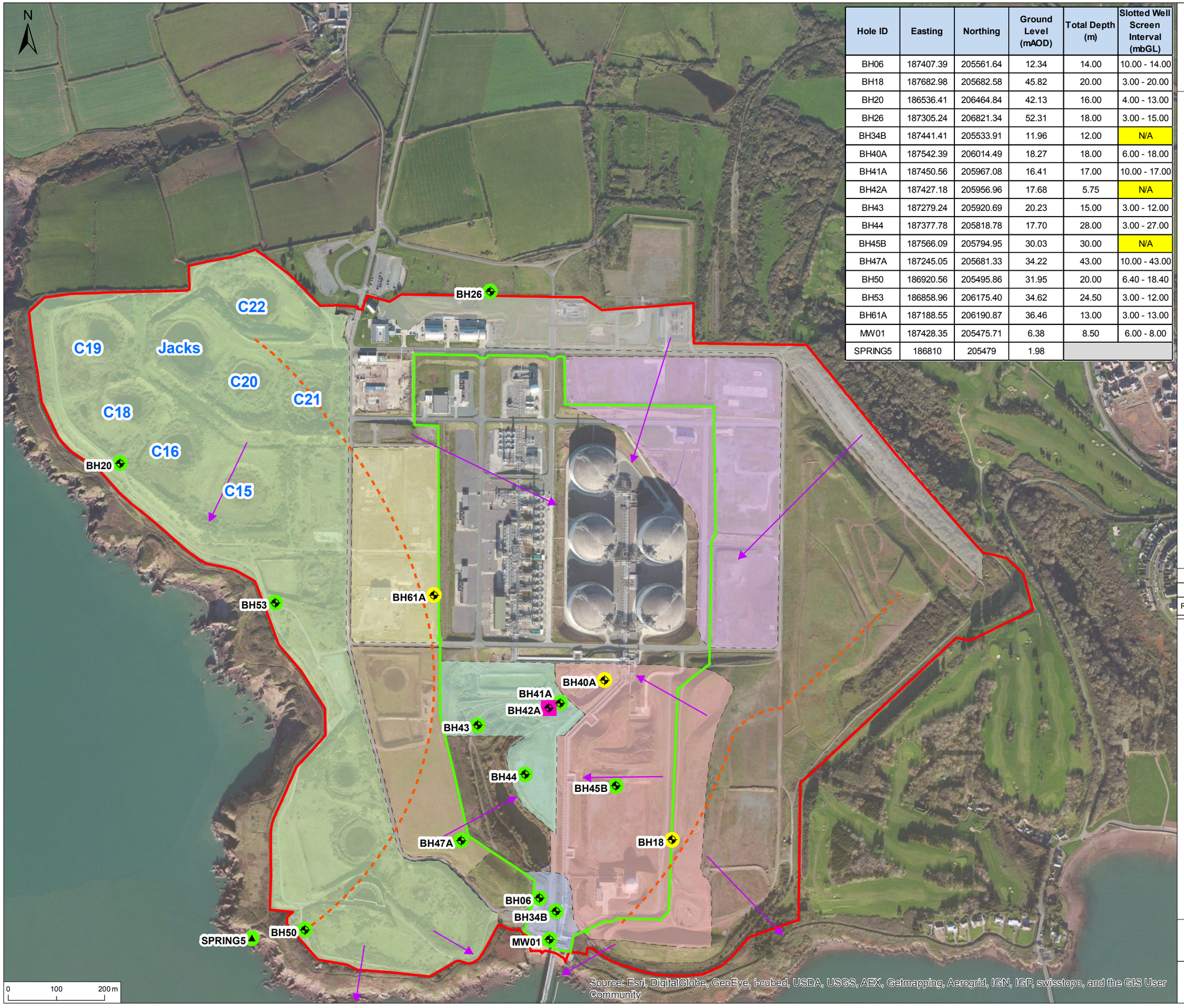
Project: MONITORING PROGRAMME

Title: ROUTINE GROUNDWATER MONITORING: BOREHOLE GROUPS

Status	Drawn By	PM/Checked By
PRELIMINARY	RJ	AG
Job Ref	**Scale @ A3**	**Date Created**
JER5575U	1:7,500	MAY 13

Drawing Number: **JER5575U-003** Rev: **A**

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Hole ID	Easting	Northing	Ground Level (mAOD)	Total Depth (m)	Slotted Well Screen Interval (mbGL)
BH06	187407.39	205561.64	12.34	14.00	10.00 - 14.00
BH18	187682.98	205682.58	45.82	20.00	3.00 - 20.00
BH20	186536.41	206464.84	42.13	16.00	4.00 - 13.00
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BH34B	187441.41	205533.91	11.96	12.00	N/A
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BH41A	187450.56	205967.08	16.41	17.00	10.00 - 17.00
BH42A	187427.18	205956.96	17.68	5.75	N/A
BH43	187279.24	205920.69	20.23	15.00	3.00 - 12.00
BH44	187377.78	205818.78	17.70	28.00	3.00 - 27.00
BH45B	187566.09	205794.95	30.03	30.00	N/A
BH47A	187245.05	205681.33	34.22	43.00	10.00 - 43.00
BH50	186920.56	205495.86	31.95	20.00	6.40 - 18.40
BH53	186858.96	206175.40	34.62	24.50	3.00 - 12.00
BH61A	187188.55	206190.87	36.46	13.00	3.00 - 13.00
MW01	187428.35	205475.71	6.38	8.50	6.00 - 8.00
SPRING5	186810	205479	1.98		

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2. If received electronically it is the recipients responsibility to print to correct scale. Only written dimensions should be used.

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- Schematic Groundwater Flow Direction

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- 4. Valley Area Downstream of Skim Pond
- 5. Process Area
- 6. Nature Conservation Area (NCA)
- 7. High Ground to the West of Skim Pond
- 8. Northern Site Boundary

Monitoring Frequency

- Biannually - DRO, GRO
- Annually - DRO, GRO
- Product Measuring with Interface Meter & Visual/Olfactory Notes

Rev	Description	Date	Initial	Checked

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Client: SOUTH HOOK LNG

Project: MONITORING PROGRAMME

Title: ROUTINE GROUNDWATER MONITORING: BOREHOLE GROUPS

Status	Drawn By	PM/Checked By
PRELIMINARY	RJ	AG
Job Ref	**Scale @ A3**	**Date Created**
JER5575U	1:7,500	MAR 16

Drawing Number: **JER5575U-008** Rev: **-**

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Appendices

Appendix 1

Groundwater and Spring Monitoring Trend Analysis Report (RPS, 2013)

Provided Electronically (On CD)

Appendix 2

Groundwater Monitoring Laboratory Certificates (2013 to 2015 inclusive)

ALcontrol Laboratories

Unit 7-8 Hawarden Business Park
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Fax: (01244) 528701
email: mkt@alcontrol.com
Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

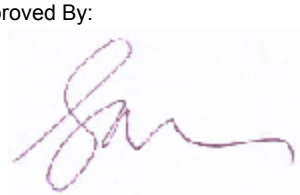
Date:	29 January 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130120-11
Your Reference:	JER5575U
Location:	SHLNG
Report No:	210126

We received 19 samples on Friday January 18, 2013 and 9 of these samples were scheduled for analysis which was completed on Tuesday January 29, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6797632	BH43			16/01/2013
6797648	BH99			16/01/2013
6797637	BH41A			16/01/2013
6797641	BH42A			16/01/2013
6797638	BH41A DUPLICATE			16/01/2013
6797642	BH42A DUPLICATE			16/01/2013
6797634	BH41ANP			16/01/2013
6797639	BH42ANP			16/01/2013
6797635	BH41ANP DUPLICATE			16/01/2013
6797640	BH42ANP DUPLICATE			16/01/2013
6797645	BH34B			16/01/2013
6797647	BH34B DUPLICATE			16/01/2013
6797643	BH34BNP			16/01/2013
6797644	BH34BNP DUPLICATE			16/01/2013
6797633	BH43 DUPLICATE			16/01/2013
6797649	BH99 DUPLICATE			16/01/2013
6797629	BH43NP			16/01/2013
6797630	BH43NP DUPLICATE			16/01/2013
6797650	TRIP BLANK			16/01/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	6797632	BH43			1l green glass bottle
			6797648	BH99			Vial (ALE297)
			6797637	BH41A			1l green glass bottle
			6797641	BH42A			Vial (ALE297)
			6797634	BH41ANP			1l green glass bottle
			6797639	BH42ANP			Vial (ALE297)
			6797645	BH34B			1l green glass bottle
			6797643	BH34BNP			Vial (ALE297)
			6797629	BH43NP			1l green glass bottle
							Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9					

X		X		X		X		X		X		X		X		X		
	X		X		X		X		X		X		X		X		X	
X		X		X		X		X		X		X		X		X		

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013
			SDG Ref	130120-11	130120-11	130120-11	130120-11	130120-11	130120-11
			Lab Sample No.(s)	6797632	6797648	6797637	6797641	6797634	6797639
			AGS Reference	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		469 #	522 #	1680 #	35400 #	1270 #	3640 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		53.9	59.7	525	8510	382	909
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		415	461	1160	26900	889	2730

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34BNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	16/01/2013	16/01/2013	16/01/2013			
			Sample Time	.	.	.			
			Date Received	18/01/2013	18/01/2013	18/01/2013			
			SDG Ref	130120-11	130120-11	130120-11			
			Lab Sample No.(s)	6797645	6797643	6797629			
			AGS Reference	M-Jan13	M-Jan13	M-Jan13			
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		330 #	385 #	438 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		59.7	72.3	41.3			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		270	313	397			

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013
			SDG Ref	130120-11	130120-11	130120-11	130120-11	130120-11	130120-11
			Lab Sample No.(s)	6797632	6797648	6797637	6797641	6797634	6797639
			AGS Reference	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	10	<10	10
GRO >C8-C10	<10 µg/l	TM245		37	57	15	65	<10	59
GRO >C5-C10	<10 µg/l	TM245		39	60	17	81	<10	76

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34BNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	16/01/2013	16/01/2013	16/01/2013			
			Sample Time	.	.	.			
			Date Received	18/01/2013	18/01/2013	18/01/2013			
			SDG Ref	130120-11	130120-11	130120-11			
			Lab Sample No.(s)	6797645	6797643	6797629			
			AGS Reference	M-Jan13	M-Jan13	M-Jan13			
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10			
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10			
GRO >C8-C10	<10 µg/l	TM245		16	22	44			
GRO >C5-C10	<10 µg/l	TM245		18	24	46			

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013
			SDG Ref	130120-11	130120-11	130120-11	130120-11	130120-11	130120-11
			Lab Sample No.(s)	6797632	6797648	6797637	6797641	6797634	6797639
			AGS Reference	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		4.61	<2	2.33	<4	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013	16/01/2013
			Sample Time	.	.	.	.	.	.
			Date Received	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013	18/01/2013
			SDG Ref	130120-11	130120-11	130120-11	130120-11	130120-11	130120-11
			Lab Sample No.(s)	6797632	6797648	6797637	6797641	6797634	6797639
			AGS Reference	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13	M-Jan13
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<10	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	2.35	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		1.69	<1	<1	<2	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	3.19	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34BNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	16/01/2013	16/01/2013	16/01/2013			
			Sample Time	.	.	.			
			Date Received	18/01/2013	18/01/2013	18/01/2013			
			SDG Ref	130120-11	130120-11	130120-11			
			Lab Sample No.(s)	6797645	6797643	6797629			
			AGS Reference	M-Jan13	M-Jan13	M-Jan13			
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthene (aq)	<1 µg/l	TM176		<1	1.17	<1			
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2			
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34BNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	16/01/2013	16/01/2013	16/01/2013			
			Sample Time	.	.	.			
			Date Received	18/01/2013	18/01/2013	18/01/2013			
			SDG Ref	130120-11	130120-11	130120-11			
			Lab Sample No.(s)	6797645	6797643	6797629			
			AGS Reference	M-Jan13	M-Jan13	M-Jan13			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1			
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5			
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Fluorene (aq)	<1 µg/l	TM176		1.07	2.64	<1			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1			
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	6797632	6797648	6797637	6797641	6797634	6797639	6797645	6797643	6797629
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP	BH34B	BH34BNP	BH43NP
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	28-Jan-2013	28-Jan-2013	28-Jan-2013	28-Jan-2013	28-Jan-2013	28-Jan-2013	28-Jan-2013	28-Jan-2013	28-Jan-2013
GRO by GC-FID (W)	26-Jan-2013	26-Jan-2013	26-Jan-2013	26-Jan-2013	26-Jan-2013	26-Jan-2013	26-Jan-2013	26-Jan-2013	26-Jan-2013
SVOC MS (W) - Aqueous	28-Jan-2013	28-Jan-2013	28-Jan-2013	29-Jan-2013	29-Jan-2013	29-Jan-2013	29-Jan-2013	28-Jan-2013	28-Jan-2013

SDG:	130120-11	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	210126
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
Conrad House
Beaufort Square
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Gwent
NP16 5EP

Attention: Helen McIntosh

CERTIFICATE OF ANALYSIS

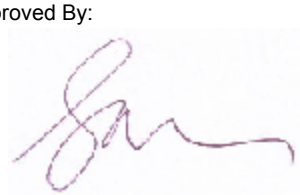
Date:	05 March 2013
Customer:	H_RPS_CHP
Sample Delivery Group (SDG):	130222-93
Your Reference:	JER5575U
Location:	SHLNG
Report No:	214406

We received 19 samples on Thursday February 21, 2013 and 9 of these samples were scheduled for analysis which was completed on Tuesday March 05, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
6964752	BH43			19/02/2013
6964753	BH99			19/02/2013
6964748	BH41a			19/02/2013
6964750	BH42a			19/02/2013
6964757	BH41a duplicate			19/02/2013
6964763	BH42a duplicate			19/02/2013
6964747	BH41aNP			19/02/2013
6964749	BH42aNP			19/02/2013
6964756	BH41aNP duplicate			19/02/2013
6964761	BH42aNP duplicate			19/02/2013
6964746	BH34b			19/02/2013
6964755	BH34b duplicate			19/02/2013
6964745	BH34bNP			19/02/2013
6964754	BH34bNP duplicate			19/02/2013
6964765	BH43 duplicate			19/02/2013
6964767	BH99 duplicate			19/02/2013
6964751	BH43NP			19/02/2013
6964764	BH43NP duplicate			19/02/2013
6964772	TRIP BLANK			19/02/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			6964752	BH43			1l green glass bottle
			6964752	BH43			Vial (ALE297)
			6964753	BH99			1l green glass bottle
			6964753	BH99			Vial (ALE297)
			6964748	BH41a			1l green glass bottle
			6964748	BH41a			Vial (ALE297)
			6964750	BH42a			1l green glass bottle
			6964750	BH42a			Vial (ALE297)
			6964747	BH41aNP			1l green glass bottle
			6964747	BH41aNP			Vial (ALE297)
			6964749	BH42aNP			1l green glass bottle
			6964749	BH42aNP			Vial (ALE297)
			6964746	BH34b			1l green glass bottle
			6964746	BH34b			Vial (ALE297)
			6964745	BH34bNP			1l green glass bottle
			6964745	BH34bNP			Vial (ALE297)
			6964751	BH43NP			1l green glass bottle
			6964751	BH43NP			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41aNP	BH42aNP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013
			SDG Ref	130222-93	130222-93	130222-93	130222-93	130222-93	130222-93
			Lab Sample No.(s)	6964752	6964753	6964748	6964750	6964747	6964749
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		259 #	192 #	2640 #	30000 #	464 #	3700 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		19.1	39	960	7450	137	1050
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		240	153	1680	22500	329	2640

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

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

Customer Sample R			BH34b	BH34bNP	BH43NP			
Depth (m)			.	.	.			
Sample Type			Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
Date Sampled			19/02/2013	19/02/2013	19/02/2013			
Sample Time			.	.	.			
Date Received			21/02/2013	21/02/2013	21/02/2013			
SDG Ref			130222-93	130222-93	130222-93			
Lab Sample No.(s)			6964746	6964745	6964751			
AGS Reference								
Component	**LOD/Units**	**Method**						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	124 #	111 #	278 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	41.4	36.8	<10			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	82.5	74.2	278			

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41aNP	BH42aNP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013
			SDG Ref	130222-93	130222-93	130222-93	130222-93	130222-93	130222-93
			Lab Sample No.(s)	6964752	6964753	6964748	6964750	6964747	6964749
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	65	<10	81
GRO >C5-C10	<10 µg/l	TM245		<10	11	<10	79	<10	86

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH34b	BH34bNP	BH43NP			
#	ISO17025 accredited.	Depth (m)	.	.	.			
M	*m*CERTS accredited.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
aq	Aqueous / settled sample.	Date Sampled	19/02/2013	19/02/2013	19/02/2013			
diss.filt	Dissolved / filtered sample.	Sample Time	.	.	.			
tot.unfilt	Total / unfiltered sample.	Date Received	21/02/2013	21/02/2013	21/02/2013			
*	Subcontracted test.	SDG Ref	130222-93	130222-93	130222-93			
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	Lab Sample No.(s)	6964746	6964745	6964751			
(F)	Trigger breach confirmed	AGS Reference						
1-4&+§@	Sample deviation (see appendix)							

Component	LOD/Units	Method						
GRO >C5-C6	<10 µg/l	TM245	<10	<10	<10			
GRO >C6-C8	<10 µg/l	TM245	<10	<10	<10			
GRO >C8-C10	<10 µg/l	TM245	<10	<10	30			
GRO >C5-C10	<10 µg/l	TM245	<10	<10	32			

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41aNP	BH42aNP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013
			SDG Ref	130222-93	130222-93	130222-93	130222-93	130222-93	130222-93
			Lab Sample No.(s)	6964752	6964753	6964748	6964750	6964747	6964749
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2	<4	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41aNP	BH42aNP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013	19/02/2013
			Sample Time	.	.	.	.	.	.
			Date Received	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013	21/02/2013
			SDG Ref	130222-93	130222-93	130222-93	130222-93	130222-93	130222-93
			Lab Sample No.(s)	6964752	6964753	6964748	6964750	6964747	6964749
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<10	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	4.21	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	1.01	<2	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34b	BH34bNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/02/2013	19/02/2013	19/02/2013			
			Sample Time	.	.	.			
			Date Received	21/02/2013	21/02/2013	21/02/2013			
			SDG Ref	130222-93	130222-93	130222-93			
			Lab Sample No.(s)	6964746	6964745	6964751			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2			
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34b	BH34bNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	19/02/2013	19/02/2013	19/02/2013			
			Sample Time	.	.	.			
			Date Received	21/02/2013	21/02/2013	21/02/2013			
			SDG Ref	130222-93	130222-93	130222-93			
			Lab Sample No.(s)	6964746	6964745	6964751			
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1			
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5			
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1			
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	6964752	6964753	6964748	6964750	6964747	6964749	6964746	6964745	6964751
Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH41aNP	BH42aNP	BH34b	BH34bNP	BH43NP
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	05-Mar-2013	04-Mar-2013	05-Mar-2013	05-Mar-2013	05-Mar-2013	05-Mar-2013	05-Mar-2013	05-Mar-2013	05-Mar-2013
GRO by GC-FID (W)	04-Mar-2013	04-Mar-2013	04-Mar-2013	04-Mar-2013	04-Mar-2013	04-Mar-2013	04-Mar-2013	04-Mar-2013	04-Mar-2013
SVOC MS (W) - Aqueous	04-Mar-2013	04-Mar-2013	04-Mar-2013	01-Mar-2013	04-Mar-2013	04-Mar-2013	04-Mar-2013	01-Mar-2013	01-Mar-2013

SDG:	130222-93	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	214406
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

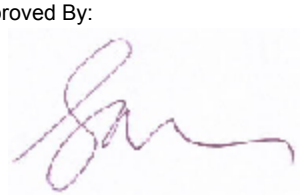
Date:	18 March 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130307-75
Your Reference:	JER5575U
Location:	SHLNG
Report No:	216148

We received 38 samples on Thursday March 07, 2013 and 19 of these samples were scheduled for analysis which was completed on Monday March 18, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7036180	BH06			05/03/2013
7036173	BH43			05/03/2013
7036185	BH44			05/03/2013
7036203	BH50			05/03/2013
7036178	BH99			05/03/2013
7036169	BH41A			06/03/2013
7036163	BH42A			06/03/2013
7036170	BH41A DUPLICATE			06/03/2013
7036164	BH42A DUPLICATE			06/03/2013
7036171	BH41ANP			06/03/2013
7036165	BH42ANP			06/03/2013
7036172	BH41ANP DUPLICATE			06/03/2013
7036167	BH42ANP DUPLICATE			06/03/2013
7036199	BH34B			05/03/2013
7036200	BH34B DUPLICATE			05/03/2013
7036201	BH34BNP			05/03/2013
7036202	BH34BNP DUPLICATE			05/03/2013
7036181	BH06 DUPLICATE			05/03/2013
7036174	BH43 DUPLICATE			05/03/2013
7036186	BH44 DUPLICATE			05/03/2013
7036204	BH50 DUPLICATE			05/03/2013
7036182	BH06NP			05/03/2013
7036175	BH43NP			05/03/2013
7036188	BH44NP			05/03/2013
7036205	BH50NP			05/03/2013
7036184	BH06NP DUPLICATE			05/03/2013
7036177	BH43NP DUPLICATE			05/03/2013
7036189	BH44NP DUPLICATE			05/03/2013
7036206	BH50NP DUPLICATE			05/03/2013
7036190	MW01			05/03/2013
7036194	MW03			05/03/2013
7036191	MW01 DUPLICATE			05/03/2013
7036195	MW03 DUPLICATE			05/03/2013
7036192	MW01NP			05/03/2013
7036196	MW03NP			05/03/2013
7036193	MW01NP DUPLICATE			05/03/2013
7036197	MW03NP DUPLICATE			05/03/2013
7036207	TRIP BLANK			05/03/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7036180	BH06			1l green glass bottle
			7036173	BH43			1l green glass bottle
			7036185	BH44			Vial (ALE297)
			7036203	BH50			1l green glass bottle
			7036178	BH99			1l green glass bottle
			7036169	BH41A			Vial (ALE297)
			7036163	BH42A			1l green glass bottle
			7036171	BH41ANP			Vial (ALE297)
			7036165	BH42ANP			Vial (ALE297)
			7036199	BH34B			1l green glass bottle
			7036201	BH34BNP			Vial (ALE297)
			7036182	BH06NP			1l green glass bottle
			7036175	BH43NP			Vial (ALE297)
			7036188	BH44NP			1l green glass bottle
			7036205	BH50NP			1l green glass bottle
			7036190	MW01			Vial (ALE297)
			7036194	MW03			1l green glass bottle
			7036192	MW01NP			Vial (ALE297)
			7036196	MW03NP			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 19	X	X		X	X	X	X		X		X		X		X		X	X		X	X	X		X		X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 19	X		X	X	X		X		X		X		X		X		X	X		X	X	X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 12		X					X		X		X		X		X			X			X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013	06/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036180	7036173	7036185	7036203	7036178	7036169
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		77.8 #	270 #	52 #	345 #	254 #	864 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		45.3	<10	50.9	89.8	52.8	311
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		32.3	270	<10	255	201	553

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH42A	BH41ANP	BH42ANP	BH34B	BH34BNP	BH06NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/03/2013	06/03/2013	06/03/2013	05/03/2013	05/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036163	7036171	7036165	7036199	7036201	7036182
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		19500 #	610 #	7260 #	300 #	397 #	66.2 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		4230	205	2180	59.1	58.1	39.2
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		10800	403	5080	241	339	26.8

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43NP	BH44NP	BH50NP	MW01	MW03	MW01NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036175	7036188	7036205	7036190	7036194	7036192
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		469 #	<46 #	335 #	<46 #	170 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	90.7	<10	52.9	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		471	<10	244	<10	117	<10

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

	Customer Sample R	MW03NP	
	Depth (m)	.	
	Sample Type	Water(GW/SW)	
	Date Sampled	05/03/2013	
	Sample Time	.	
	Date Received	07/03/2013	
	SDG Ref	130307-75	
	Lab Sample No.(s)	7036196	
	AGS Reference		
Component	**LOD/Units**	**Method**	
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	151 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	47.9
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	103

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013	06/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036180	7036173	7036185	7036203	7036178	7036169
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10 1	<10	<10 2	<10 2	12	<10
GRO >C6-C8	<10 µg/l	TM245		<10 1	<10	<10 2	<10 2	84	<10
GRO >C8-C10	<10 µg/l	TM245		<10 1	51	<10 2	91 2	1340	13
GRO >C5-C10	<10 µg/l	TM245		<10 1	56	<10 2	92 2	1440	17

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH42A	BH41ANP	BH42ANP	BH34B	BH34BNP	BH06NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/03/2013	06/03/2013	06/03/2013	05/03/2013	05/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036163	7036171	7036165	7036199	7036201	7036182
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10 2
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10 2
GRO >C8-C10	<10 µg/l	TM245		17	11	12	11	10	<10 2
GRO >C5-C10	<10 µg/l	TM245		22	14	16	15	14	<10 2

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43NP	BH44NP	BH50NP	MW01	MW03	MW01NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036175	7036188	7036205	7036190	7036194	7036192
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10 2	<10 2	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		10	<10 2	<10 2	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		57	<10 2	61 2	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		72	<10 2	65 2	<10	14	<10

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Customer Sample R			MW03NP
Depth (m)			.
Sample Type			Water(GW/SW)
Date Sampled			05/03/2013
Sample Time			.
Date Received			07/03/2013
SDG Ref			130307-75
Lab Sample No.(s)			7036196
AGS Reference			
Component	**LOD/Units**	**Method**	
GRO >C5-C6	<10 µg/l	TM245	<10
GRO >C6-C8	<10 µg/l	TM245	<10
GRO >C8-C10	<10 µg/l	TM245	<10
GRO >C5-C10	<10 µg/l	TM245	11

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH41ANP	BH42ANP	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	06/03/2013	06/03/2013	06/03/2013	06/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036173	7036169	7036163	7036171	7036165	7036199
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	12.6	<2	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH41ANP	BH42ANP	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	06/03/2013	06/03/2013	06/03/2013	06/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036173	7036169	7036163	7036171	7036165	7036199
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	1.15
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		1.07	<1	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34BNP	BH43NP	MW01	MW03	MW01NP	MW03NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036201	7036175	7036190	7036194	7036192	7036196
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		1.47	<1	<1	<1	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2	<2	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34BNP	BH43NP	MW01	MW03	MW01NP	MW03NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013	05/03/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013	07/03/2013
			SDG Ref	130307-75	130307-75	130307-75	130307-75	130307-75	130307-75
			Lab Sample No.(s)	7036201	7036175	7036190	7036194	7036192	7036196
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Fluorene (aq)	<1 µg/l	TM176		3.09	<1	<1	<1	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	1.12	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7036180	7036173	7036185	7036203	7036178	7036169	7036163	7036171	7036165	7036199
Customer Sample Ref.	BH06	BH43	BH44	BH50	BH99	BH41A	BH42A	BH41ANP	BH42ANP	BH34B
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013
GRO by GC-FID (W)	18-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013
SVOC MS (W) - Aqueous		15-Mar-2013				15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013

Lab Sample No(s)	7036201	7036182	7036175	7036188	7036205	7036190	7036194	7036192	7036196
Customer Sample Ref.	BH34BNP	BH06NP	BH43NP	BH44NP	BH50NP	MW01	MW03	MW01NP	MW03NP
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013
GRO by GC-FID (W)	13-Mar-2013	18-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013	13-Mar-2013
SVOC MS (W) - Aqueous	15-Mar-2013		15-Mar-2013			15-Mar-2013	15-Mar-2013	15-Mar-2013	15-Mar-2013

SDG:	130307-75	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	216148
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

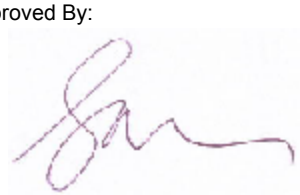
Date:	25 April 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130417-86
Your Reference:	JER5575U
Location:	SHLNG
Report No:	222082

We received 18 samples on Wednesday April 17, 2013 and 9 of these samples were scheduled for analysis which was completed on Thursday April 25, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7254212	BH43			16/04/2013
7254223	BH99			16/04/2013
7254197	BH41A			16/04/2013
7254204	BH42A			16/04/2013
7254199	BH41A DUPLICATE			16/04/2013
7254207	BH42A DUPLICATE			16/04/2013
7254202	BH41A NP			16/04/2013
7254209	BH42A NP			16/04/2013
7254203	BH41A NP DUPLICATE			16/04/2013
7254210	BH42A NP DUPLICATE			16/04/2013
7254215	BH34B			16/04/2013
7254216	BH34B DUPLICATE			16/04/2013
7254217	BH34B NP			16/04/2013
7254218	BH34B NP DUPLICATE			16/04/2013
7254213	BH43 DUPLICATE			16/04/2013
7254226	BH99 DUPLICATE			16/04/2013
7254220	BH43 NP			16/04/2013
7254222	BH43 NP DUPLICATE			16/04/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7254212	BH43			1l Glass bottle (ALE
			7254212	BH43			Vial (ALE297)
			7254223	BH99			1l Glass bottle (ALE
			7254223	BH99			Vial (ALE297)
			7254197	BH41A			1l Glass bottle (ALE
			7254197	BH41A			Vial (ALE297)
			7254204	BH42A			1l Glass bottle (ALE
			7254204	BH42A			Vial (ALE297)
			7254202	BH41A NP			1l Glass bottle (ALE
			7254202	BH41A NP			Vial (ALE297)
			7254209	BH42A NP			1l Glass bottle (ALE
			7254209	BH42A NP			Vial (ALE297)
			7254215	BH34B			1l Glass bottle (ALE
			7254215	BH34B			Vial (ALE297)
			7254217	BH34B NP			1l Glass bottle (ALE
			7254217	BH34B NP			Vial (ALE297)
			7254220	BH43 NP			1l Glass bottle (ALE
			7254220	BH43 NP			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A NP	BH42A NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013
			Sample Time	.	.	.	.	.	.
			Date Received	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013
			SDG Ref	130417-86	130417-86	130417-86	130417-86	130417-86	130417-86
			Lab Sample No.(s)	7254212	7254223	7254197	7254204	7254202	7254209
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		675 #	679 #	3000 #	5490 #	615 #	2520 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		50.8	45.3	976	1770	217	835
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		625	631	2020	3730	396	1690

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Customer Sample R			BH34B	BH34B NP	BH43 NP			
Depth (m)			.	.	.			
Sample Type			Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
Date Sampled			16/04/2013	16/04/2013	16/04/2013			
Sample Time			.	.	.			
Date Received			17/04/2013	17/04/2013	17/04/2013			
SDG Ref			130417-86	130417-86	130417-86			
Lab Sample No.(s)			7254215	7254217	7254220			
AGS Reference								
Component	**LOD/Units**	**Method**						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	558 #	404 #	639 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	122	84.2	58.1			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	438	320	579			

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A NP	BH42A NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013
			Sample Time	.	.	.	.	.	.
			Date Received	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013
			SDG Ref	130417-86	130417-86	130417-86	130417-86	130417-86	130417-86
			Lab Sample No.(s)	7254212	7254223	7254197	7254204	7254202	7254209
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		10	10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		49	40	13	13	<10	10
GRO >C5-C10	<10 µg/l	TM245		59	50	20	21	<10	16

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B NP	BH43 NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	16/04/2013	16/04/2013	16/04/2013			
			Sample Time	.	.	.			
			Date Received	17/04/2013	17/04/2013	17/04/2013			
			SDG Ref	130417-86	130417-86	130417-86			
			Lab Sample No.(s)	7254215	7254217	7254220			
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	10			
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10			
GRO >C8-C10	<10 µg/l	TM245		<10	<10	43			
GRO >C5-C10	<10 µg/l	TM245		14	11	53			

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A NP	BH42A NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013
			Sample Time	.	.	.	.	.	.
			Date Received	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013
			SDG Ref	130417-86	130417-86	130417-86	130417-86	130417-86	130417-86
			Lab Sample No.(s)	7254212	7254223	7254197	7254204	7254202	7254209
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		32.8	<2	<2	<4	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A NP	BH42A NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013	16/04/2013
			Sample Time	.	.	.	.	.	.
			Date Received	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013	17/04/2013
			SDG Ref	130417-86	130417-86	130417-86	130417-86	130417-86	130417-86
			Lab Sample No.(s)	7254212	7254223	7254197	7254204	7254202	7254209
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		1.18	1.03	<1	<2	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<10	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B NP	BH43 NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	16/04/2013	16/04/2013	16/04/2013			
			Sample Time	.	.	.			
			Date Received	17/04/2013	17/04/2013	17/04/2013			
			SDG Ref	130417-86	130417-86	130417-86			
			Lab Sample No.(s)	7254215	7254217	7254220			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2			
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend		Customer Sample R	BH34B	BH34B NP	BH43 NP			
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.			
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
tot.unfilt	Total / unfiltered sample.	Date Sampled	16/04/2013	16/04/2013	16/04/2013			
*	Subcontracted test.	Sample 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	17/04/2013	17/04/2013	17/04/2013			
		SDG Ref	130417-86	130417-86	130417-86			
(F)	Trigger breach confirmed	Lab Sample No.(s)	7254215	7254217	7254220			
1-4&+§@	Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<1			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<1			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<1			
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	<1	<1			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	<1	<1			
Carbazole (aq)	<1 µg/l	TM176	<1	<1	<1			
Chrysene (aq)	<1 µg/l	TM176	<1	<1	<1			
Dibenzofuran (aq)	<1 µg/l	TM176	<1	<1	<1			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	1.03	<1	<1			
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<1			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	<1	<1			
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	<1	<1			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5	<5			
Fluoranthene (aq)	<1 µg/l	TM176	<1	<1	<1			
Fluorene (aq)	<1 µg/l	TM176	<1	<1	<1			
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<1	<1			
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	<1	<1			
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176	<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<1	<1			
Hexachloroethane (aq)	<1 µg/l	TM176	<1	<1	<1			
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<1	<1			
Naphthalene (aq)	<1 µg/l	TM176	<1	<1	<1			
Isophorone (aq)	<1 µg/l	TM176	<1	<1	<1			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176	<1	<1	<1			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	<1	<1			
Pyrene (aq)	<1 µg/l	TM176	<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7254212	7254223	7254220	7254197	7254204	7254202	7254209	7254215	7254217
Customer Sample Ref.	BH43	BH99	BH43 NP	BH41A	BH42A	BH41A NP	BH42A NP	BH34B	BH34B NP
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013
GRO by GC-FID (W)	21-Apr-2013	21-Apr-2013	21-Apr-2013	21-Apr-2013	21-Apr-2013	21-Apr-2013	21-Apr-2013	21-Apr-2013	21-Apr-2013
SVOC MS (W) - Aqueous	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013	25-Apr-2013

SDG:	130417-86	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	222082
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
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Attention: Helen McIntosh

CERTIFICATE OF ANALYSIS

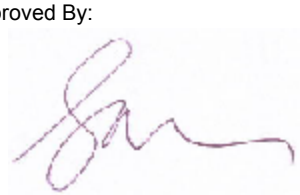
Date:	04 June 2013
Customer:	H_RPS_CHP
Sample Delivery Group (SDG):	130523-104
Your Reference:	JER5575U
Location:	SHLNG
Report No:	227210

We received 19 samples on Thursday May 23, 2013 and 9 of these samples were scheduled for analysis which was completed on Tuesday June 04, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7465090	BH43			21/05/2013
7465081	BH99			21/05/2013
7465074	BH41A			21/05/2013
7465084	BH42A			21/05/2013
7465075	BH41A DUPLICATE			21/05/2013
7465086	BH42A DUPLICATE			21/05/2013
7465078	BH41ANP			21/05/2013
7465087	BH42ANP			21/05/2013
7465080	BH41ANP DUPLICATE			21/05/2013
7465088	BH42ANP DUPLICATE			21/05/2013
7465068	BH34B			21/05/2013
7465069	BH34B DUPLICATE			21/05/2013
7465070	BH34BNP			21/05/2013
7465072	BH34BNP DUPLICATE			21/05/2013
7465091	BH43 DUPLICATE			21/05/2013
7465083	BH99 DUPLICATE			21/05/2013
7465092	BH43NP			21/05/2013
7465093	BH43NP DUPLICATE			21/05/2013
7465095	TRIP BLANK			21/05/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7465090	BH43			1l Glass bottle (ALE
			7465081	BH99			Vial (ALE297)
			7465074	BH41A			1l Glass bottle (ALE
			7465084	BH42A			Vial (ALE297)
			7465078	BH41ANP			1l Glass bottle (ALE
			7465087	BH42ANP			Vial (ALE297)
			7465068	BH34B			1l Glass bottle (ALE
			7465070	BH34BNP			Vial (ALE297)
			7465092	BH43NP			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9		X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013
			Sample Time	.	.	.	.	.	.
			Date Received	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013
			SDG Ref	130523-104	130523-104	130523-104	130523-104	130523-104	130523-104
			Lab Sample No.(s)	7465090	7465081	7465074	7465084	7465078	7465087
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		248 #	253 #	3860 #	10100 #	1300 #	882 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	1270	3120	463	331
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		248	253	2590	7010	836	551

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34BNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	21/05/2013	21/05/2013	21/05/2013			
			Sample Time	.	.	.			
			Date Received	23/05/2013	23/05/2013	23/05/2013			
			SDG Ref	130523-104	130523-104	130523-104			
			Lab Sample No.(s)	7465068	7465070	7465092			
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		233 #	183 #	616 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	<10			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		233	183	615			

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013
			Sample Time	.	.	.	.	.	.
			Date Received	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013
			SDG Ref	130523-104	130523-104	130523-104	130523-104	130523-104	130523-104
			Lab Sample No.(s)	7465090	7465081	7465074	7465084	7465078	7465087
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		30	31	14	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		33	34	17	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH34B	BH34BNP	BH43NP			
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.			
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
tot.unfilt	Total / unfiltered sample.	Date Sampled	21/05/2013	21/05/2013	21/05/2013			
*	Subcontracted test.	Sample 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	23/05/2013	23/05/2013	23/05/2013			
		SDG Ref	130523-104	130523-104	130523-104			
(F)	Trigger breach confirmed	Lab Sample No.(s)	7465068	7465070	7465092			
1-4&+§@	Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
GRO >C5-C6	<10 µg/l	TM245	<10	<10	<10			
GRO >C6-C8	<10 µg/l	TM245	<10	<10	<10			
GRO >C8-C10	<10 µg/l	TM245	<10	<10	45			
GRO >C5-C10	<10 µg/l	TM245	<10	<10	48			

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013
			Sample Time	.	.	.	.	.	.
			Date Received	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013
			SDG Ref	130523-104	130523-104	130523-104	130523-104	130523-104	130523-104
			Lab Sample No.(s)	7465090	7465081	7465074	7465084	7465078	7465087
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<10	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2	<2	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013	21/05/2013
			Sample Time	.	.	.	.	.	.
			Date Received	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013	23/05/2013
			SDG Ref	130523-104	130523-104	130523-104	130523-104	130523-104	130523-104
			Lab Sample No.(s)	7465090	7465081	7465074	7465084	7465078	7465087
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<1	1.13	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34BNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	21/05/2013	21/05/2013	21/05/2013			
			Sample Time	.	.	.			
			Date Received	23/05/2013	23/05/2013	23/05/2013			
			SDG Ref	130523-104	130523-104	130523-104			
			Lab Sample No.(s)	7465068	7465070	7465092			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2			
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34BNP	BH43NP			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	21/05/2013	21/05/2013	21/05/2013			
			Sample Time	.	.	.			
			Date Received	23/05/2013	23/05/2013	23/05/2013			
			SDG Ref	130523-104	130523-104	130523-104			
			Lab Sample No.(s)	7465068	7465070	7465092			
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1			
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5			
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1			
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7465090	7465081	7465074	7465084	7465078	7465087	7465068	7465070	7465092
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH41ANP	BH42ANP	BH34B	BH34BNP	BH43NP
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	03-Jun-2013	03-Jun-2013	03-Jun-2013	03-Jun-2013	03-Jun-2013	03-Jun-2013	03-Jun-2013	03-Jun-2013	03-Jun-2013
GRO by GC-FID (W)	01-Jun-2013	01-Jun-2013	01-Jun-2013	01-Jun-2013	01-Jun-2013	01-Jun-2013	01-Jun-2013	01-Jun-2013	01-Jun-2013
SVOC MS (W) - Aqueous	04-Jun-2013	04-Jun-2013	04-Jun-2013	04-Jun-2013	03-Jun-2013	04-Jun-2013	04-Jun-2013	04-Jun-2013	04-Jun-2013

SDG:	130523-104	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_CHP-30	**Customer:**	RPS Consultants Ltd	**Report Number:**	227210
Client Reference:	JER5575U	**Attention:**	Helen McIntosh	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
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1-4 Fountain Court
Woodland Lane
Bradley Stoke
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BS32 4LA

Attention: Helen McIntosh

CERTIFICATE OF ANALYSIS

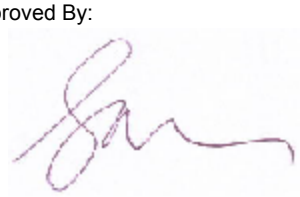
Date:	18 June 2013
Customer:	H_RPS_BRI
Sample Delivery Group (SDG):	130608-8
Your Reference:	JER5575
Location:	SHLNG
Report No:	229244

We received 8 samples on Thursday June 06, 2013 and 4 of these samples were scheduled for analysis which was completed on Tuesday June 18, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	130608-8	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229244
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7552104	BH18			05/06/2013
7552109	BH47A			05/06/2013
7552110	BH47A DUPLICATE			05/06/2013
7552106	BH47A NP			05/06/2013
7552108	BH47A NP DUPLICATE			05/06/2013
7552105	BH18 DUPLICATE			05/06/2013
7552102	BH18NP			05/06/2013
7552103	BH18NP DUPLICATE			05/06/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130608-8	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229244
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7552104	BH18			1l Glass bottle (ALE
			7552109	BH47A			Vial (ALE297)
			7552106	BH47A NP			1l Glass bottle (ALE
			7552102	BH18NP			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4	X	X	X	X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 4		X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	130608-8	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229244
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH18	BH47A	BH47A NP	BH18NP		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	05/06/2013	05/06/2013	05/06/2013	05/06/2013		
			Sample Time	.	.	.	.		
			Date Received	06/06/2013	06/06/2013	06/06/2013	06/06/2013		
			SDG Ref	130608-8	130608-8	130608-8	130608-8		
			Lab Sample No.(s)	7552104	7552109	7552106	7552102		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		98.7 #	47.1 #	265 #	108 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		40.1	28.4	36.1	51.3		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		58.6	18.7	229	56.7		

CERTIFICATE OF ANALYSIS

SDG:	130608-8	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229244
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH18	BH47A	BH47A NP	BH18NP		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	05/06/2013	05/06/2013	05/06/2013	05/06/2013		
			Sample Time	.	.	.	.		
			Date Received	06/06/2013	06/06/2013	06/06/2013	06/06/2013		
			SDG Ref	130608-8	130608-8	130608-8	130608-8		
			Lab Sample No.(s)	7552104	7552109	7552106	7552102		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C8-C10	<10 µg/l	TM245		<10	<10	17	<10		
GRO >C5-C10	<10 µg/l	TM245		<10	<10	18	<10		

CERTIFICATE OF ANALYSIS

SDG:	130608-8	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229244
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130608-8	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229244
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7552104	7552109	7552106	7552102
Customer Sample Ref.	BH18	BH47A	BH47A NP	BH18NP
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	13-Jun-2013	14-Jun-2013	13-Jun-2013	13-Jun-2013
GRO by GC-FID (W)	15-Jun-2013	15-Jun-2013	15-Jun-2013	15-Jun-2013

SDG:	130608-8	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229244
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	17 June 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130608-13
Your Reference:	JER5575U
Location:	SHLNG
Report No:	229109

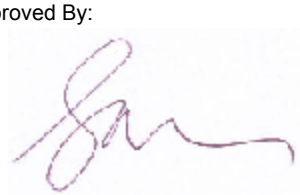
This report has been revised and directly supersedes 229005 in its entirety.

We received 4 samples on Thursday June 06, 2013 and 2 of these samples were scheduled for analysis which was completed on Monday June 17, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	130608-13	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	229109
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	229005

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7552635	BH36B			04/06/2013
7552636	BH36B DUPLICATE			04/06/2013
7552633	BH36B NP			04/06/2013
7552634	BH36B NP DUPLICATE			04/06/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130608-13	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	229109
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	229005

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7552635	BH36B			1l Glass bottle (ALE
			7552633	BH36B NP			Vial (ALE297)
							1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 2	X		X		
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2		X		X	

CERTIFICATE OF ANALYSIS

SDG:	130608-13	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	229109
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	229005

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

Customer Sample R			BH36B	BH36B NP				
Depth (m)			.	.				
Sample Type			Water(GW/SW)	Water(GW/SW)				
Date Sampled			04/06/2013	04/06/2013				
Sample Time			.	.				
Date Received			06/06/2013	06/06/2013				
SDG Ref			130608-13	130608-13				
Lab Sample No.(s)			7552635	7552633				
AGS Reference								
Component	**LOD/Units**	**Method**						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	601 #	341 #				
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	45.9	266				
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	555	75.2				

CERTIFICATE OF ANALYSIS

SDG:	130608-13	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	229109
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	229005

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH36B	BH36B NP				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	04/06/2013	04/06/2013				
			Sample Time	.	.				
			Date Received	06/06/2013	06/06/2013				
			SDG Ref	130608-13	130608-13				
			Lab Sample No.(s)	7552635	7552633				
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10				
GRO >C6-C8	<10 µg/l	TM245		<10	<10				
GRO >C8-C10	<10 µg/l	TM245		<10	<10				
GRO >C5-C10	<10 µg/l	TM245		<10	<10				

CERTIFICATE OF ANALYSIS

SDG:	130608-13	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	229109
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	229005

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130608-13	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	229109
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	229005

Test Completion Dates

Lab Sample No(s)	7552635	7552633
Customer Sample Ref.	BH36B	BH36B NP
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	14-Jun-2013	14-Jun-2013
GRO by GC-FID (W)	15-Jun-2013	15-Jun-2013

SDG:	130608-13	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	229109
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	229005

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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BS32 4LA

Attention: Helen McIntosh

CERTIFICATE OF ANALYSIS

Date:	18 June 2013
Customer:	H_RPS_BRI
Sample Delivery Group (SDG):	130608-15
Your Reference:	JER5575
Location:	SHLNG
Report No:	229366

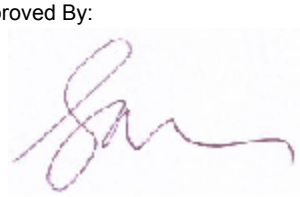
This report has been revised and directly supersedes 229257 in its entirety.

We received 30 samples on Thursday June 06, 2013 and 15 of these samples were scheduled for analysis which was completed on Tuesday June 18, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7553040	BH20			04/06/2013
7553046	BH22			04/06/2013
7553052	BH26			04/06/2013
7553031	BH53			04/06/2013
7553069	BH55			04/06/2013
7553063	BH59			04/06/2013
7553033	BH99			04/06/2013
7553058	BH27A			04/06/2013
7553059	BH27A DUPLICATE			04/06/2013
7553054	BH27A NP			04/06/2013
7553056	BH27A NP DUPLICATE			04/06/2013
7553042	BH20 DUPLICATE			04/06/2013
7553048	BH22 DUPLICATE			04/06/2013
7553053	BH26 DUPLICATE			04/06/2013
7553032	BH53 DUPLICATE			04/06/2013
7553070	BH55 DUPLICATE			04/06/2013
7553064	BH59 DUPLICATE			04/06/2013
7553034	BH99 DUPLICATE			04/06/2013
7553037	BH20 NP			04/06/2013
7553043	BH22 NP			04/06/2013
7553049	BH26 NP			04/06/2013
7553029	BH53 NP			04/06/2013
7553066	BH55 NP			04/06/2013
7553060	BH59 NP			04/06/2013
7553039	BH20 NP DUPLICATE			04/06/2013
7553045	BH22 NP DUPLICATE			04/06/2013
7553051	BH26 NP DUPLICATE			04/06/2013
7553030	BH53 NP DUPLICATE			04/06/2013
7553068	BH55 NP DUPLICATE			04/06/2013
7553062	BH59 NP DUPLICATE			04/06/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7553040	BH20			1l Glass bottle (ALE
			7553040	BH20			Vial (ALE297)
			7553046	BH22			1l Glass bottle (ALE
			7553046	BH22			Vial (ALE297)
			7553052	BH26			1l Glass bottle (ALE
			7553052	BH26			Vial (ALE297)
			7553031	BH53			1l Glass bottle (ALE
			7553031	BH53			Vial (ALE297)
			7553069	BH55			1l Glass bottle (ALE
			7553069	BH55			Vial (ALE297)
			7553063	BH59			1l Glass bottle (ALE
			7553063	BH59			Vial (ALE297)
			7553033	BH99			1l Glass bottle (ALE
			7553033	BH99			Vial (ALE297)
			7553058	BH27A			1l Glass bottle (ALE
			7553058	BH27A			Vial (ALE297)
			7553054	BH27A NP			1l Glass bottle (ALE
			7553054	BH27A NP			Vial (ALE297)
			7553037	BH20 NP			1l Glass bottle (ALE
			7553037	BH20 NP			Vial (ALE297)
			7553043	BH22 NP			1l Glass bottle (ALE
			7553043	BH22 NP			Vial (ALE297)
			7553049	BH26 NP			1l Glass bottle (ALE
			7553049	BH26 NP			Vial (ALE297)
			7553029	BH53 NP			1l Glass bottle (ALE
			7553029	BH53 NP			Vial (ALE297)
			7553066	BH55 NP			1l Glass bottle (ALE
			7553066	BH55 NP			Vial (ALE297)
			7553060	BH59 NP			1l Glass bottle (ALE
			7553060	BH59 NP			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 15		X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 15			X		

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

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

Component	LOD/Units	Method	Customer Sample R	BH20	BH22	BH26	BH53	BH55	BH59
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013
			SDG Ref	130608-15	130608-15	130608-15	130608-15	130608-15	130608-15
			Lab Sample No.(s)	7553040	7553046	7553052	7553031	7553069	7553063
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		167 #	<46 #	<46 #	273 #	<46 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		166	<10	<10	18.2	<10	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	<10	255	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

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

Component	LOD/Units	Method	Customer Sample R	BH99	BH27A	BH27A NP	BH20 NP	BH22 NP	BH26 NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013
			SDG Ref	130608-15	130608-15	130608-15	130608-15	130608-15	130608-15
			Lab Sample No.(s)	7553033	7553058	7553054	7553037	7553043	7553049
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		289 #	<46 #	<46 #	95.3 #	138 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		29.1	<10	<10	65.4	138	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		260	<10	<10	29.9	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

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

Component	LOD/Units	Method	Customer Sample R	BH53 NP	BH55 NP	BH59 NP
			Depth (m)	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2013	04/06/2013	04/06/2013
			Sample Time	.	.	.
			Date Received	06/06/2013	06/06/2013	06/06/2013
			SDG Ref	130608-15	130608-15	130608-15
			Lab Sample No.(s)	7553029	7553066	7553060
			AGS Reference			
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		294 #	98.2 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		26.7	97.3	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		267	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH20	BH22	BH26	BH53	BH55	BH59
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.	.	.	.
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
tot.unfilt	Total / unfiltered sample.	Date Sampled	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013
*	Subcontracted test.	Sample 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	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013
		SDG Ref	130608-15	130608-15	130608-15	130608-15	130608-15	130608-15
(F)	Trigger breach confirmed	Lab Sample No.(s)	7553040	7553046	7553052	7553031	7553069	7553063
1-4&+§@	Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
GRO >C5-C6	<10 µg/l	TM245	<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245	<10	<10	<10	10	<10	<10
GRO >C8-C10	<10 µg/l	TM245	<10	<10	<10	29	<10	<10
GRO >C5-C10	<10 µg/l	TM245	<10	<10	<10	41	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH99	BH27A	BH27A NP	BH20 NP	BH22 NP	BH26 NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013	04/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013	06/06/2013
			SDG Ref	130608-15	130608-15	130608-15	130608-15	130608-15	130608-15
			Lab Sample No.(s)	7553033	7553058	7553054	7553037	7553043	7553049
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		31	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		33	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH53 NP	BH55 NP	BH59 NP			
#	ISO17025 accredited.	Depth (m)	.	.	.			
M	*m*CERTS accredited.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
aq	Aqueous / settled sample.	Date Sampled	04/06/2013	04/06/2013	04/06/2013			
diss.filt	Dissolved / filtered sample.	Sample Time	.	.	.			
tot.unfilt	Total / unfiltered sample.	Date Received	06/06/2013	06/06/2013	06/06/2013			
*	Subcontracted test.	SDG Ref	130608-15	130608-15	130608-15			
**	% 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)	7553029	7553066	7553060			
(F)	Trigger breach confirmed	AGS Reference						
1-4&+§@	Sample deviation (see appendix)							

Component	LOD/Units	Method						
GRO >C5-C6	<10 µg/l	TM245	<10	<10	<10			
GRO >C6-C8	<10 µg/l	TM245	31	<10	<10			
GRO >C8-C10	<10 µg/l	TM245	53	<10	<10			
GRO >C5-C10	<10 µg/l	TM245	86	<10	<10			

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

Test Completion Dates

Lab Sample No(s)	7553040	7553046	7553052	7553031	7553069	7553063	7553033	7553037	7553058	7553054
Customer Sample Ref.	BH20	BH22	BH26	BH53	BH55	BH59	BH99	BH20 NP	BH27A	BH27A NP
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013
GRO by GC-FID (W)	18-Jun-2013	18-Jun-2013	18-Jun-2013	18-Jun-2013	17-Jun-2013	17-Jun-2013	18-Jun-2013	18-Jun-2013	17-Jun-2013	17-Jun-2013

Lab Sample No(s)	7553043	7553049	7553029	7553066	7553060
Customer Sample Ref.	BH22 NP	BH26 NP	BH53 NP	BH55 NP	BH59 NP
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013	14-Jun-2013
GRO by GC-FID (W)	18-Jun-2013	18-Jun-2013	18-Jun-2013	17-Jun-2013	17-Jun-2013

SDG:	130608-15	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_BRI-7	**Customer:**	RPS Consultants Ltd	**Report Number:**	229366
Client Reference:	JER5575	**Attention:**	Helen McIntosh	**Superseded Report:**	229257

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

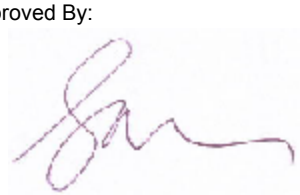
Date:	24 June 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130609-18
Your Reference:	JER5575U
Location:	SHLNG
Report No:	230275

We received 16 samples on Friday June 07, 2013 and 8 of these samples were scheduled for analysis which was completed on Monday June 24, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7558340	BH49			05/06/2013
7558344	BH65			05/06/2013
7558352	BH61A			05/06/2013
7558353	BH61A DUP			05/06/2013
7558350	BH61A NP			05/06/2013
7558351	BH61A NP DUP			05/06/2013
7558348	BH60B			05/06/2013
7558349	BH60B DUP			05/06/2013
7558346	BH60B NP			05/06/2013
7558347	BH60B NP DUP			05/06/2013
7558341	BH49 DUP			05/06/2013
7558345	BH65 DUP			05/06/2013
7558338	BH49NP			05/06/2013
7558342	BH65NP			05/06/2013
7558339	BH49NP DUP			05/06/2013
7558343	BH65NP DUP			05/06/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7558340	BH49			1l Glass bottle (ALE
			7558340	BH49			Vial (ALE297)
			7558344	BH65			1l Glass bottle (ALE
			7558344	BH65			Vial (ALE297)
			7558352	BH61A			1l Glass bottle (ALE
			7558352	BH61A			Vial (ALE297)
			7558350	BH61A NP			1l Glass bottle (ALE
			7558350	BH61A NP			Vial (ALE297)
			7558348	BH60B			1l Glass bottle (ALE
			7558348	BH60B			Vial (ALE297)
			7558346	BH60B NP			1l Glass bottle (ALE
			7558346	BH60B NP			Vial (ALE297)
			7558338	BH49NP			1l Glass bottle (ALE
			7558338	BH49NP			Vial (ALE297)
			7558342	BH65NP			1l Glass bottle (ALE
			7558342	BH65NP			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH49	BH65	BH61A	BH61A NP	BH60B	BH60B NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/06/2013	05/06/2013	05/06/2013	05/06/2013	05/06/2013	05/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
			SDG Ref	130609-18	130609-18	130609-18	130609-18	130609-18	130609-18
			Lab Sample No.(s)	7558340	7558344	7558352	7558350	7558348	7558346
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	1170 #	702 #	<46 #	150 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	222	<10	<10	150
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	948	702	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH49NP	BH65NP				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	05/06/2013	05/06/2013				
			Sample Time	.	.				
			Date Received	07/06/2013	07/06/2013				
			SDG Ref	130609-18	130609-18				
			Lab Sample No.(s)	7558338	7558342				
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #				
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10				
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10				

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH49	BH65	BH61A	BH61A NP	BH60B	BH60B NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/06/2013	05/06/2013	05/06/2013	05/06/2013	05/06/2013	05/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
			SDG Ref	130609-18	130609-18	130609-18	130609-18	130609-18	130609-18
			Lab Sample No.(s)	7558340	7558344	7558352	7558350	7558348	7558346
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	33	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	549	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	229	49	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	811	50	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH49NP	BH65NP				
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.				
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)				
tot.unfilt	Total / unfiltered sample.	Date Sampled	05/06/2013	05/06/2013				
*	Subcontracted test.	Sample 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	07/06/2013	07/06/2013				
		SDG Ref	130609-18	130609-18				
(F)	Trigger breach confirmed	Lab Sample No.(s)	7558338	7558342				
1-4&+§@	Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
GRO >C5-C6	<10 µg/l	TM245	<10	<10				
GRO >C6-C8	<10 µg/l	TM245	<10	<10				
GRO >C8-C10	<10 µg/l	TM245	<10	<10				
GRO >C5-C10	<10 µg/l	TM245	<10	<10				

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7558340	7558344	7558352	7558350	7558348	7558346	7558338	7558342
Customer Sample Ref.	BH49	BH65	BH61A	BH61A NP	BH60B	BH60B NP	BH49NP	BH65NP
AGS Ref.								
Depth								
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013
GRO by GC-FID (W)	20-Jun-2013	20-Jun-2013	20-Jun-2013	20-Jun-2013	20-Jun-2013	20-Jun-2013	20-Jun-2013	20-Jun-2013

SDG:	130609-18	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230275
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

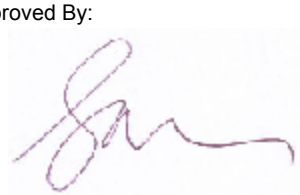
Date:	22 June 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130611-54
Your Reference:	JER5575U
Location:	SHLNG
Report No:	230116

We received 32 samples on Monday June 10, 2013 and 16 of these samples were scheduled for analysis which was completed on Saturday June 22, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7566622	BH01			06/06/2013
7566613	BH19			06/06/2013
7566636	BH44			07/06/2013
7566617	BH50			06/06/2013
7566626	BH30a			07/06/2013
7566631	BH40a			07/06/2013
7566644	BH63A			07/06/2013
7566628	BH30a DUPLICATE			07/06/2013
7566632	BH40a DUPLICATE			07/06/2013
7566645	BH63A DUPLICATE			07/06/2013
7566624	BH30a NP			07/06/2013
7566629	BH40a NP			07/06/2013
7566642	BH63A NP			07/06/2013
7566625	BH30a NP DUPLICATE			07/06/2013
7566630	BH40a NP DUPLICATE			07/06/2013
7566643	BH63A NP DUPLICATE			07/06/2013
7566640	BH45b			07/06/2013
7566641	BH45b DUPLICATE			07/06/2013
7566638	BH45b NP			07/06/2013
7566639	BH45b NP DUPLICATE			07/06/2013
7566623	BH01 DUPLICATE			06/06/2013
7566614	BH19 DUPLICATE			06/06/2013
7566637	BH44 DUPLICATE			07/06/2013
7566618	BH50 DUPLICATE			06/06/2013
7566619	BH01 NP			06/06/2013
7566611	BH19 NP			06/06/2013
7566634	BH44 NP			07/06/2013
7566615	BH50 NP			06/06/2013
7566620	BH01 NP DUPLICATE			06/06/2013
7566612	BH19 NP DUPLICATE			06/06/2013
7566635	BH44 NP DUPLICATE			07/06/2013
7566616	BH50 NP DUPLICATE			06/06/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 15	7566622	BH01			1l Glass bottle (ALE
			7566613	BH19			Vial (ALE297)
			7566636	BH44			1l Glass bottle (ALE
			7566617	BH50			Vial (ALE297)
			7566626	BH30a			1l Glass bottle (ALE
			7566631	BH40a			Vial (ALE297)
			7566644	BH63A			1l Glass bottle (ALE
			7566624	BH30a NP			Vial (ALE297)
			7566629	BH40a NP			1l Glass bottle (ALE
			7566642	BH63A NP			Vial (ALE297)
			7566640	BH45b			1l Glass bottle (ALE
			7566638	BH45b NP			Vial (ALE297)
			7566619	BH01 NP			1l Glass bottle (ALE
			7566611	BH19 NP			Vial (ALE297)
			7566634	BH44 NP			1l Glass bottle (ALE
			7566615	BH50 NP			Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 16					

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH01	BH19	BH44	BH30a	BH40a	BH63A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/06/2013	06/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013
			SDG Ref	130611-54	130611-54	130611-54	130611-54	130611-54	130611-54
			Lab Sample No.(s)	7566622	7566613	7566636	7566626	7566631	7566644
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		90.2 #	<46 #	125 #	<46 #	1390 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		74.4	46	113	<10	1260	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		15.8	<10	12.4	<10	136	<10

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH30a NP	BH40a NP	BH63A NP	BH45b	BH45b NP	BH01 NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	06/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013
			SDG Ref	130611-54	130611-54	130611-54	130611-54	130611-54	130611-54
			Lab Sample No.(s)	7566624	7566629	7566642	7566640	7566638	7566619
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	427 #	<46 #	270 #	96.1 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	382	27.1	221	58	33.7
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	43	18.9	48.5	38.2	12.2

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

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

Component	LOD/Units	Method	Customer Sample R	BH19 NP	BH44 NP	BH50 NP
			Depth (m)	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/06/2013	07/06/2013	06/06/2013
			Sample Time	.	.	.
			Date Received	10/06/2013	10/06/2013	10/06/2013
			SDG Ref	130611-54	130611-54	130611-54
			Lab Sample No.(s)	7566611	7566634	7566615
			AGS Reference			
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		69.6 #	<46 #	1770 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		64	<10	211
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	1560

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH01	BH19	BH44	BH50	BH30a	BH40a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	06/06/2013	06/06/2013	07/06/2013	06/06/2013	07/06/2013	07/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013
			SDG Ref	130611-54	130611-54	130611-54	130611-54	130611-54	130611-54
			Lab Sample No.(s)	7566622	7566613	7566636	7566617	7566626	7566631
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10 @	<10 @	<10	13 @	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10 @	<10 @	<10	124 @	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10 @	<10 @	<10	1770 @	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10 @	<10 @	<10	1910 @	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH63A	BH30a NP	BH40a NP	BH63A NP	BH45b	BH45b NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013	07/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013	10/06/2013
			SDG Ref	130611-54	130611-54	130611-54	130611-54	130611-54	130611-54
			Lab Sample No.(s)	7566644	7566624	7566629	7566642	7566640	7566638
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH01 NP	BH19 NP	BH44 NP	BH50 NP		
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.	.		
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
tot.unfilt	Total / unfiltered sample.	Date Sampled	06/06/2013	06/06/2013	07/06/2013	06/06/2013		
*	Subcontracted test.	Sample 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	10/06/2013	10/06/2013	10/06/2013	10/06/2013		
		SDG Ref	130611-54	130611-54	130611-54	130611-54		
(F)	Trigger breach confirmed	Lab Sample No.(s)	7566619	7566611	7566634	7566615		
1-4&+§@	Sample deviation (see appendix)	AGS Reference						
Component		**LOD/Units**	**Method**					
GRO >C5-C6		<10 µg/l	TM245	<10 @	<10 @	<10	15 @		
GRO >C6-C8		<10 µg/l	TM245	<10 @	<10 @	<10	140 @		
GRO >C8-C10		<10 µg/l	TM245	<10 @	<10 @	<10	1850 @		
GRO >C5-C10		<10 µg/l	TM245	<10 @	<10 @	<10	2000 @		

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7566622	7566613	7566636	7566617	7566626	7566631	7566644	7566624	7566629	7566642
Customer Sample Ref.	BH01	BH19	BH44	BH50	BH30a	BH40a	BH63A	BH30a NP	BH40a NP	BH63A NP
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	18-Jun-2013	18-Jun-2013	18-Jun-2013		18-Jun-2013	18-Jun-2013	18-Jun-2013	18-Jun-2013	18-Jun-2013	18-Jun-2013
GRO by GC-FID (W)	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013

Lab Sample No(s)	7566619	7566611	7566634	7566615	7566640	7566638
Customer Sample Ref.	BH01 NP	BH19 NP	BH44 NP	BH50 NP	BH45b	BH45b NP
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	18-Jun-2013	18-Jun-2013	18-Jun-2013	18-Jun-2013	18-Jun-2013	18-Jun-2013
GRO by GC-FID (W)	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013	22-Jun-2013

SDG:	130611-54	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230116
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

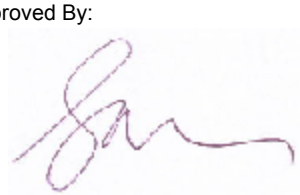
Date:	24 June 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130613-112
Your Reference:	JER5575U
Location:	SHLNG
Report No:	230177

We received 32 samples on Thursday June 13, 2013 and 16 of these samples were scheduled for analysis which was completed on Monday June 24, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7583014	BH06			11/06/2013
7583025	BH43			11/06/2013
7583034	BH41A			11/06/2013
7583041	BH42A			11/06/2013
7583038	BH41A DUPLICATE			11/06/2013
7583042	BH42A DUPLICATE			11/06/2013
7583039	BH41A NP			11/06/2013
7583043	BH42A NP			11/06/2013
7583040	BH41A NP DUPLICATE			11/06/2013
7583044	BH42A NP DUPLICATE			11/06/2013
7583030	BH34B			11/06/2013
7583031	BH34B DUPLICATE			11/06/2013
7583032	BH34B NP			11/06/2013
7583033	BH34B NP DUPLICATE			11/06/2013
7583015	BH06 DUPLICATE			11/06/2013
7583026	BH43 DUPLICATE			11/06/2013
7583002	BHG2B			11/06/2013
7583006	BHG2B DUPLICATE			11/06/2013
7583007	BHG2B NP			11/06/2013
7583008	BHG2B NP DUPLICATE			11/06/2013
7583016	BH06 NP			11/06/2013
7583028	BH43 NP			11/06/2013
7583017	BH06 NP DUPLICATE			11/06/2013
7583029	BH43 NP DUPLICATE			11/06/2013
7583019	MW1			11/06/2013
7583009	MW3			11/06/2013
7583020	MW1 DUPLICATE			11/06/2013
7583010	MW3 DUPLICATE			11/06/2013
7583021	MW1 NP			11/06/2013
7583011	MW3 NP			11/06/2013
7583024	MW1 NP DUPLICATE			11/06/2013
7583013	MW3 NP DUPLICATE			11/06/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 16	7583014	BH06			1l Glass bottle (ALE
			7583025	BH43			Vial (ALE297)
			7583034	BH41A			1l Glass bottle (ALE
			7583041	BH42A			Vial (ALE297)
			7583039	BH41A NP			1l Glass bottle (ALE
			7583043	BH42A NP			Vial (ALE297)
			7583030	BH34B			1l Glass bottle (ALE
			7583032	BH34B NP			Vial (ALE297)
			7583002	BH62B			1l Glass bottle (ALE
			7583007	BH62B NP			Vial (ALE297)
			7583016	BH06 NP			1l Glass bottle (ALE
			7583028	BH43 NP			Vial (ALE297)
			7583019	MW1			1l Glass bottle (ALE
			7583009	MW3			Vial (ALE297)
			7583021	MW1 NP			1l Glass bottle (ALE
			7583011	MW3 NP			Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 16					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 12					

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	Depth (m)	Sample Type	Date Sampled	Sample Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	BH06	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583014	134 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	BH43	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583025	64.2
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	BH41A	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583034	1760
			BH42A	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583041	4090
			BH41A NP	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583039	316
			BH42A NP	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583043	1800
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	BH06	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583014	134 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	BH43	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583025	64.2
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	BH41A	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583034	1760
			BH42A	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583041	4090
			BH41A NP	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583039	316
			BH42A NP	.	Water(GW/SW)	11/06/2013	.	13/06/2013	130613-112	7583043	1800

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B NP	BHG2B	BHG2B NP	BH06 NP	BH43 NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013
			SDG Ref	130613-112	130613-112	130613-112	130613-112	130613-112	130613-112
			Lab Sample No.(s)	7583030	7583032	7583002	7583007	7583016	7583028
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		488 #	430 #	<46 #	<46 #	<46 #	867 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		112	86.3	<10	<10	<10	63
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		376	344	<10	<10	<10	805

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	MW1	MW3	MW1 NP	MW3 NP		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013		
			Sample Time	.	.	.	.		
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013		
			SDG Ref	130613-112	130613-112	130613-112	130613-112		
			Lab Sample No.(s)	7583019	7583009	7583021	7583011		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	166 #	79 #	196 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		27.3	70.9	31.8	69		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		18.7	94.9	47.4	127		

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH41A	BH42A	BH41A NP	BH42A NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013
			SDG Ref	130613-112	130613-112	130613-112	130613-112	130613-112	130613-112
			Lab Sample No.(s)	7583014	7583025	7583034	7583041	7583039	7583043
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	50	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	52	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B NP	BHG2B	BHG2B NP	BH06 NP	BH43 NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013
			SDG Ref	130613-112	130613-112	130613-112	130613-112	130613-112	130613-112
			Lab Sample No.(s)	7583030	7583032	7583002	7583007	7583016	7583028
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	30
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	46
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	78

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	MW1	MW3	MW1 NP	MW3 NP		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013		
			Sample Time	.	.	.	.		
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013		
			SDG Ref	130613-112	130613-112	130613-112	130613-112		
			Lab Sample No.(s)	7583019	7583009	7583021	7583011		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10		

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH41A NP	BH42A NP	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013
			SDG Ref	130613-112	130613-112	130613-112	130613-112	130613-112	130613-112
			Lab Sample No.(s)	7583025	7583034	7583041	7583039	7583043	7583030
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2	<2	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH41A NP	BH42A NP	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013
			SDG Ref	130613-112	130613-112	130613-112	130613-112	130613-112	130613-112
			Lab Sample No.(s)	7583025	7583034	7583041	7583039	7583043	7583030
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	1.07
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<10	<10	<10	<10	<10	<1
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34B NP	BH43 NP	MW1	MW3	MW1 NP	MW3 NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013
			SDG Ref	130613-112	130613-112	130613-112	130613-112	130613-112	130613-112
			Lab Sample No.(s)	7583032	7583028	7583019	7583009	7583021	7583011
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<2	<2	<2	<2	<2
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH34B NP	BH43 NP	MW1	MW3	MW1 NP	MW3 NP
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013	11/06/2013
			Sample Time	.	.	.	.	.	.
			Date Received	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013	13/06/2013
			SDG Ref	130613-112	130613-112	130613-112	130613-112	130613-112	130613-112
			Lab Sample No.(s)	7583032	7583028	7583019	7583009	7583021	7583011
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Isophorone (aq)	<1 µg/l	TM176		<1	<10	<1	<10	<1	<10
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7583014	7583025	7583034	7583041	7583039	7583043	7583030	7583032	7583002	7583007
Customer Sample Ref.	BH06	BH43	BH41A	BH42A	BH41A NP	BH42A NP	BH34B	BH34B NP	BHG2B	BHG2B NP
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	21-Jun-2013	21-Jun-2013	20-Jun-2013	21-Jun-2013	20-Jun-2013	21-Jun-2013	20-Jun-2013	20-Jun-2013	20-Jun-2013	20-Jun-2013
GRO by GC-FID (W)	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	23-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013
SVOC MS (W) - Aqueous		21-Jun-2013	21-Jun-2013	21-Jun-2013	21-Jun-2013	21-Jun-2013	21-Jun-2013	21-Jun-2013		

Lab Sample No(s)	7583016	7583028	7583019	7583009	7583021	7583011
Customer Sample Ref.	BH06 NP	BH43 NP	MW1	MW3	MW1 NP	MW3 NP
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	20-Jun-2013	21-Jun-2013	21-Jun-2013	20-Jun-2013	21-Jun-2013	20-Jun-2013
GRO by GC-FID (W)	23-Jun-2013	24-Jun-2013	24-Jun-2013	24-Jun-2013	23-Jun-2013	24-Jun-2013
SVOC MS (W) - Aqueous		21-Jun-2013	21-Jun-2013	21-Jun-2013	24-Jun-2013	21-Jun-2013

SDG:	130613-112	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	230177
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

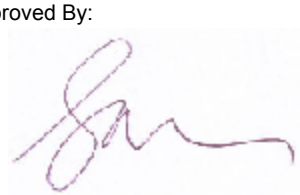
Date:	07 August 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130727-64
Your Reference:	JER5575U
Location:	SHLNG
Report No:	236747

We received 11 samples on Saturday July 27, 2013 and 5 of these samples were scheduled for analysis which was completed on Wednesday August 07, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7833369	BH43		0.00 - 0.00	26/07/2013
7833371	BH99		0.00 - 0.00	26/07/2013
7833365	BH41a		0.00 - 0.00	26/07/2013
7833367	BH42a		0.00 - 0.00	26/07/2013
7833366	BH41a DUPLICATE		0.00 - 0.00	26/07/2013
7833368	BH42a DUPLICATE		0.00 - 0.00	26/07/2013
7833363	BH34b		0.00 - 0.00	26/07/2013
7833364	BH34b DUPLICATE		0.00 - 0.00	26/07/2013
7833370	BH43 DUPLICATE		0.00 - 0.00	26/07/2013
7833372	BH99 DUPLICATE		0.00 - 0.00	26/07/2013
7833373	TRIP BLANK		0.00 - 0.00	

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

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7833369	BH43		0.00 - 0.00	1l Glass bottle (ALE
			7833371	BH99		0.00 - 0.00	Vial (ALE297)
			7833365	BH41a		0.00 - 0.00	1l Glass bottle (ALE
			7833367	BH42a		0.00 - 0.00	Vial (ALE297)
			7833363	BH34b		0.00 - 0.00	1l Glass bottle (ALE
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/07/2013	26/07/2013	26/07/2013	26/07/2013	26/07/2013
			Sample Time	.	.	.	.	.
			Date Received	27/07/2013	27/07/2013	27/07/2013	27/07/2013	27/07/2013
			SDG Ref	130727-64	130727-64	130727-64	130727-64	130727-64
			Lab Sample No.(s)	7833369	7833371	7833365	7833367	7833363
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		497 #	333 #	1530 #	33300 #	299 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		20.8	68	429	7670	79.6
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		477	265	620	21900	220

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/07/2013	26/07/2013	26/07/2013	26/07/2013	26/07/2013
			Sample Time	.	.	.	.	.
			Date Received	27/07/2013	27/07/2013	27/07/2013	27/07/2013	27/07/2013
			SDG Ref	130727-64	130727-64	130727-64	130727-64	130727-64
			Lab Sample No.(s)	7833369	7833371	7833365	7833367	7833363
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		10	10	<10	131	<10
GRO >C8-C10	<10 µg/l	TM245		111	91	17	1430	12
GRO >C5-C10	<10 µg/l	TM245		125	104	20	1570	14

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	
			Date Sampled	26/07/2013	26/07/2013	26/07/2013	26/07/2013	26/07/2013	
			Sample Time	.	.	.	.	.	
			Date Received	27/07/2013	27/07/2013	27/07/2013	27/07/2013	27/07/2013	
			SDG Ref	130727-64	130727-64	130727-64	130727-64	130727-64	
			Lab Sample No.(s)	7833369	7833371	7833365	7833367	7833363	
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<10	<10	<10	<20	<10	
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/07/2013	26/07/2013	26/07/2013	26/07/2013	26/07/2013
			Sample Time	.	.	.	.	.
			Date Received	27/07/2013	27/07/2013	27/07/2013	27/07/2013	27/07/2013
			SDG Ref	130727-64	130727-64	130727-64	130727-64	130727-64
			Lab Sample No.(s)	7833369	7833371	7833365	7833367	7833363
			AGS Reference					
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<10	<5
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Isophorone (aq)	<1 µg/l	TM176		1.11	1.23	<1	<2	1.16
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7833369	7833371	7833365	7833367	7833363
Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
AGS Ref.					
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	07-Aug-2013	07-Aug-2013	07-Aug-2013	07-Aug-2013	07-Aug-2013
GRO by GC-FID (W)	07-Aug-2013	07-Aug-2013	07-Aug-2013	07-Aug-2013	06-Aug-2013
SVOC MS (W) - Aqueous	07-Aug-2013	07-Aug-2013	07-Aug-2013	07-Aug-2013	07-Aug-2013

SDG:	130727-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	236747
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

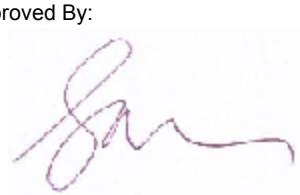
Date:	26 August 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130815-111
Your Reference:	JER5575U
Location:	SHLNG
Report No:	239412

We received 10 samples on Thursday August 15, 2013 and 5 of these samples were scheduled for analysis which was completed on Monday August 26, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
7939709	BH43			14/08/2013
7939708	BH99			14/08/2013
7939702	BH41A			14/08/2013
7939695	BH42A			14/08/2013
7939714	BH41A duplicate			14/08/2013
7939716	BH42A duplicate			14/08/2013
7939707	BH34B			14/08/2013
7939713	BH34B duplicate			14/08/2013
7939711	BH43 duplicate			14/08/2013
7939712	BH99 duplicate			14/08/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			7939709	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			7939708	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			7939702	BH41A			1l Glass bottle (ALE
							Vial (ALE297)
			7939695	BH42A			1l Glass bottle (ALE
							Vial (ALE297)
			7939707	BH34B			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/08/2013	14/08/2013	14/08/2013	14/08/2013	14/08/2013
			Sample Time	.	.	.	.	.
			Date Received	15/08/2013	15/08/2013	15/08/2013	15/08/2013	15/08/2013
			SDG Ref	130815-111	130815-111	130815-111	130815-111	130815-111
			Lab Sample No.(s)	7939709	7939708	7939702	7939695	7939707
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		292 #	283 #	1200 #	38400 #	434 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		74.5	23.8	484	8930	159
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		218	259	718	29500	276

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/08/2013	14/08/2013	14/08/2013	14/08/2013	14/08/2013
			Sample Time	.	.	.	.	.
			Date Received	15/08/2013	15/08/2013	15/08/2013	15/08/2013	15/08/2013
			SDG Ref	130815-111	130815-111	130815-111	130815-111	130815-111
			Lab Sample No.(s)	7939709	7939708	7939702	7939695	7939707
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	29	<10
GRO >C6-C8	<10 µg/l	TM245		10	10	<10	367	<10
GRO >C8-C10	<10 µg/l	TM245		68	64	<10	2580	<10
GRO >C5-C10	<10 µg/l	TM245		80	76	<10	2980	<10

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/08/2013	14/08/2013	14/08/2013	14/08/2013	14/08/2013
			Sample Time	.	.	.	.	.
			Date Received	15/08/2013	15/08/2013	15/08/2013	15/08/2013	15/08/2013
			SDG Ref	130815-111	130815-111	130815-111	130815-111	130815-111
			Lab Sample No.(s)	7939709	7939708	7939702	7939695	7939707
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1	1.85	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<10	<10	<10	<10	<10
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B	
			Depth (m)	.	.	.	.	.	
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	
			Date Sampled	14/08/2013	14/08/2013	14/08/2013	14/08/2013	14/08/2013	
			Sample Time	.	.	.	.	.	
			Date Received	15/08/2013	15/08/2013	15/08/2013	15/08/2013	15/08/2013	
			SDG Ref	130815-111	130815-111	130815-111	130815-111	130815-111	
			Lab Sample No.(s)	7939709	7939708	7939702	7939695	7939707	
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5	<5	
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1	3.51	<1	
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	1.43	<1	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	4.98	<1	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	1.17	<1	

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	7939709	7939708	7939702	7939695	7939707
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	23-Aug-2013	23-Aug-2013	23-Aug-2013	23-Aug-2013	23-Aug-2013
GRO by GC-FID (W)	22-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013	22-Aug-2013
SVOC MS (W) - Aqueous	23-Aug-2013	23-Aug-2013	26-Aug-2013	26-Aug-2013	26-Aug-2013

SDG:	130815-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	239412
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	12 September 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130904-78
Your Reference:	JER5575U
Location:	SHLNG
Report No:	241762

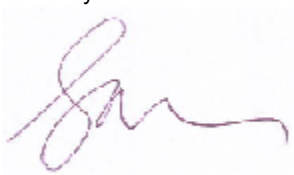
This report has been revised and directly supersedes 241760 in its entirety.

We received 13 samples on Wednesday September 04, 2013 and 6 of these samples were scheduled for analysis which was completed on Thursday September 12, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan
Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8045168	BH06			02/09/2013
8045166	BH44			02/09/2013
8045162	BH99			02/09/2013
8045170	BH345			02/09/2013
8045169	BH06 DUPLICATE			02/09/2013
8045167	BH44 DUPLICATE			02/09/2013
8045164	BH99 DUPLICATE			02/09/2013
8045171	BH345 DUPLICATE			02/09/2013
8045152	MW01			02/09/2013
8045160	MW03			02/09/2013
8045157	MW01 DUPLICATE			02/09/2013
8045161	MW03 DUPLICATE			02/09/2013
8045173	TRIP BLANK			02/09/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8045168	BH06			1 Glass bottle
			8045166	BH44			Vial (ALE297)
			8045162	BH99			1 Glass bottle
			8045170	BH345			Vial (ALE297)
			8045152	MW01			1 Glass bottle
			8045160	MW03			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 6	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6		X		X		X		X		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 4					X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

Results Legend

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

Component	LOD/Units	Method	Customer Sample Ref.	BH06	BH44	BH99	BH345	MW01	MW03
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013
			Sample Time	.	.	.	.	.	.
			Date Received	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
			SDG Ref	130904-78	130904-78	130904-78	130904-78	130904-78	130904-78
			Lab Sample No.(s)	8045168	8045166	8045162	8045170	8045152	8045160
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		81.2 #	<46 #	<46 #	417 #	<46 #	185 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		37.9	<10	<10	90.8	<10	79.2
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		43.1	<10	<10	327	<10	106

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample Ref.	BH06	BH44	BH99	BH345	MW01	MW03
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013	02/09/2013
			Sample Time	.	.	.	.	.	.
			Date Received	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013	04/09/2013
			SDG Ref	130904-78	130904-78	130904-78	130904-78	130904-78	130904-78
			Lab Sample No.(s)	8045168	8045166	8045162	8045170	8045152	8045160
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

SVOC MS (W) - Aqueous

Results Legend

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

Component	LOD/Units	Method	Customer Sample Ref.	BH99	BH345	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	02/09/2013	02/09/2013	02/09/2013	02/09/2013		
			Sample Time	.	.	.	.		
			Date Received	04/09/2013	04/09/2013	04/09/2013	04/09/2013		
			SDG Ref	130904-78	130904-78	130904-78	130904-78		
			Lab Sample No.(s)	8045162	8045170	8045152	8045160		
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Acenaphthene (aq)	<1 µg/l	TM176		<1	1.5	<1	<1		
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<5	6.5	6.51	5.37		
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample Ref.	BH99	BH345	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	02/09/2013	02/09/2013	02/09/2013	02/09/2013		
			Sample Time	.	.	.	.		
			Date Received	04/09/2013	04/09/2013	04/09/2013	04/09/2013		
			SDG Ref	130904-78	130904-78	130904-78	130904-78		
			Lab Sample No.(s)	8045162	8045170	8045152	8045160		
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5	<5		
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Fluorene (aq)	<1 µg/l	TM176		<1	2.32	<1	<1		
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130904-78	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	241762
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	241760

Test Completion Dates

Lab Sample No(s)	8045168	8045166	8045162	8045170	8045152	8045160
Customer Sample Ref.	BH06	BH44	BH99	BH345	MW01	MW03
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Sep-2013	12-Sep-2013	11-Sep-2013	11-Sep-2013	11-Sep-2013	11-Sep-2013
GRO by GC-FID (W)	06-Sep-2013	06-Sep-2013	06-Sep-2013	06-Sep-2013	06-Sep-2013	06-Sep-2013
SVOC MS (W) - Aqueous			11-Sep-2013	11-Sep-2013	11-Sep-2013	11-Sep-2013

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -

Trace -Where only one or two asbestos fibres were identified.

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

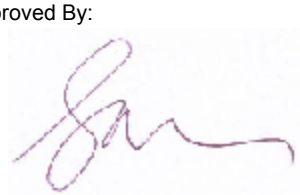
Date:	16 September 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	130905-87
Your Reference:	JER5575U
Location:	SHLNG
Report No:	242056

We received 8 samples on Thursday September 05, 2013 and 4 of these samples were scheduled for analysis which was completed on Monday September 16, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8053771	BH43			04/09/2013
8053768	BH50			04/09/2013
8053779	BH41A			04/09/2013
8053776	BH42A			04/09/2013
8053780	BH41A DUPLICATE			04/09/2013
8053777	BH42A DUPLICATE			04/09/2013
8053773	BH43 DUPLICATE			04/09/2013
8053770	BH50 DUPLICATE			04/09/2013

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

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4	8053771	BH43			1l Glass bottle (ALE)
			8053768	BH50			Vial (ALE297)
			8053779	BH41A			1l Glass bottle (ALE)
			8053776	BH42A			Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 4					1l Glass bottle (ALE)
							Vial (ALE297)
							1l Glass bottle (ALE)
							Vial (ALE297)
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 4					1l Glass bottle (ALE)
							Vial (ALE297)
							1l Glass bottle (ALE)
							Vial (ALE297)

X		X		X		X	
	X		X		X		X
X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH50	BH41A	BH42A		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	04/09/2013	04/09/2013	04/09/2013	04/09/2013		
			Sample Time	.	.	.	.		
			Date Received	05/09/2013	05/09/2013	05/09/2013	05/09/2013		
			SDG Ref	130905-87	130905-87	130905-87	130905-87		
			Lab Sample No.(s)	8053771	8053768	8053779	8053776		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		808 #	3180 #	161 #	191000 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		106	210	139	46200		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		704	2970	202	145000		

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH43	BH50	BH41A	BH42A		
#	ISO17025 accredited.	Depth (m)	.	.	.	.		
M	*m*CERTS accredited.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
aq	Aqueous / settled sample.	Date Sampled	04/09/2013	04/09/2013	04/09/2013	04/09/2013		
diss.filt	Dissolved / filtered sample.	Sample Time	.	.	.	.		
tot.unfilt	Total / unfiltered sample.	Date Received	05/09/2013	05/09/2013	05/09/2013	05/09/2013		
*	Subcontracted test.	SDG Ref	130905-87	130905-87	130905-87	130905-87		
**	% 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)	8053771	8053768	8053779	8053776		
(F)	Trigger breach confirmed	AGS Reference						
1-4&+§@	Sample deviation (see appendix)							

Component	LOD/Units	Method						
GRO >C5-C6	<10 µg/l	TM245	<10	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245	<10	67	<10	54		
GRO >C8-C10	<10 µg/l	TM245	32	1340	<10	736		
GRO >C5-C10	<10 µg/l	TM245	33	1420	<10	795		

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH50	BH41A	BH42A		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	04/09/2013	04/09/2013	04/09/2013	04/09/2013		
			Sample Time	.	.	.	.		
			Date Received	05/09/2013	05/09/2013	05/09/2013	05/09/2013		
			SDG Ref	130905-87	130905-87	130905-87	130905-87		
			Lab Sample No.(s)	8053771	8053768	8053779	8053776		
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<2	<1	1.4		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<2	<1	3.54		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<2	<1	33.6		
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<2	<1	1.29		
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
Azobenzene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
Acenaphthene (aq)	<1 µg/l	TM176		<1	<2	<1	4.11		
Anthracene (aq)	<1 µg/l	TM176		<1	<2	<1	1.45		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<2	<1	<1		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<10	<20	<10	<10		
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<2	<1	<1		

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend		Customer Sample R	BH43	BH50	BH41A	BH42A		
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.	.		
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
tot.unfilt	Total / unfiltered sample.	Date Sampled	04/09/2013	04/09/2013	04/09/2013	04/09/2013		
*	Subcontracted test.	Sample 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	05/09/2013	05/09/2013	05/09/2013	05/09/2013		
		SDG Ref	130905-87	130905-87	130905-87	130905-87		
(F)	Trigger breach confirmed	Lab Sample No.(s)	8053771	8053768	8053779	8053776		
1-4&+§@	Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Carbazole (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Chrysene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Dibenzofuran (aq)	<1 µg/l	TM176	<1	<2	<1	2.62		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1	72.3	<1	<1		
Diethyl phthalate (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5	<5	<5	<5		
Fluoranthene (aq)	<1 µg/l	TM176	<1	<2	<1	1.21		
Fluorene (aq)	<1 µg/l	TM176	<1	<2	<1	7.67		
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Pentachlorophenol (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Phenol (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Hexachloroethane (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Nitrobenzene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Naphthalene (aq)	<1 µg/l	TM176	<1	<2	<1	10.9		
Isophorone (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Phenanthrene (aq)	<1 µg/l	TM176	<1	<2	<1	15.7		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1	<2	<1	<1		
Pyrene (aq)	<1 µg/l	TM176	<1	<2	<1	2.44		

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8053771	8053768	8053779	8053776
Customer Sample Ref.	BH43	BH50	BH41A	BH42A
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Sep-2013	11-Sep-2013	16-Sep-2013	13-Sep-2013
GRO by GC-FID (W)	09-Sep-2013	09-Sep-2013	09-Sep-2013	11-Sep-2013
SVOC MS (W) - Aqueous	16-Sep-2013	16-Sep-2013	16-Sep-2013	16-Sep-2013

SDG:	130905-87	**Location:**	SHLNG	**Order Number:**	PO13-3284
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	242056
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

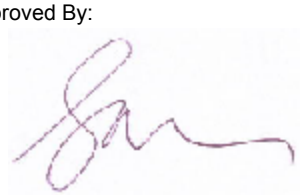
Date:	18 October 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	131011-118
Your Reference:	JER5575U
Location:	SHLNG
Report No:	246529

We received 10 samples on Friday October 11, 2013 and 5 of these samples were scheduled for analysis which was completed on Friday October 18, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8254816	BH43			10/10/2013
8254808	BH99			10/10/2013
8254814	BH41A			10/10/2013
8254805	BH42A			10/10/2013
8254815	BH41A DUPLICATE			10/10/2013
8254807	BH42A DUPLICATE			10/10/2013
8254811	BH34B			10/10/2013
8254813	BH34B DUPLICATE			10/10/2013
8254818	BH43 DUPLICATE			10/10/2013
8254810	BH99 DUPLICATE			10/10/2013

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

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8254816	BH43			1l Glass bottle (ALE
			8254808	BH99			Vial (ALE297)
			8254814	BH41A			1l Glass bottle (ALE
			8254805	BH42A			Vial (ALE297)
			8254811	BH34B			1l Glass bottle (ALE
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	10/10/2013	10/10/2013	10/10/2013	10/10/2013	10/10/2013
			Sample Time	.	.	.	.	.
			Date Received	11/10/2013	11/10/2013	11/10/2013	11/10/2013	11/10/2013
			SDG Ref	131011-118	131011-118	131011-118	131011-118	131011-118
			Lab Sample No.(s)	8254816	8254808	8254814	8254805	8254811
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		138 #	128000 #	1740 #	52700 #	213 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		21.3	28900	659	12300	104
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		117	99300	1080	40400	109

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	10/10/2013	10/10/2013	10/10/2013	10/10/2013	10/10/2013
			Sample Time	.	.	.	.	.
			Date Received	11/10/2013	11/10/2013	11/10/2013	11/10/2013	11/10/2013
			SDG Ref	131011-118	131011-118	131011-118	131011-118	131011-118
			Lab Sample No.(s)	8254816	8254808	8254814	8254805	8254811
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	29	<10	12	<10
GRO >C6-C8	<10 µg/l	TM245		<10	355	<10	86	<10
GRO >C8-C10	<10 µg/l	TM245		39	2440	14	397	<10
GRO >C5-C10	<10 µg/l	TM245		41	2820	16	495	<10

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	10/10/2013	10/10/2013	10/10/2013	10/10/2013	10/10/2013
			Sample Time	.	.	.	.	.
			Date Received	11/10/2013	11/10/2013	11/10/2013	11/10/2013	11/10/2013
			SDG Ref	131011-118	131011-118	131011-118	131011-118	131011-118
			Lab Sample No.(s)	8254816	8254808	8254814	8254805	8254811
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	99.8	<1	4.3	<1
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
Azobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
Acenaphthene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
Anthracene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<6	<40	<6	<24	<6
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B	
			Depth (m)	.	.	.	.	.	
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	
			Date Sampled	10/10/2013	10/10/2013	10/10/2013	10/10/2013	10/10/2013	
			Sample Time	.	.	.	.	.	
			Date Received	11/10/2013	11/10/2013	11/10/2013	11/10/2013	11/10/2013	
			SDG Ref	131011-118	131011-118	131011-118	131011-118	131011-118	
			Lab Sample No.(s)	8254816	8254808	8254814	8254805	8254811	
			AGS Reference						
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Carbazole (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Chrysene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<100	<5	<20	<5	
Fluoranthene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Fluorene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Phenol (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Naphthalene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Isophorone (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Phenanthrene (aq)	<1 µg/l	TM176		<1	36.7	<1	4.83	<1	
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	
Pyrene (aq)	<1 µg/l	TM176		<1	<20	<1	<4	<1	

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8254816	8254808	8254814	8254805	8254811
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	16-Oct-2013	16-Oct-2013	16-Oct-2013	16-Oct-2013	16-Oct-2013
GRO by GC-FID (W)	13-Oct-2013	15-Oct-2013	13-Oct-2013	14-Oct-2013	14-Oct-2013
SVOC MS (W) - Aqueous	18-Oct-2013	18-Oct-2013	18-Oct-2013	18-Oct-2013	18-Oct-2013

SDG:	131011-118	**Location:**	SHLNG	**Order Number:**	PO13-3349
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	246529
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 2 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

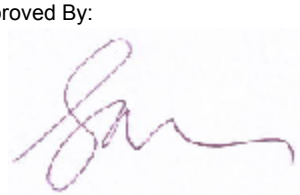
Date:	20 November 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	131113-84
Your Reference:	JER5575U
Location:	SHLNG
Report No:	250616

We received 10 samples on Wednesday November 13, 2013 and 5 of these samples were scheduled for analysis which was completed on Wednesday November 20, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8416959	BH43			12/11/2013
8416961	BH99			12/11/2013
8416955	BH41a			12/11/2013
8416957	BH42a			12/11/2013
8416956	BH41a DUPLICATE			12/11/2013
8416958	BH42a DUPLICATE			12/11/2013
8416953	BH34b			12/11/2013
8416954	BH34b DUPLICATE			12/11/2013
8416960	BH43 DUPLICATE			12/11/2013
8416962	BH99 DUPLICATE			12/11/2013

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

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8416959	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			8416961	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			8416955	BH41a			1l Glass bottle (ALE
							Vial (ALE297)
			8416957	BH42a			1l Glass bottle (ALE
							Vial (ALE297)
			8416953	BH34b			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013
			Sample Time	.	.	.	.	.
			Date Received	13/11/2013	13/11/2013	13/11/2013	13/11/2013	13/11/2013
			SDG Ref	131113-84	131113-84	131113-84	131113-84	131113-84
			Lab Sample No.(s)	8416959	8416961	8416955	8416957	8416953
			AGS Reference	M-Nov13	M-Nov13	M-Nov13	M-Nov13	M-Nov13
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	89.2 #	3310 #	26100 #	68.3 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	47.8	1260	6350	33.6
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	41.3	2050	19900	34.7

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013
			Sample Time	.	.	.	.	.
			Date Received	13/11/2013	13/11/2013	13/11/2013	13/11/2013	13/11/2013
			SDG Ref	131113-84	131113-84	131113-84	131113-84	131113-84
			Lab Sample No.(s)	8416959	8416961	8416955	8416957	8416953
			AGS Reference	M-Nov13	M-Nov13	M-Nov13	M-Nov13	M-Nov13
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	75	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	15	141	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	17	225	<10

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013
			Sample Time	.	.	.	.	.
			Date Received	13/11/2013	13/11/2013	13/11/2013	13/11/2013	13/11/2013
			SDG Ref	131113-84	131113-84	131113-84	131113-84	131113-84
			Lab Sample No.(s)	8416959	8416961	8416955	8416957	8416953
			AGS Reference	M-Nov13	M-Nov13	M-Nov13	M-Nov13	M-Nov13
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<2	<10	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	132 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<2	<10	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<2	<10	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<10 #	<10 #	<20 #	<100 #	<10 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/11/2013	12/11/2013	12/11/2013	12/11/2013	12/11/2013
			Sample Time	.	.	.	.	.
			Date Received	13/11/2013	13/11/2013	13/11/2013	13/11/2013	13/11/2013
			SDG Ref	131113-84	131113-84	131113-84	131113-84	131113-84
			Lab Sample No.(s)	8416959	8416961	8416955	8416957	8416953
			AGS Reference	M-Nov13	M-Nov13	M-Nov13	M-Nov13	M-Nov13
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<10 #	<50 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<2	<10	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<2	<10	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	31.9 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<2	<10	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	25.1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<10 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	2.44 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8416959	8416961	8416955	8416957	8416953
Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	19-Nov-2013	19-Nov-2013	19-Nov-2013	19-Nov-2013	19-Nov-2013
GRO by GC-FID (W)	17-Nov-2013	18-Nov-2013	17-Nov-2013	18-Nov-2013	17-Nov-2013
SVOC MS (W) - Aqueous	20-Nov-2013	20-Nov-2013	20-Nov-2013	20-Nov-2013	20-Nov-2013

SDG:	131113-84	**Location:**	SHLNG	**Order Number:**	PO13-3415
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	250616
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

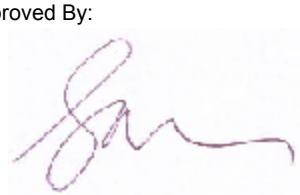
Date:	10 December 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	131204-63
Your Reference:	JER5575U
Location:	SHLNG
Report No:	253395

We received 16 samples on Wednesday December 04, 2013 and 8 of these samples were scheduled for analysis which was completed on Tuesday December 10, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8527157	BH20			02/12/2013
8527159	BH22			02/12/2013
8527161	BH26			02/12/2013
8527154	BH53			02/12/2013
8527174	BH55			02/12/2013
8527170	BH59			02/12/2013
8527167	BH27A			02/12/2013
8527169	BH27A DUPLICATE			02/12/2013
8527177	BH36B			02/12/2013
8527178	BH36B DUPLICATE			02/12/2013
8527158	BH20 DUPLICATE			02/12/2013
8527160	BH22 DUPLICATE			02/12/2013
8527165	BH26 DUPLICATE			02/12/2013
8527155	BH53 DUPLICATE			02/12/2013
8527175	BH55 DUPLICATE			02/12/2013
8527171	BH59 DUPLICATE			02/12/2013

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

CERTIFICATE OF ANALYSIS

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 8	8527157	BH20			1l Glass bottle (ALE)
			8527159	BH22			Vial (ALE297)
			8527161	BH26			1l Glass bottle (ALE)
			8527154	BH53			Vial (ALE297)
			8527174	BH55			1l Glass bottle (ALE)
			8527170	BH59			Vial (ALE297)
			8527167	BH27A			1l Glass bottle (ALE)
			8527177	BH36B			Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 8	8527157	BH20			1l Glass bottle (ALE)
			8527159	BH22			Vial (ALE297)
			8527161	BH26			1l Glass bottle (ALE)
			8527154	BH53			Vial (ALE297)
			8527174	BH55			1l Glass bottle (ALE)
			8527170	BH59			Vial (ALE297)
			8527167	BH27A			1l Glass bottle (ALE)
			8527177	BH36B			Vial (ALE297)

CERTIFICATE OF ANALYSIS

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH20	BH22	BH26	BH53	BH55	BH59
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/12/2013	02/12/2013	02/12/2013	02/12/2013	02/12/2013	02/12/2013
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
			SDG Ref	131204-63	131204-63	131204-63	131204-63	131204-63	131204-63
			Lab Sample No.(s)	8527157	8527159	8527161	8527154	8527174	8527170
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		193 #	<46 #	174 #	211 #	156 #	191 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	<10	<10	<10	12.9
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		193	<10	174	211	156	178

CERTIFICATE OF ANALYSIS

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH27A	BH36B				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	02/12/2013	02/12/2013				
			Sample Time	.	.				
			Date Received	04/12/2013	04/12/2013				
			SDG Ref	131204-63	131204-63				
			Lab Sample No.(s)	8527167	8527177				
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		146 #	240 #				
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	79.5				
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		146	160				

CERTIFICATE OF ANALYSIS

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH20	BH22	BH26	BH53	BH55	BH59
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/12/2013	02/12/2013	02/12/2013	02/12/2013	02/12/2013	02/12/2013
			Sample Time	.	.	.	.	.	.
			Date Received	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013	04/12/2013
			SDG Ref	131204-63	131204-63	131204-63	131204-63	131204-63	131204-63
			Lab Sample No.(s)	8527157	8527159	8527161	8527154	8527174	8527170
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH27A	BH36B				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	02/12/2013	02/12/2013				
			Sample Time	.	.				
			Date Received	04/12/2013	04/12/2013				
			SDG Ref	131204-63	131204-63				
			Lab Sample No.(s)	8527167	8527177				
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10				
GRO >C6-C8	<10 µg/l	TM245		<10	10				
GRO >C8-C10	<10 µg/l	TM245		<10	<10				
GRO >C5-C10	<10 µg/l	TM245		<10	11				

CERTIFICATE OF ANALYSIS

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8527157	8527159	8527161	8527154	8527174	8527170	8527167	8527177
Customer Sample Ref.	BH20	BH22	BH26	BH53	BH55	BH59	BH27A	BH36B
AGS Ref.								
Depth								
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	10-Dec-2013	10-Dec-2013	10-Dec-2013	10-Dec-2013	10-Dec-2013	10-Dec-2013	10-Dec-2013	10-Dec-2013
GRO by GC-FID (W)	06-Dec-2013	06-Dec-2013	06-Dec-2013	08-Dec-2013	06-Dec-2013	06-Dec-2013	06-Dec-2013	06-Dec-2013

SDG:	131204-63	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253395
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
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§	**Sampled on date not provided**
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&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

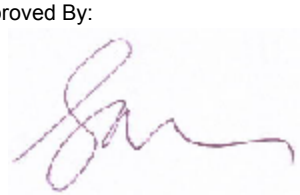
Date:	11 December 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	131205-104
Your Reference:	JER5575U
Location:	SHLNG
Report No:	253614

We received 12 samples on Thursday December 05, 2013 and 6 of these samples were scheduled for analysis which was completed on Wednesday December 11, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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

CERTIFICATE OF ANALYSIS

SDG:	131205-104	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253614
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8537562	BH18			03/12/2013
8537566	BH49			03/12/2013
8537569	BH65			03/12/2013
8537564	BH47A			03/12/2013
8537574	BH61A			03/12/2013
8537565	BH47A DUPLICATE			03/12/2013
8537577	BH61A DUPLICATE			03/12/2013
8537571	BH60B			03/12/2013
8537572	BH60B DUPLICATE			03/12/2013
8537563	BH18 DUPLICATE			03/12/2013
8537568	BH49 DUPLICATE			03/12/2013
8537570	BH65 DUPLICATE			03/12/2013

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

CERTIFICATE OF ANALYSIS

SDG:	131205-104	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253614
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 6	8537562	BH18			1l Glass bottle (ALE)
			8537566	BH49			Vial (ALE297)
			8537569	BH65			1l Glass bottle (ALE)
			8537564	BH47A			Vial (ALE297)
			8537574	BH61A			1l Glass bottle (ALE)
			8537571	BH60B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 6	X	X	X	X	1l Glass bottle (ALE)
							Vial (ALE297)
			X	X	X	X	1l Glass bottle (ALE)
							Vial (ALE297)
			X	X	X	X	1l Glass bottle (ALE)
							Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6					1l Glass bottle (ALE)
			X	X	X	X	Vial (ALE297)
							1l Glass bottle (ALE)
			X	X	X	X	Vial (ALE297)
							1l Glass bottle (ALE)
			X	X	X	X	Vial (ALE297)

CERTIFICATE OF ANALYSIS

SDG:	131205-104	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253614
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

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

Component	LOD/Units	Method	Customer Sample R	BH18	BH49	BH65	BH47A	BH61A	BH60B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/12/2013	03/12/2013	03/12/2013	03/12/2013	03/12/2013	03/12/2013
			Sample Time	.	.	.	.	.	.
			Date Received	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013
			SDG Ref	131205-104	131205-104	131205-104	131205-104	131205-104	131205-104
			Lab Sample No.(s)	8537562	8537566	8537569	8537564	8537574	8537571
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		133 #	<46 #	<46 #	556 #	1760 #	251 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		52.1	46	<10	95.6	315	47.5
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		80.7	<10	<10	462	1450	203

CERTIFICATE OF ANALYSIS

SDG:	131205-104	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253614
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH18	BH49	BH65	BH47A	BH61A	BH60B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/12/2013	03/12/2013	03/12/2013	03/12/2013	03/12/2013	03/12/2013
			Sample Time	.	.	.	.	.	.
			Date Received	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013
			SDG Ref	131205-104	131205-104	131205-104	131205-104	131205-104	131205-104
			Lab Sample No.(s)	8537562	8537566	8537569	8537564	8537574	8537571
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	41	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	1270	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	293	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	1600	<10

CERTIFICATE OF ANALYSIS

SDG:	131205-104	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253614
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	131205-104	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253614
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8537562	8537566	8537569	8537564	8537574	8537571
Customer Sample Ref.	BH18	BH49	BH65	BH47A	BH61A	BH60B
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	11-Dec-2013	11-Dec-2013	11-Dec-2013	11-Dec-2013	11-Dec-2013	11-Dec-2013
GRO by GC-FID (W)	08-Dec-2013	08-Dec-2013	08-Dec-2013	08-Dec-2013	08-Dec-2013	08-Dec-2013

SDG:	131205-104	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	253614
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	31 December 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	131206-82
Your Reference:	JER5575U
Location:	SHLNG
Report No:	255593

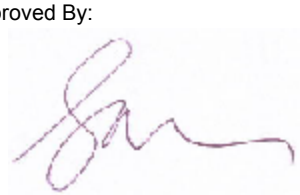
This report has been revised and directly supersedes 253719 in its entirety.

We received 8 samples on Friday December 06, 2013 and 4 of these samples were scheduled for analysis which was completed on Tuesday December 31, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8545247	BH01			04/12/2013
8545251	BH19			04/12/2013
8545245	BH50			04/12/2013
8545244	BH99			04/12/2013
8545256	BH01 duplicate			04/12/2013
8545258	BH19 duplicate			04/12/2013
8545255	BH50 duplicate			04/12/2013
8545253	BH99 duplicate			04/12/2013

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

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8545247	BH01			1l Glass bottle (ALE
			8545251	BH19			Vial (ALE297)
			8545245	BH50			1l Glass bottle (ALE
			8545244	BH99			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4	X		X		X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 4		X		X	
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 1				X	

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

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

Customer Sample R			BH01	BH19	BH50	BH99		
Depth (m)			.	.	.	.		
Sample Type			Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
Date Sampled			04/12/2013	04/12/2013	04/12/2013	04/12/2013		
Sample Time			.	.	.	.		
Date Received			06/12/2013	06/12/2013	06/12/2013	06/12/2013		
SDG Ref			131206-82	131206-82	131206-82	131206-82		
Lab Sample No.(s)			8545247	8545251	8545245	8545244		
AGS Reference								
Component	**LOD/Units**	**Method**						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	<46 #	183 #	3460 #	2640 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	<10	<10	244	174		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	<10	183	3220	2470		

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH01	BH19	BH50	BH99		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	04/12/2013	04/12/2013	04/12/2013	04/12/2013		
			Sample Time	.	.	.	.		
			Date Received	06/12/2013	06/12/2013	06/12/2013	06/12/2013		
			SDG Ref	131206-82	131206-82	131206-82	131206-82		
			Lab Sample No.(s)	8545247	8545251	8545245	8545244		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245		<10	<10	77	90		
GRO >C8-C10	<10 µg/l	TM245		15	<10	1820	1680		
GRO >C5-C10	<10 µg/l	TM245		16	<10	1900	1770		

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

SVOC MS (W) - Aqueous

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

Customer Sample R	BH50
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	04/12/2013
Sample Time	.
Date Received	06/12/2013
SDG Ref	131206-82
Lab Sample No.(s)	8545245
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<1
Azobenzene (aq)	<1 µg/l	TM176	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #
Acenaphthene (aq)	<1 µg/l	TM176	<1 #
Anthracene (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

SVOC MS (W) - Aqueous

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

Customer Sample R	BH50
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	04/12/2013
Sample Time	.
Date Received	06/12/2013
SDG Ref	131206-82
Lab Sample No.(s)	8545245
AGS Reference	

Component	LOD/Units	Method	
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #
Carbazole (aq)	<1 µg/l	TM176	<1 #
Chrysene (aq)	<1 µg/l	TM176	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	63.5 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #
Fluoranthene (aq)	<1 µg/l	TM176	<1 #
Fluorene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<1
Phenol (aq)	<1 µg/l	TM176	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #
Naphthalene (aq)	<1 µg/l	TM176	<1 #
Isophorone (aq)	<1 µg/l	TM176	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1
Phenanthrene (aq)	<1 µg/l	TM176	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #
Pyrene (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

Test Completion Dates

Lab Sample No(s)	8545247	8545251	8545245	8545244
Customer Sample Ref.	BH01	BH19	BH50	BH99
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Dec-2013	12-Dec-2013	12-Dec-2013	12-Dec-2013
GRO by GC-FID (W)	09-Dec-2013	09-Dec-2013	10-Dec-2013	09-Dec-2013
SVOC MS (W) - Aqueous			31-Dec-2013	

SDG:	131206-82	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255593
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	253719

Appendix
General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
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Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	30 December 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	131209-14
Your Reference:	JER5575U
Location:	SHLNG
Report No:	255487

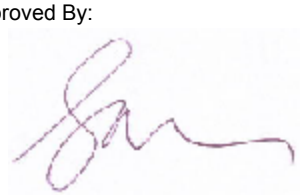
This report has been revised and directly supersedes 254265 in its entirety.

We received 20 samples on Saturday December 07, 2013 and 10 of these samples were scheduled for analysis which was completed on Monday December 30, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8556107	BH06			05/12/2013
8556101	BH44			05/12/2013
8556098	BH30a			05/12/2013
8556099	BH40a			05/12/2013
8556104	BH63a			05/12/2013
8556117	BH30a dup			05/12/2013
8556119	BH40a dup			05/12/2013
8556124	BH63a dup			05/12/2013
8556110	BH34b			05/12/2013
8556102	BH45b			05/12/2013
8556132	BH34b dup			05/12/2013
8556121	BH45b dup			05/12/2013
8556128	BH06 dup			05/12/2013
8556120	BH44 dup			05/12/2013
8556108	BHG2b			05/12/2013
8556129	BHG2b dup			05/12/2013
8556105	MW1			05/12/2013
8556106	MW3			05/12/2013
8556125	MW1 dup			05/12/2013
8556126	MW3 dup			05/12/2013

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

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8556107	BH06			1l Glass bottle (ALE
			8556101	BH44			Vial (ALE297)
			8556098	BH30a			1l Glass bottle (ALE
			8556099	BH40a			Vial (ALE297)
			8556104	BH63a			1l Glass bottle (ALE
			8556110	BH34b			Vial (ALE297)
			8556102	BH45b			1l Glass bottle (ALE
			8556108	BH62b			Vial (ALE297)
			8556105	MW1			1l Glass bottle (ALE
			8556106	MW3			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 10	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

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

Component	LOD/Units	Method	Customer Sample R	BH06	BH44	BH30a	BH40a	BH63a	BH34b
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/12/2013	07/12/2013	07/12/2013	07/12/2013	07/12/2013	07/12/2013
			SDG Ref	131209-14	131209-14	131209-14	131209-14	131209-14	131209-14
			Lab Sample No.(s)	8556107	8556101	8556098	8556099	8556104	8556110
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		144 #	<46 #	52.8 #	210 #	50.9 #	210 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		66.5	42.9	38.5	194	37.6	54.2
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		77.6	<10	14.3	16.7	13.3	156

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

Results Legend

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

Component	LOD/Units	Method	Customer Sample R	BH45b	BHG2b	MW1	MW3		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	05/12/2013	05/12/2013	05/12/2013	05/12/2013		
			Sample Time	.	.	.	.		
			Date Received	07/12/2013	07/12/2013	07/12/2013	07/12/2013		
			SDG Ref	131209-14	131209-14	131209-14	131209-14		
			Lab Sample No.(s)	8556102	8556108	8556105	8556106		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		96.9 #	<46 #	<46 #	177 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		60.2	38.1	<10	46.3		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		36.9	<10	<10	131		

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH06	BH44	BH30a	BH40a	BH63a	BH34b
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013
			Sample Time	.	.	.	.	.	.
			Date Received	07/12/2013	07/12/2013	07/12/2013	07/12/2013	07/12/2013	07/12/2013
			SDG Ref	131209-14	131209-14	131209-14	131209-14	131209-14	131209-14
			Lab Sample No.(s)	8556107	8556101	8556098	8556099	8556104	8556110
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH45b	BHG2b	MW1	MW3		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	05/12/2013	05/12/2013	05/12/2013	05/12/2013		
			Sample Time	.	.	.	.		
			Date Received	07/12/2013	07/12/2013	07/12/2013	07/12/2013		
			SDG Ref	131209-14	131209-14	131209-14	131209-14		
			Lab Sample No.(s)	8556102	8556108	8556105	8556106		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10		

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH06	BH44	BH34b	MW1	MW3
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013
			Sample Time	.	.	.	.	.
			Date Received	07/12/2013	07/12/2013	07/12/2013	07/12/2013	07/12/2013
			SDG Ref	131209-14	131209-14	131209-14	131209-14	131209-14
			Lab Sample No.(s)	8556107	8556101	8556110	8556105	8556106
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH06	BH44	BH34b	MW1	MW3
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/12/2013	05/12/2013	05/12/2013	05/12/2013	05/12/2013
			Sample Time	.	.	.	.	.
			Date Received	07/12/2013	07/12/2013	07/12/2013	07/12/2013	07/12/2013
			SDG Ref	131209-14	131209-14	131209-14	131209-14	131209-14
			Lab Sample No.(s)	8556107	8556101	8556110	8556105	8556106
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

Test Completion Dates

Lab Sample No(s)	8556107	8556101	8556098	8556099	8556104	8556110	8556102	8556108	8556105	8556106
Customer Sample Ref.	BH06	BH44	BH30a	BH40a	BH63a	BH34b	BH45b	BHG2b	MW1	MW3
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Dec-2013	13-Dec-2013	12-Dec-2013	13-Dec-2013	12-Dec-2013	13-Dec-2013	13-Dec-2013	13-Dec-2013	13-Dec-2013	13-Dec-2013
GRO by GC-FID (W)	11-Dec-2013	11-Dec-2013	11-Dec-2013	11-Dec-2013	11-Dec-2013	12-Dec-2013	11-Dec-2013	11-Dec-2013	11-Dec-2013	11-Dec-2013
SVOC MS (W) - Aqueous	30-Dec-2013	30-Dec-2013				16-Dec-2013			16-Dec-2013	16-Dec-2013

SDG:	131209-14	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	255487
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	254265

Appendix
General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

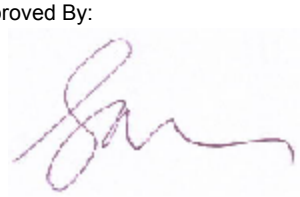
Date:	18 December 2013
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	131210-64
Your Reference:	JER5575U
Location:	SHLNG
Report No:	254534

We received 6 samples on Tuesday December 10, 2013 and 3 of these samples were scheduled for analysis which was completed on Wednesday December 18, 2013. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8565271	BH43		0.00	06/12/2013
8565273	BH41a		0.00	06/12/2013
8565275	BH42a		0.00	06/12/2013
8565282	BH41a duplicate		0.00	06/12/2013
8565283	BH42a duplicate		0.00	06/12/2013
8565277	BH43 duplicate		0.00	06/12/2013

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

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8565271	BH43		0.00	1l Glass bottle (ALE
			8565271	BH43		0.00	Vial (ALE297)
			8565273	BH41a		0.00	1l Glass bottle (ALE
			8565273	BH41a		0.00	Vial (ALE297)
			8565275	BH42a		0.00	1l Glass bottle (ALE
			8565275	BH42a		0.00	Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 3	X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 3		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 3	X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41a	BH42a			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/12/2013	06/12/2013	06/12/2013			
			Sample Time	.	.	.			
			Date Received	10/12/2013	10/12/2013	10/12/2013			
			SDG Ref	131210-64	131210-64	131210-64			
			Lab Sample No.(s)	8565271	8565273	8565275			
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		188 #	1240 #	42800 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		49.9	<20	9970			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		138	1240	32800			

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH43	BH41a	BH42a			
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.	Depth (m)	0.00	0.00	0.00			
tot.unfilt	Total / unfiltered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
*	Subcontracted test.	Date Sampled	06/12/2013	06/12/2013	06/12/2013			
**	% 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	Sample Time	.	.	.			
		Date Received	10/12/2013	10/12/2013	10/12/2013			
		SDG Ref	131210-64	131210-64	131210-64			
(F)	Trigger breach confirmed	Lab Sample No.(s)	8565271	8565273	8565275			
1-4&+§@	Sample deviation (see appendix)	AGS Reference						
Component		**LOD/Units**	**Method**					
GRO >C5-C6		<10 µg/l	TM245	<10	<10	<10		
GRO >C6-C8		<10 µg/l	TM245	<10	<10	151		
GRO >C8-C10		<10 µg/l	TM245	20	<10	2680		
GRO >C5-C10		<10 µg/l	TM245	22	<10	2840		

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41a	BH42a			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/12/2013	06/12/2013	06/12/2013			
			Sample Time	.	.	.			
			Date Received	10/12/2013	10/12/2013	10/12/2013			
			SDG Ref	131210-64	131210-64	131210-64			
			Lab Sample No.(s)	8565271	8565273	8565275			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<2			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	117 #			
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<2			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<2			
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<4 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41a	BH42a			
			Depth (m)	0.00	0.00	0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	06/12/2013	06/12/2013	06/12/2013			
			Sample Time	.	.	.			
			Date Received	10/12/2013	10/12/2013	10/12/2013			
			SDG Ref	131210-64	131210-64	131210-64			
			Lab Sample No.(s)	8565271	8565273	8565275			
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<10 #			
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<2			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<2			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	36.9 #			
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<2			
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	17.1 #			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #			

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8565271	8565273	8565275
Customer Sample Ref.	BH43	BH41a	BH42a
AGS Ref.			
Depth	0.00	0.00	0.00
Type	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	18-Dec-2013	18-Dec-2013	18-Dec-2013
GRO by GC-FID (W)	12-Dec-2013	12-Dec-2013	13-Dec-2013
SVOC MS (W) - Aqueous	17-Dec-2013	17-Dec-2013	18-Dec-2013

SDG:	131210-64	**Location:**	SHLNG	**Order Number:**	PO13-3416
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	254534
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

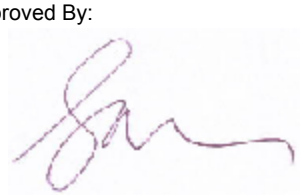
Date:	28 January 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140118-77
Your Reference:	JER5575U
Location:	SHLNG
Report No:	257933

We received 9 samples on Saturday January 18, 2014 and 4 of these samples were scheduled for analysis which was completed on Tuesday January 28, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8710501	BH43			16/01/2014
8710504	BH41A			16/01/2014
8710506	BH42A			16/01/2014
8710505	BH41A DUPLICATE			16/01/2014
8710507	BH42A DUPLICATE			16/01/2014
8710498	BH34B			16/01/2014
8710499	BH34B DUPLICATE			16/01/2014
8710503	BH43 DUPLICATE			16/01/2014
8710500	BH99 DUPLICATE			16/01/2014

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

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4	8710501	BH43			1l Glass bottle (ALE
			8710504	BH41A			Vial (ALE297)
			8710506	BH42A			1l Glass bottle (ALE
			8710498	BH34B			Vial (ALE297)
			X				
				X			
			X				
				X			
			X				
				X			
			X				
				X			
GRO by GC-FID (W)	All	NDPs: 0 Tests: 4					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 4					

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/01/2014	16/01/2014	16/01/2014	16/01/2014		
			Sample Time	.	.	.	.		
			Date Received	18/01/2014	18/01/2014	18/01/2014	18/01/2014		
			SDG Ref	140118-77	140118-77	140118-77	140118-77		
			Lab Sample No.(s)	8710501	8710504	8710506	8710498		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	912 #	4850 #	67 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	271	870	41.6		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	643	3970	25.6		

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/01/2014	16/01/2014	16/01/2014	16/01/2014		
			Sample Time	.	.	.	.		
			Date Received	18/01/2014	18/01/2014	18/01/2014	18/01/2014		
			SDG Ref	140118-77	140118-77	140118-77	140118-77		
			Lab Sample No.(s)	8710501	8710504	8710506	8710498		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C8-C10	<10 µg/l	TM245		<10	<10	192	<10		
GRO >C5-C10	<10 µg/l	TM245		<10	<10	195	<10		

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/01/2014	16/01/2014	16/01/2014	16/01/2014		
			Sample Time	.	.	.	.		
			Date Received	18/01/2014	18/01/2014	18/01/2014	18/01/2014		
			SDG Ref	140118-77	140118-77	140118-77	140118-77		
			Lab Sample No.(s)	8710501	8710504	8710506	8710498		
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<2	<1		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	26 #	<1 #		
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<2	<1		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<2	<1		
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<4 #	<2 #		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/01/2014	16/01/2014	16/01/2014	16/01/2014		
			Sample Time	.	.	.	.		
			Date Received	18/01/2014	18/01/2014	18/01/2014	18/01/2014		
			SDG Ref	140118-77	140118-77	140118-77	140118-77		
			Lab Sample No.(s)	8710501	8710504	8710506	8710498		
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<10 #	<5 #		
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<2	<1		
Phenol (aq)	<1 µg/l	TM176		<1	<1	<2	<1		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	6.47 #	<1 #		
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<2	<1		
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	6.45 #	<1 #		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<2 #	<1 #		

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8710501	8710504	8710506	8710498
Customer Sample Ref.	BH43	BH41A	BH42A	BH34B
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	27-Jan-2014	27-Jan-2014	27-Jan-2014	24-Jan-2014
GRO by GC-FID (W)	21-Jan-2014	21-Jan-2014	21-Jan-2014	21-Jan-2014
SVOC MS (W) - Aqueous	28-Jan-2014	28-Jan-2014	28-Jan-2014	27-Jan-2014

SDG:	140118-77	**Location:**	SHLNG	**Order Number:**	PO14-053
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	257933
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

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

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

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

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

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

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

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

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

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

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

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

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

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

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

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

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

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

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

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

Sample Deviations

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

Asbestos

Identification of Asbestos in Bulk Materials & Soils

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

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

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

Visual Estimation Of Fibre Content

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

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

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

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

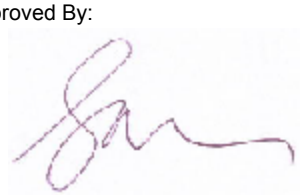
Date:	19 February 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140212-51
Your Reference:	JER5575U
Location:	SHLNG
Report No:	260464

We received 10 samples on Wednesday February 12, 2014 and 5 of these samples were scheduled for analysis which was completed on Wednesday February 19, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

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

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8830395	BH43			11/02/2014
8830400	BH99			11/02/2014
8830398	BH41a			11/02/2014
8830399	BH42a			11/02/2014
8830404	BH41a DUPLICATE			11/02/2014
8830405	BH42a DUPLICATE			11/02/2014
8830394	BH34b			11/02/2014
8830401	BH34b DUPLICATE			11/02/2014
8830402	BH43 DUPLICATE			11/02/2014
8830406	BH99 DUPLICATE			11/02/2014

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

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8830395	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			8830400	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			8830398	BH41a			1l Glass bottle (ALE
							Vial (ALE297)
			8830399	BH42a			1l Glass bottle (ALE
							Vial (ALE297)
			8830394	BH34b			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
			Sample Time	.	.	.	.	.
			Date Received	12/02/2014	12/02/2014	12/02/2014	12/02/2014	12/02/2014
			SDG Ref	140212-51	140212-51	140212-51	140212-51	140212-51
			Lab Sample No.(s)	8830395	8830400	8830398	8830399	8830394
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	54.9 #	5470 #	15000 #	58.6 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	35.2	1690	2550	37.9
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	19.5	3800	12400	20.7

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.	Depth (m)	.	.	.	.	.	
tot.unfilt	Total / unfiltered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	
*	Subcontracted test.	Date Sampled	11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014	
**	% 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	Sample Time	.	.	.	.	.	
		Date Received	12/02/2014	12/02/2014	12/02/2014	12/02/2014	12/02/2014	
		SDG Ref	140212-51	140212-51	140212-51	140212-51	140212-51	
(F)	Trigger breach confirmed	Lab Sample No.(s)	8830395	8830400	8830398	8830399	8830394	
1-5&+§@	Sample deviation (see appendix)	AGS Reference						
Component		**LOD/Units**	**Method**					
GRO >C5-C6		<10 µg/l	TM245	<10	<10	<10	<10	<10
GRO >C6-C8		<10 µg/l	TM245	<10	<10	<10	29	<10
GRO >C8-C10		<10 µg/l	TM245	<10	<10	115	98	<10
GRO >C5-C10		<10 µg/l	TM245	<10	<10	117	135	<10

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
			Sample Time	.	.	.	.	.
			Date Received	12/02/2014	12/02/2014	12/02/2014	12/02/2014	12/02/2014
			SDG Ref	140212-51	140212-51	140212-51	140212-51	140212-51
			Lab Sample No.(s)	8830395	8830400	8830398	8830399	8830394
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	9.85 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<4 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

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

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	11/02/2014	11/02/2014	11/02/2014	11/02/2014	11/02/2014
			Sample Time	.	.	.	.	.
			Date Received	12/02/2014	12/02/2014	12/02/2014	12/02/2014	12/02/2014
			SDG Ref	140212-51	140212-51	140212-51	140212-51	140212-51
			Lab Sample No.(s)	8830395	8830400	8830398	8830399	8830394
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<10 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	4.83 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.36 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

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

CERTIFICATE OF ANALYSIS

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8830395	8830400	8830398	8830399	8830394
Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	19-Feb-2014	19-Feb-2014	19-Feb-2014	19-Feb-2014	19-Feb-2014
GRO by GC-FID (W)	17-Feb-2014	13-Feb-2014	17-Feb-2014	17-Feb-2014	17-Feb-2014
SVOC MS (W) - Aqueous	19-Feb-2014	19-Feb-2014	19-Feb-2014	19-Feb-2014	19-Feb-2014

SDG:	140212-51	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	260464
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

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

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

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

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

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

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

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

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

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

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

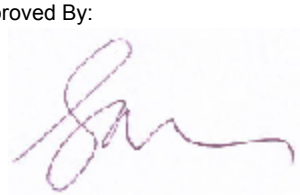
Date:	12 March 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140305-73
Your Reference:	JER5575U
Location:	SHLNG
Report No:	262929

We received 21 samples on Wednesday March 05, 2014 and 10 of these samples were scheduled for analysis which was completed on Wednesday March 12, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
8936617	BH06			03/03/2014
8936611	BH43			03/03/2014
8936610	BH44			03/03/2014
8936618	BH50			03/03/2014
8936597	BH99			03/03/2014
8936624	BH41a			03/03/2014
8936603	BH42a			03/03/2014
8936621	BH41a DUPLICATE			03/03/2014
8936619	BH42a DUPLICATE			03/03/2014
8936626	BH34b			03/03/2014
8936627	BH34b DUPLICATE			03/03/2014
8936614	BH06 DUPLICATE			03/03/2014
8936622	BH43 DUPLICATE			03/03/2014
8936612	BH44 DUPLICATE			03/03/2014
8936620	BH50 DUPLICATE			03/03/2014
8936598	BH99 DUPLICATE			03/03/2014
8936616	MW01			03/03/2014
8936613	MW03			03/03/2014
8936615	MW01 DUPLICATE			03/03/2014
8936607	MW03 DUPLICATE			03/03/2014
8936625	TRIP BLANK			03/03/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			8936617	BH06			1l Glass bottle (ALE
			8936611	BH43			Vial (ALE297)
			8936610	BH44			1l Glass bottle (ALE
			8936618	BH50			Vial (ALE297)
			8936597	BH99			1l Glass bottle (ALE
			8936624	BH41a			Vial (ALE297)
			8936603	BH42a			1l Glass bottle (ALE
			8936626	BH34b			Vial (ALE297)
			8936616	MW01			1l Glass bottle (ALE
			8936613	MW03			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH41a	BH42a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014
			SDG Ref	140305-73	140305-73	140305-73	140305-73	140305-73	140305-73
			Lab Sample No.(s)	8936617	8936611	8936610	8936618	8936624	8936603
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		101 #	<46 #	<46 #	2640 #	3100 #	2480 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		44.7	<10	38.9	324	995	324
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		56.5	<10	<10	2320	2110	2150

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34b	MW01	MW03
			Depth (m)	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/03/2014	03/03/2014	03/03/2014
			Sample Time	.	.	.
			Date Received	05/03/2014	05/03/2014	05/03/2014
			SDG Ref	140305-73	140305-73	140305-73
			Lab Sample No.(s)	8936626	8936616	8936613
			AGS Reference			
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		66.2 #	<46 #	172 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		37.3	27.6	64.9
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		29	18.4	107

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014
			SDG Ref	140305-73	140305-73	140305-73	140305-73	140305-73	140305-73
			Lab Sample No.(s)	8936617	8936611	8936610	8936618	8936597	8936624
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	12	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	103	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	1320	<10	39
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	1440	<10	43

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH42a	BH34b	MW01	MW03		
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.	.		
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
tot.unfilt	Total / unfiltered sample.	Date Sampled	03/03/2014	03/03/2014	03/03/2014	03/03/2014		
*	Subcontracted test.	Sample 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	05/03/2014	05/03/2014	05/03/2014	05/03/2014		
		SDG Ref	140305-73	140305-73	140305-73	140305-73		
(F)	Trigger breach confirmed	Lab Sample No.(s)	8936603	8936626	8936616	8936613		
1-5&+§@	Sample deviation (see appendix)	AGS Reference						
Component		**LOD/Units**	**Method**					
GRO >C5-C6		<10 µg/l	TM245	16	<10	<10	<10		
GRO >C6-C8		<10 µg/l	TM245	118	<10	<10	<10		
GRO >C8-C10		<10 µg/l	TM245	608	<10	<10	<10		
GRO >C5-C10		<10 µg/l	TM245	742	<10	<10	<10		

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH41a	BH42a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014
			SDG Ref	140305-73	140305-73	140305-73	140305-73	140305-73	140305-73
			Lab Sample No.(s)	8936617	8936611	8936610	8936618	8936624	8936603
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<160
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	6080 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<160
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<160
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	2.37 #	<2 #	<320 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH41a	BH42a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014	03/03/2014
			Sample Time	.	.	.	.	.	.
			Date Received	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014	05/03/2014
			SDG Ref	140305-73	140305-73	140305-73	140305-73	140305-73	140305-73
			Lab Sample No.(s)	8936617	8936611	8936610	8936618	8936624	8936603
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	63.7 #	<1 #	<160 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #	<800 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<160
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<160
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	1370 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<160
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	1290 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<160 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	178 #

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34b	MW01	MW03			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	03/03/2014	03/03/2014	03/03/2014			
			Sample Time	.	.	.			
			Date Received	05/03/2014	05/03/2014	05/03/2014			
			SDG Ref	140305-73	140305-73	140305-73			
			Lab Sample No.(s)	8936626	8936616	8936613			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34b	MW01	MW03			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	03/03/2014	03/03/2014	03/03/2014			
			Sample Time	.	.	.			
			Date Received	05/03/2014	05/03/2014	05/03/2014			
			SDG Ref	140305-73	140305-73	140305-73			
			Lab Sample No.(s)	8936626	8936616	8936613			
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #			
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	8936617	8936611	8936610	8936618	8936597	8936624	8936603	8936626	8936616	8936613
Customer Sample Ref.	BH06	BH43	BH44	BH50	BH99	BH41a	BH42a	BH34b	MW01	MW03
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	11-Mar-2014	11-Mar-2014	11-Mar-2014	12-Mar-2014		11-Mar-2014	11-Mar-2014	11-Mar-2014	11-Mar-2014	11-Mar-2014
GRO by GC-FID (W)	07-Mar-2014	07-Mar-2014	07-Mar-2014	07-Mar-2014	07-Mar-2014	07-Mar-2014	07-Mar-2014	07-Mar-2014	07-Mar-2014	07-Mar-2014
SVOC MS (W) - Aqueous	12-Mar-2014	12-Mar-2014	11-Mar-2014	12-Mar-2014		11-Mar-2014	11-Mar-2014	12-Mar-2014	12-Mar-2014	12-Mar-2014

SDG:	140305-73	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	262929
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
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Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

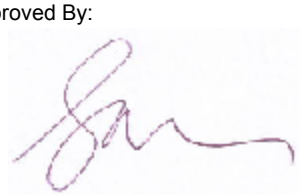
Date:	28 April 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140416-39
Your Reference:	JER5575U
Location:	SHLNG
Report No:	268034

We received 10 samples on Wednesday April 16, 2014 and 5 of these samples were scheduled for analysis which was completed on Monday April 28, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9152744	BH43			15/04/2014
9152746	BH99			15/04/2014
9152739	BH41A			15/04/2014
9152742	BH42A			15/04/2014
9152740	BH41A DUPLICATE			15/04/2014
9152743	BH42A DUPLICATE			15/04/2014
9152737	BH34B			15/04/2014
9152738	BH34B DUPLICATE			15/04/2014
9152745	BH43 DUPLICATE			15/04/2014
9152747	TRIP BLANK BCBC9199V			15/04/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9152744	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			9152746	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			9152739	BH41A			1l Glass bottle (ALE
							Vial (ALE297)
			9152742	BH42A			1l Glass bottle (ALE
							Vial (ALE297)
			9152737	BH34B			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152737
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		91.3 #	131 #	890 #	4470000 #	118 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		44.4	58.6	354	1140000	53.4
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		47	72.5	537	3330000	64.7

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152737
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	26	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	314	<10
GRO >C8-C10	<10 µg/l	TM245		64	<10	30	2170	<10
GRO >C5-C10	<10 µg/l	TM245		67	<10	33	2510	10

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152737
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	266 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<20 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152737
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<50 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	90.5 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	47.5 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9152744	9152746	9152739	9152742	9152737
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	24-Apr-2014	25-Apr-2014	24-Apr-2014	24-Apr-2014	24-Apr-2014
GRO by GC-FID (W)	17-Apr-2014	17-Apr-2014	17-Apr-2014	17-Apr-2014	17-Apr-2014
SVOC MS (W) - Aqueous	24-Apr-2014	28-Apr-2014	28-Apr-2014	28-Apr-2014	28-Apr-2014

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

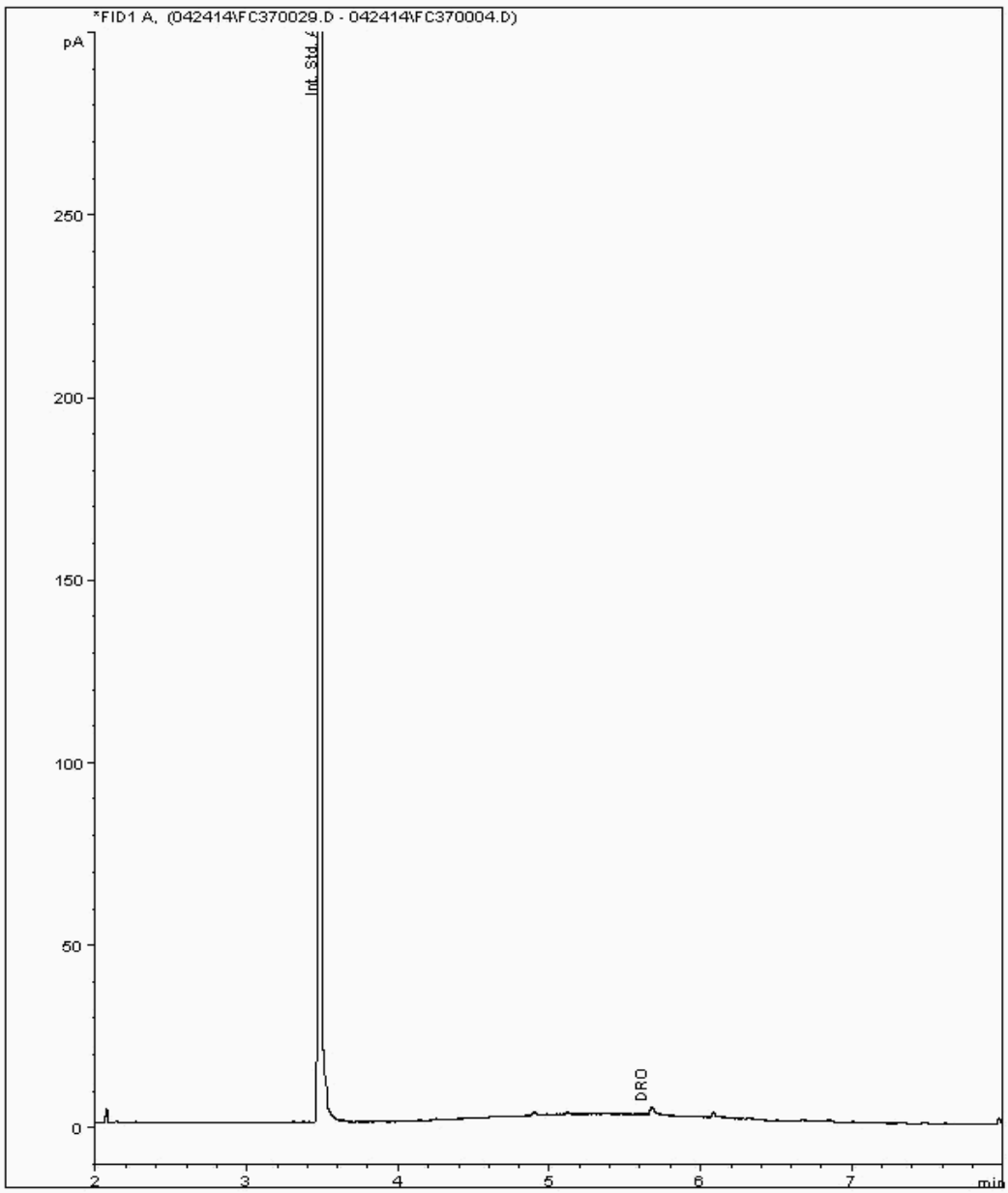
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9159719
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8700805-9159719
Date Acquired : 25/04/2014 01:50:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

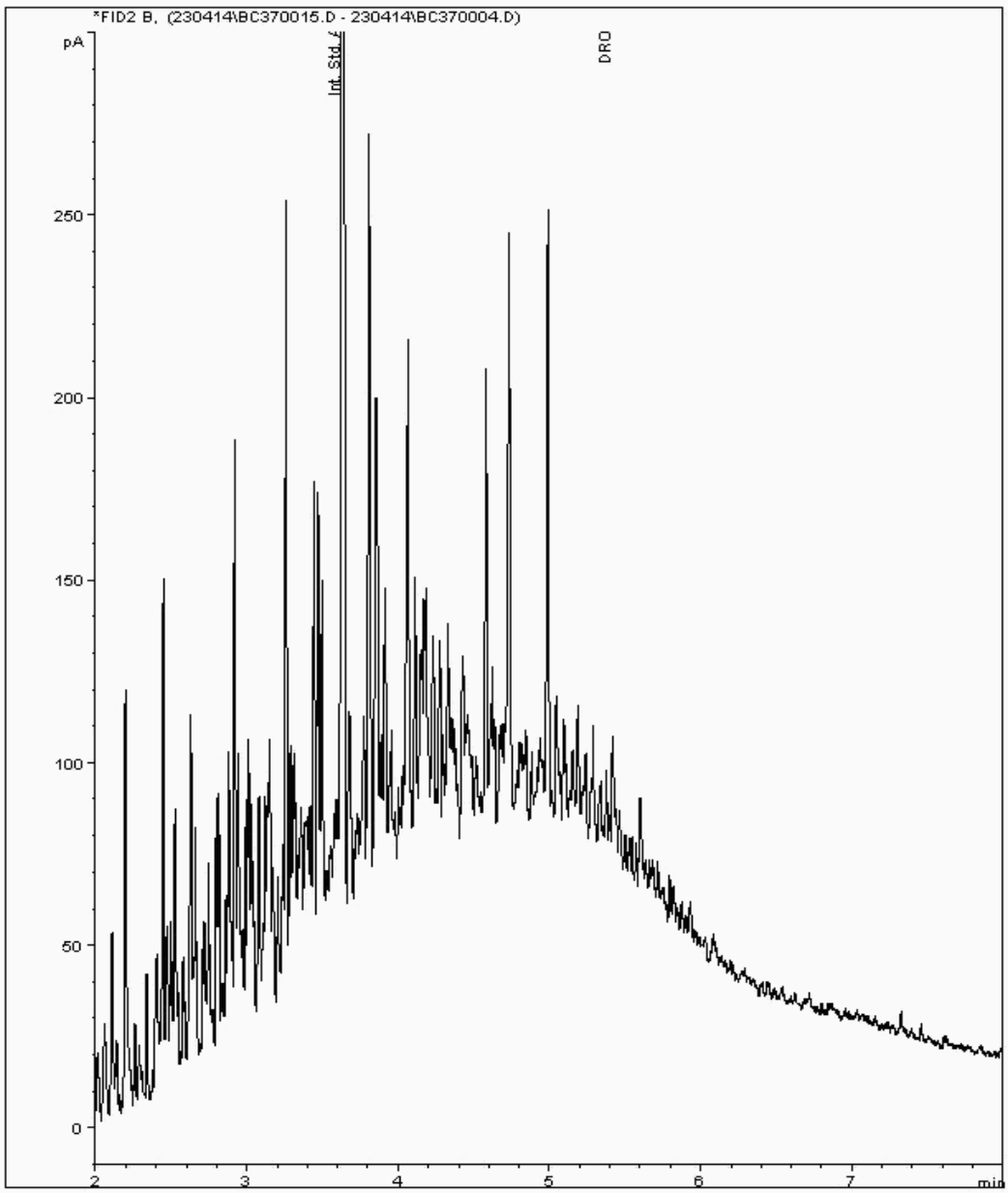
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9160013
Sample ID : BH42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8700797-9160013
Date Acquired : 23/04/2014 19:42:36 PM
Units : mg/l

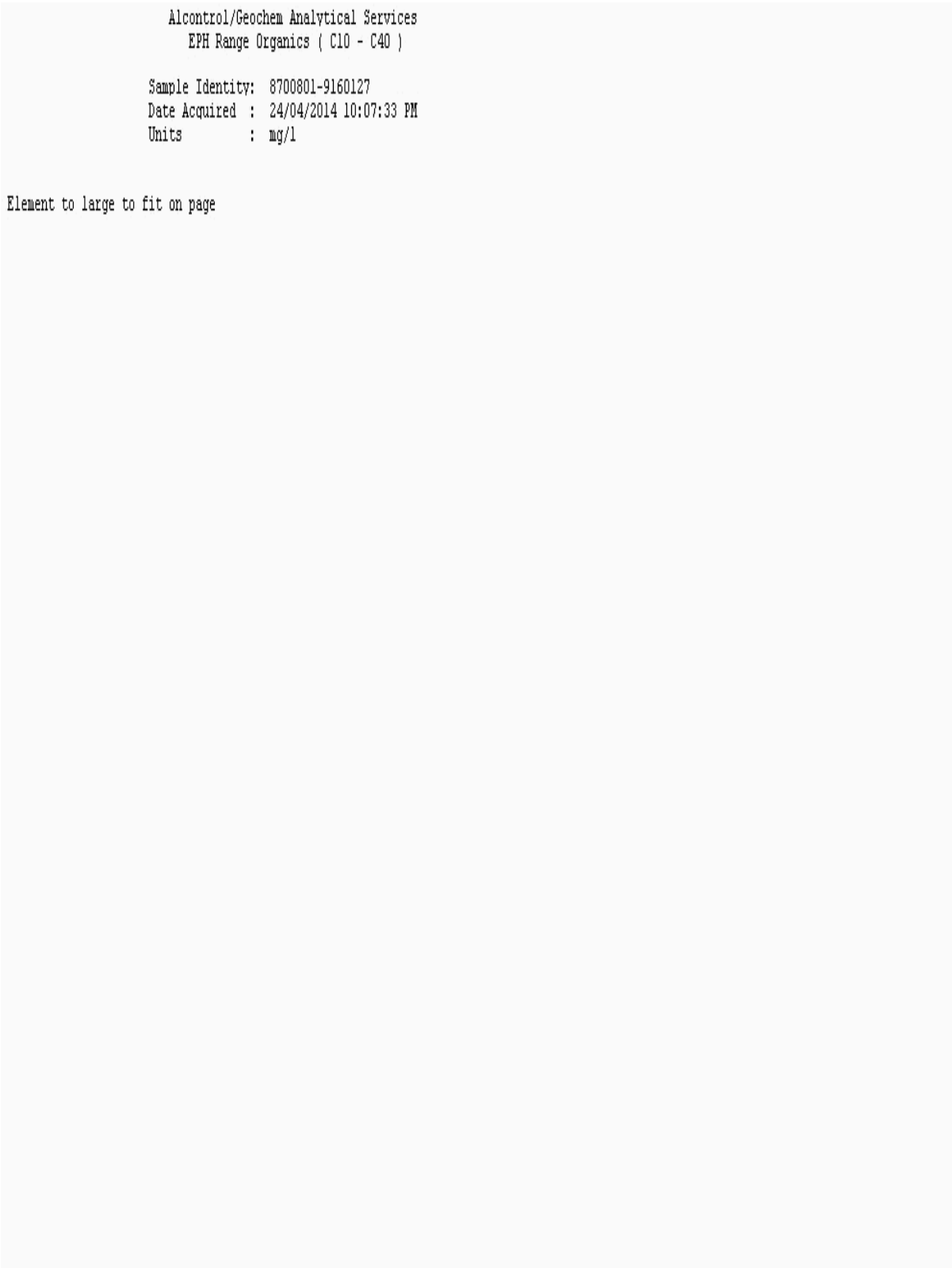


CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9160127 **Sample ID :** BH43 **Depth :**

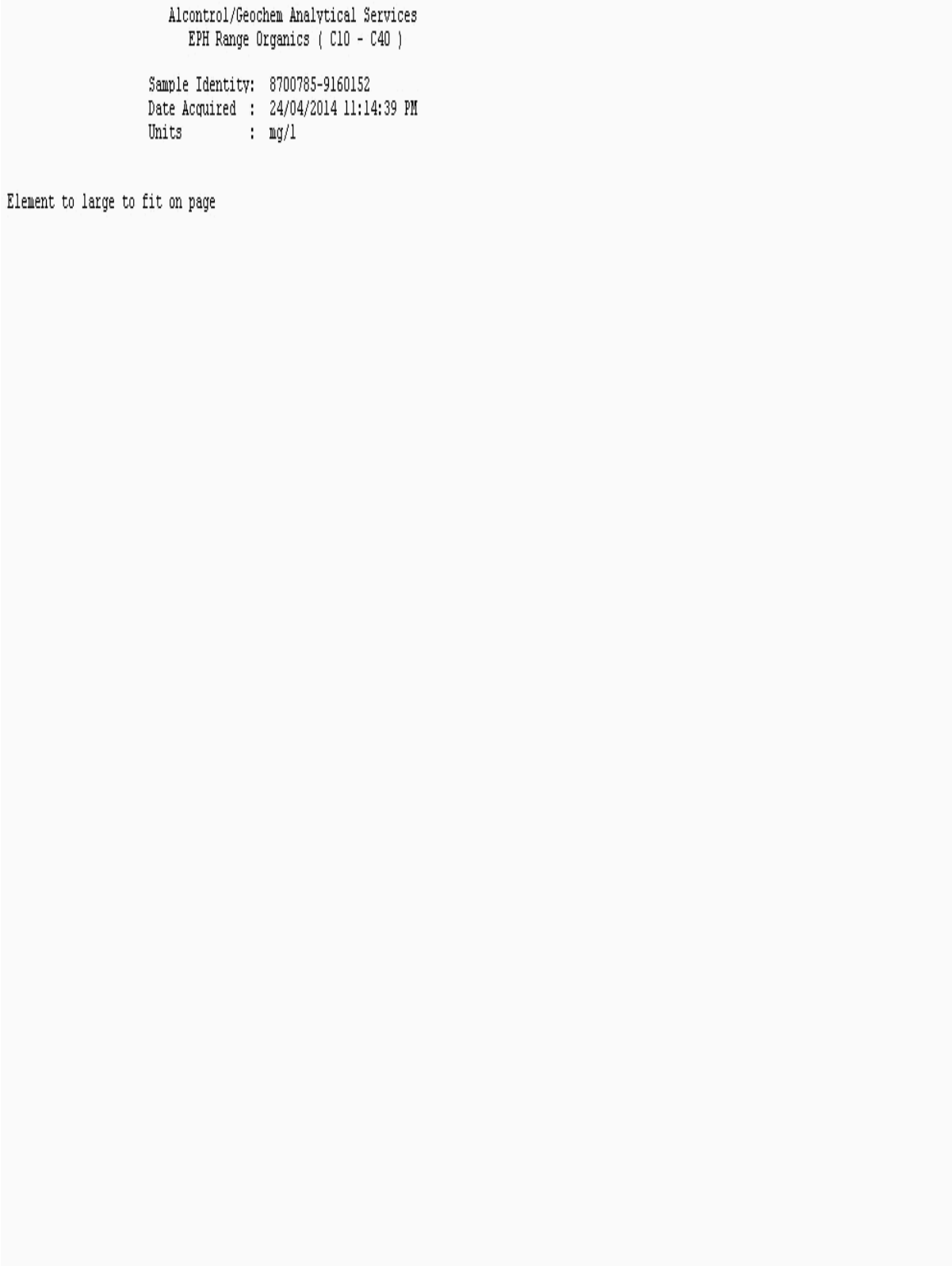


CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9160152 **Sample ID :** BH34B **Depth :**

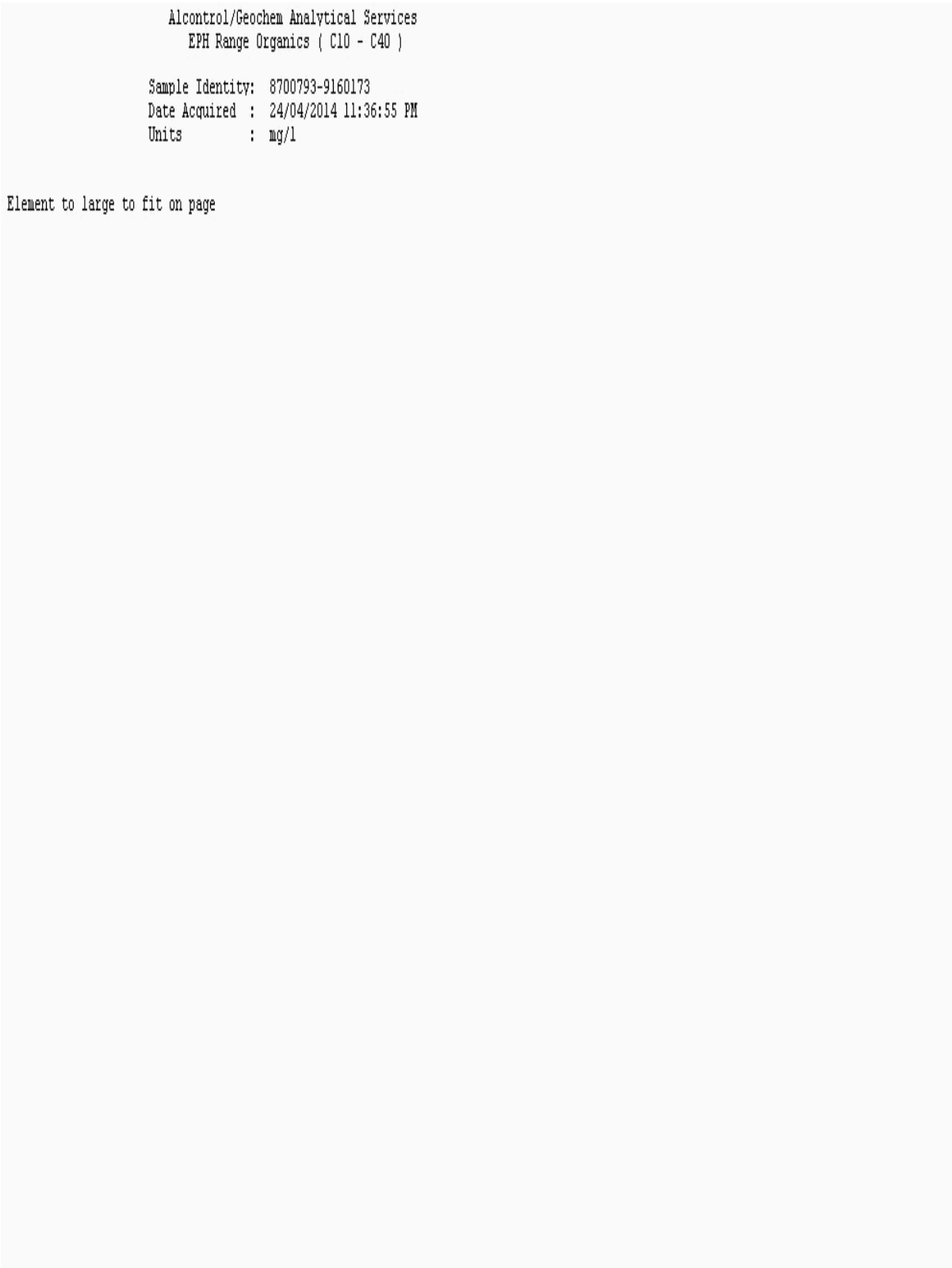


CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9160173 **Sample ID :** BH41A **Depth :**



CERTIFICATE OF ANALYSIS

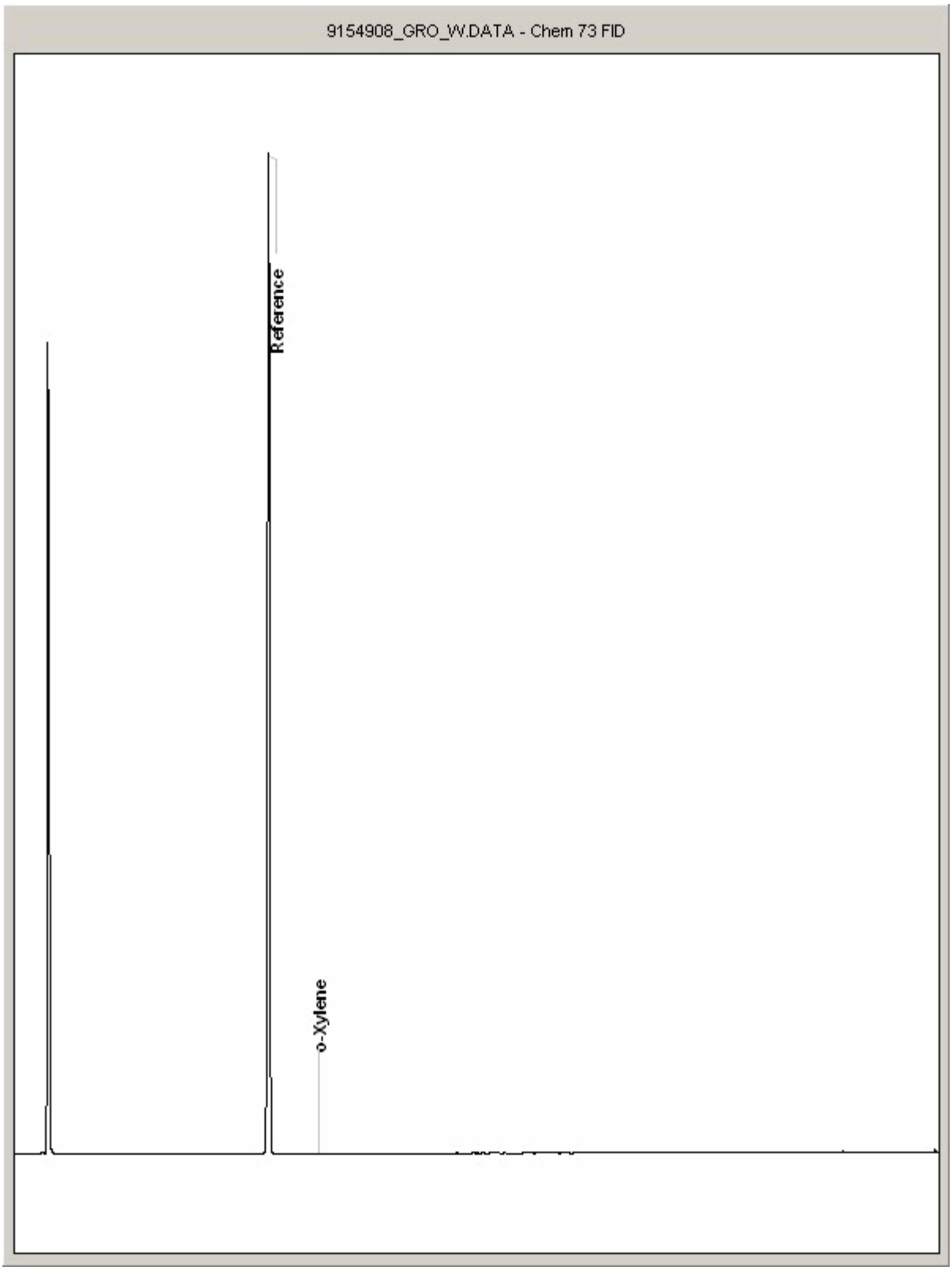
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154908
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

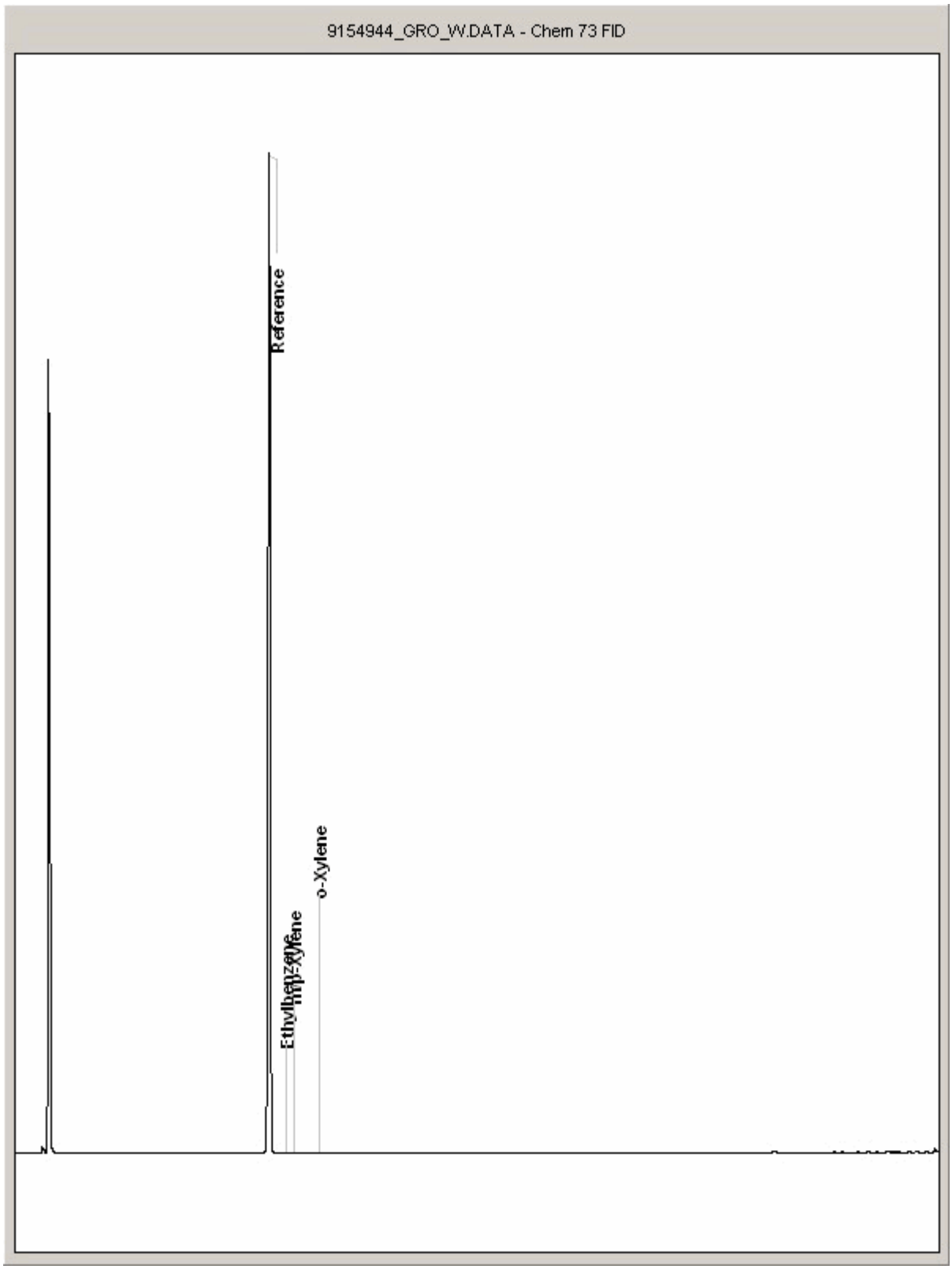
SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154944
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

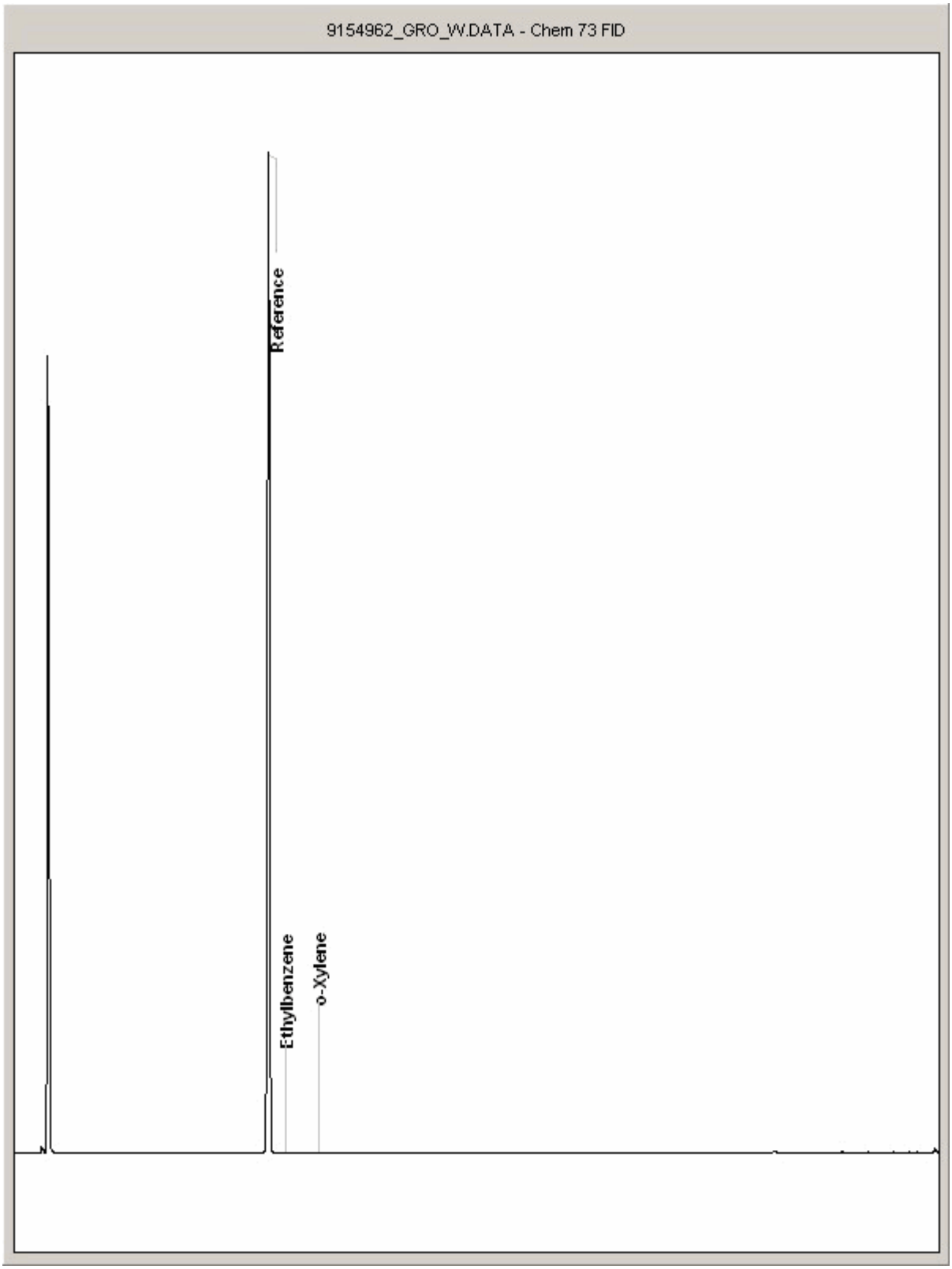
SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154962
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

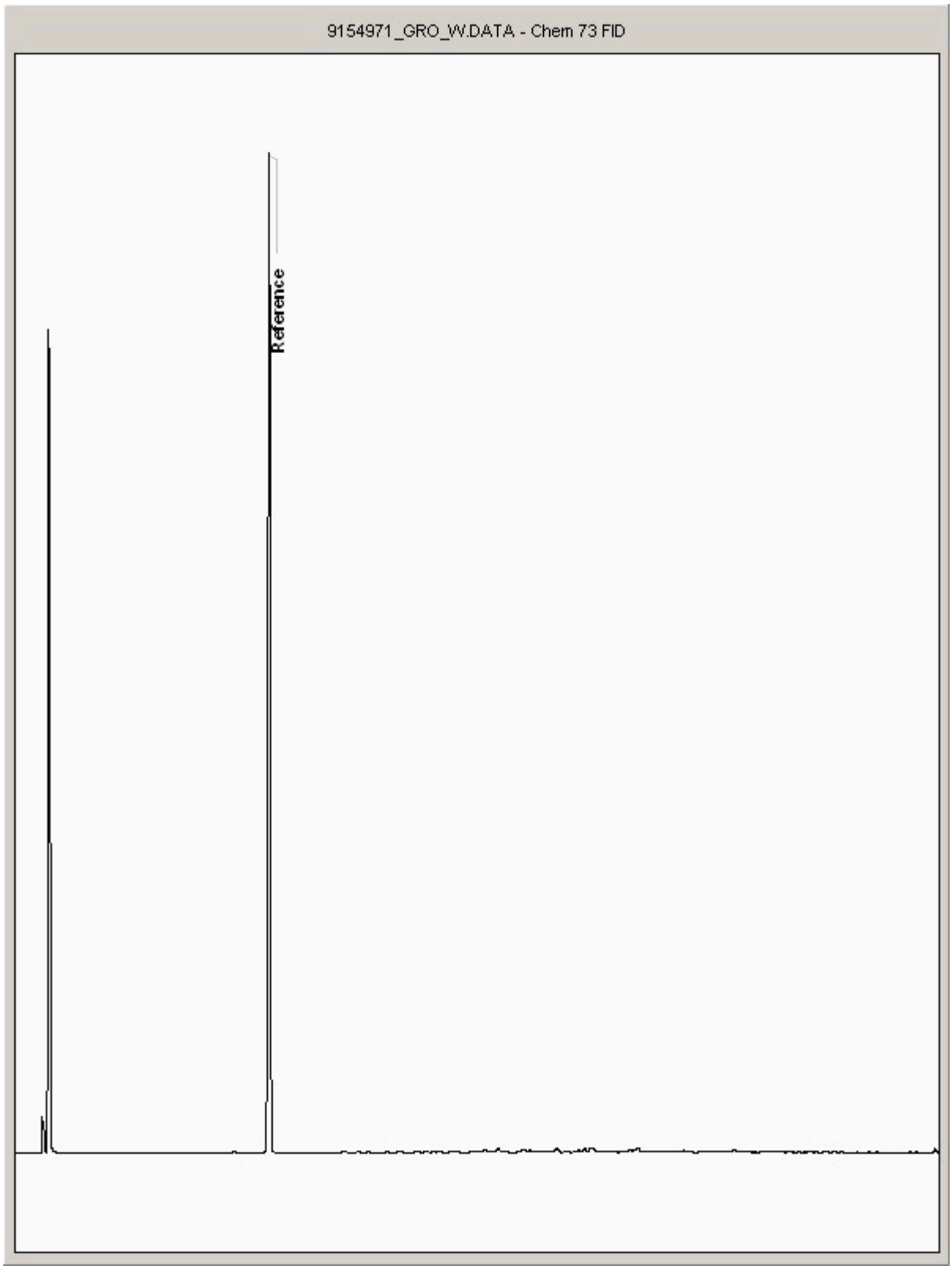
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154971
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

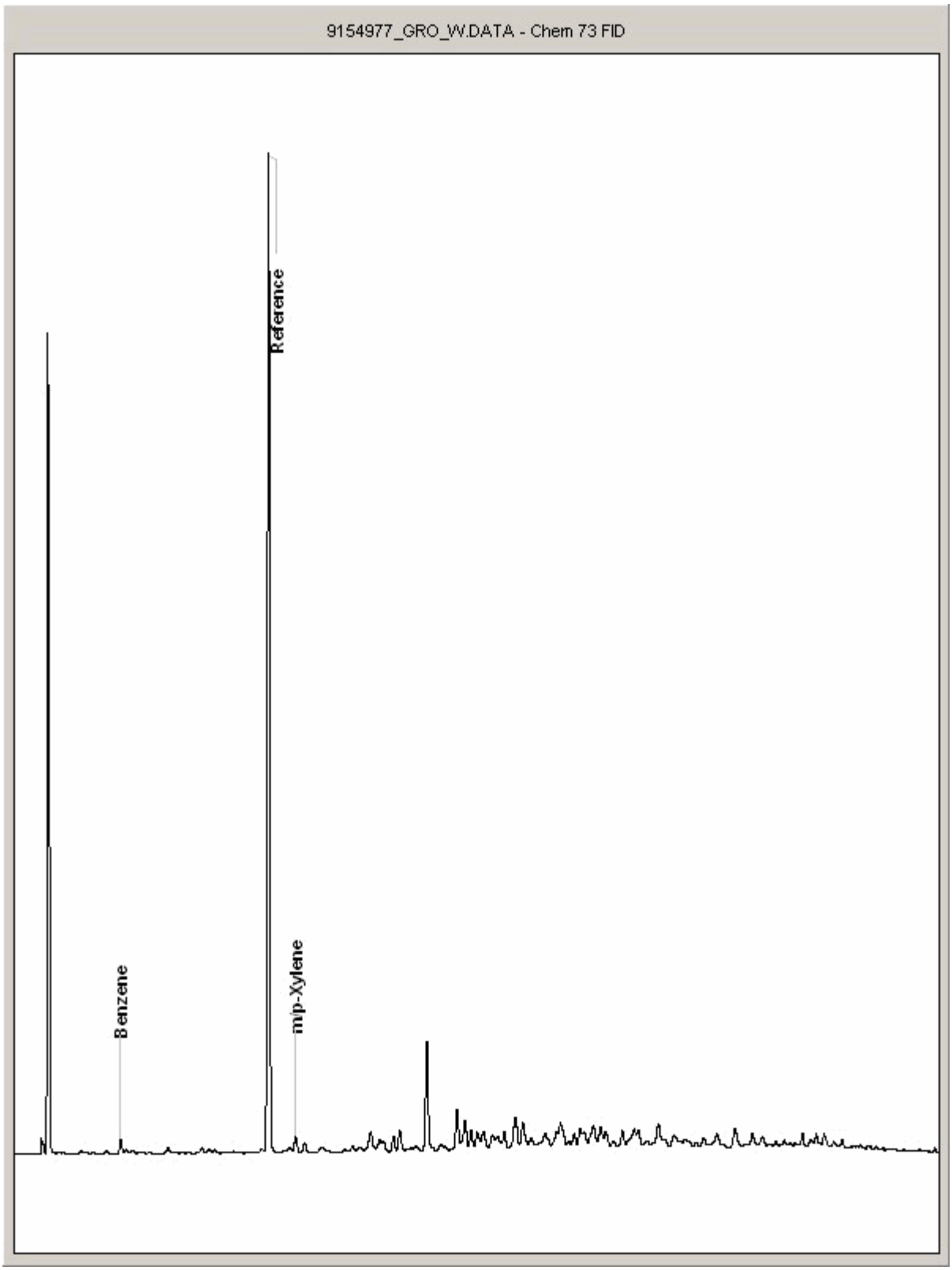
SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154977
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C9C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	268034
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	28 May 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140416-39
Your Reference:	JER5575U
Location:	SHLNG
Report No:	271357

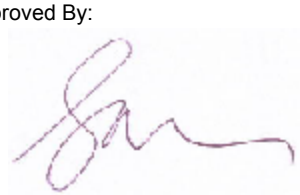
This report has been revised and directly supersedes 268034 in its entirety.

We received 10 samples on Wednesday April 16, 2014 and 6 of these samples were scheduled for analysis which was completed on Wednesday May 28, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

ilac-MRA UKAS TESTING 1291

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9152744	BH43			15/04/2014
9152746	BH99			15/04/2014
9152739	BH41A			15/04/2014
9152742	BH42A			15/04/2014
9152740	BH41A DUPLICATE			15/04/2014
9152743	BH42A DUPLICATE			15/04/2014
9152737	BH34B			15/04/2014
9152738	BH34B DUPLICATE			15/04/2014
9152745	BH43 DUPLICATE			15/04/2014
9152747	TRIP BLANK BCBC9199V			15/04/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9152744	BH43			1l Glass bottle (ALE
			9152746	BH99			Vial (ALE297)
			9152739	BH41A			1l Glass bottle (ALE
			9152742	BH42A			Vial (ALE297)
			9152743	BH42A DUPLICATE			1l Glass bottle (ALE
			9152737	BH34B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6		X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X		X	

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH42A DUPLICATE	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152743	9152737
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		91.3 #	131 #	890 #	4470000 #	6020 & #	118 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		44.4	58.6	354	1140000	1010 &	53.4
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		47	72.5	537	3330000	5010 &	64.7

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH42A DUPLICATE	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152743	9152737
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	26	21 &	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	314	376 &	<10
GRO >C8-C10	<10 µg/l	TM245		64	<10	30	2170	3570 &	<10
GRO >C5-C10	<10 µg/l	TM245		67	<10	33	2510	3960 &	10

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152737
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	266 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<20 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	15/04/2014	15/04/2014	15/04/2014	15/04/2014	15/04/2014
			Sampled Time	.	.	.	.	.
			Date Received	16/04/2014	16/04/2014	16/04/2014	16/04/2014	16/04/2014
			SDG Ref	140416-39	140416-39	140416-39	140416-39	140416-39
			Lab Sample No.(s)	9152744	9152746	9152739	9152742	9152737
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<50 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	90.5 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	47.5 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Test Completion Dates

Lab Sample No(s)	9152744	9152746	9152739	9152742	9152743	9152737
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH42A DUPLICATE	BH34B
AGS Ref.						
Depth						
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	24-Apr-2014	25-Apr-2014	24-Apr-2014	24-Apr-2014	28-May-2014	24-Apr-2014
GRO by GC-FID (W)	17-Apr-2014	17-Apr-2014	17-Apr-2014	17-Apr-2014	28-May-2014	17-Apr-2014
SVOC MS (W) - Aqueous	24-Apr-2014	28-Apr-2014	28-Apr-2014	28-Apr-2014		28-Apr-2014

CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

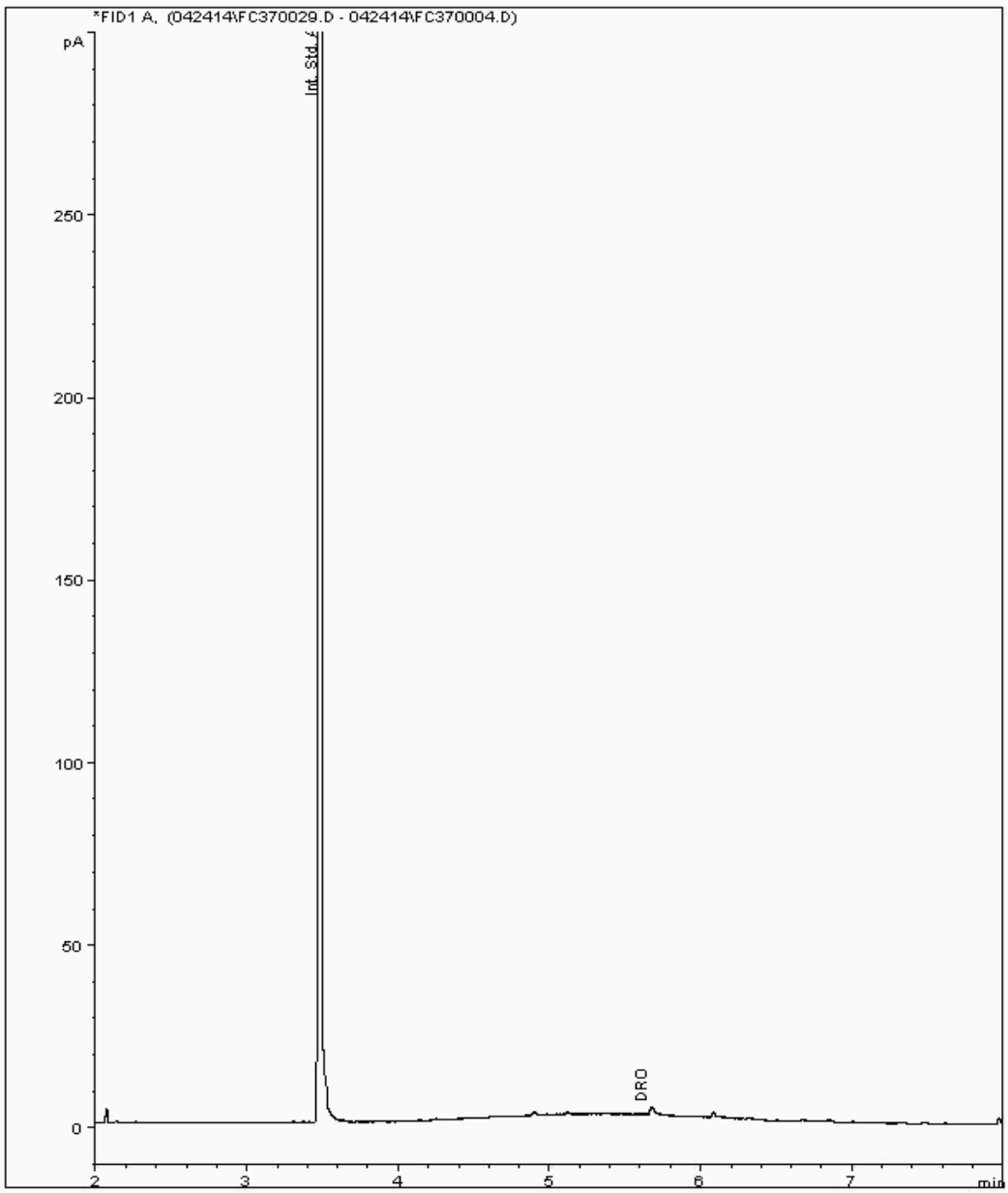
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9159719
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8700805-9159719
Date Acquired : 25/04/2014 01:50:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

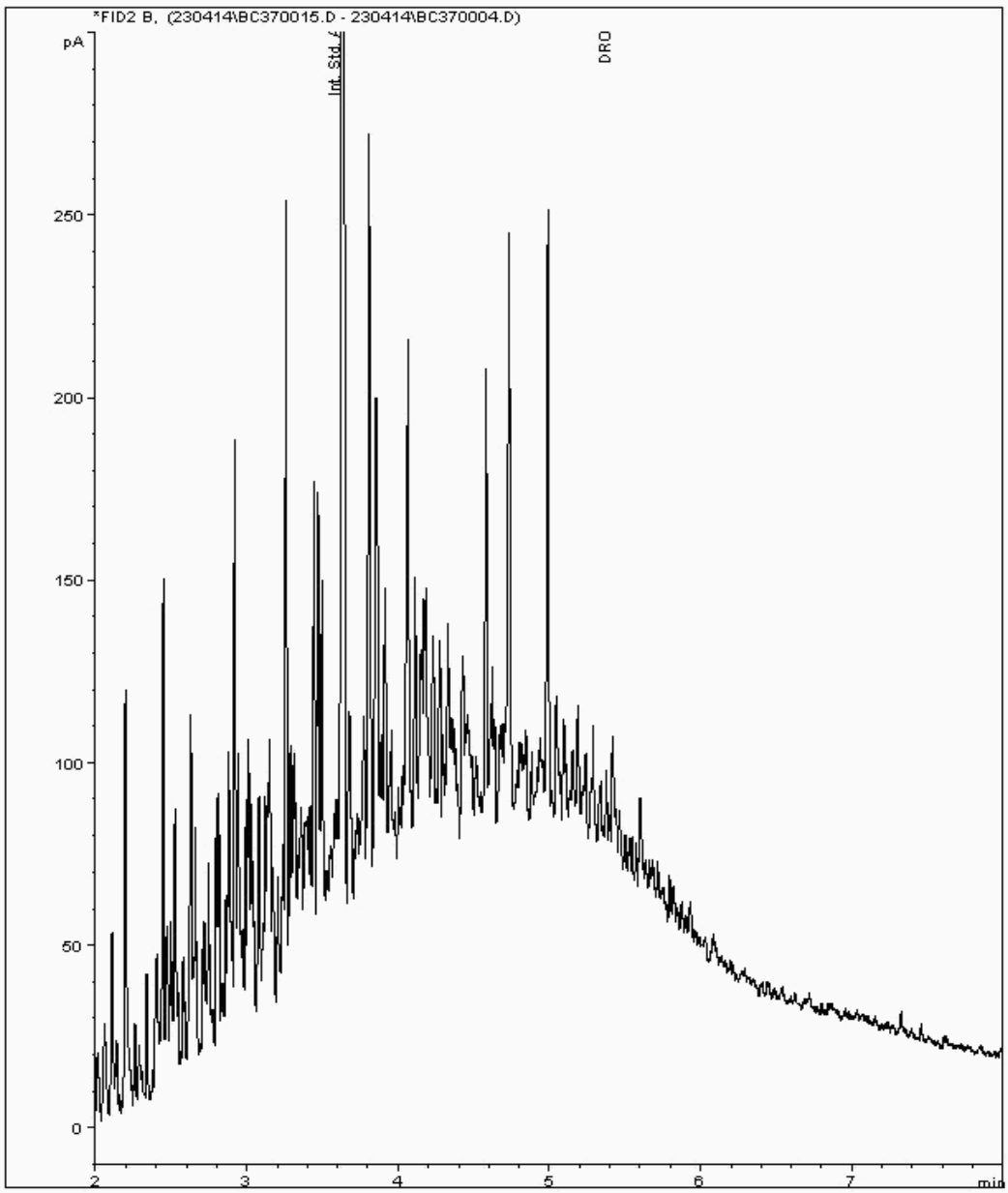
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9160013
Sample ID : BH42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8700797-9160013
Date Acquired : 23/04/2014 19:42:36 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9160127
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8700801-9160127
Date Acquired : 24/04/2014 10:07:33 PM
Units : mg/l

Element to large to fit on page

CERTIFICATE OF ANALYSIS

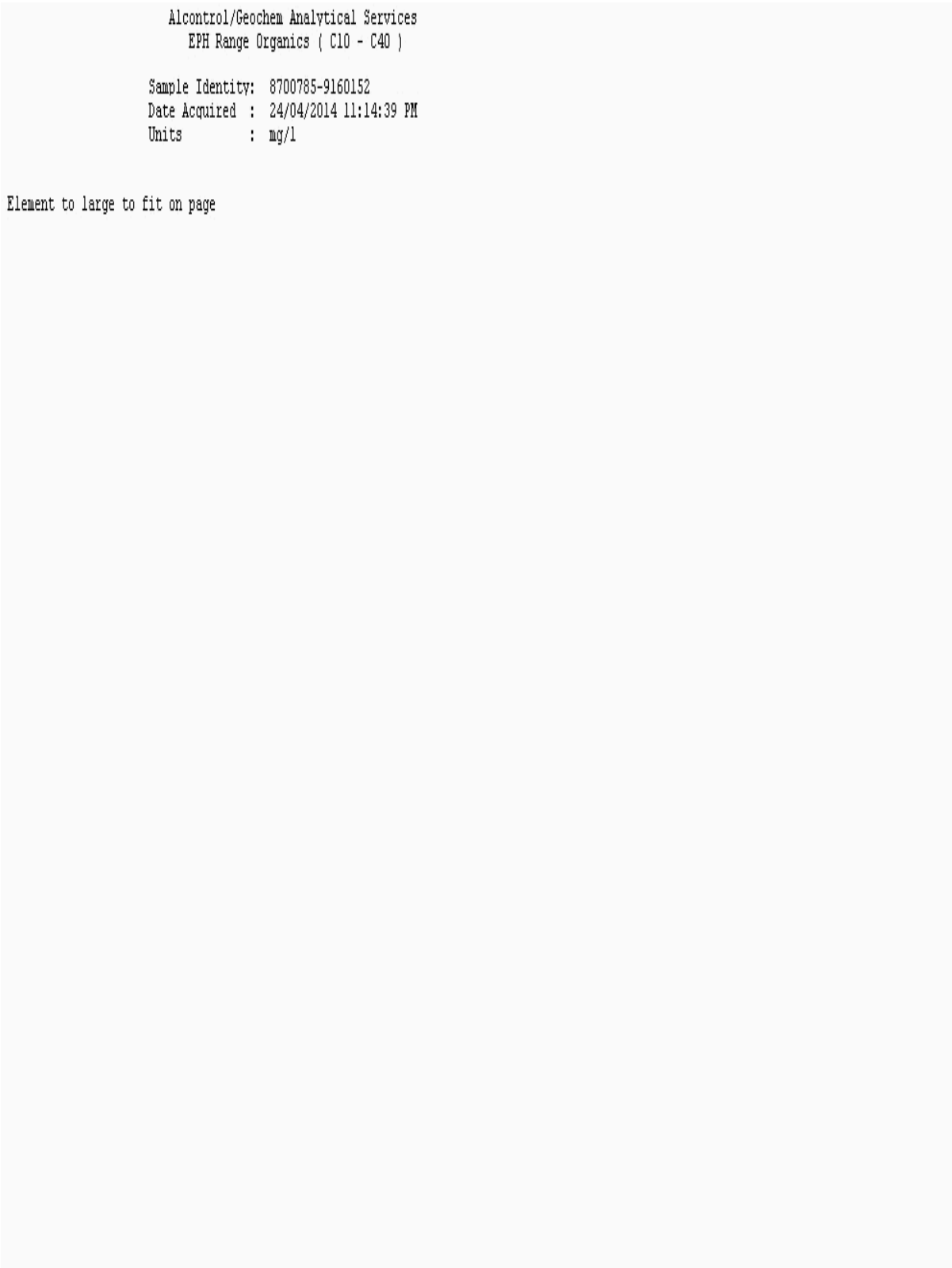
SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9160152
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

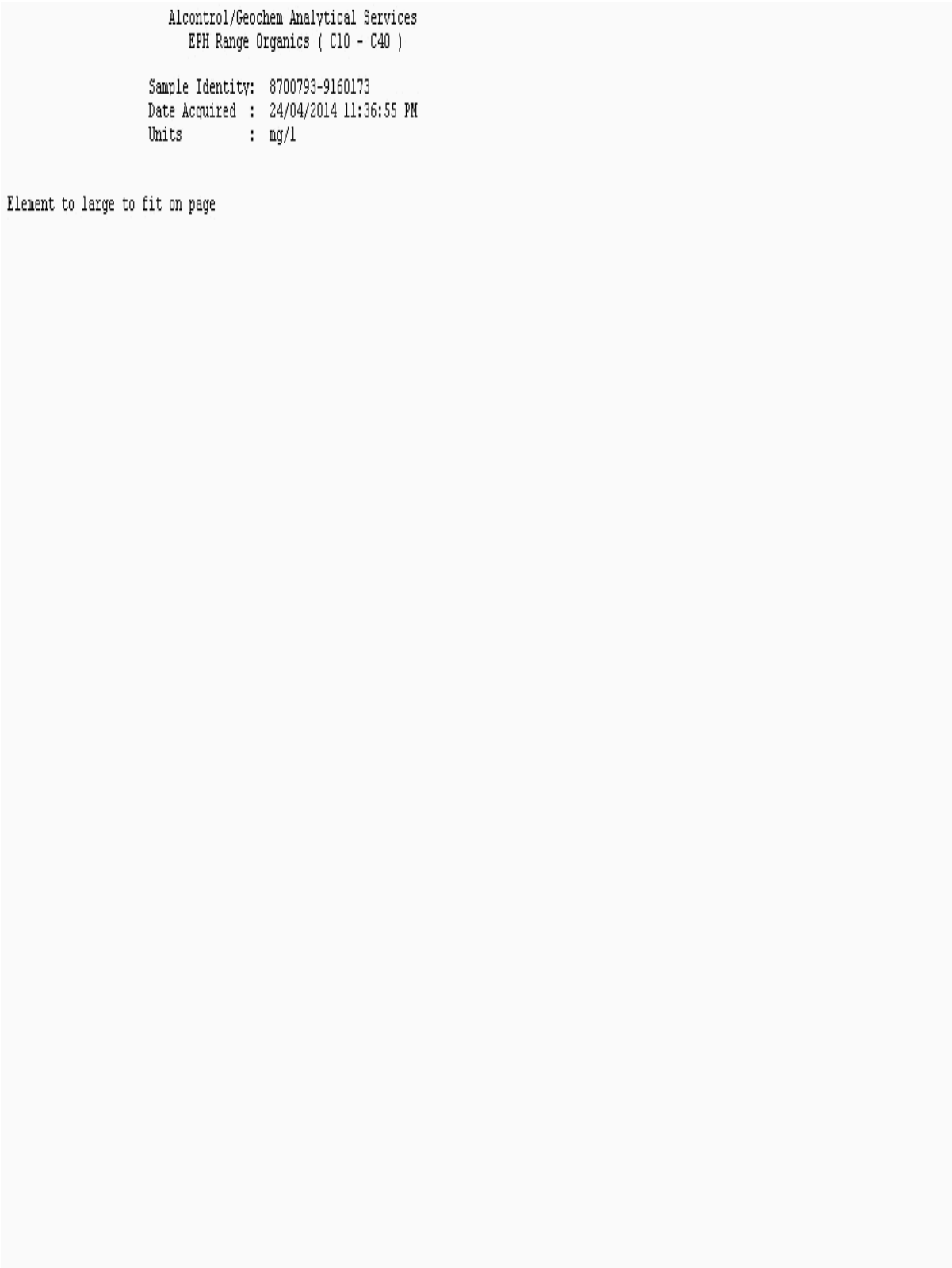
SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9160173
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

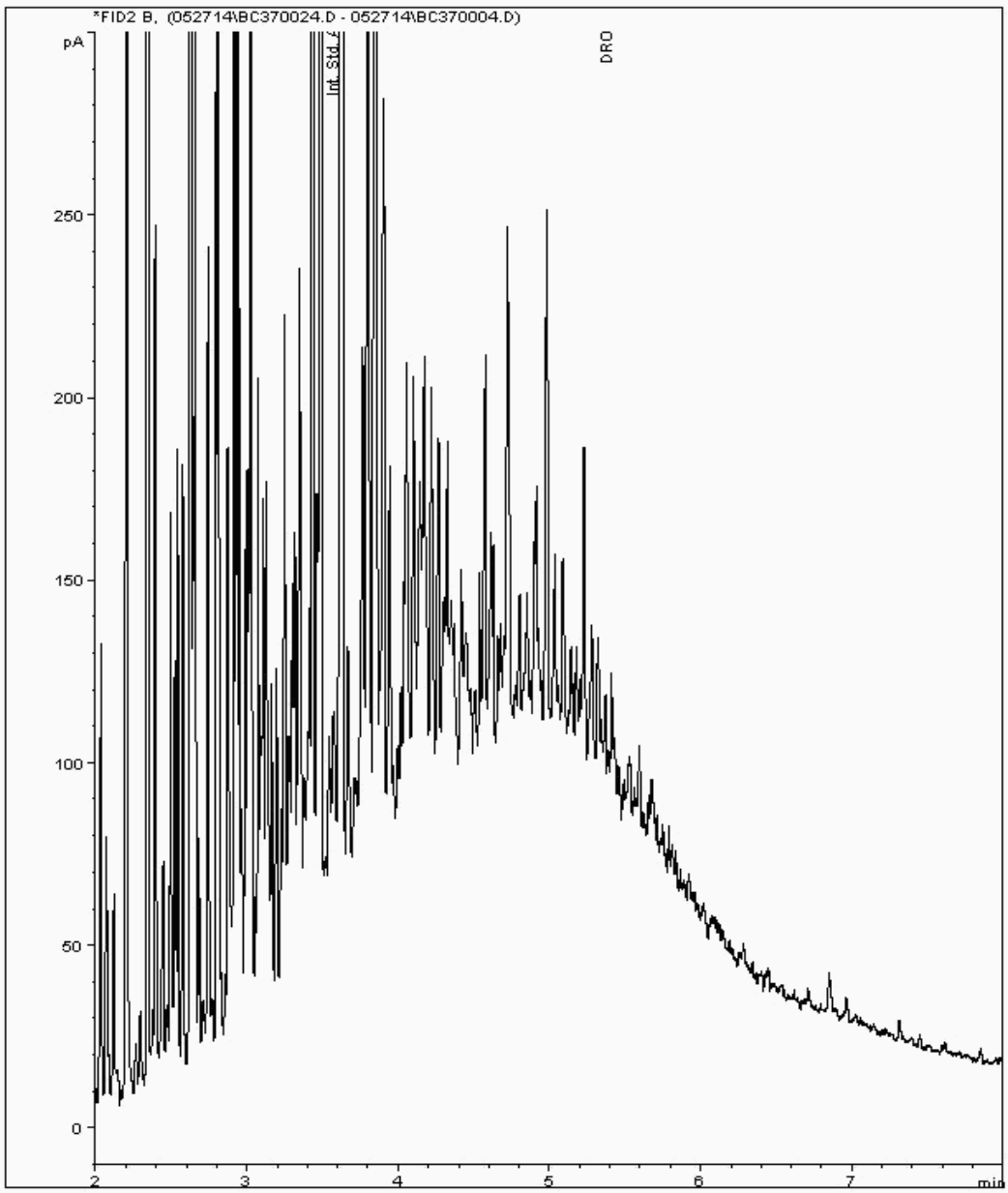
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9310067
Sample ID : BH42A DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8841998-9310067
Date Acquired : 28/05/2014 00:37:29 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

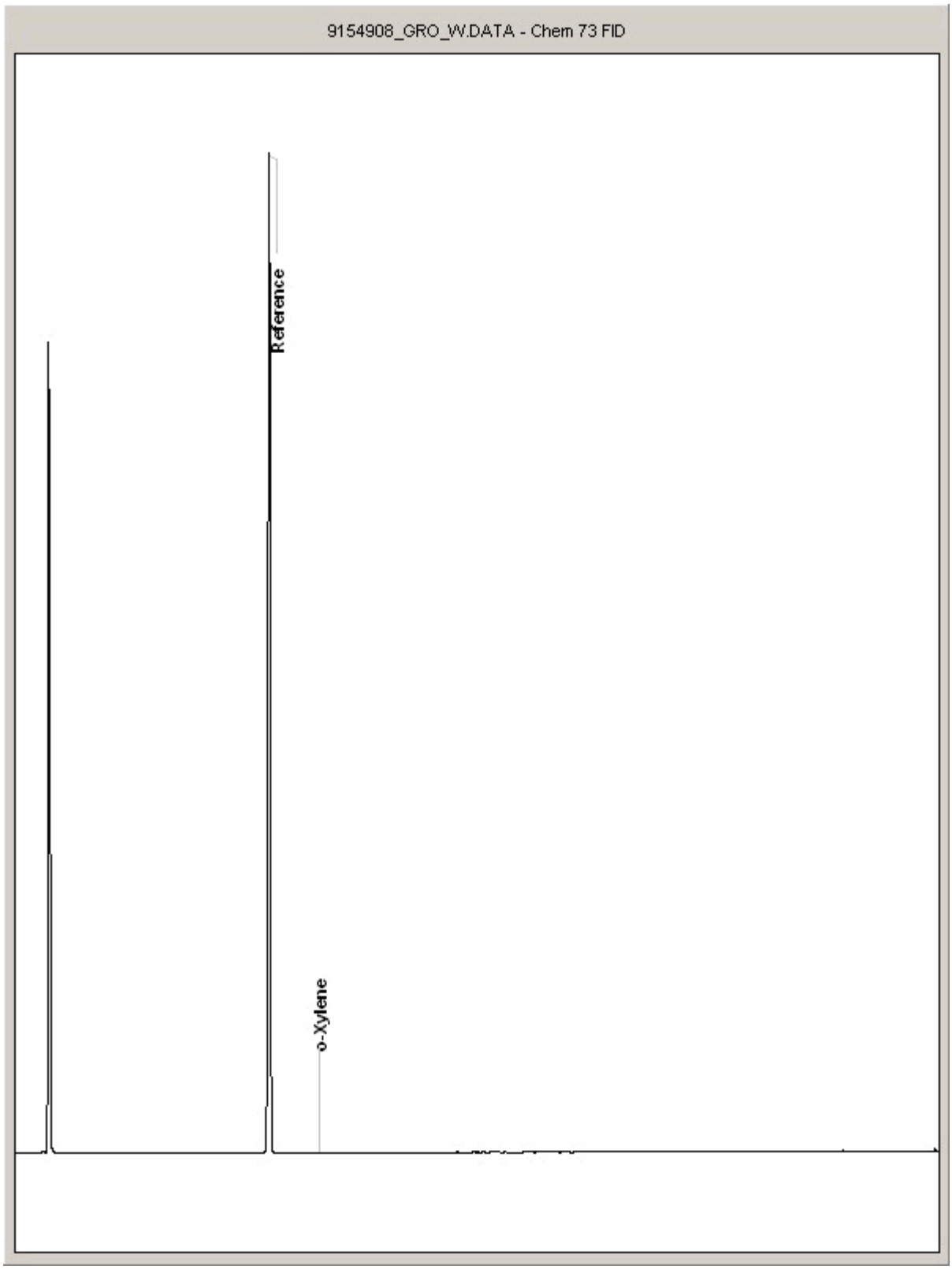
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154908
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

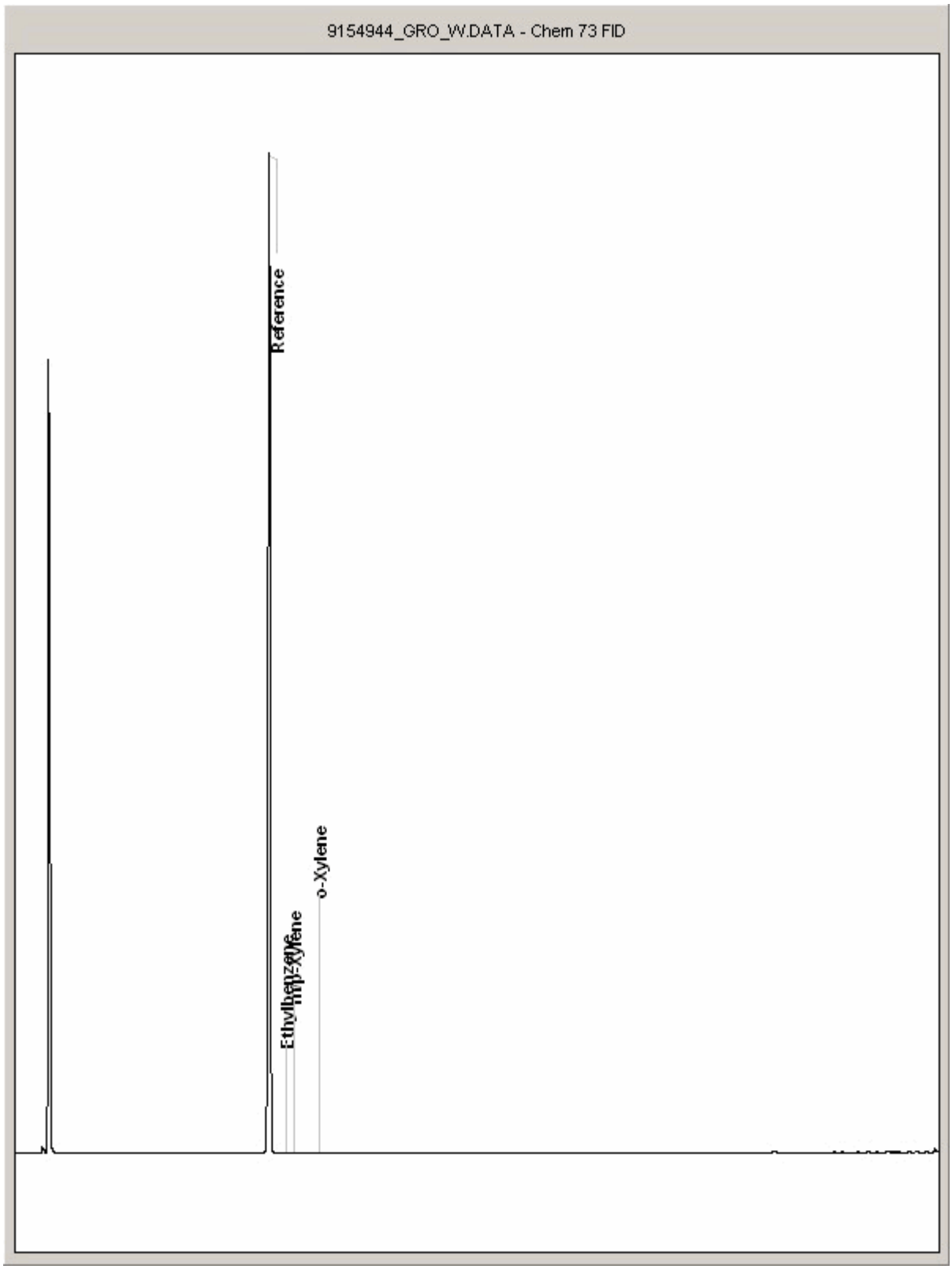
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154944
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

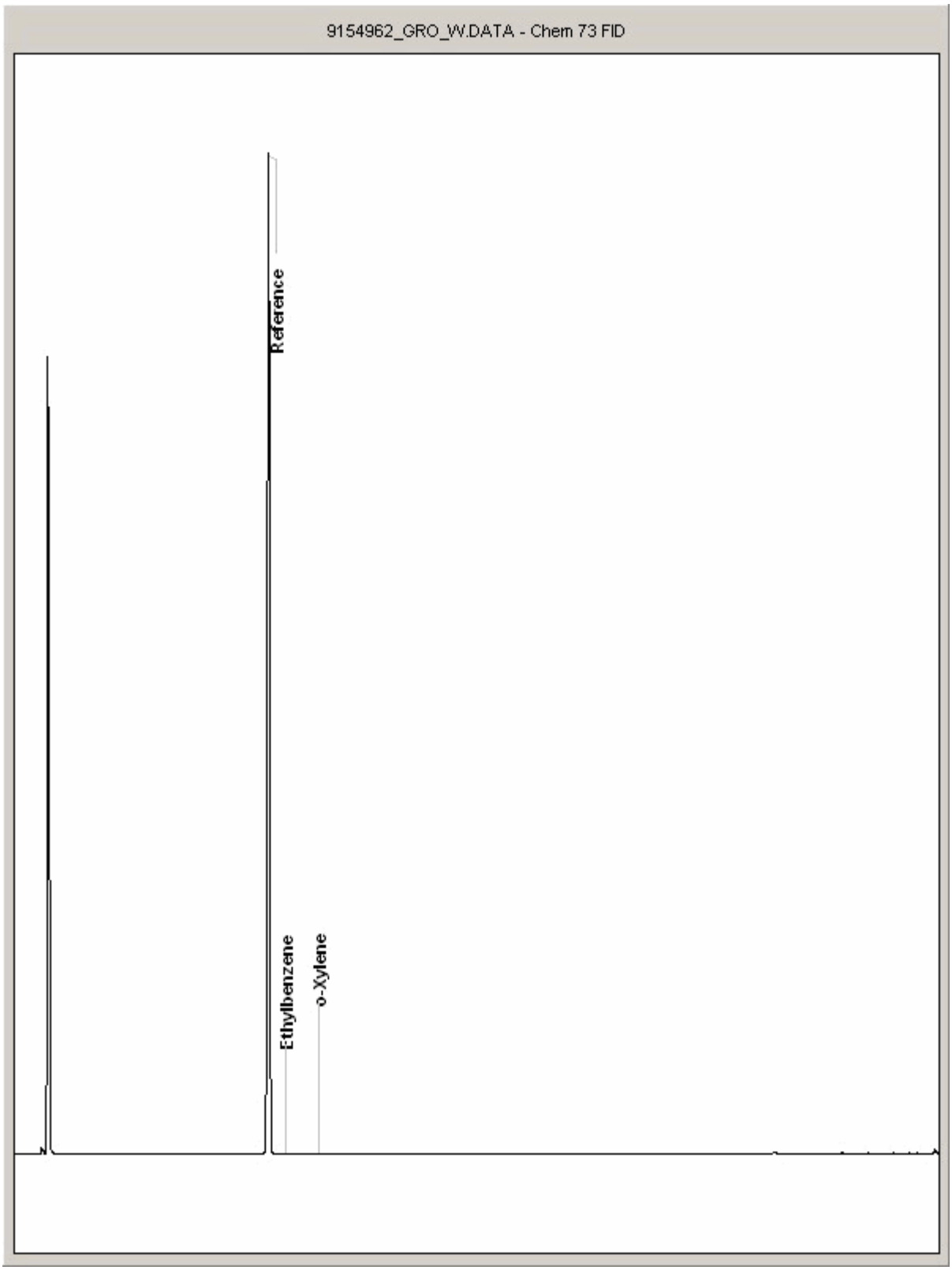
SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154962
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

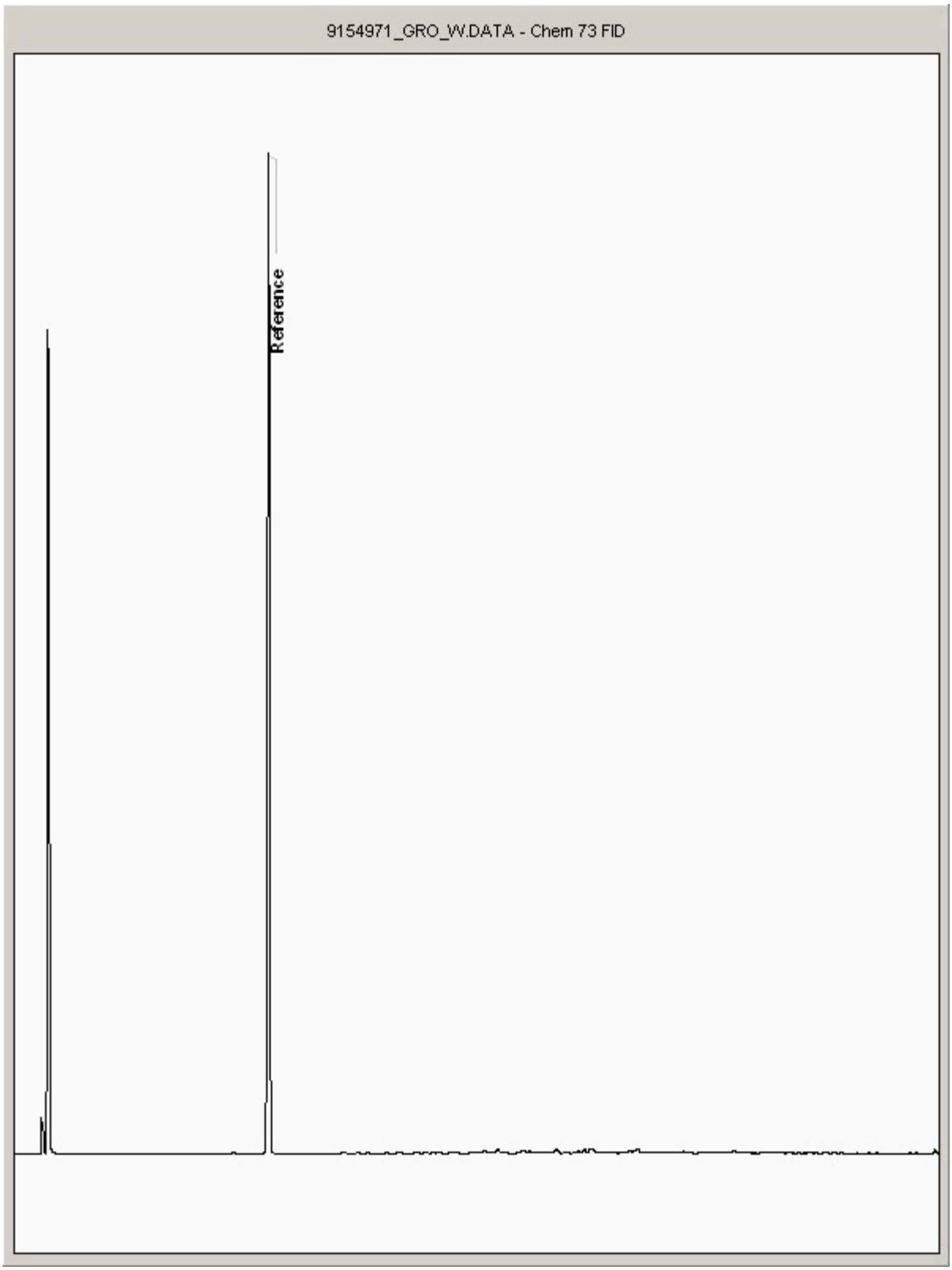
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154971
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

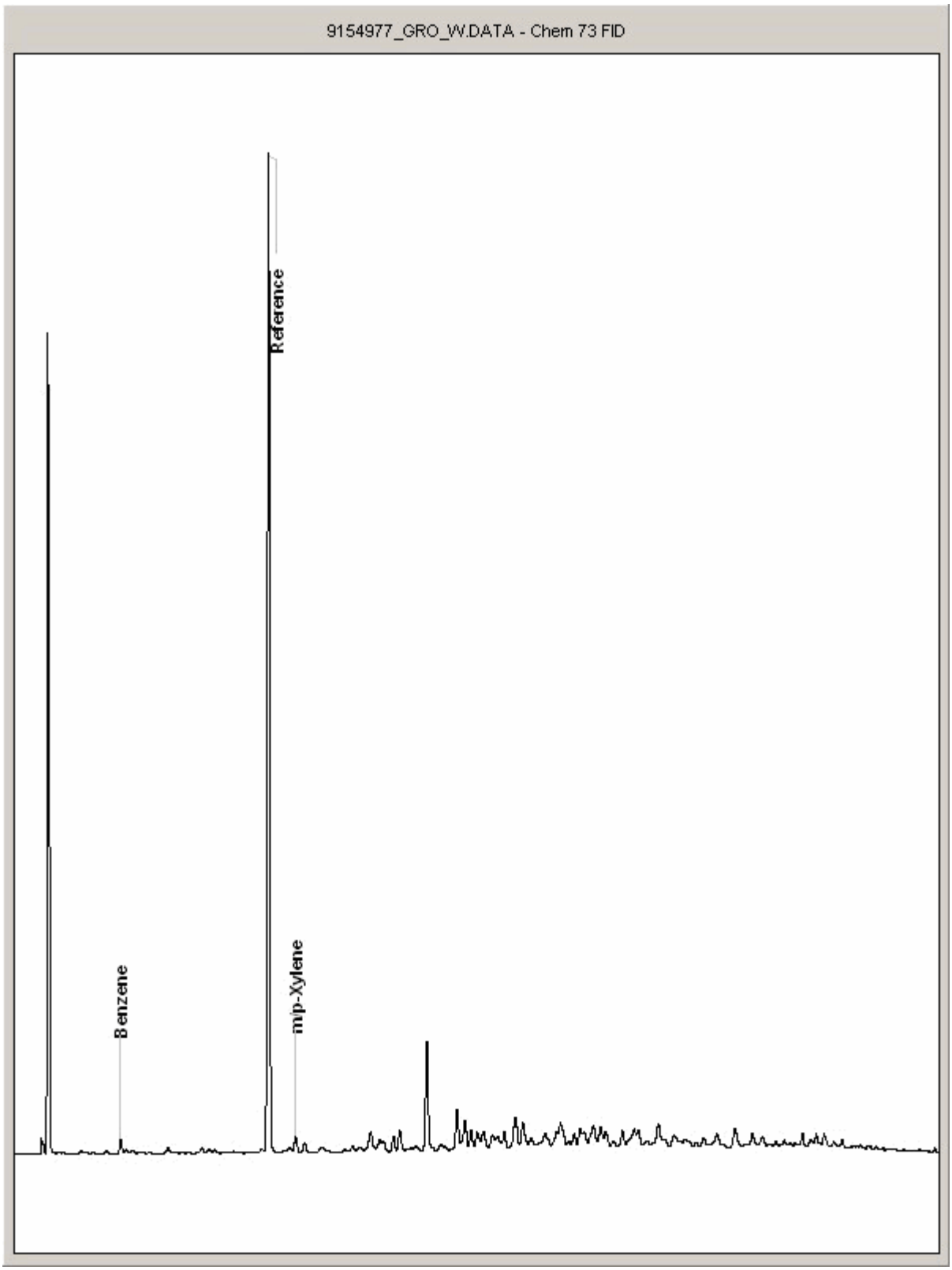
SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9154977
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

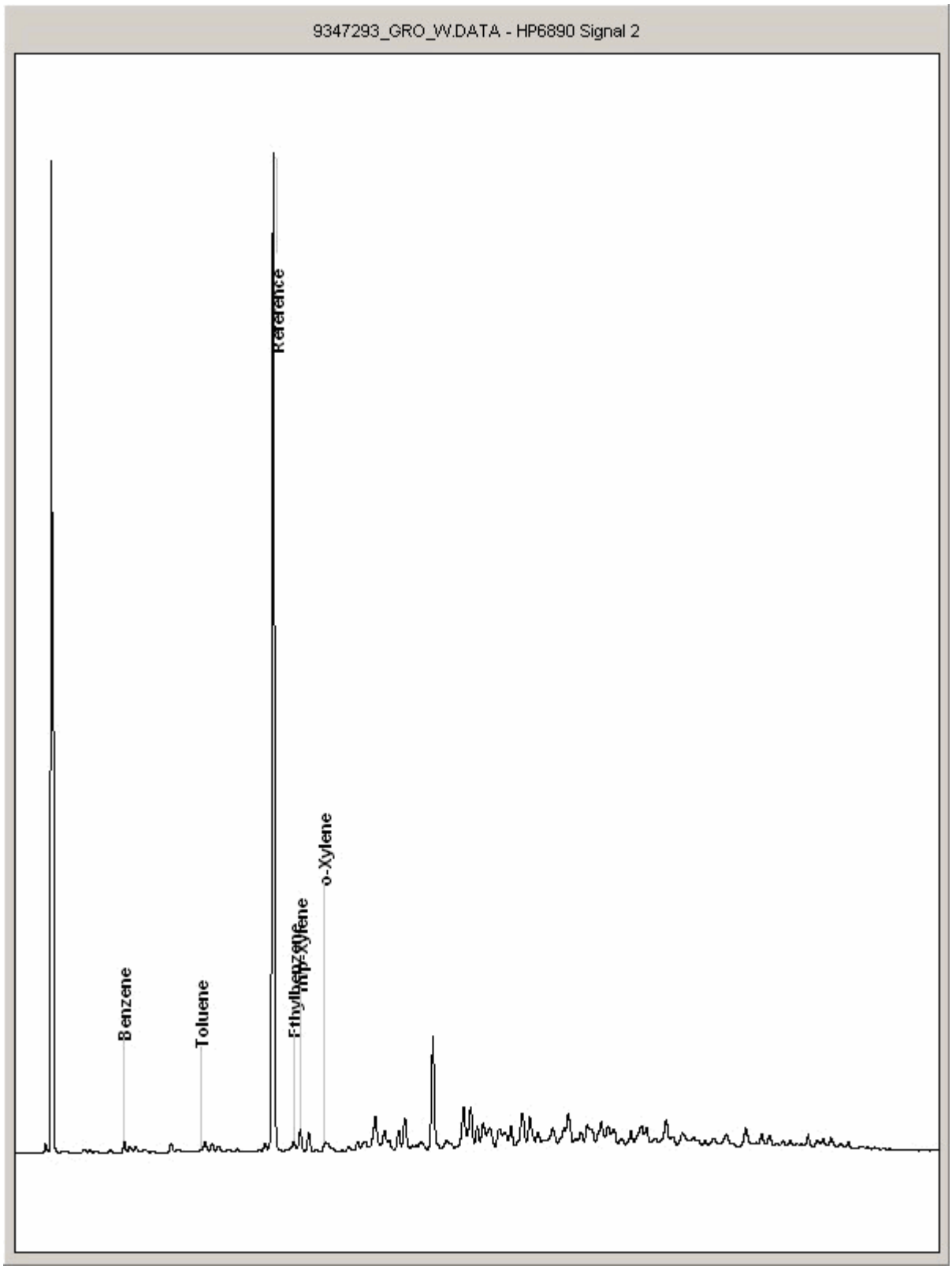
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9347293
Sample ID : BH42A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140416-39	**Location:**	SHLNG	**Order Number:**	PO14-220
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271357
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	268034

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

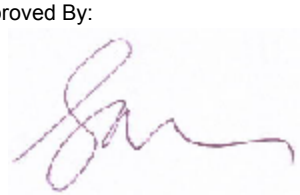
Date:	27 May 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140513-33
Your Reference:	JER5575U
Location:	SHLNG
Report No:	271189

We received 9 samples on Tuesday May 13, 2014 and 6 of these samples were scheduled for analysis which was completed on Tuesday May 27, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9275160	BH43		0.00	12/05/2014
9275163	BH99		0.00	12/05/2014
9275161	BH41a		0.00	12/05/2014
9275162	BH42a		0.00	12/05/2014
9275168	BH41a duplicate		0.00	12/05/2014
9275169	BH42a duplicate		0.00	12/05/2014
9275159	BH34b		0.00	12/05/2014
9275165	BH34b duplicate		0.00	12/05/2014
9275166	BH43 duplicate		0.00	12/05/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9275160	BH43		0.00	1l Glass bottle (ALE
			9275163	BH99		0.00	Vial (ALE297)
			9275161	BH41a		0.00	1l Glass bottle (ALE
			9275162	BH42a		0.00	Vial (ALE297)
			9275169	BH42a duplicate		0.00	1l Glass bottle (ALE
			9275159	BH34b		0.00	Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 6	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X		X

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH42a duplicate	BH34b
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/05/2014	12/05/2014	12/05/2014	12/05/2014	12/05/2014	12/05/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	13/05/2014	13/05/2014	13/05/2014	13/05/2014	13/05/2014	13/05/2014
			SDG Ref	140513-33	140513-33	140513-33	140513-33	140513-33	140513-33
			Lab Sample No.(s)	9275160	9275163	9275161	9275162	9275169	9275159
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		634 #	380 #	6810 #	37400 #	28200 #	366 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		21.4	41.1	1990	8910	8240	49.1
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		612	339	4830	28500	20000	317

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH42a duplicate	BH34b
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/05/2014	12/05/2014	12/05/2014	12/05/2014	12/05/2014	12/05/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	13/05/2014	13/05/2014	13/05/2014	13/05/2014	13/05/2014	13/05/2014
			SDG Ref	140513-33	140513-33	140513-33	140513-33	140513-33	140513-33
			Lab Sample No.(s)	9275160	9275163	9275161	9275162	9275169	9275159
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	19	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	27	121	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	176	11
GRO >C5-C10	<10 µg/l	TM245		<10	10	<10	27	316	12

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/05/2014	12/05/2014	12/05/2014	12/05/2014	12/05/2014
			Sampled Time	.	.	.	.	.
			Date Received	13/05/2014	13/05/2014	13/05/2014	13/05/2014	13/05/2014
			SDG Ref	140513-33	140513-33	140513-33	140513-33	140513-33
			Lab Sample No.(s)	9275160	9275163	9275161	9275162	9275159
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	21.1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	3.37 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/05/2014	12/05/2014	12/05/2014	12/05/2014	12/05/2014
			Sampled Time	.	.	.	.	.
			Date Received	13/05/2014	13/05/2014	13/05/2014	13/05/2014	13/05/2014
			SDG Ref	140513-33	140513-33	140513-33	140513-33	140513-33
			Lab Sample No.(s)	9275160	9275163	9275161	9275162	9275159
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	1.02 #	<1 #	3.18 #	1.06 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	12.4 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	4.81 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

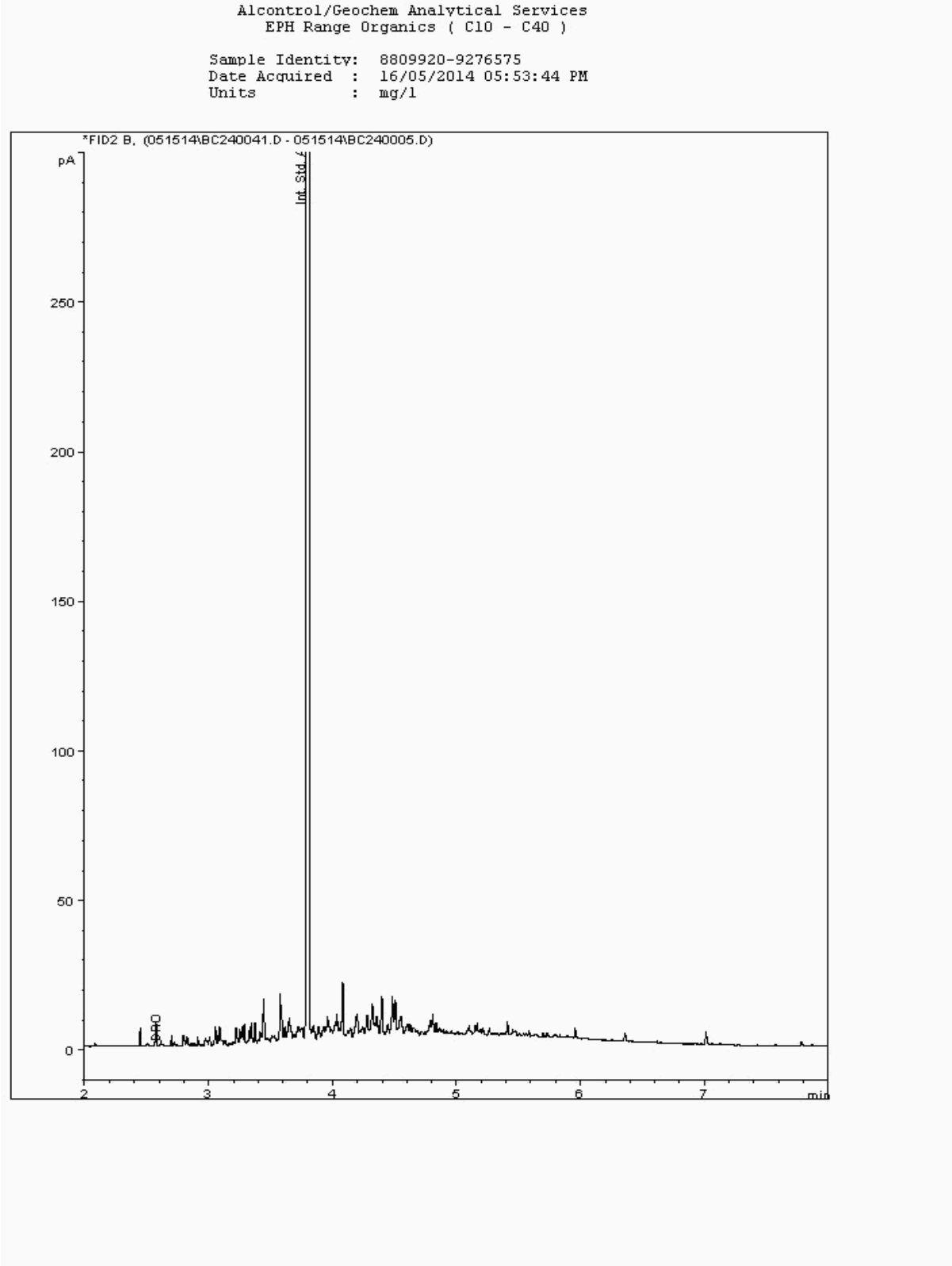
Lab Sample No(s)	9275160	9275163	9275161	9275162	9275169	9275159
Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH42a duplicate	BH34b
AGS Ref.						
Depth	0.00	0.00	0.00	0.00	0.00	0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	16-May-2014	16-May-2014	16-May-2014	16-May-2014	27-May-2014	16-May-2014
GRO by GC-FID (W)	15-May-2014	15-May-2014	15-May-2014	15-May-2014	25-May-2014	15-May-2014
SVOC MS (W) - Aqueous	20-May-2014	20-May-2014	20-May-2014	20-May-2014		20-May-2014

CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9276575 **Sample ID :** BH99 **Depth :** 0.00

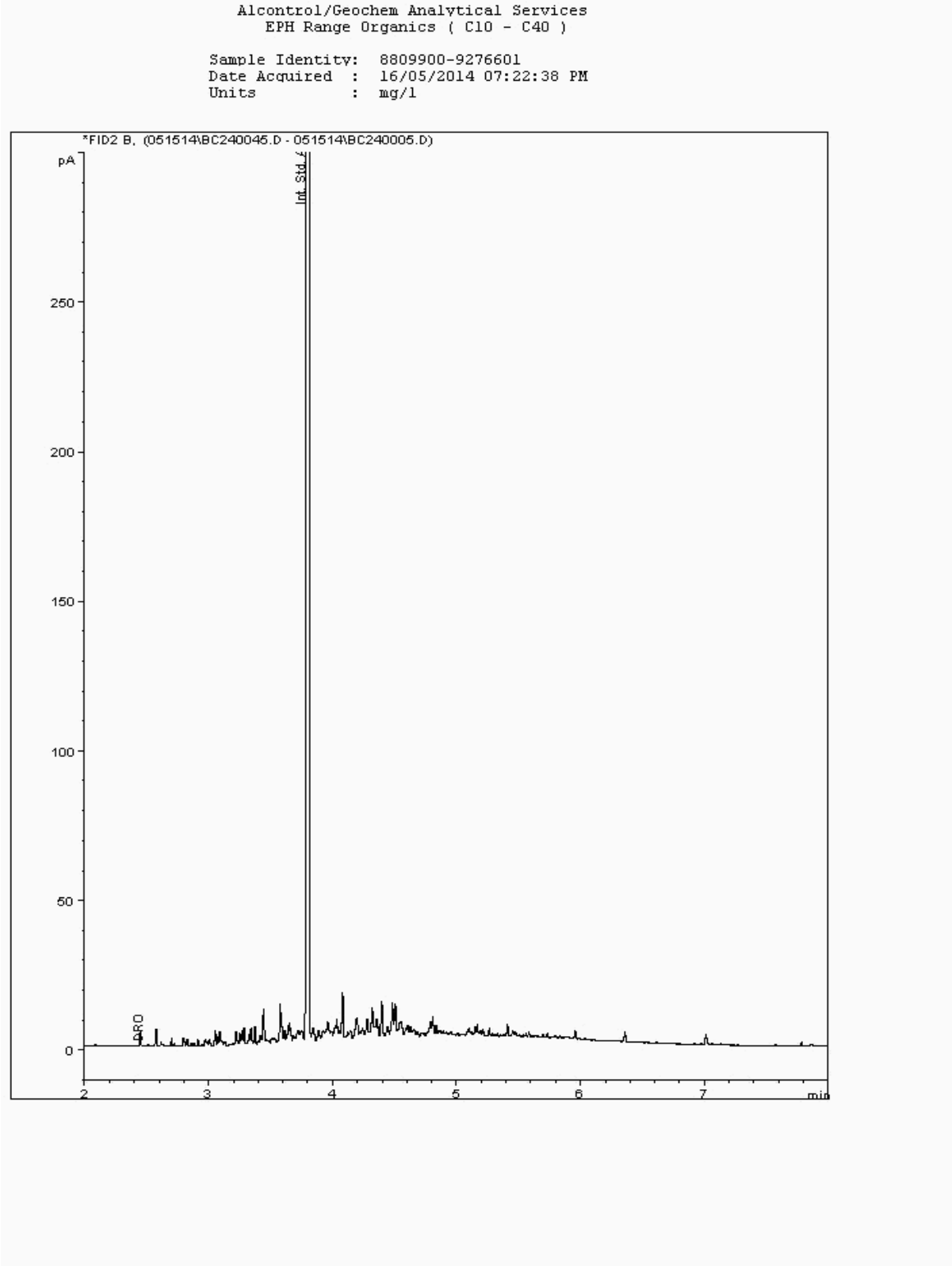


CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9276601 **Sample ID :** BH34b **Depth :** 0.00

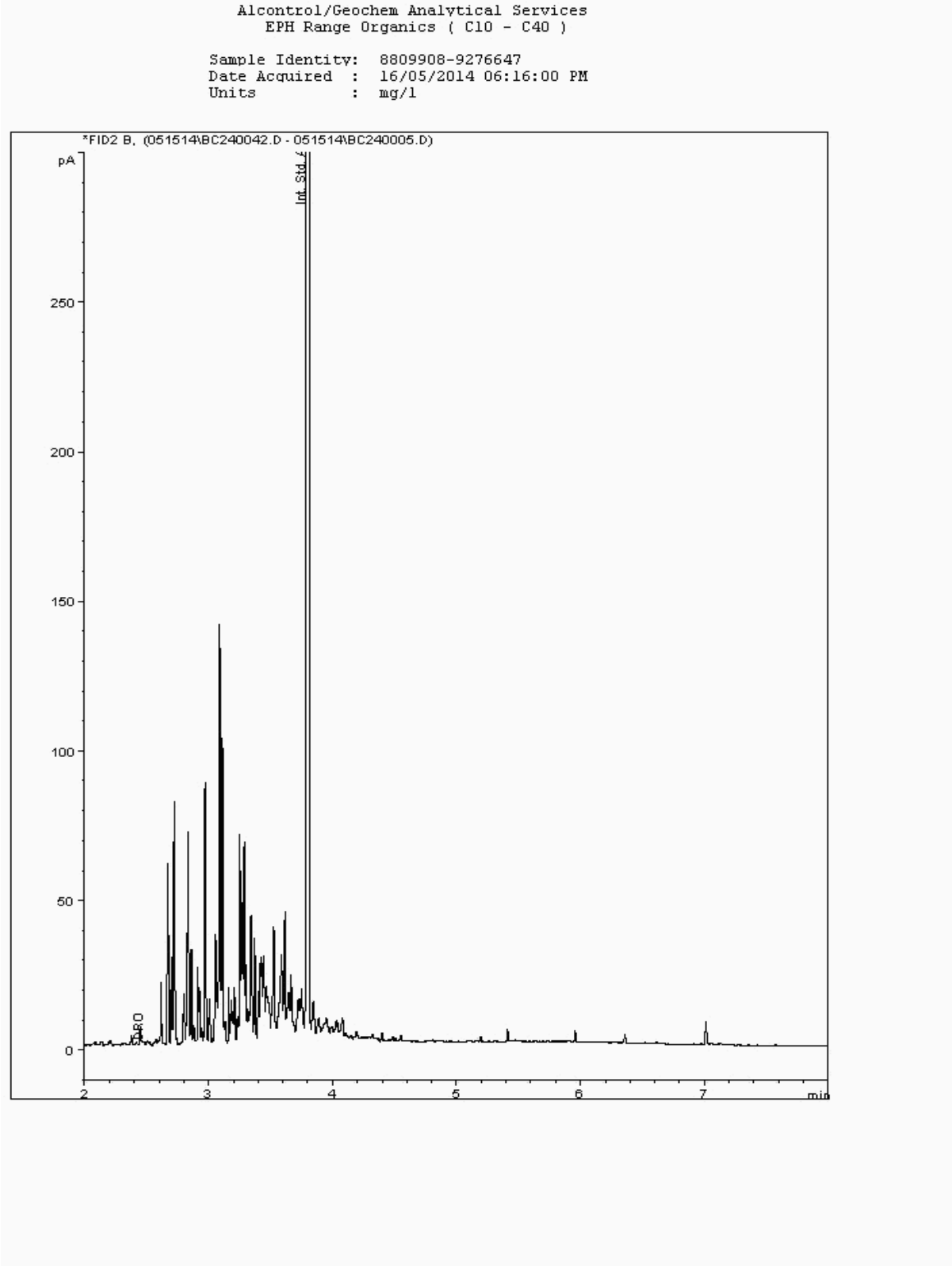


CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9276647 **Sample ID :** BH43 **Depth :** 0.00

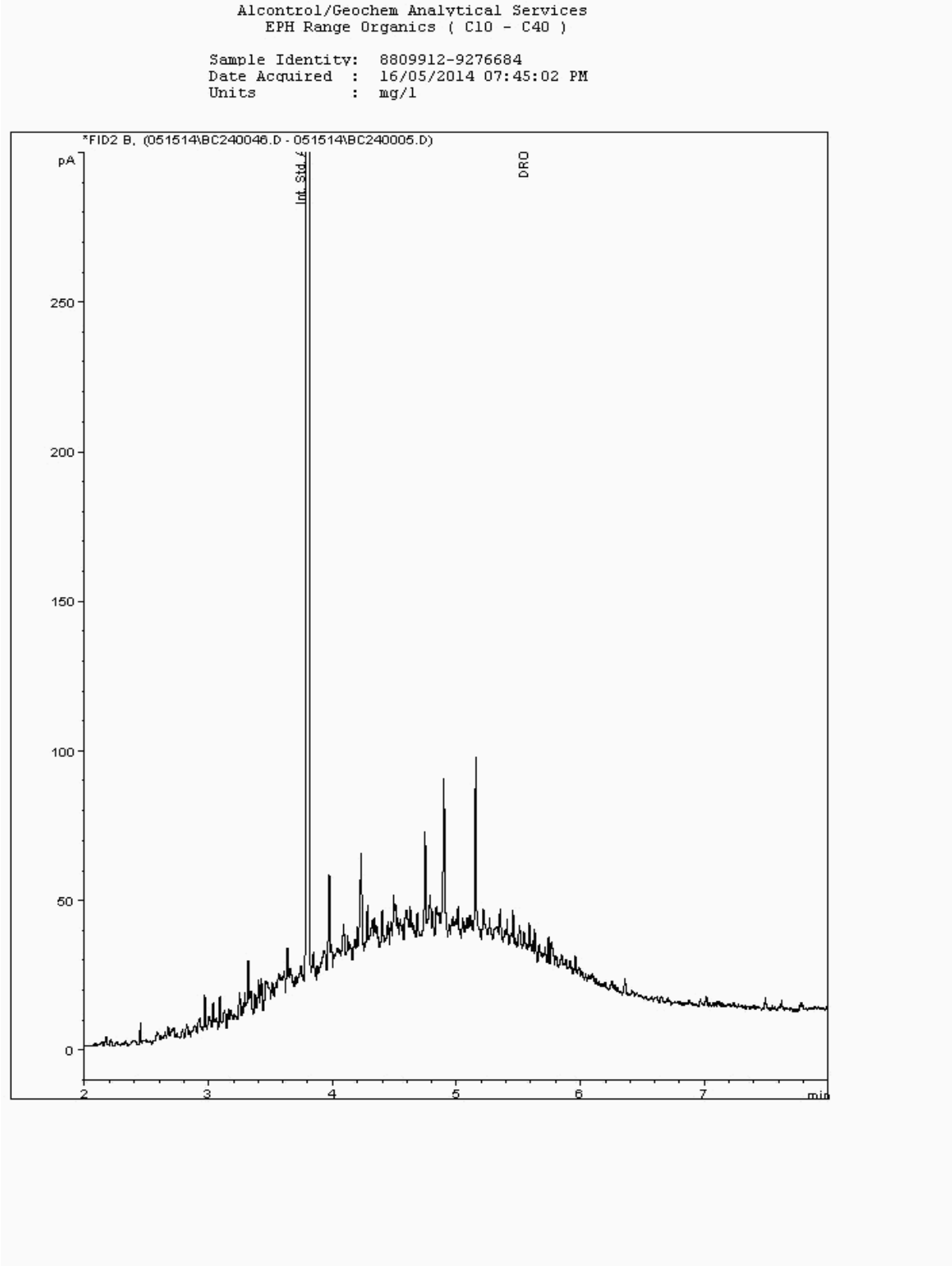


CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9276684 **Sample ID :** BH41a **Depth :** 0.00

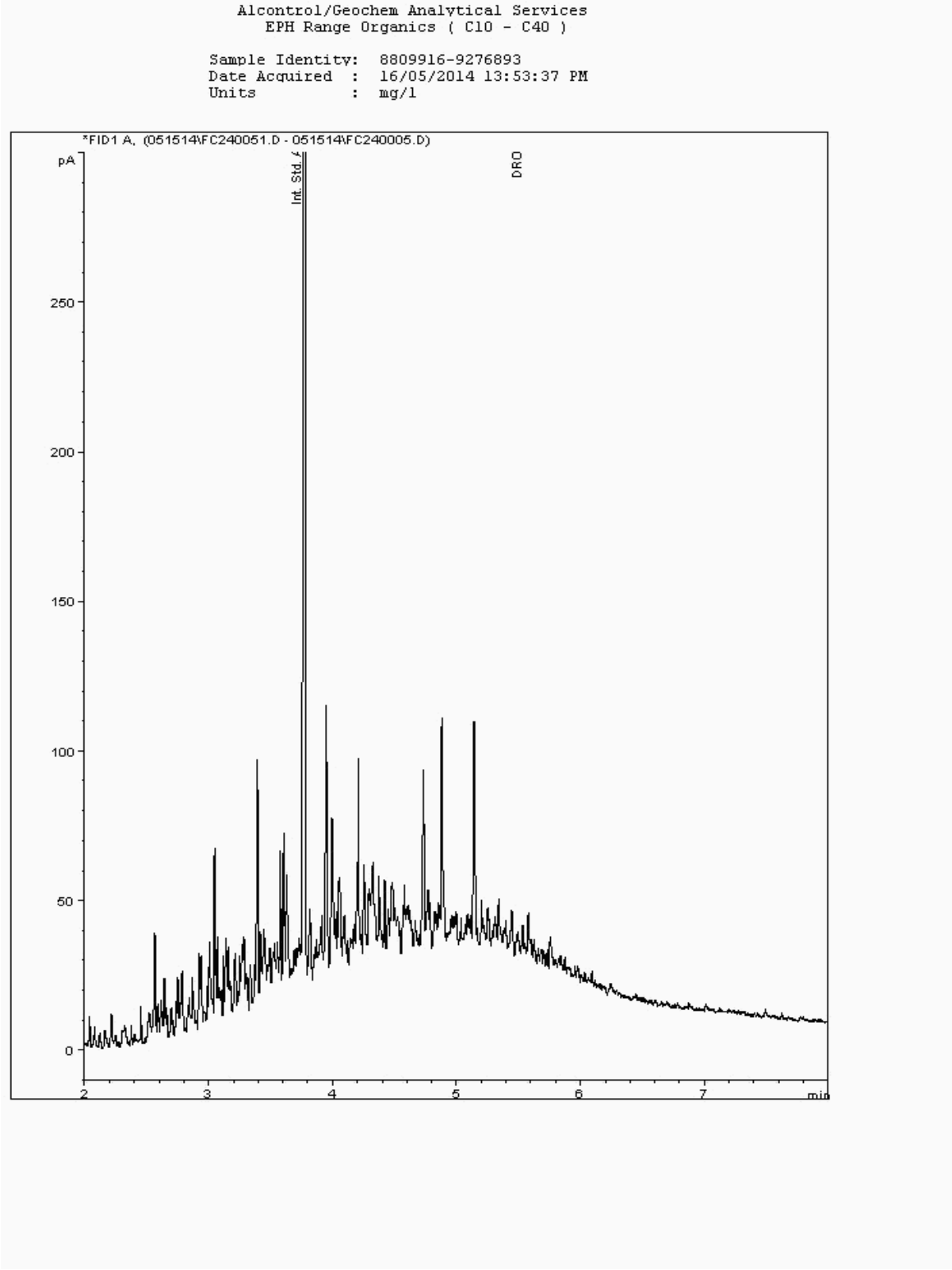


CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9276893 **Sample ID :** BH42a **Depth :** 0.00

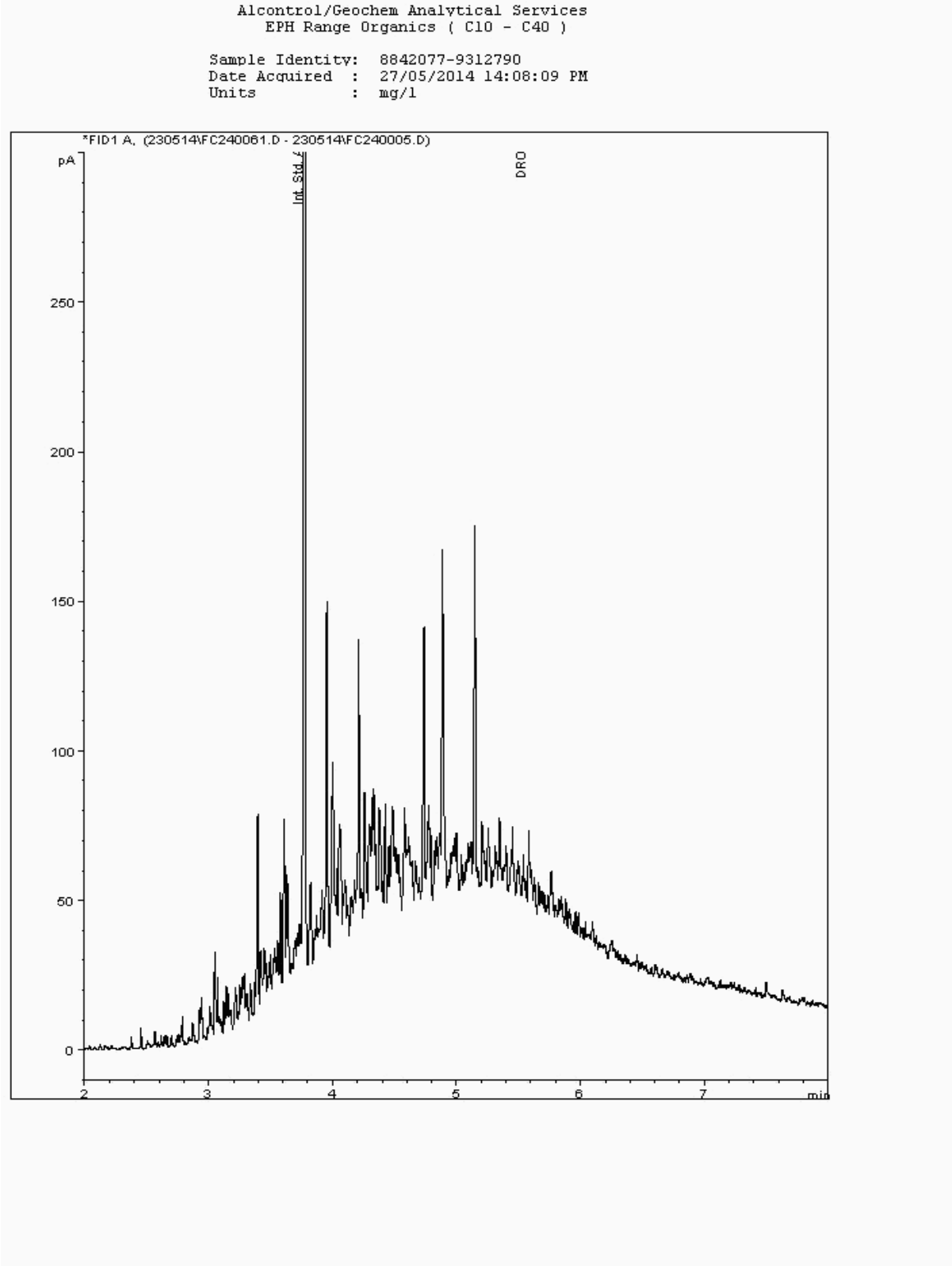


CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9312790 **Sample ID :** BH42a duplicate **Depth :** 0.00



CERTIFICATE OF ANALYSIS

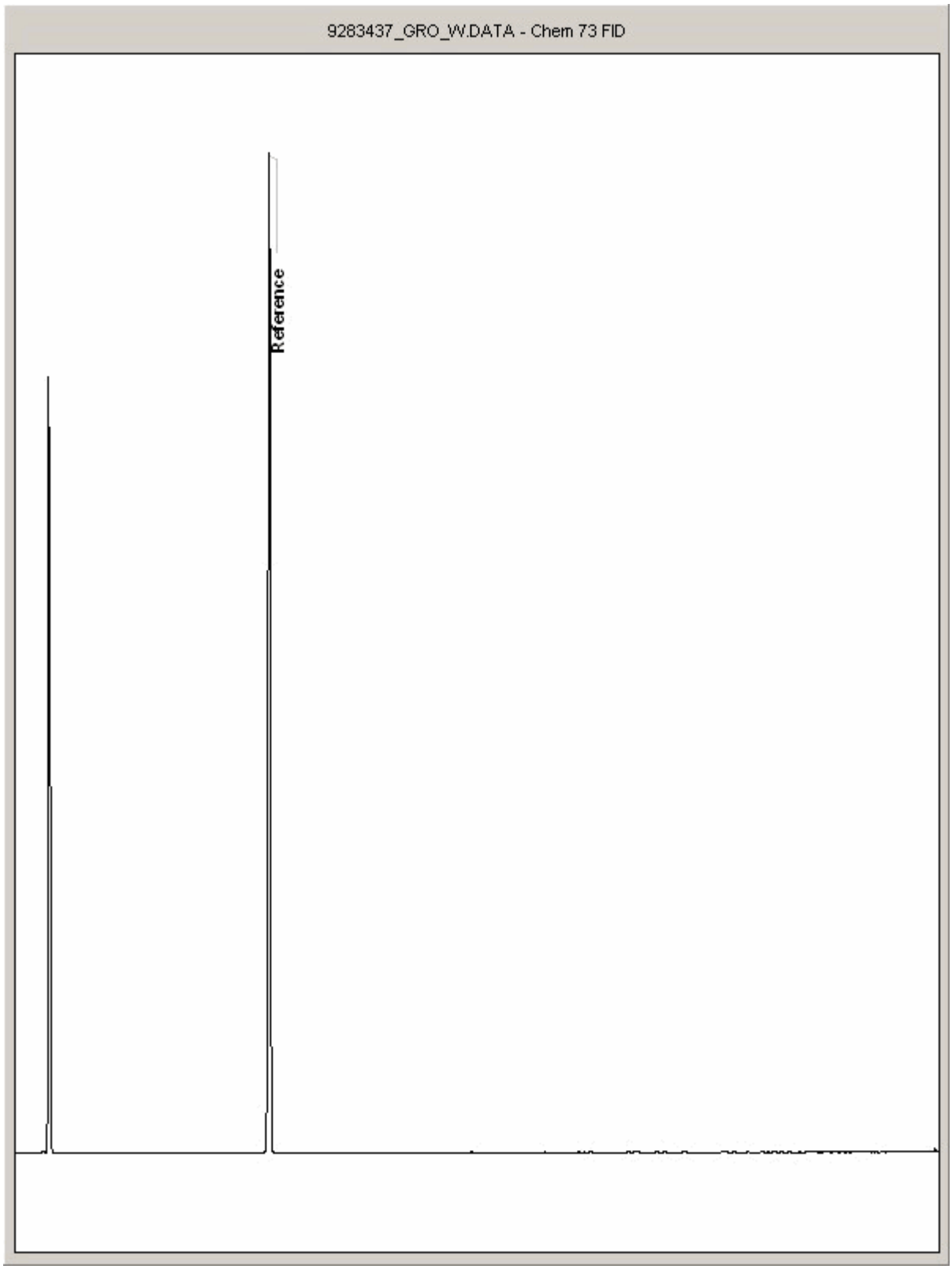
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9283437
Sample ID : BH34b

Depth : 0.00



CERTIFICATE OF ANALYSIS

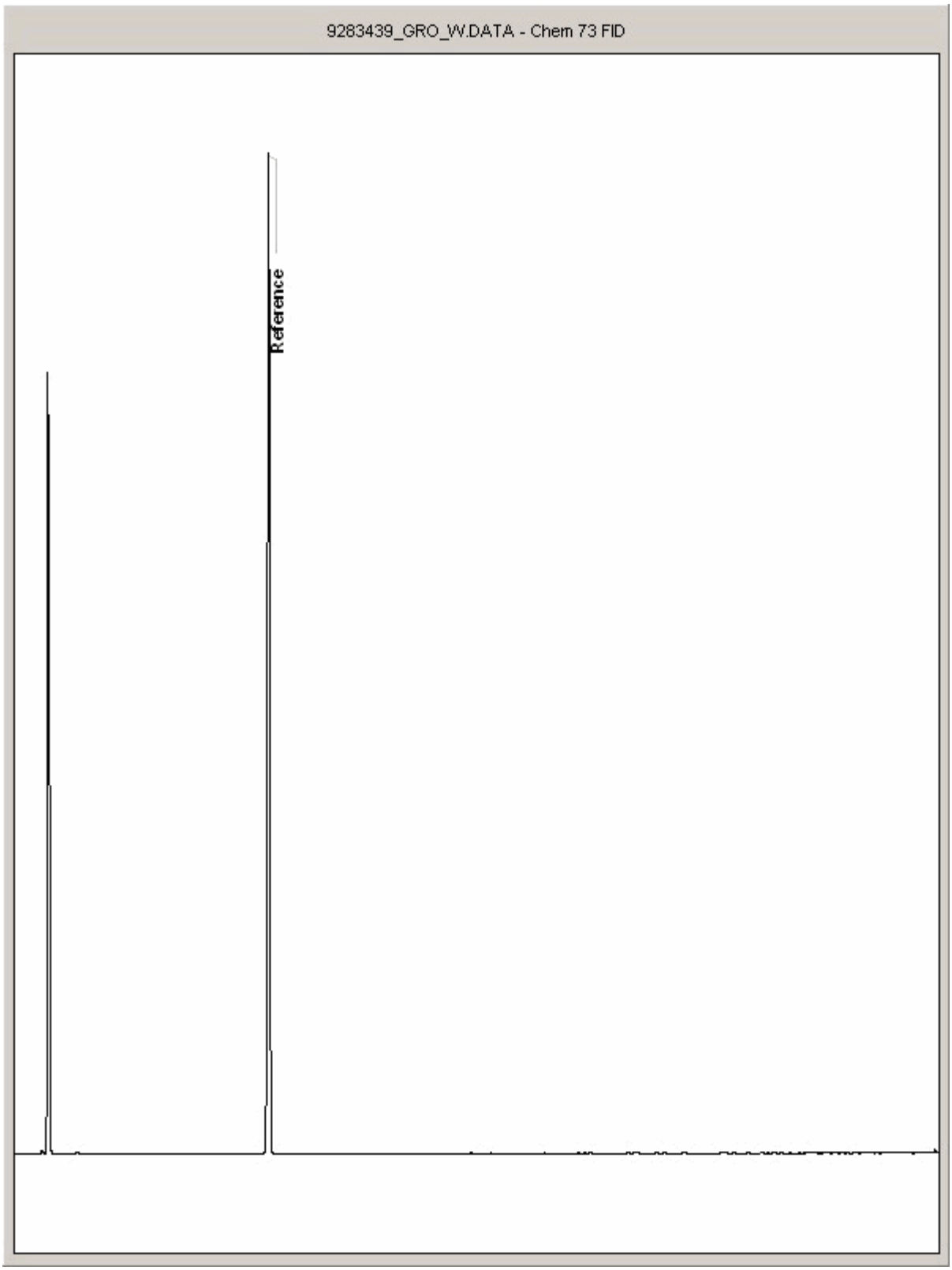
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9283439
Sample ID : BH99

Depth : 0.00



CERTIFICATE OF ANALYSIS

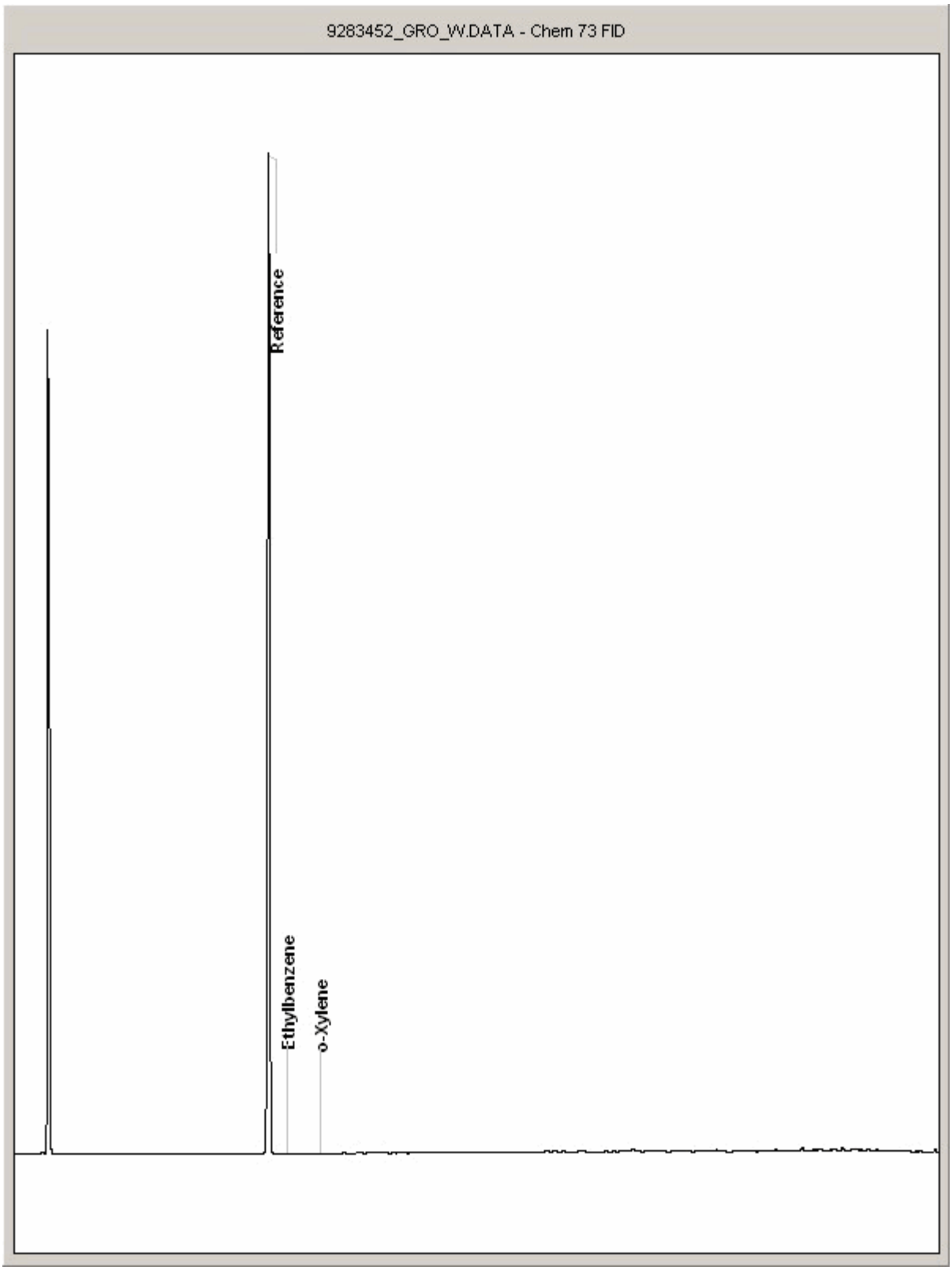
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9283452
Sample ID : BH41a

Depth : 0.00



CERTIFICATE OF ANALYSIS

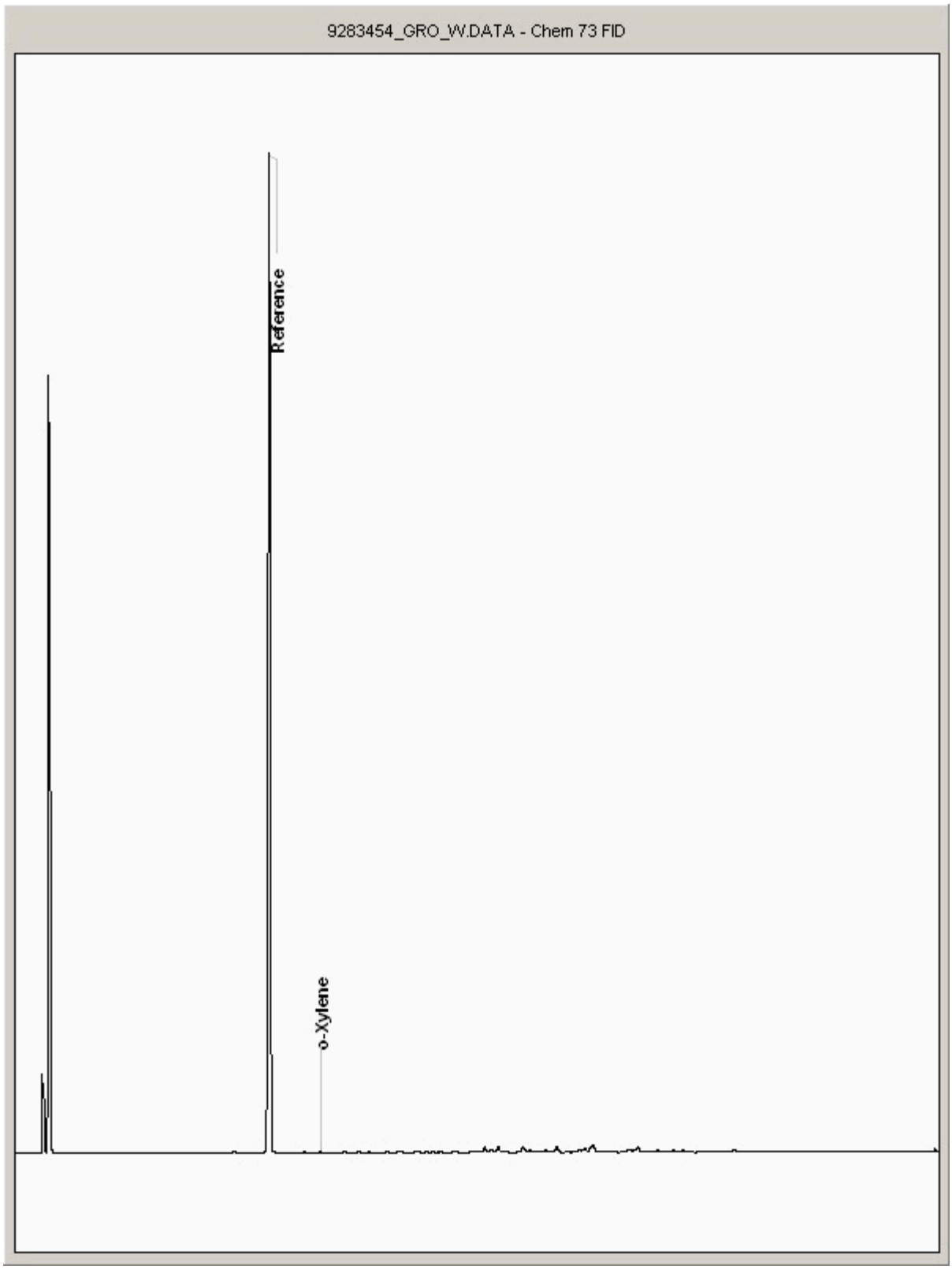
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9283454
Sample ID : BH43

Depth : 0.00



CERTIFICATE OF ANALYSIS

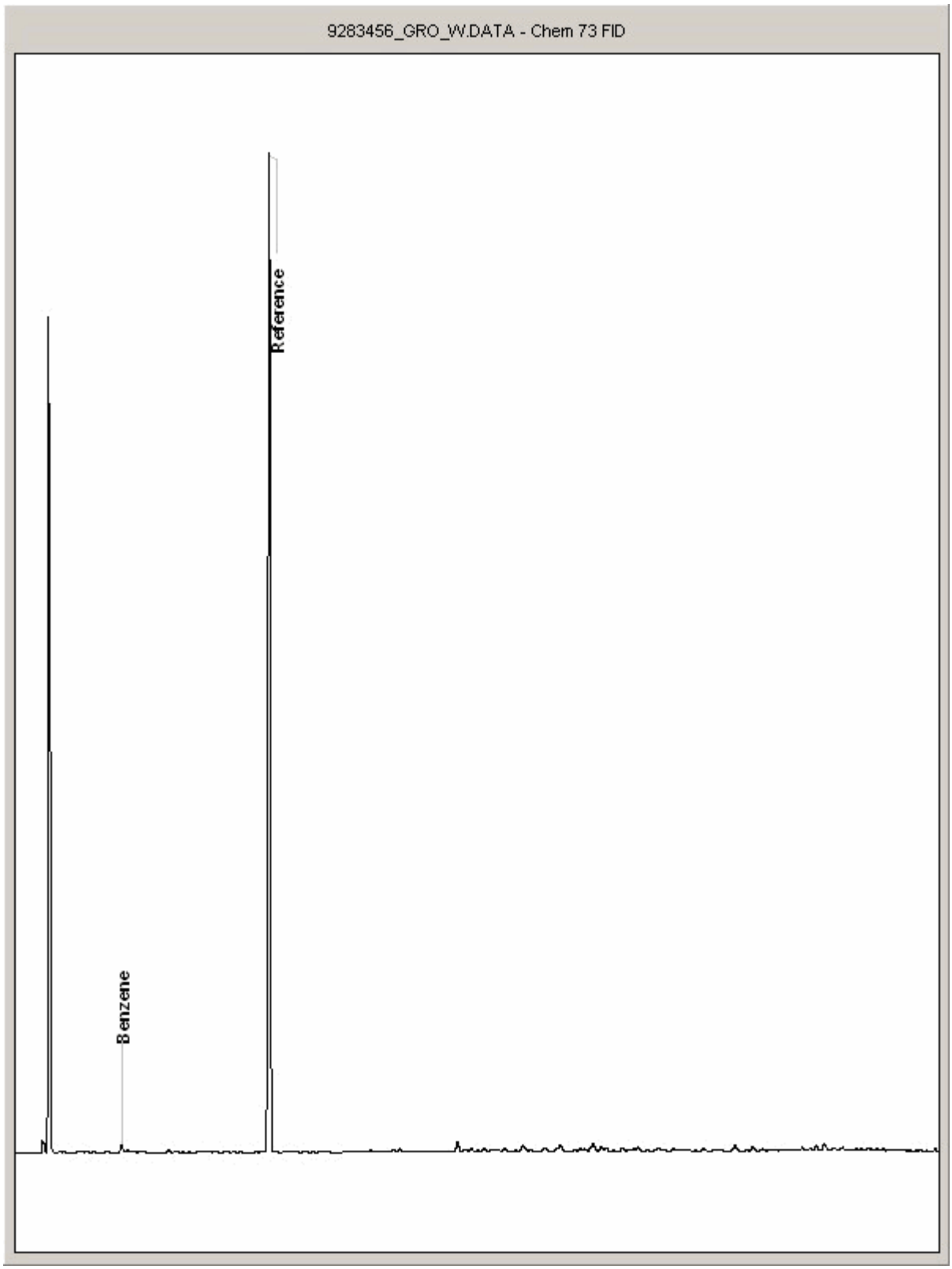
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9283456
Sample ID : BH42a

Depth : 0.00



CERTIFICATE OF ANALYSIS

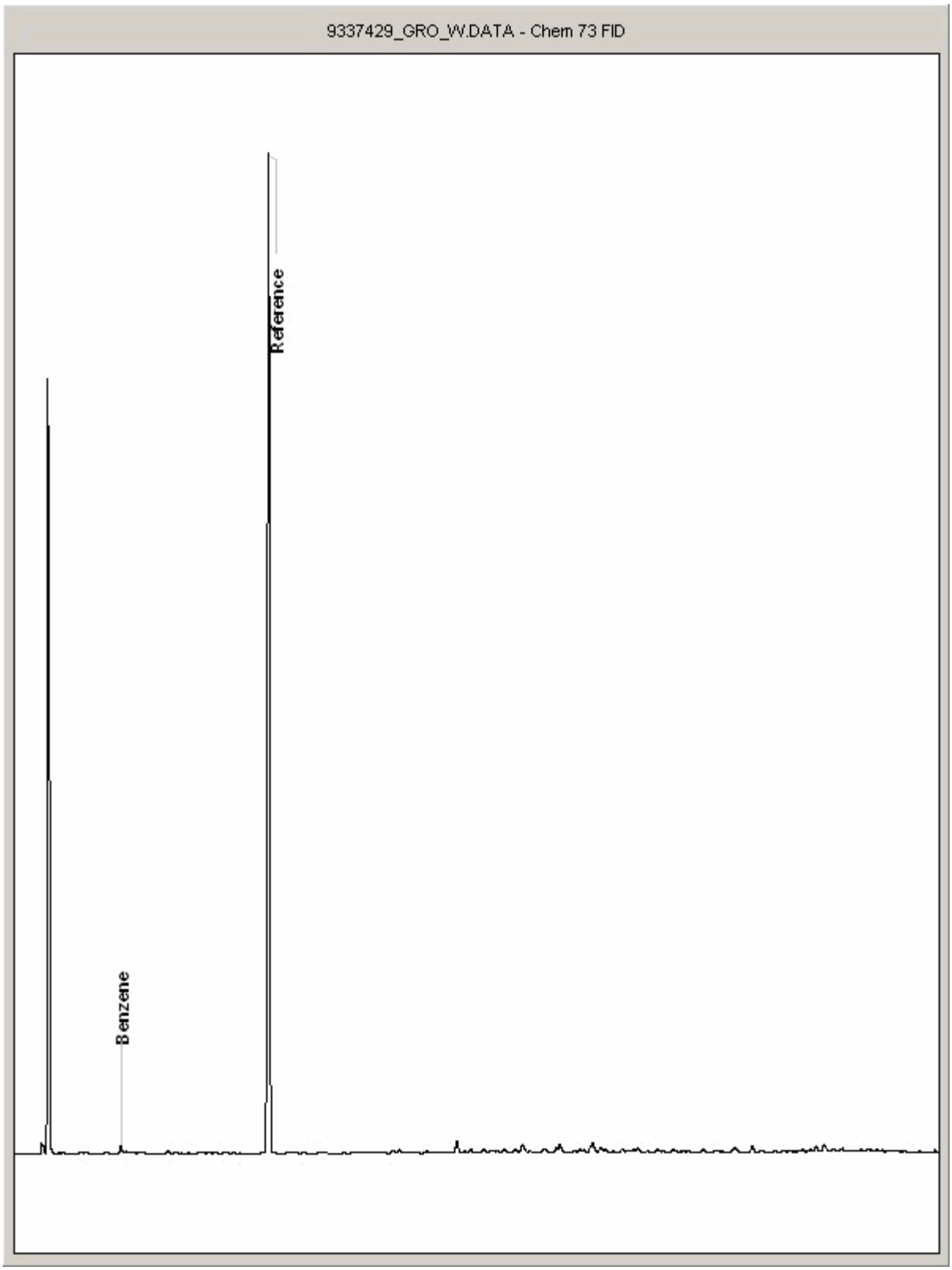
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9337429
Sample ID : BH42a duplicate

Depth : 0.00



CERTIFICATE OF ANALYSIS

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C9C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140513-33	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	271189
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Aztec West
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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

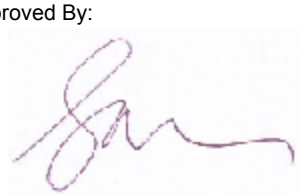
Date:	02 June 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140530-67
Your Reference:	JER5575U
Location:	SHLNG
Report No:	272018

We received 2 samples on Friday May 30, 2014 and 2 of these samples were scheduled for analysis which was completed on Monday June 02, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9365968	BH42A			
9365971	BH42A duplicate			

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9365968	BH42A			1l Glass bottle (ALE
			9365971	BH42A duplicate			1l Glass bottle (ALE
EPH-FID waters (diss.filt)	All	NDPs: 0 Tests: 2	X				
			X				

CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42A	BH42A duplicate
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	-	-
			Sampled Time	.	.
			Date Received	30/05/2014	30/05/2014
			SDG Ref	140530-67	140530-67
			Lab Sample No.(s)	9365968	9365971
			AGS Reference		
EPH (DRO) (C10-C40) (diss.filt)	<10 µg/l	TM172		17900 §	9810 §
EPH Band >C21-C35 (diss.filt)	<10 µg/l	TM172		4280 §	2350 §
EPH Band >C10-C21 (diss.filt)	<10 µg/l	TM172		13600 §	7460 §

CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9365968	9365971
Customer Sample Ref.	BH42A	BH42A duplicate
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
EPH-FID waters (diss.filt)	02-Jun-2014	02-Jun-2014

CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

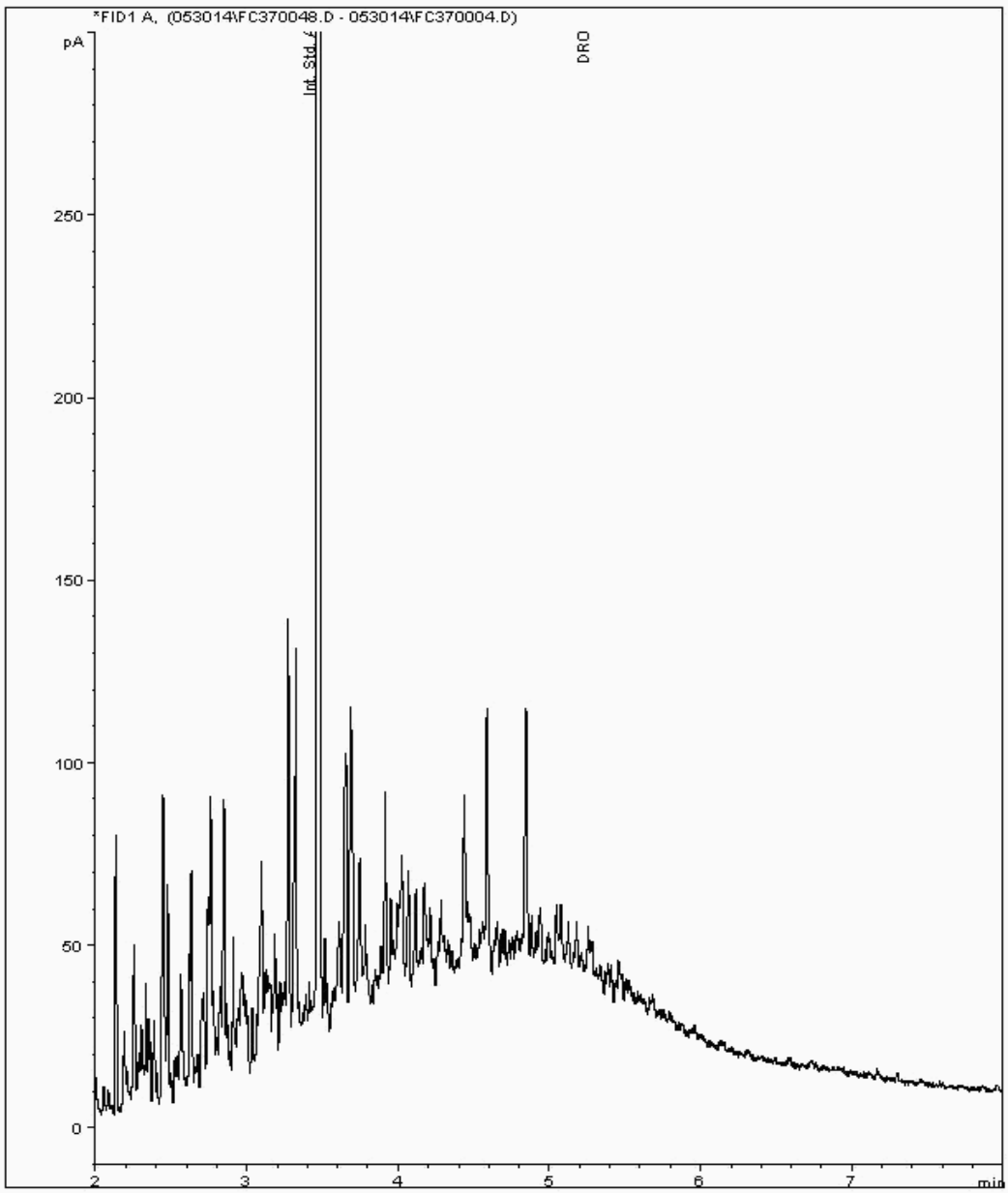
Analysis: EPH-FID waters (diss.filt)

Sample No : 9367352
Sample ID : BH42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8895602-9367352
Date Acquired : 02/06/2014 12:10:16 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

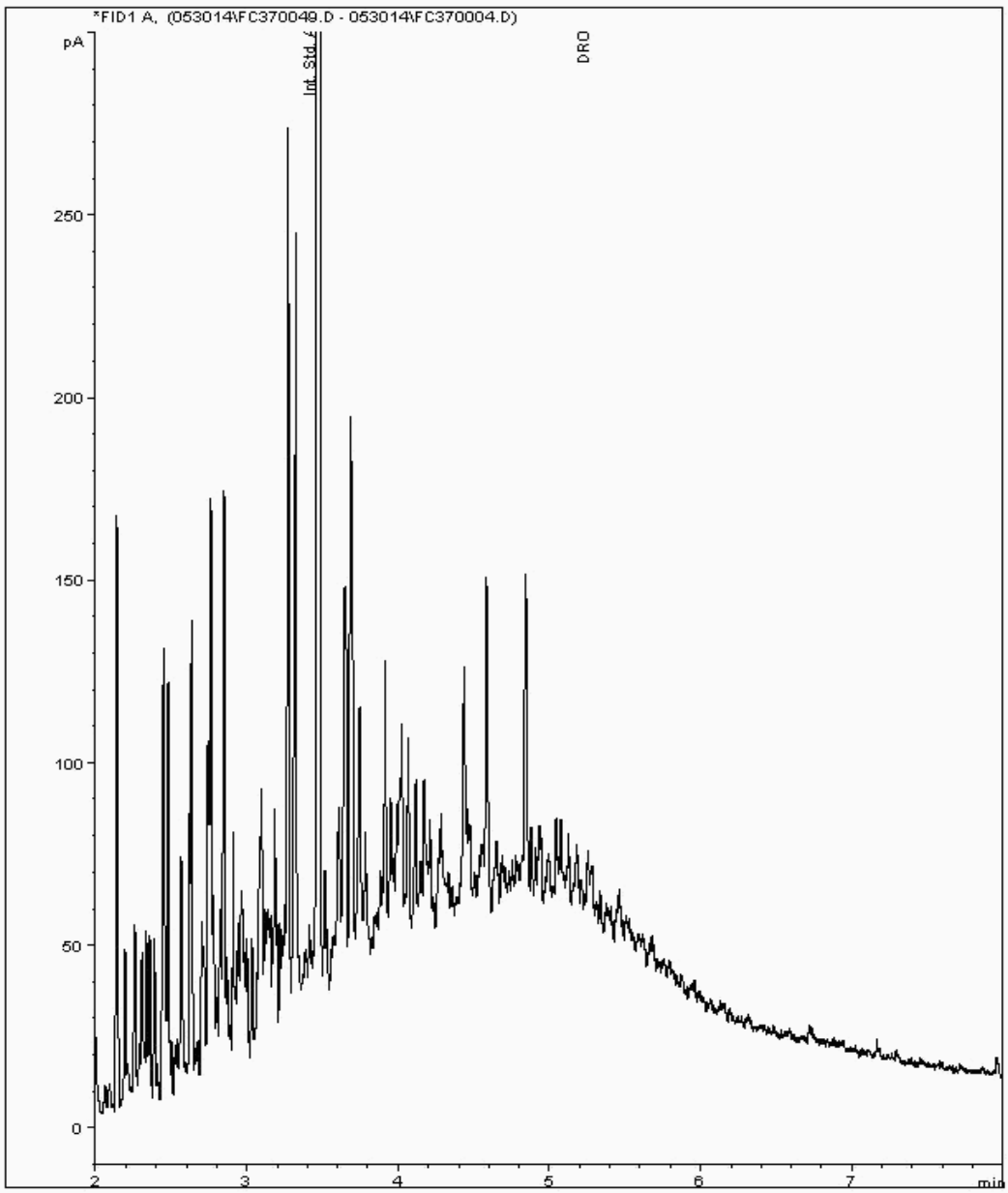
Analysis: EPH-FID waters (diss.filt)

Sample No : 9367373
Sample ID : BH42A duplicate

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8895604-9367373
Date Acquired : 02/06/2014 12:32:20 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C9C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140530-67	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	272018
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

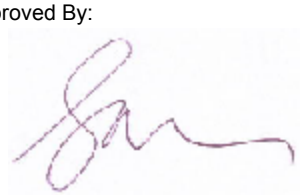
Date:	13 June 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140605-125
Your Reference:	JER5575U
Location:	SHLNG
Report No:	273367

We received 26 samples on Thursday June 05, 2014 and 21 of these samples were scheduled for analysis which was completed on Thursday June 12, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9396075	BH01			03/06/2014
9396077	BH06			04/06/2014
9396080	BH18			03/06/2014
9396082	BH22			04/06/2014
9396085	BH26			03/06/2014
9396098	BH44			04/06/2014
9396103	BH55			03/06/2014
9396107	BH59			03/06/2014
9396088	BH27A			03/06/2014
9396112	BH63A			04/06/2014
9396089	BH27A DUPLICATE			03/06/2014
9396113	BH63A DUPLICATE			04/06/2014
9396091	BH36B			03/06/2014
9396092	BH36B DUPLICATE			03/06/2014
9396076	BH01 DUPLICATE			03/06/2014
9396079	BH06 DUPLICATE			04/06/2014
9396081	BH18 DUPLICATE			03/06/2014
9396083	BH22 DUPLICATE			04/06/2014
9396086	BH26 DUPLICATE			03/06/2014
9396102	BH44 DUPLICATE			04/06/2014
9396104	BH55 DUPLICATE			03/06/2014
9396110	BH59 DUPLICATE			03/06/2014
9396070	MW1			04/06/2014
9396072	MW3			04/06/2014
9396071	MW1 DUPLICATE			04/06/2014
9396074	MW3 DUPLICATE			04/06/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 21	9396075	BH01			1l Glass bottle (ALE
			9396077	BH06			Vial (ALE297)
			9396080	BH18			1l Glass bottle (ALE
			9396082	BH22			Vial (ALE297)
			9396085	BH26			1l Glass bottle (ALE
			9396098	BH44			Vial (ALE297)
			9396103	BH55			1l Glass bottle (ALE
			9396107	BH59			Vial (ALE297)
			9396088	BH27A			1l Glass bottle (ALE
			9396112	BH63A			Vial (ALE297)
			9396089	BH27A DUPLICATE			1l Glass bottle (ALE
			9396091	BH36B			Vial (ALE297)
			9396092	BH36B DUPLICATE			1l Glass bottle (ALE
			9396076	BH01 DUPLICATE			Vial (ALE297)
			9396081	BH18 DUPLICATE			1l Glass bottle (ALE
			9396083	BH22 DUPLICATE			Vial (ALE297)
			9396086	BH26 DUPLICATE			1l Glass bottle (ALE
			9396104	BH55 DUPLICATE			Vial (ALE297)
			9396110	BH59 DUPLICATE			1l Glass bottle (ALE
			9396070	MW1			Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 21					

EPH (DRO) (C10-C40) Aqueous (W)	X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X	
GRO by GC-FID (W)		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	
			9396072	MW3			1l Glass bottle (ALE	Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 21					X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 21						X

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH01	BH06	BH18	BH22	BH26	BH44
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/06/2014	04/06/2014	03/06/2014	04/06/2014	03/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			SDG Ref	140605-125	140605-125	140605-125	140605-125	140605-125	140605-125
			Lab Sample No.(s)	9396075	9396077	9396080	9396082	9396085	9396098
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	99.3 #	538 #	<46 #	<46 #	163 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	48	105	<10	<10	146
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	51.3	435	<10	<10	16.5

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH55	BH59	BH27A	BH63A	BH27A DUPLICATE	BH36B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/06/2014	03/06/2014	03/06/2014	04/06/2014	03/06/2014	03/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			SDG Ref	140605-125	140605-125	140605-125	140605-125	140605-125	140605-125
			Lab Sample No.(s)	9396103	9396107	9396088	9396112	9396089	9396091
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	<46 #	<46 #	<46 #	364 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	<10	<10	<10	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	<10	<10	<10	364

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH36B DUPLICATE	BH01 DUPLICATE	BH18 DUPLICATE	BH22 DUPLICATE	BH26 DUPLICATE	BH55 DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/06/2014	03/06/2014	03/06/2014	04/06/2014	03/06/2014	03/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			SDG Ref	140605-125	140605-125	140605-125	140605-125	140605-125	140605-125
			Lab Sample No.(s)	9396092	9396076	9396081	9396083	9396086	9396104
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		293 #	<46 #	231 #	<46 #	<46 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	76.7	<10	<10	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		293	<10	154	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH59 DUPLICATE	MW1	MW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	03/06/2014	04/06/2014	04/06/2014			
			Sampled Time	.	.	.			
			Date Received	05/06/2014	05/06/2014	05/06/2014			
			SDG Ref	140605-125	140605-125	140605-125			
			Lab Sample No.(s)	9396110	9396070	9396072			
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	201 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	89.5			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	112			

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH01	BH06	BH18	BH22	BH26	BH44
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/06/2014	04/06/2014	03/06/2014	04/06/2014	03/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			SDG Ref	140605-125	140605-125	140605-125	140605-125	140605-125	140605-125
			Lab Sample No.(s)	9396075	9396077	9396080	9396082	9396085	9396098
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH55	BH59	BH27A	BH63A	BH27A DUPLICATE	BH36B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/06/2014	03/06/2014	03/06/2014	04/06/2014	03/06/2014	03/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			SDG Ref	140605-125	140605-125	140605-125	140605-125	140605-125	140605-125
			Lab Sample No.(s)	9396103	9396107	9396088	9396112	9396089	9396091
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH36B DUPLICATE	BH01 DUPLICATE	BH18 DUPLICATE	BH22 DUPLICATE	BH26 DUPLICATE	BH55 DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	03/06/2014	03/06/2014	03/06/2014	04/06/2014	03/06/2014	03/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			SDG Ref	140605-125	140605-125	140605-125	140605-125	140605-125	140605-125
			Lab Sample No.(s)	9396092	9396076	9396081	9396083	9396086	9396104
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH59 DUPLICATE	MW1	MW3			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	03/06/2014	04/06/2014	04/06/2014			
			Sampled Time	.	.	.			
			Date Received	05/06/2014	05/06/2014	05/06/2014			
			SDG Ref	140605-125	140605-125	140605-125			
			Lab Sample No.(s)	9396110	9396070	9396072			
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10			
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10			
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10			
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10			

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9396075	9396077	9396080	9396082	9396085	9396098	9396103	9396107	9396088	9396112
Customer Sample Ref.	BH01	BH06	BH18	BH22	BH26	BH44	BH55	BH59	BH27A	BH63A
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014
GRO by GC-FID (W)	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	11-Jun-2014	11-Jun-2014	12-Jun-2014	11-Jun-2014

Lab Sample No(s)	9396076	9396081	9396083	9396086	9396104	9396110	9396089	9396091	9396092	9396070
Customer Sample Ref.	BH01 DUPLICATE	BH18 DUPLICATE	BH22 DUPLICATE	BH26 DUPLICATE	BH55 DUPLICATE	BH59 DUPLICATE	BH27A DUPLICATE	BH36B	BH36B DUPLICATE	MW1
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014
GRO by GC-FID (W)	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	11-Jun-2014	11-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014	12-Jun-2014

Lab Sample No(s)	9396072
Customer Sample Ref.	MW3
AGS Ref.	
Depth	
Type	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Jun-2014
GRO by GC-FID (W)	12-Jun-2014

CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

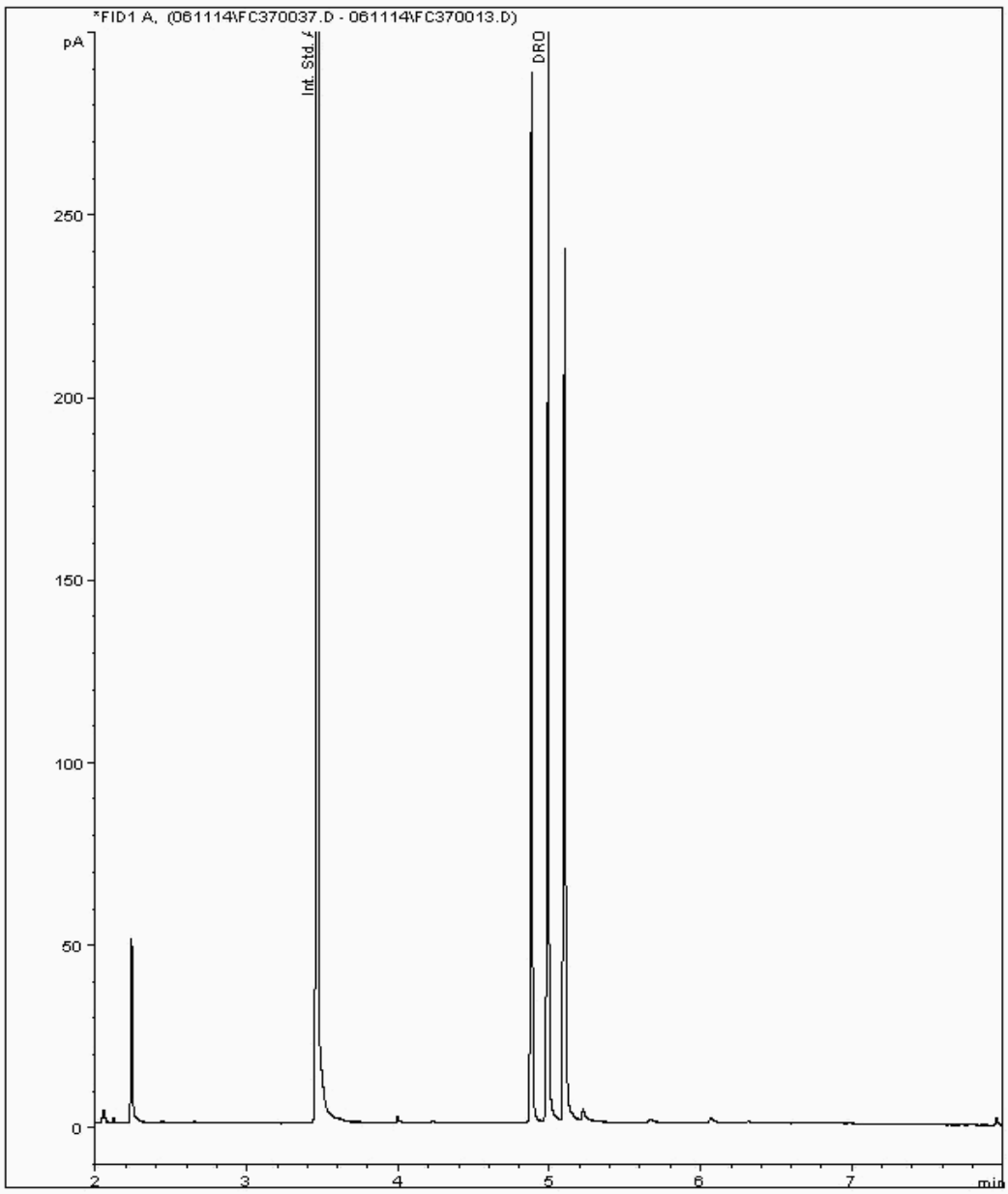
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9402981
Sample ID : BH36B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928511-9402981
Date Acquired : 12/06/2014 03:09:51 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

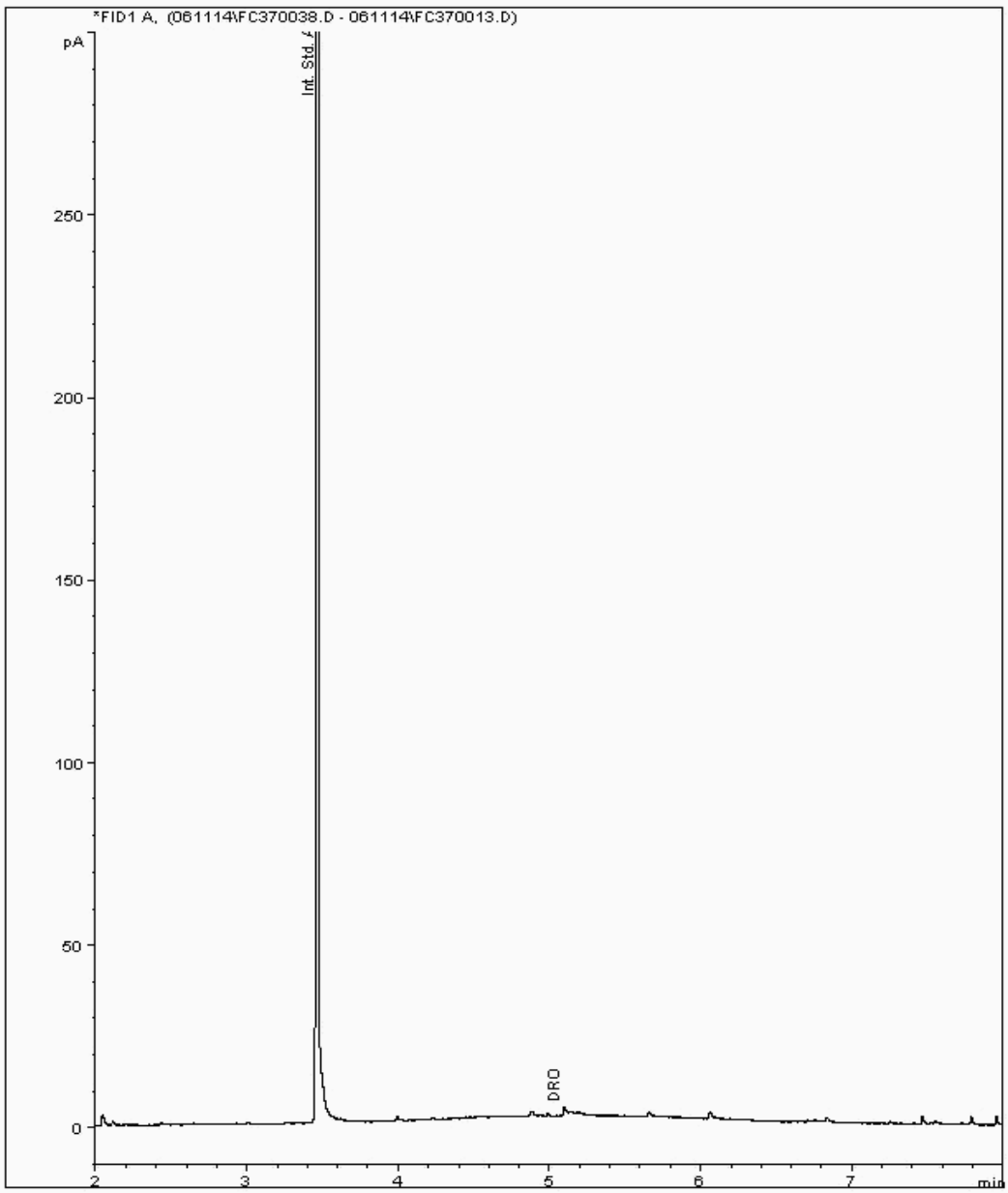
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9402994
Sample ID : MW3

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928471-9402994
Date Acquired : 12/06/2014 03:33:00 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

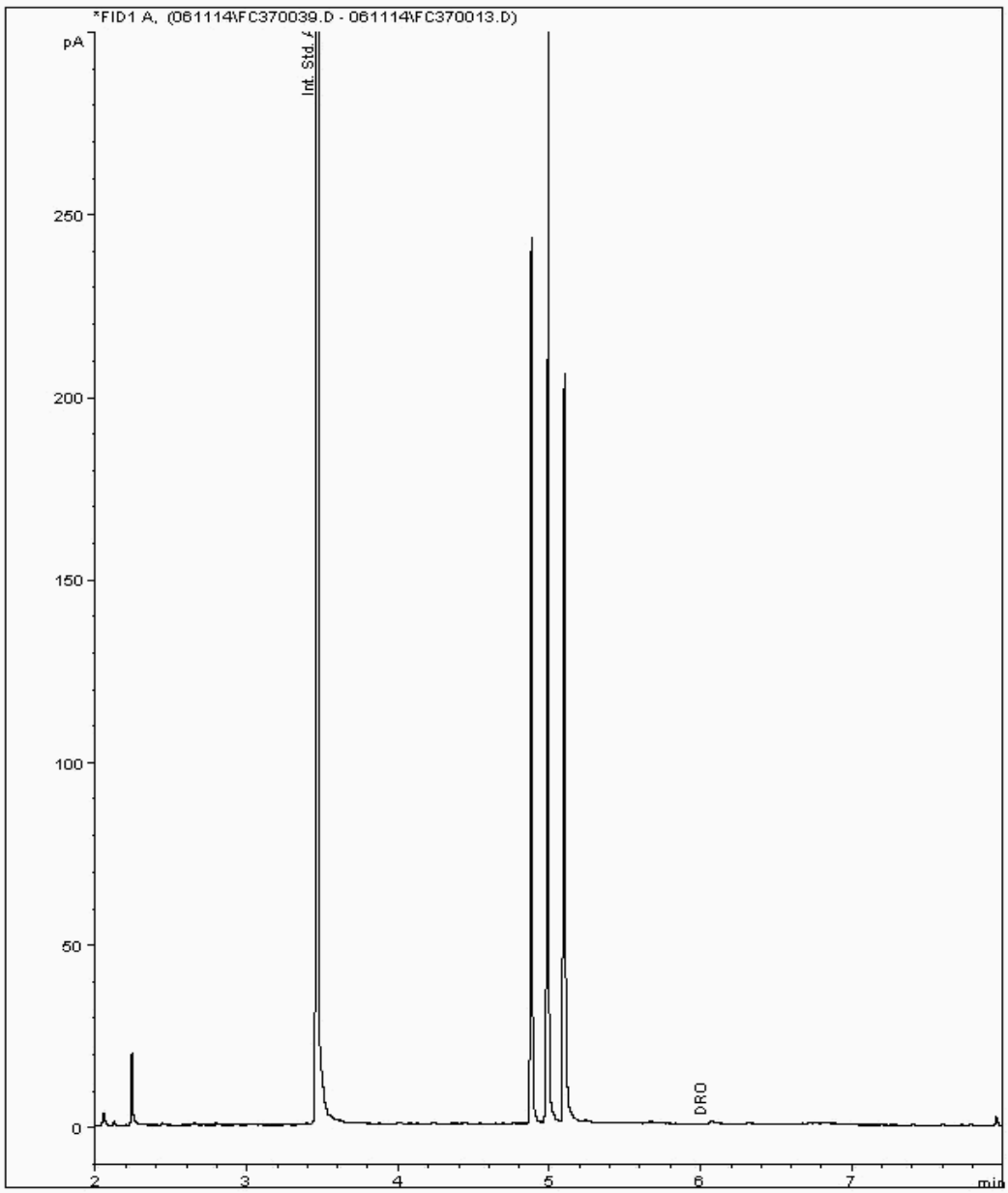
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403008
Sample ID : BH36B DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928514-9403008
Date Acquired : 12/06/2014 03:55:56 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

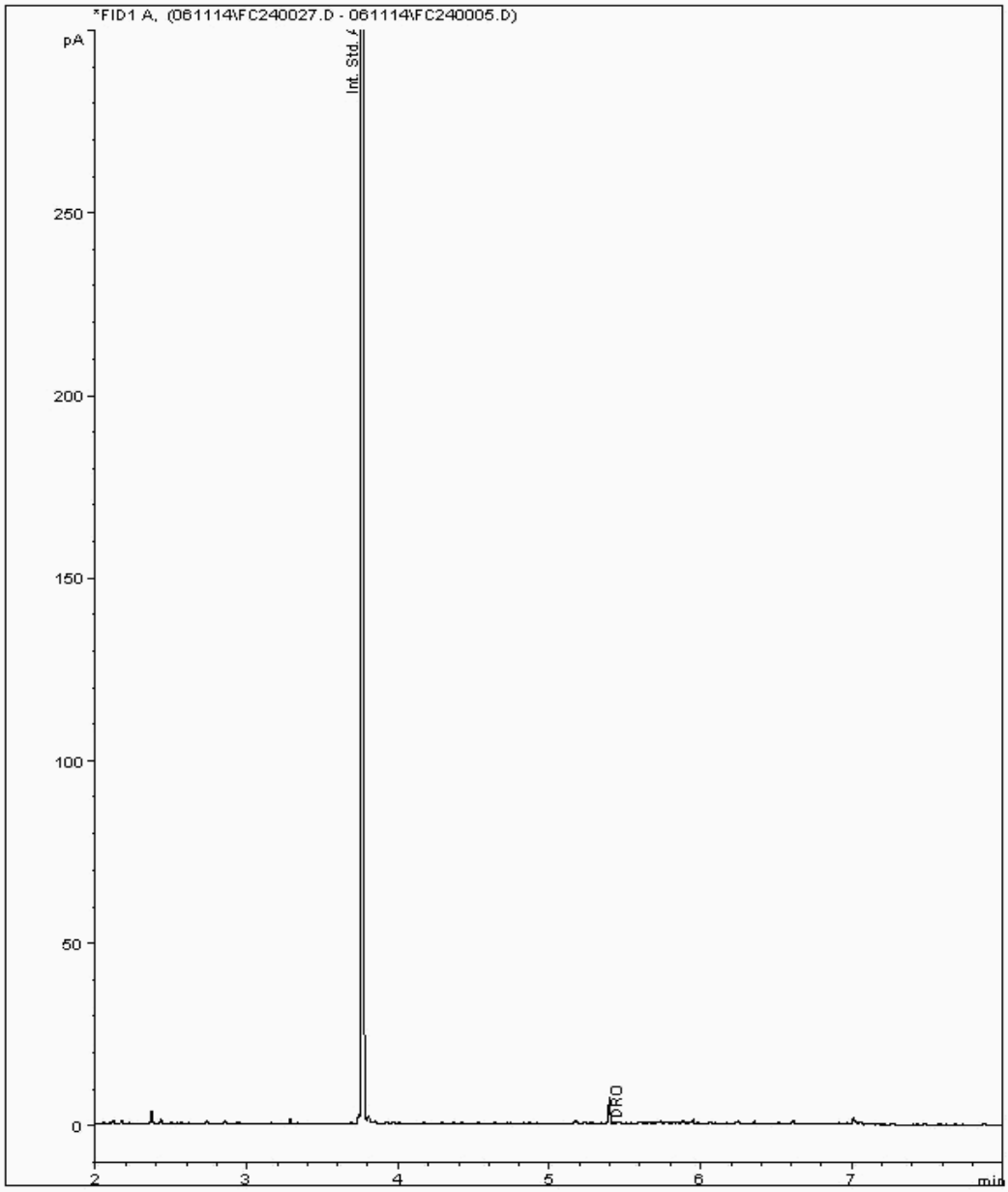
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9403036 **Sample ID :** BH27A **Depth :**

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928505-9403036
Date Acquired : 12/06/2014 00:59:42 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

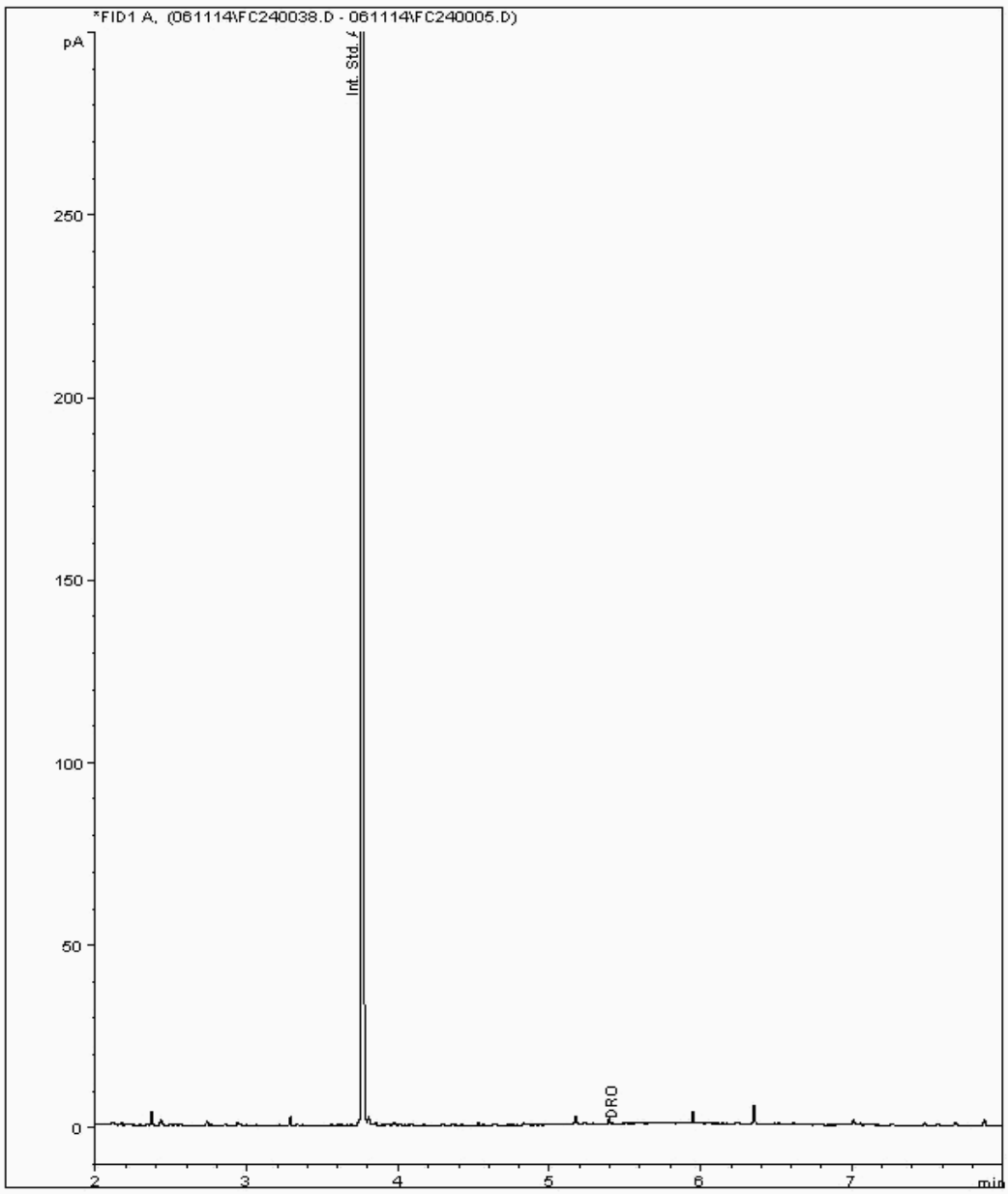
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403042
Sample ID : MW1

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928464-9403042
Date Acquired : 12/06/2014 05:15:05 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

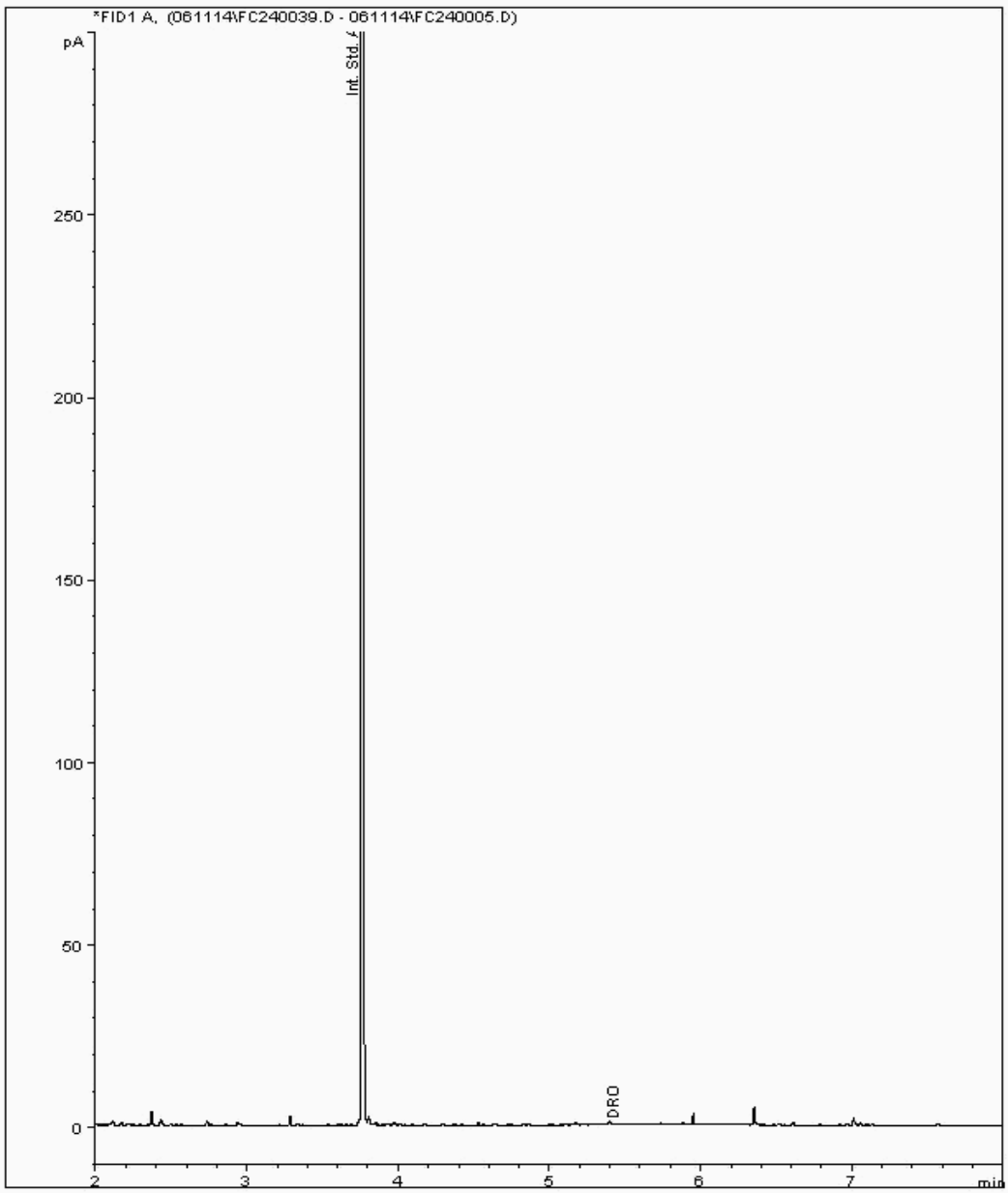
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403059
Sample ID : BH27A DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928508-9403059
Date Acquired : 12/06/2014 05:38:10 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

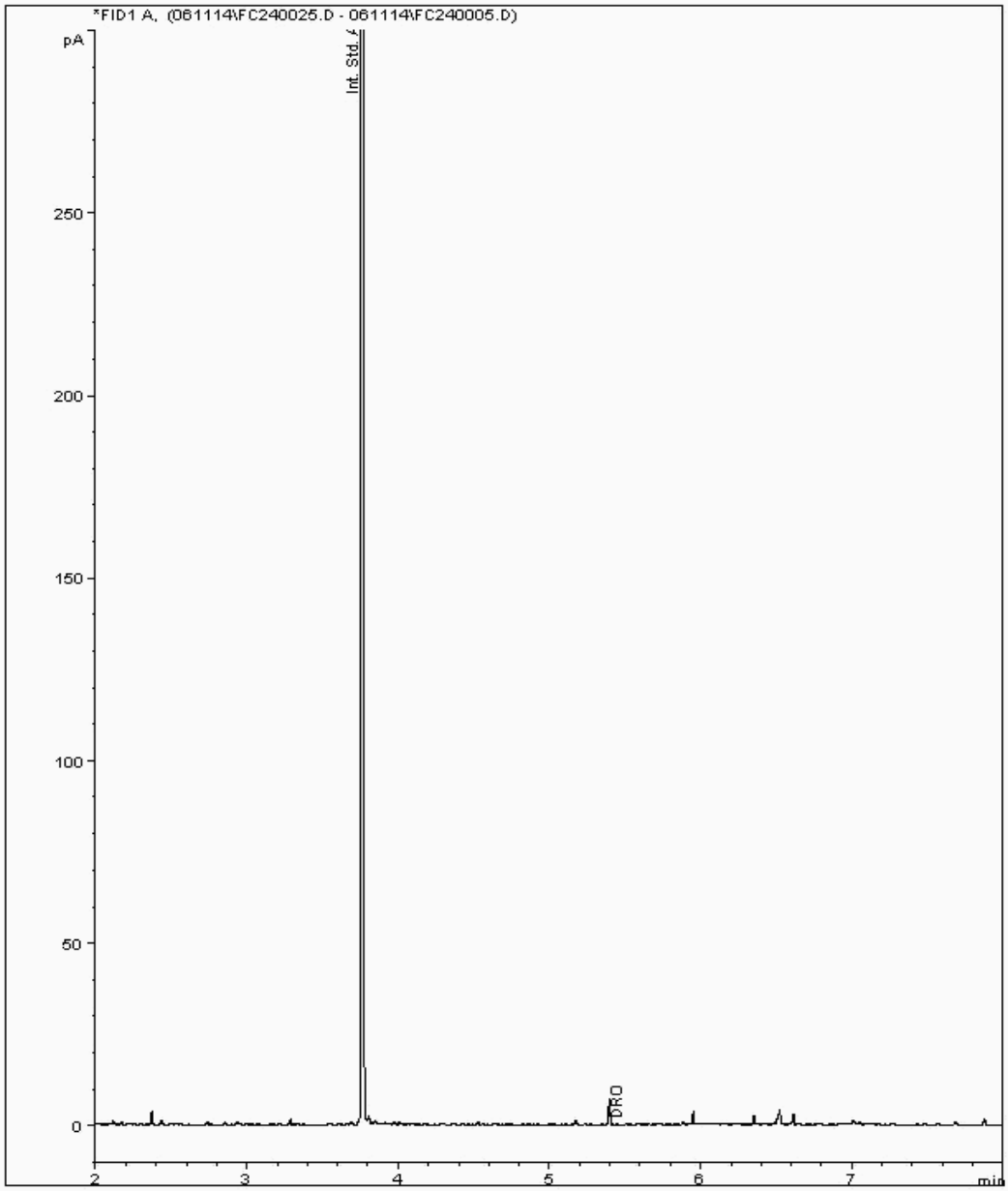
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403077
Sample ID : BH55

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928524-9403077
Date Acquired : 12/06/2014 00:13:32 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

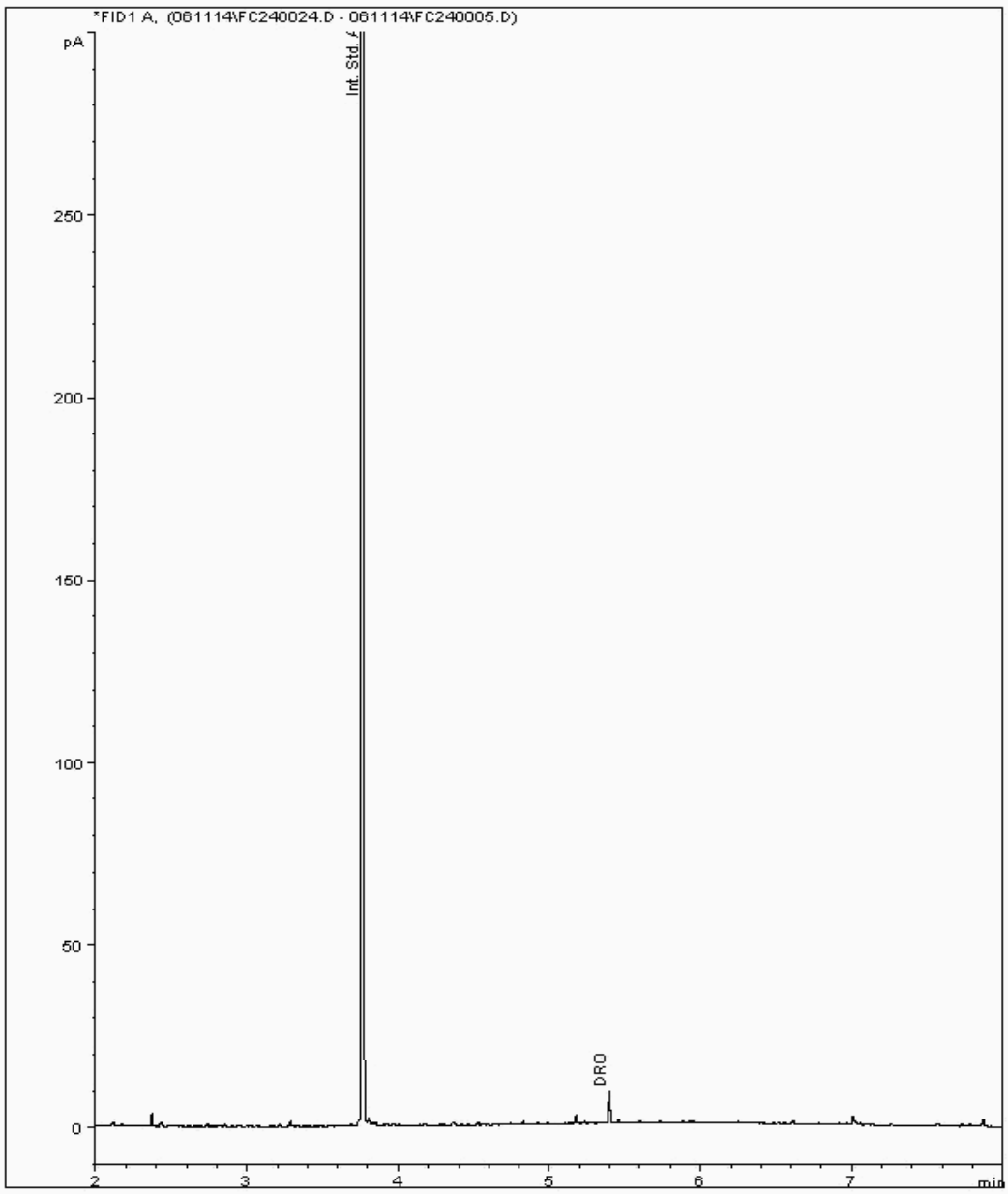
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403082
Sample ID : BH06

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928480-9403082
Date Acquired : 11/06/2014 23:50:07 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

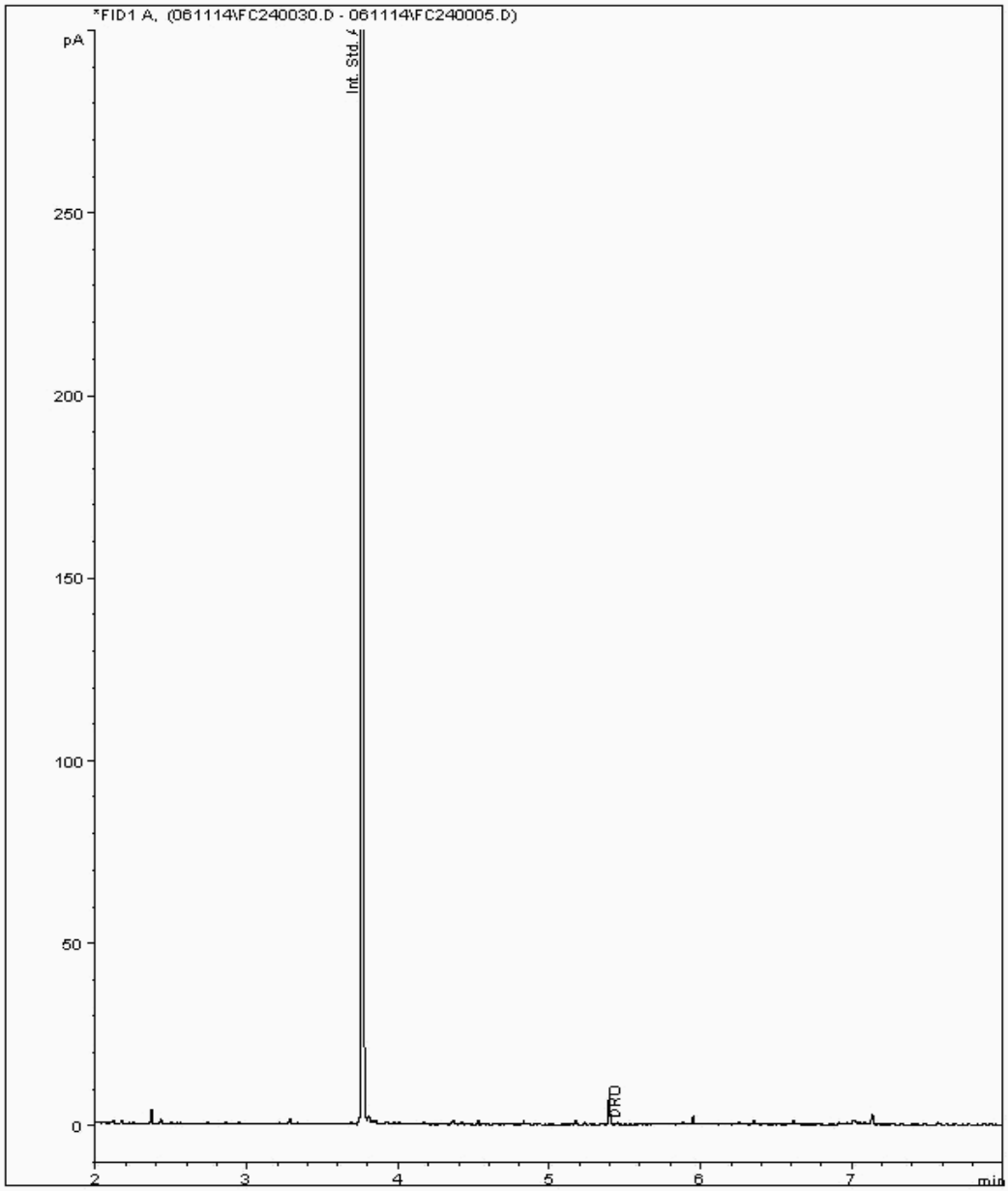
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403091
Sample ID : BH55 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928529-9403091
Date Acquired : 12/06/2014 02:09:17 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

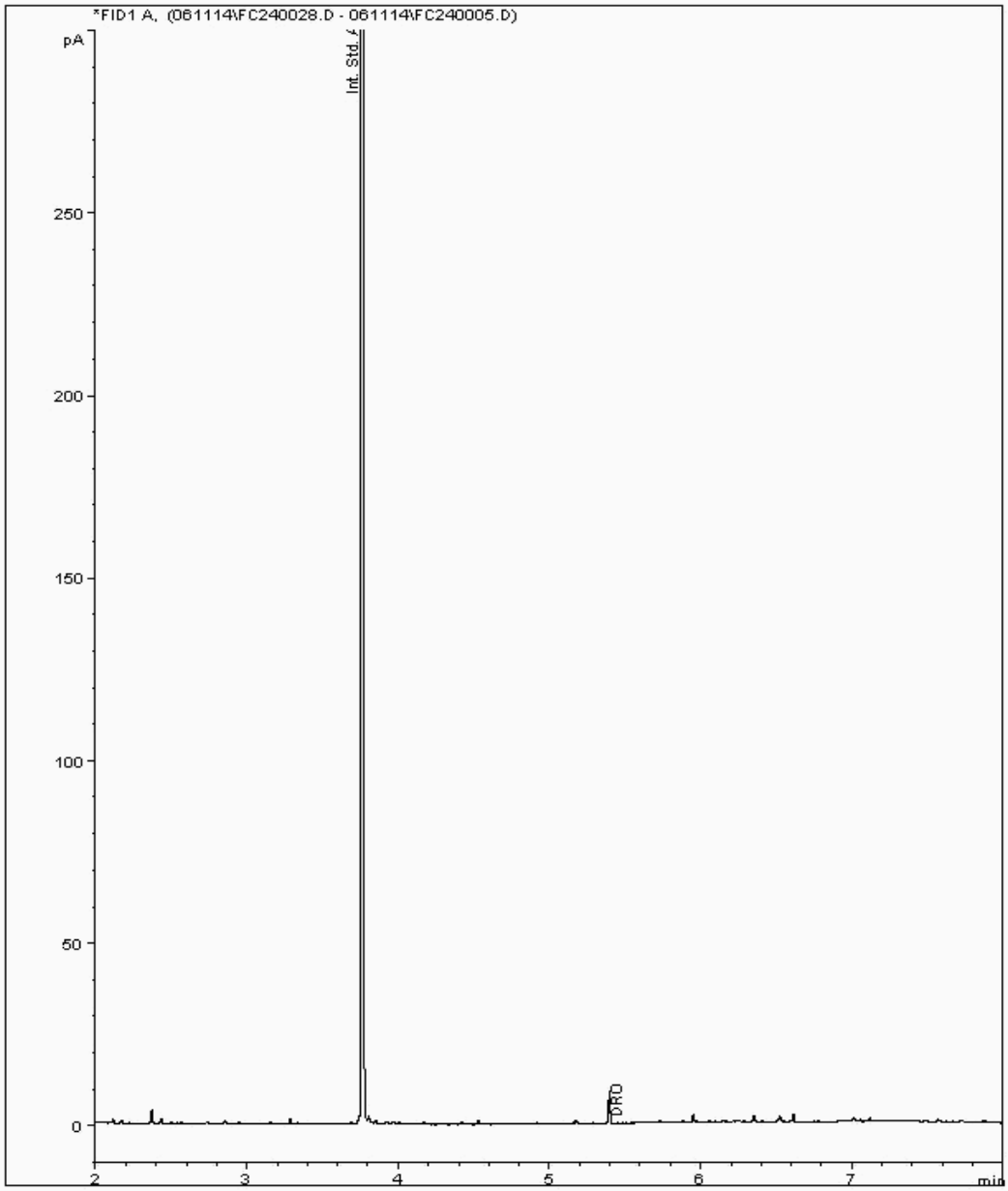
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403104
Sample ID : BH01 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928477-9403104
Date Acquired : 12/06/2014 01:23:03 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

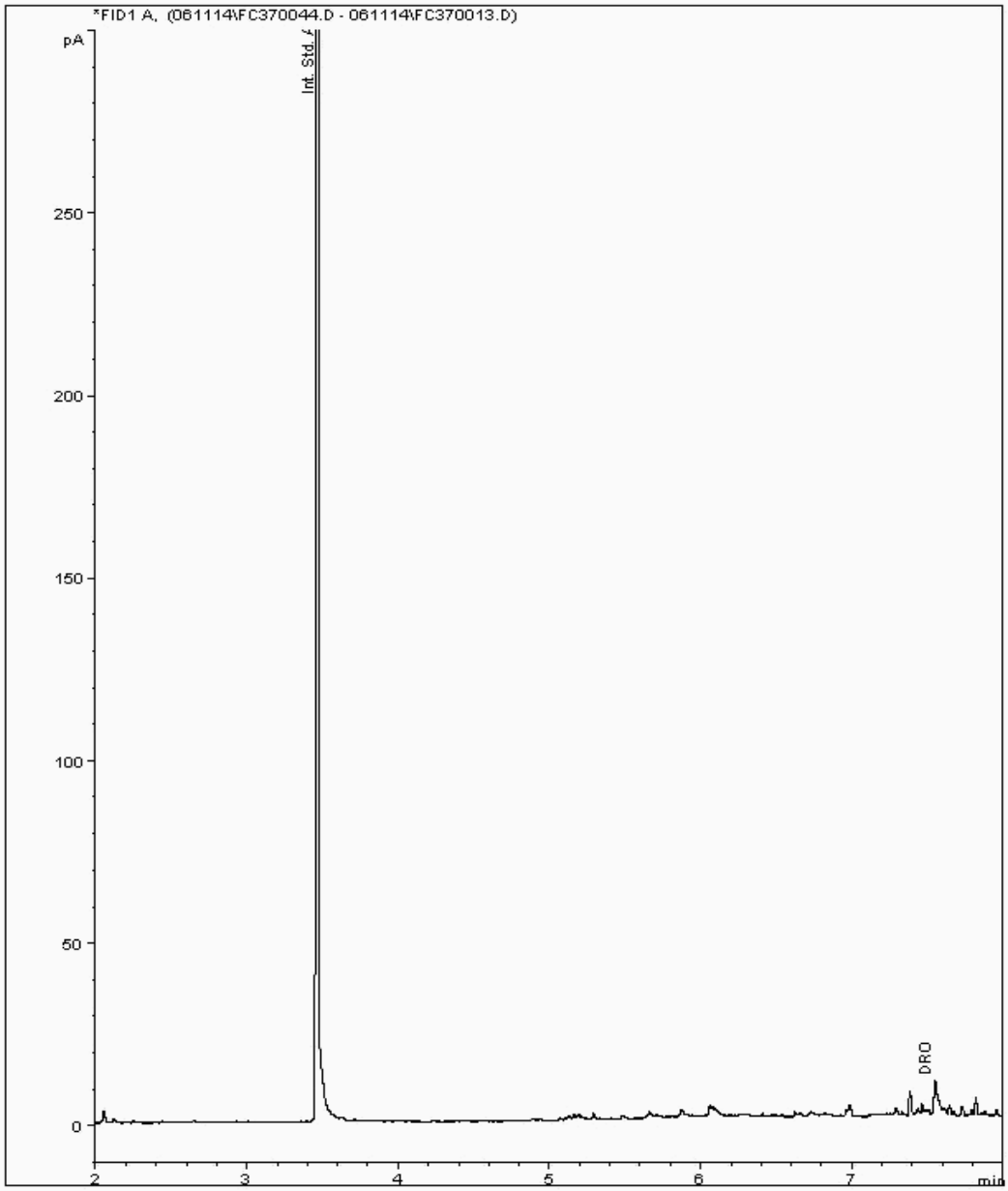
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403113
Sample ID : BH44

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928519-9403113
Date Acquired : 12/06/2014 05:51:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

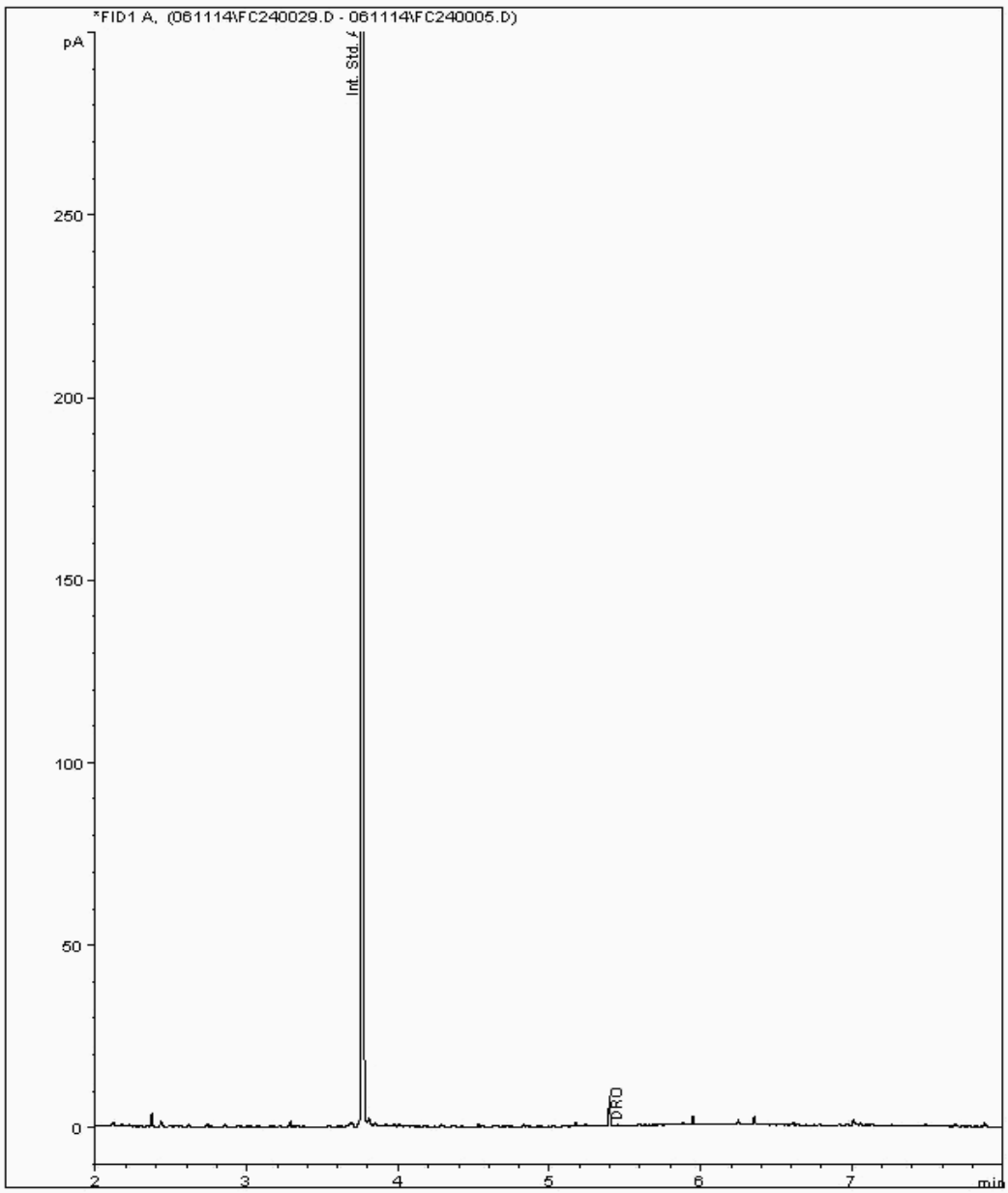
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9403120
Sample ID : BH01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928474-9403120
Date Acquired : 12/06/2014 01:46:10 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

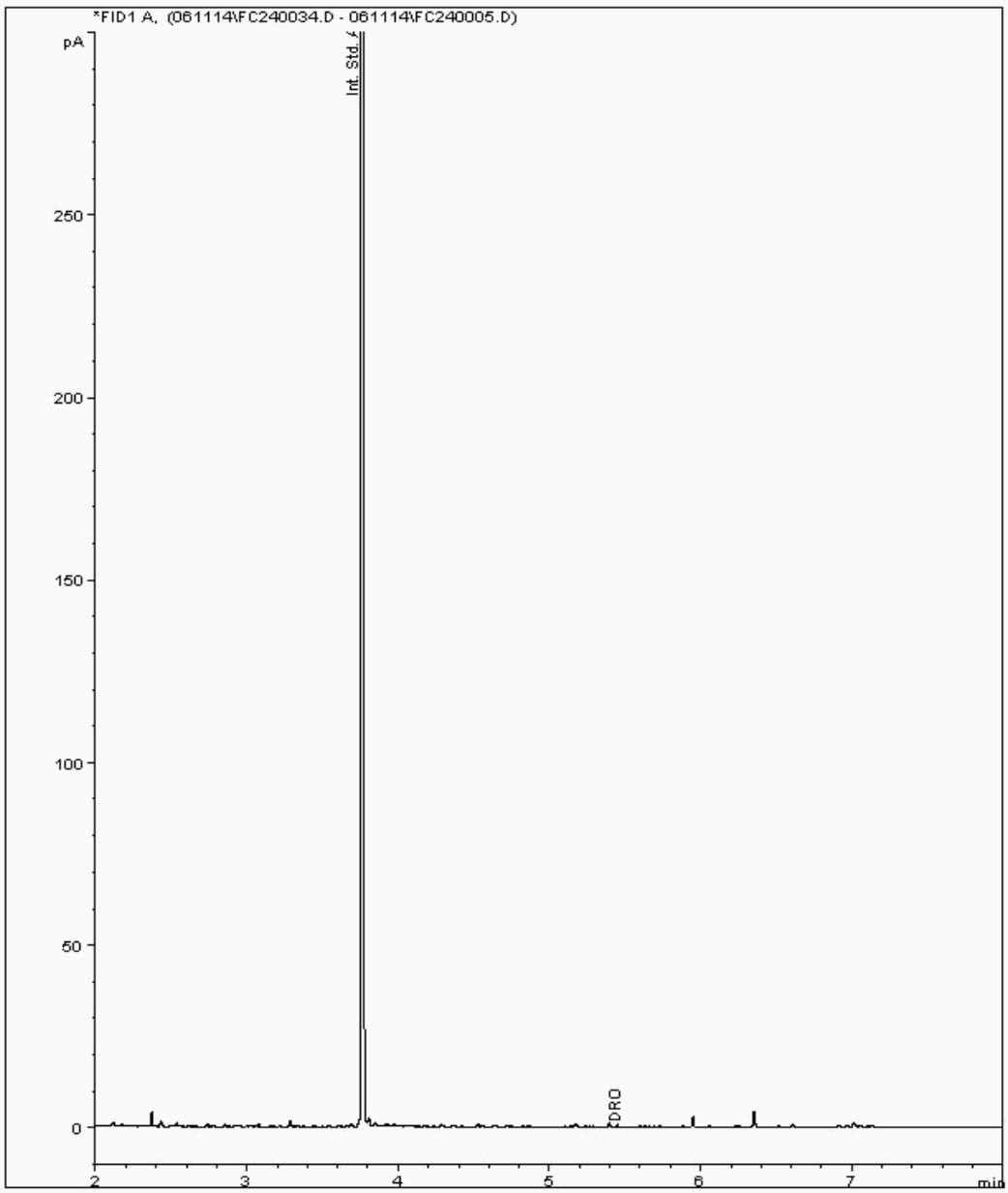
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407598
Sample ID : BH26 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928502-9407598
Date Acquired : 12/06/2014 03:42:17 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

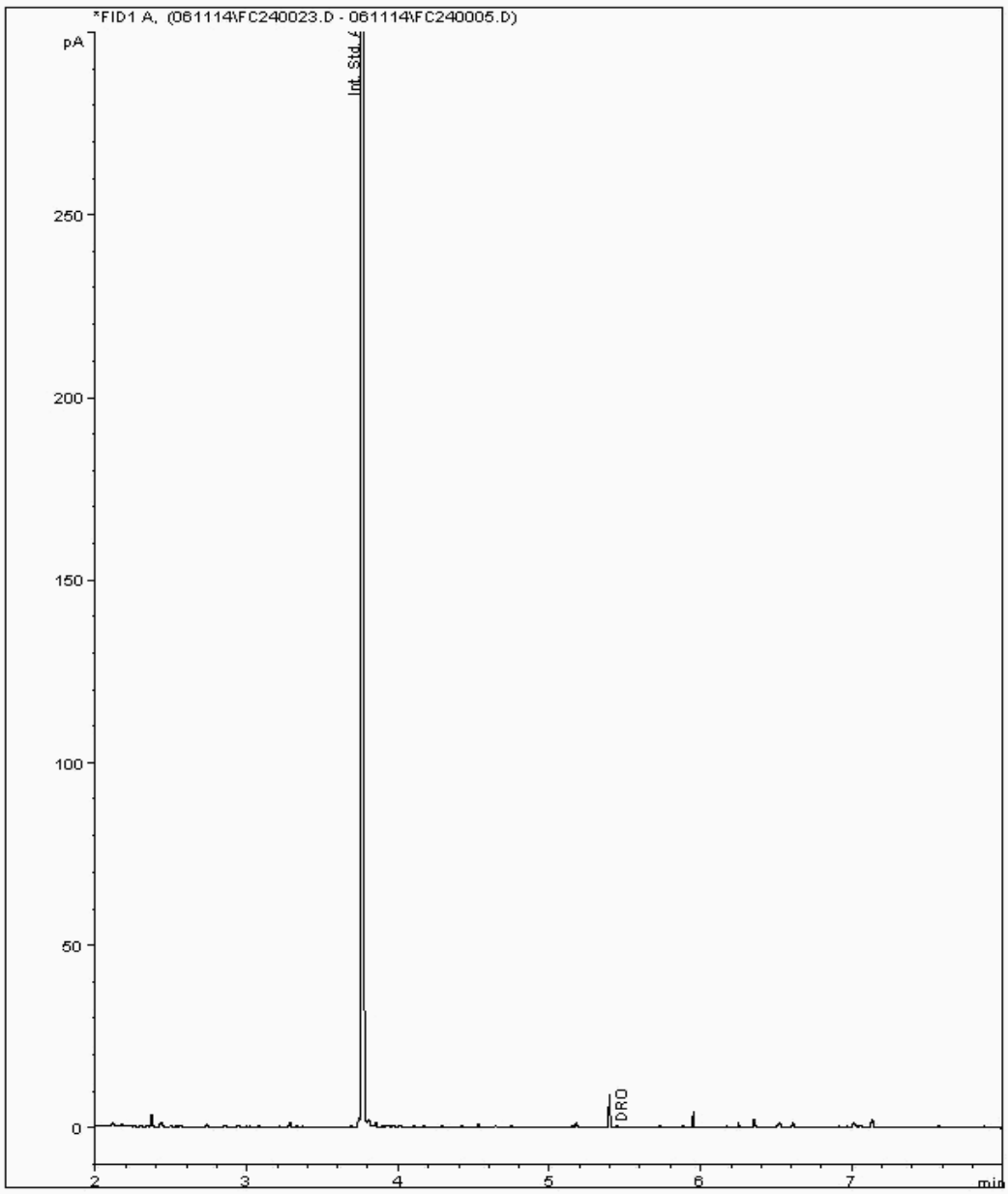
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407602
Sample ID : BH26

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928498-9407602
Date Acquired : 11/06/2014 23:27:03 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

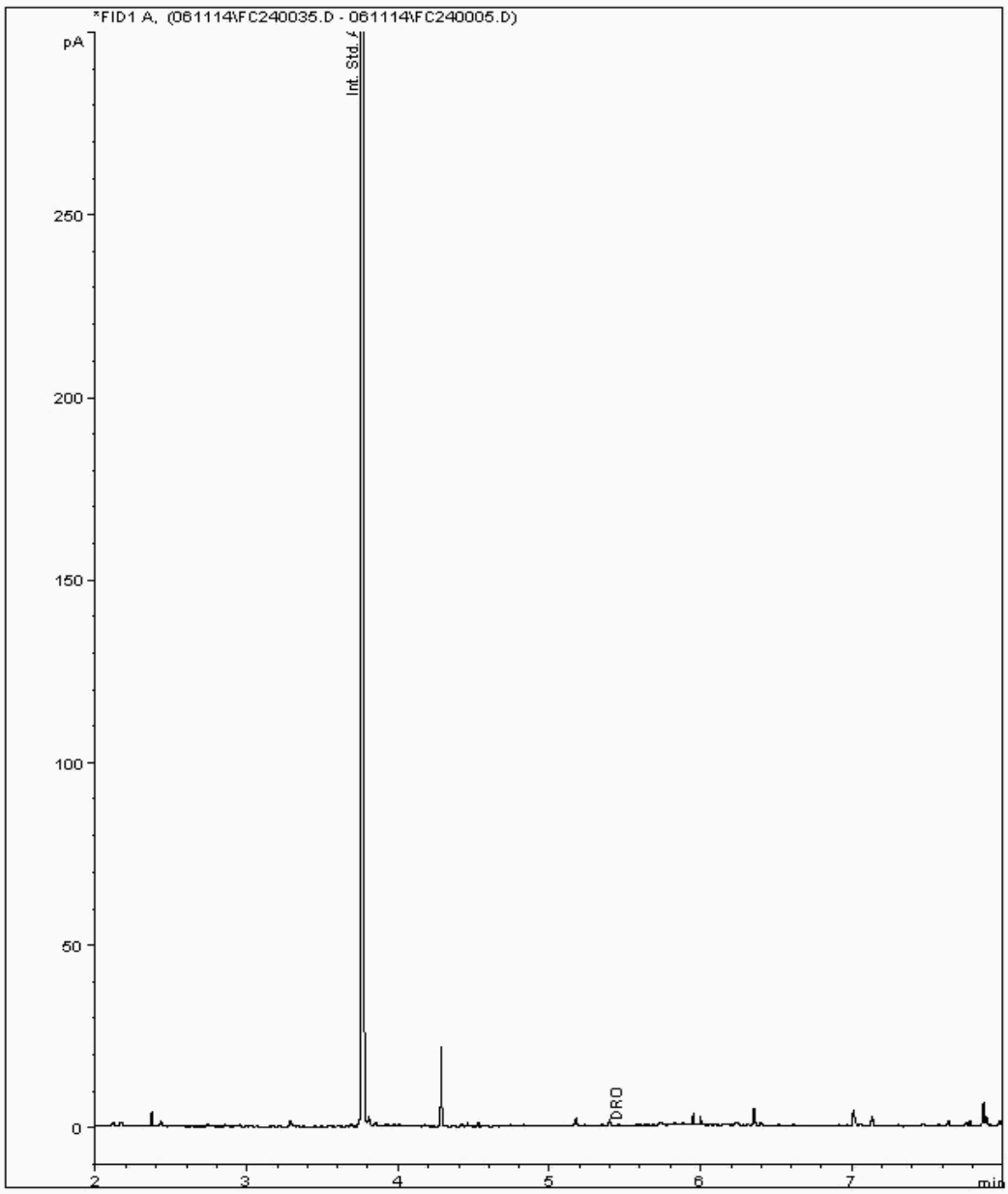
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407613
Sample ID : BH63A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928545-9407613
Date Acquired : 12/06/2014 04:05:26 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

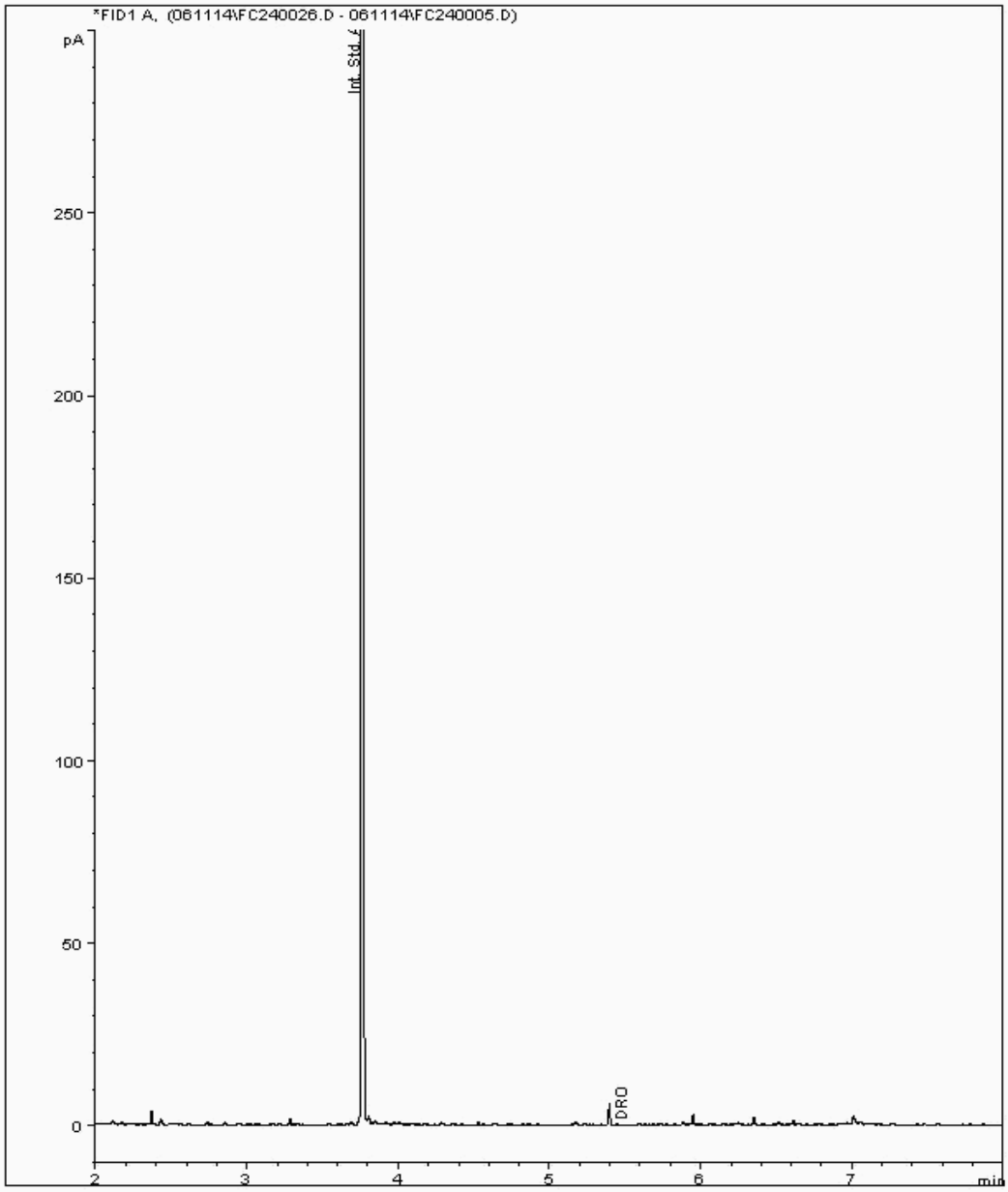
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407615
Sample ID : BH22

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928492-9407615
Date Acquired : 12/06/2014 00:36:38 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

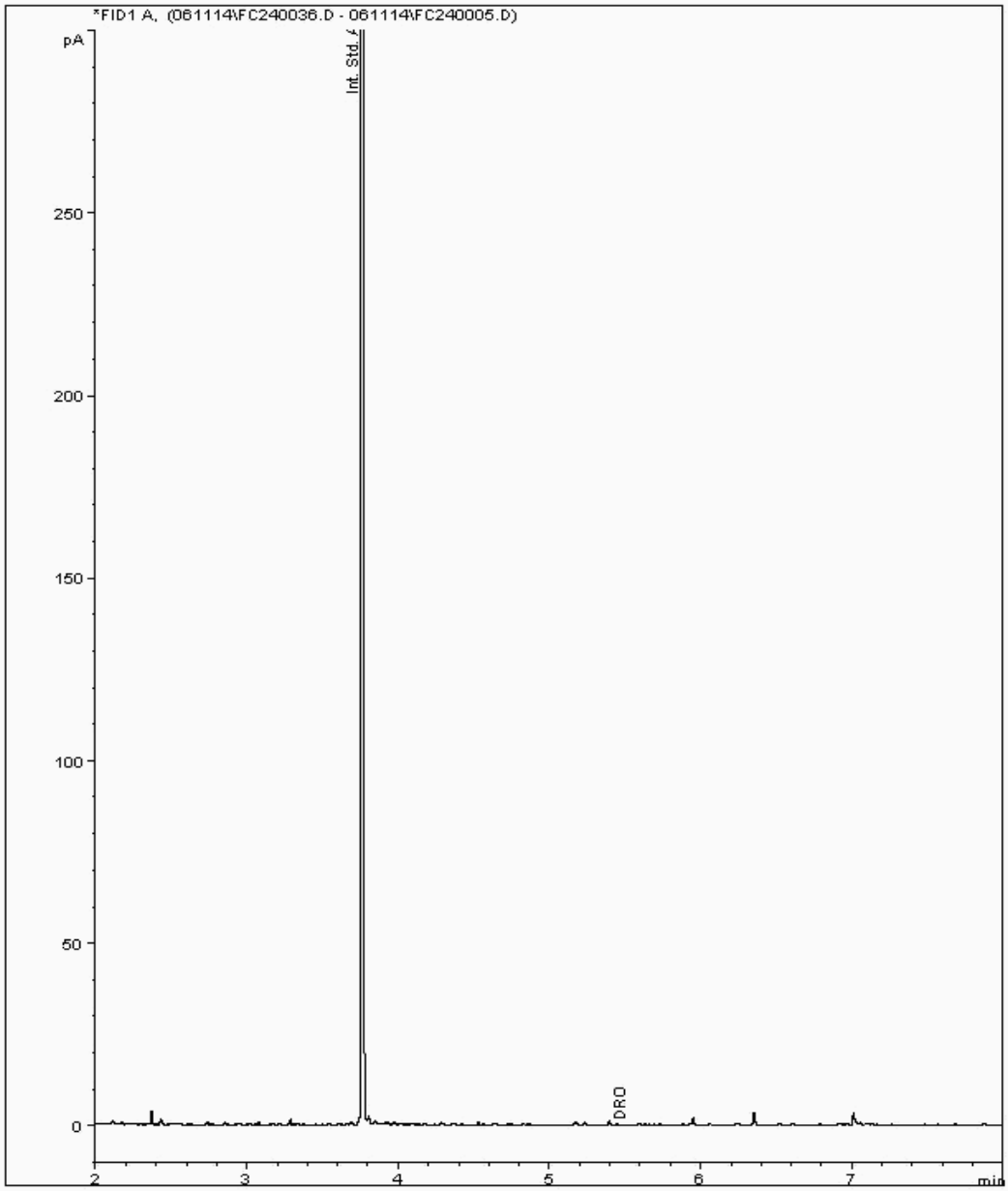
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407616
Sample ID : BH22 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928495-9407616
Date Acquired : 12/06/2014 04:28:35 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

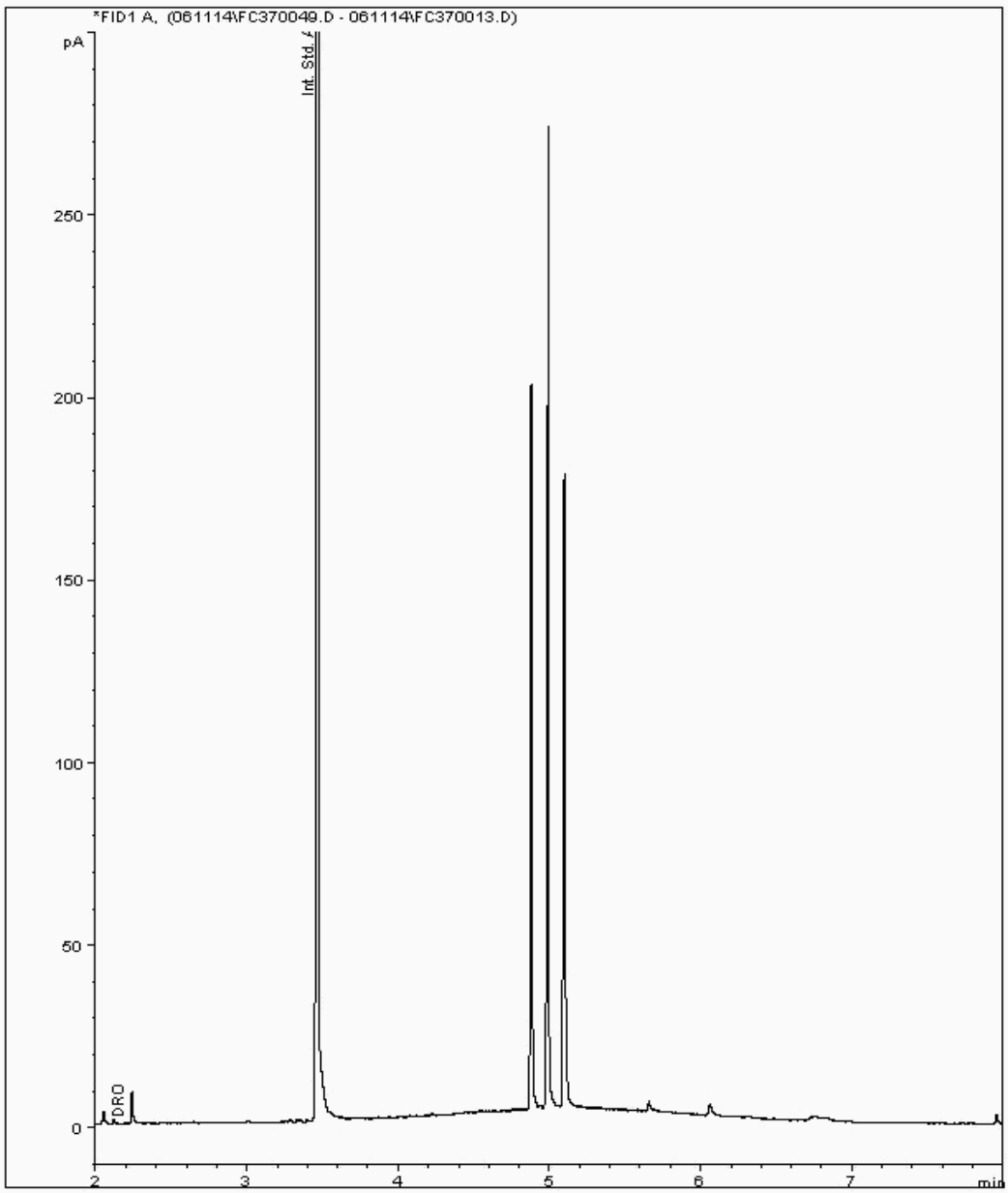
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407618
Sample ID : BH18

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928483-9407618
Date Acquired : 12/06/2014 07:42:42 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

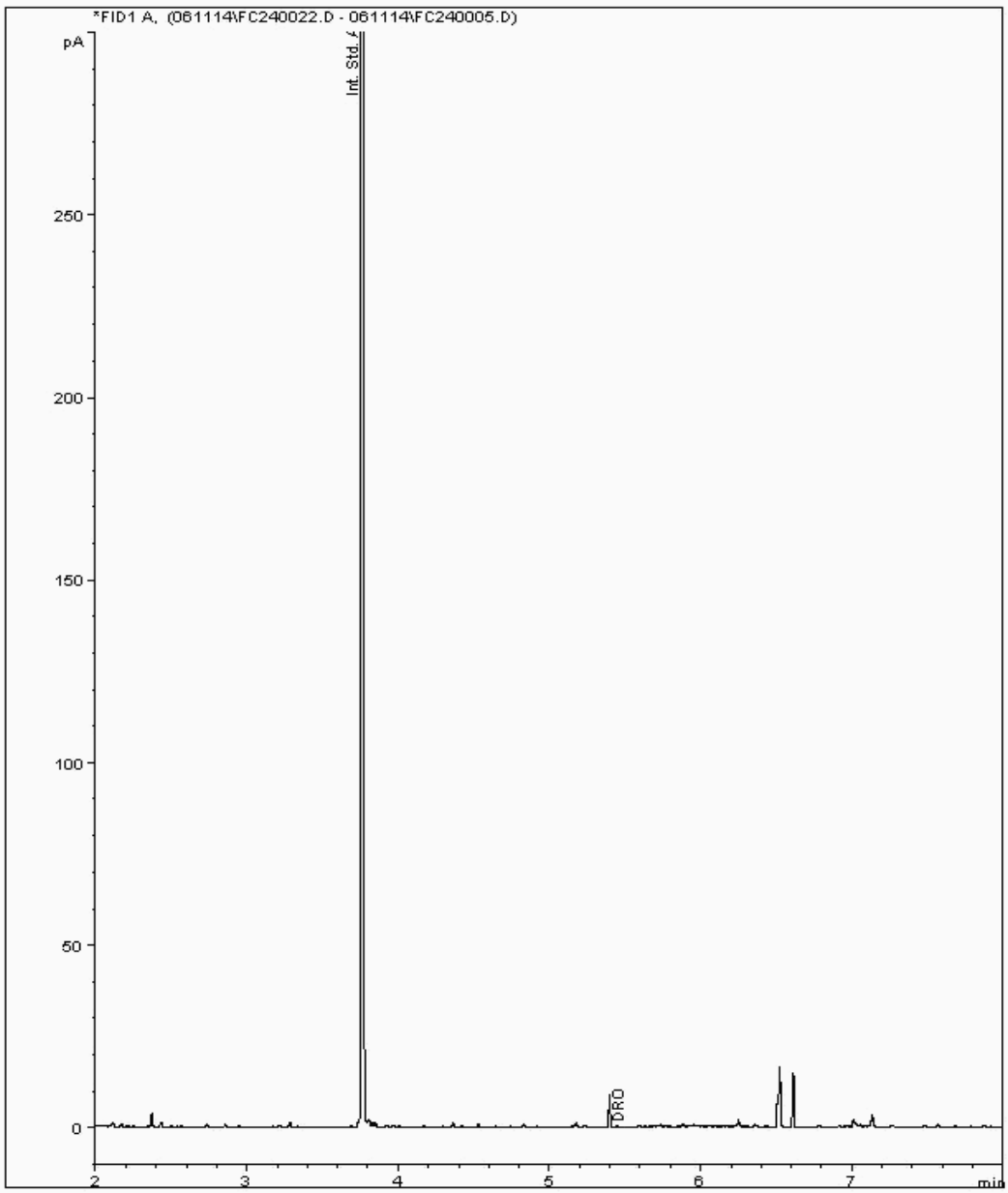
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407625
Sample ID : BH59

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928535-9407625
Date Acquired : 11/06/2014 23:04:02 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

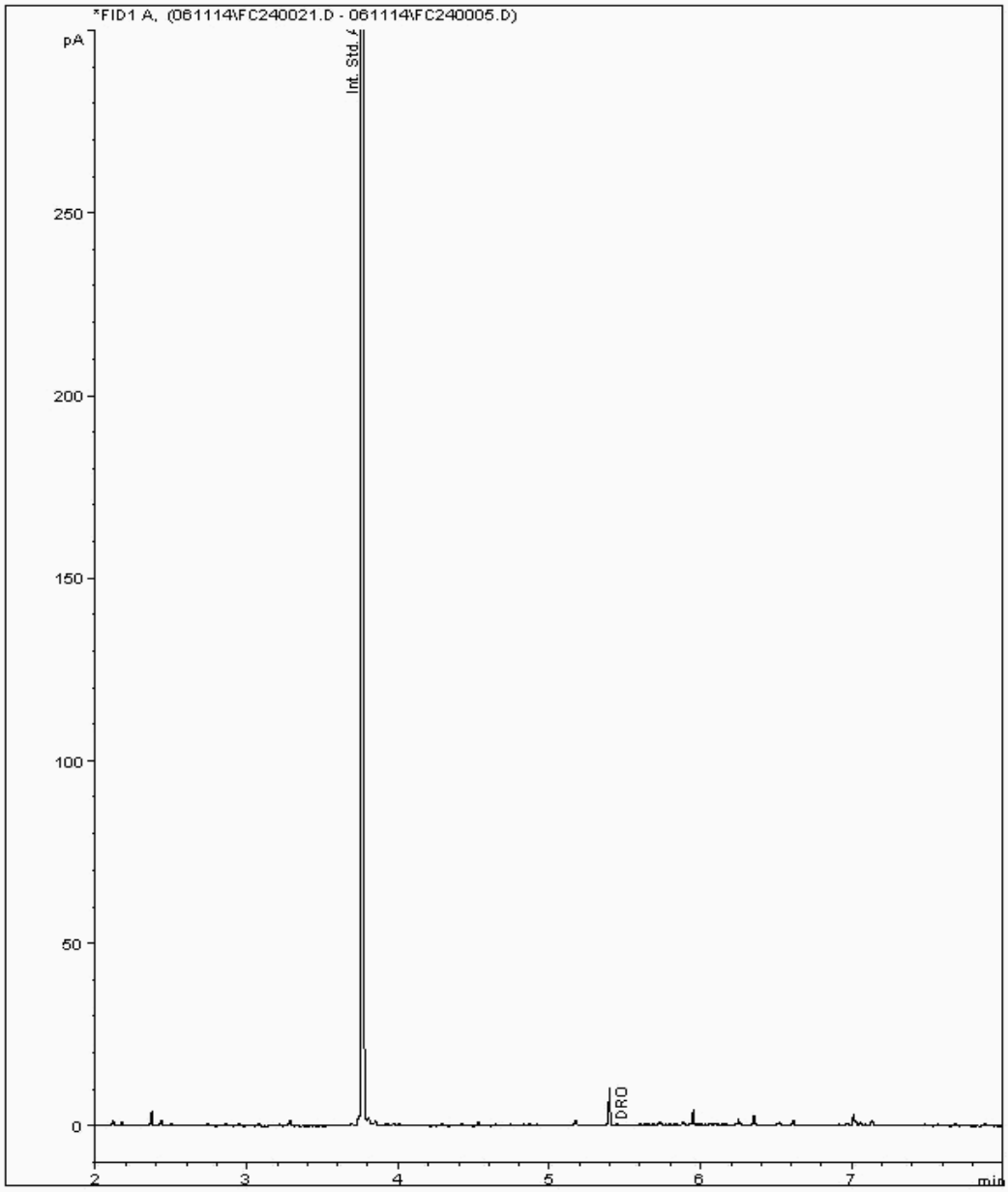
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407632
Sample ID : BH59 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928540-9407632
Date Acquired : 11/06/2014 22:40:50 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

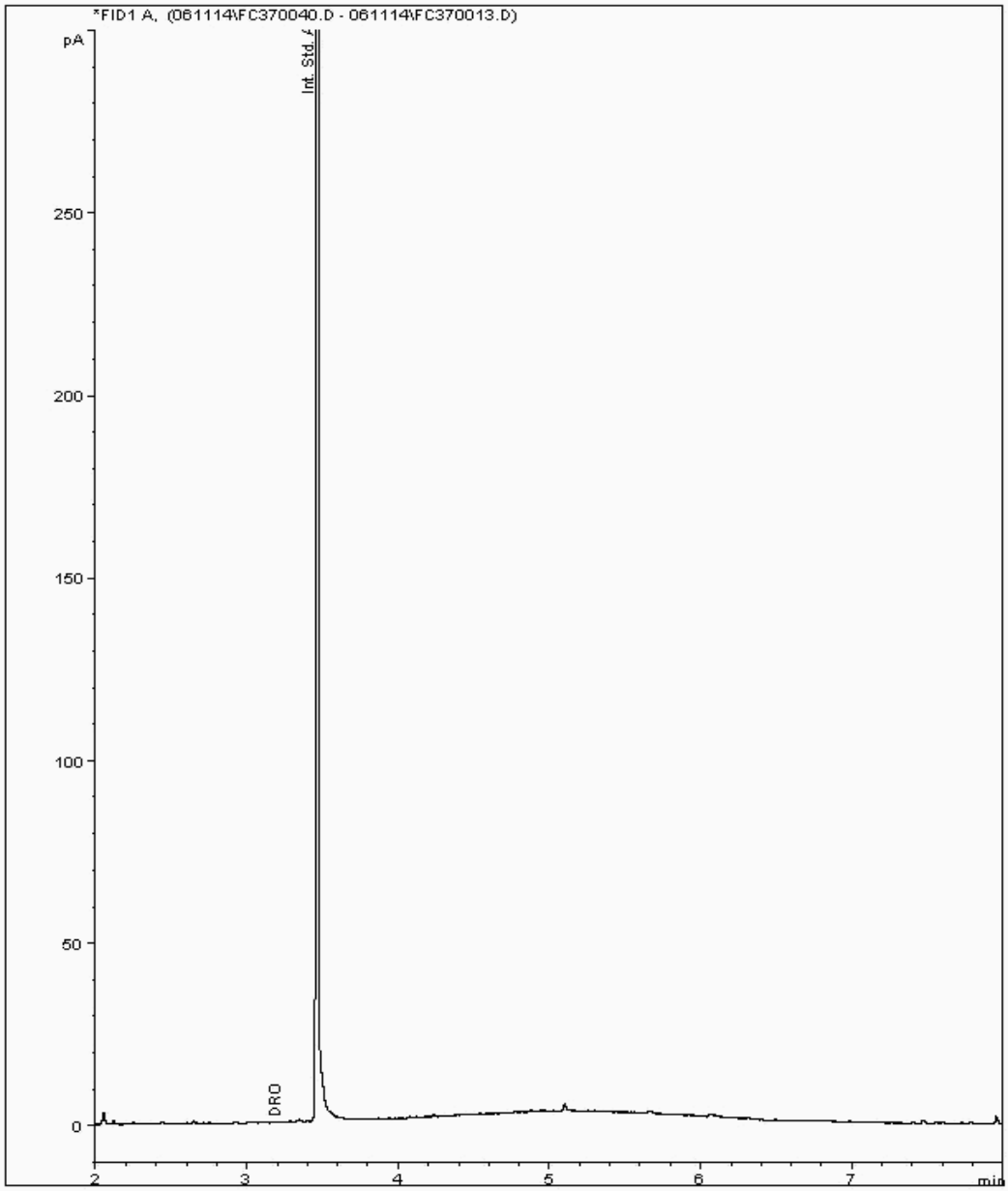
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9407635
Sample ID : BH18 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8928489-9407635
Date Acquired : 12/06/2014 04:18:54 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

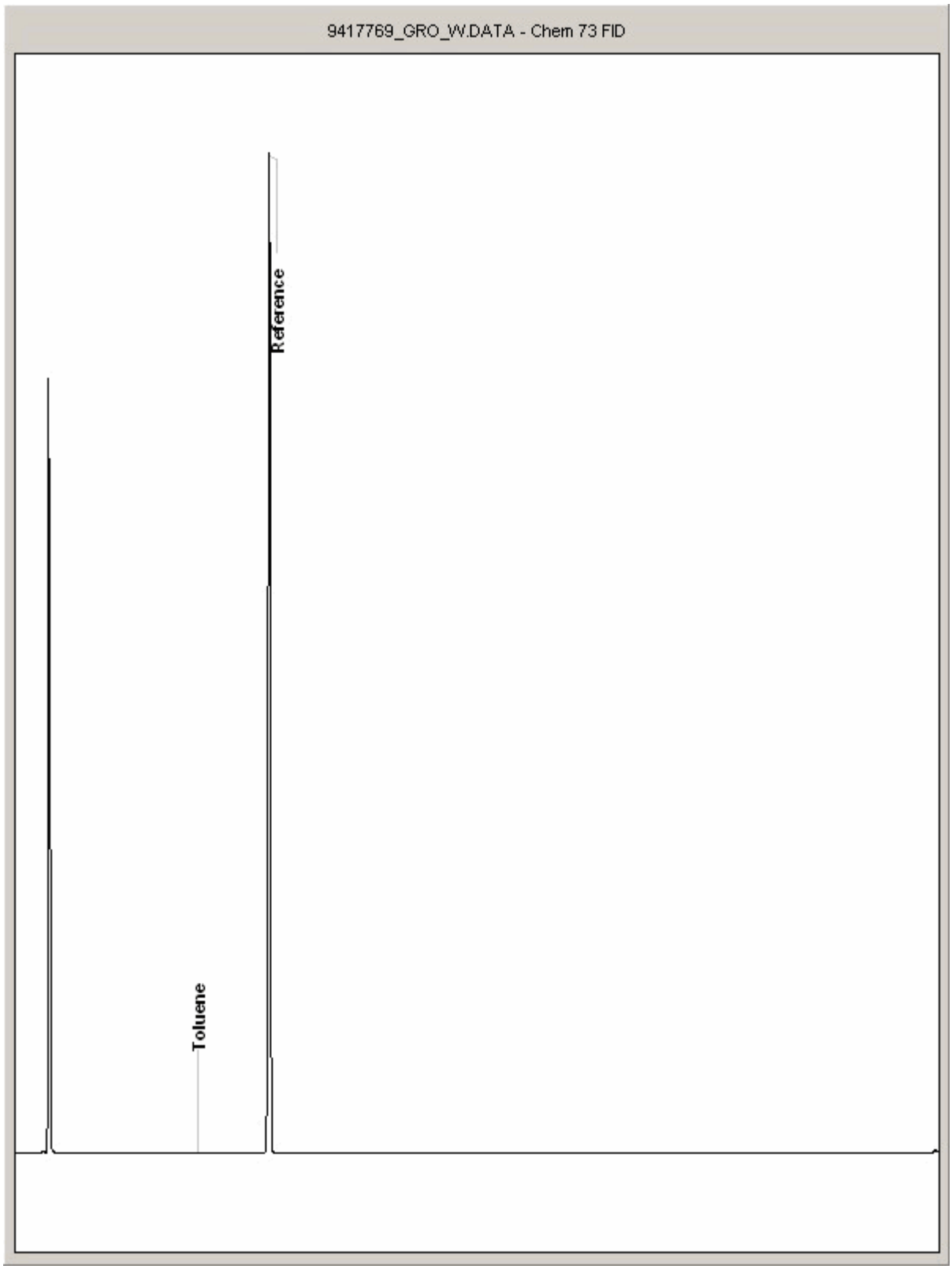
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9417769
Sample ID : BH55

Depth :



CERTIFICATE OF ANALYSIS

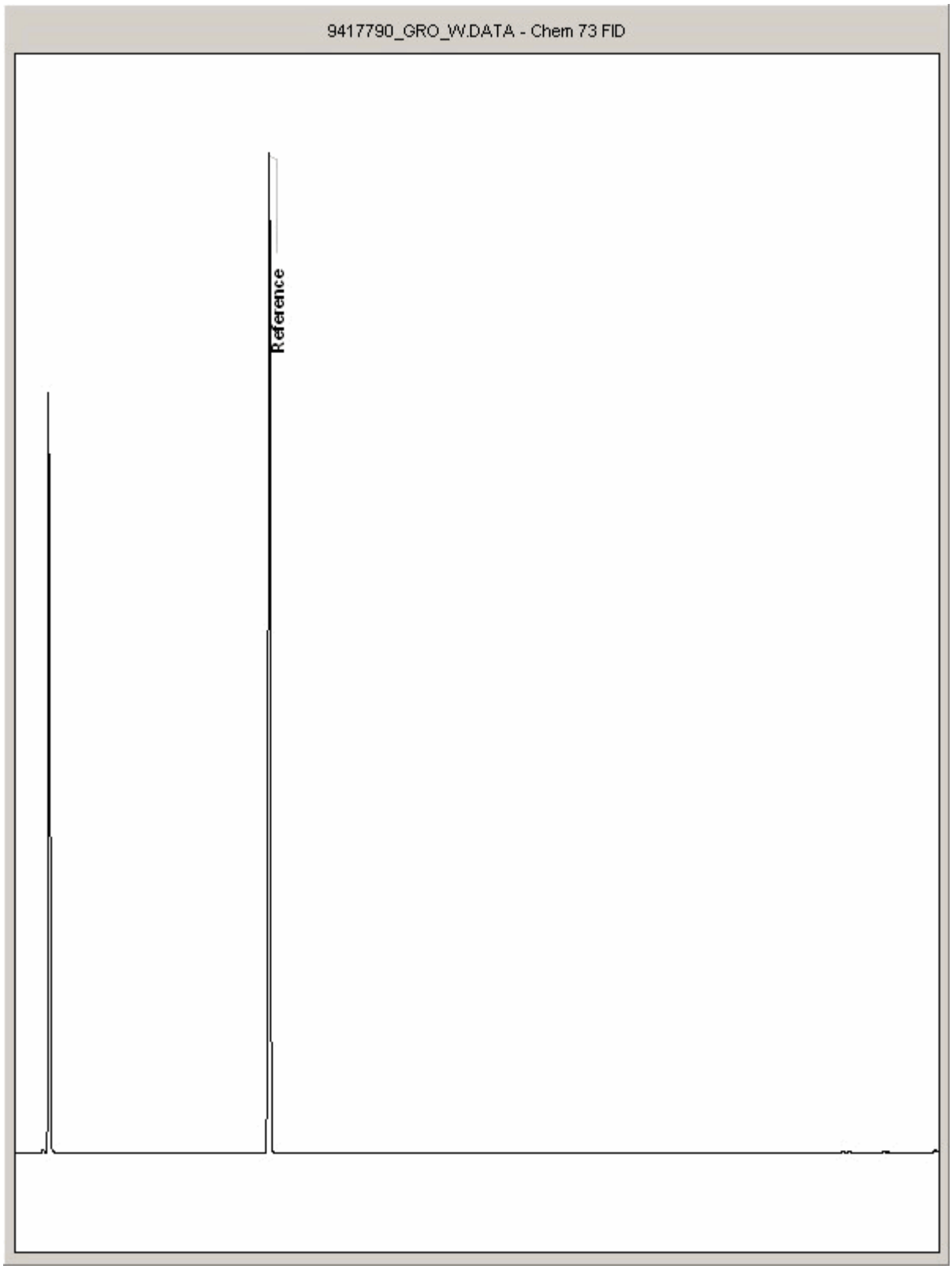
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9417790
Sample ID : BH55 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

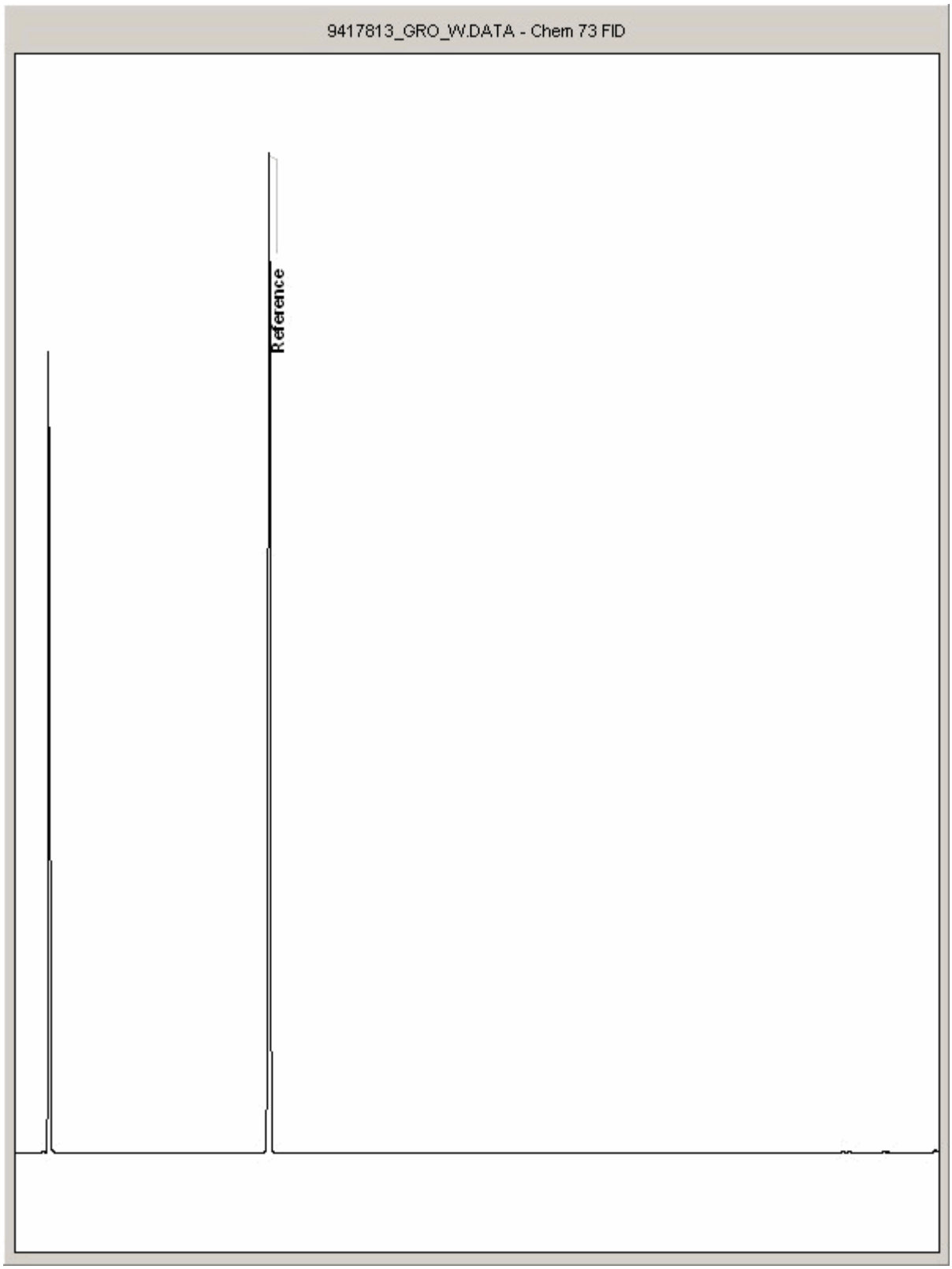
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9417813
Sample ID : BH59

Depth :



CERTIFICATE OF ANALYSIS

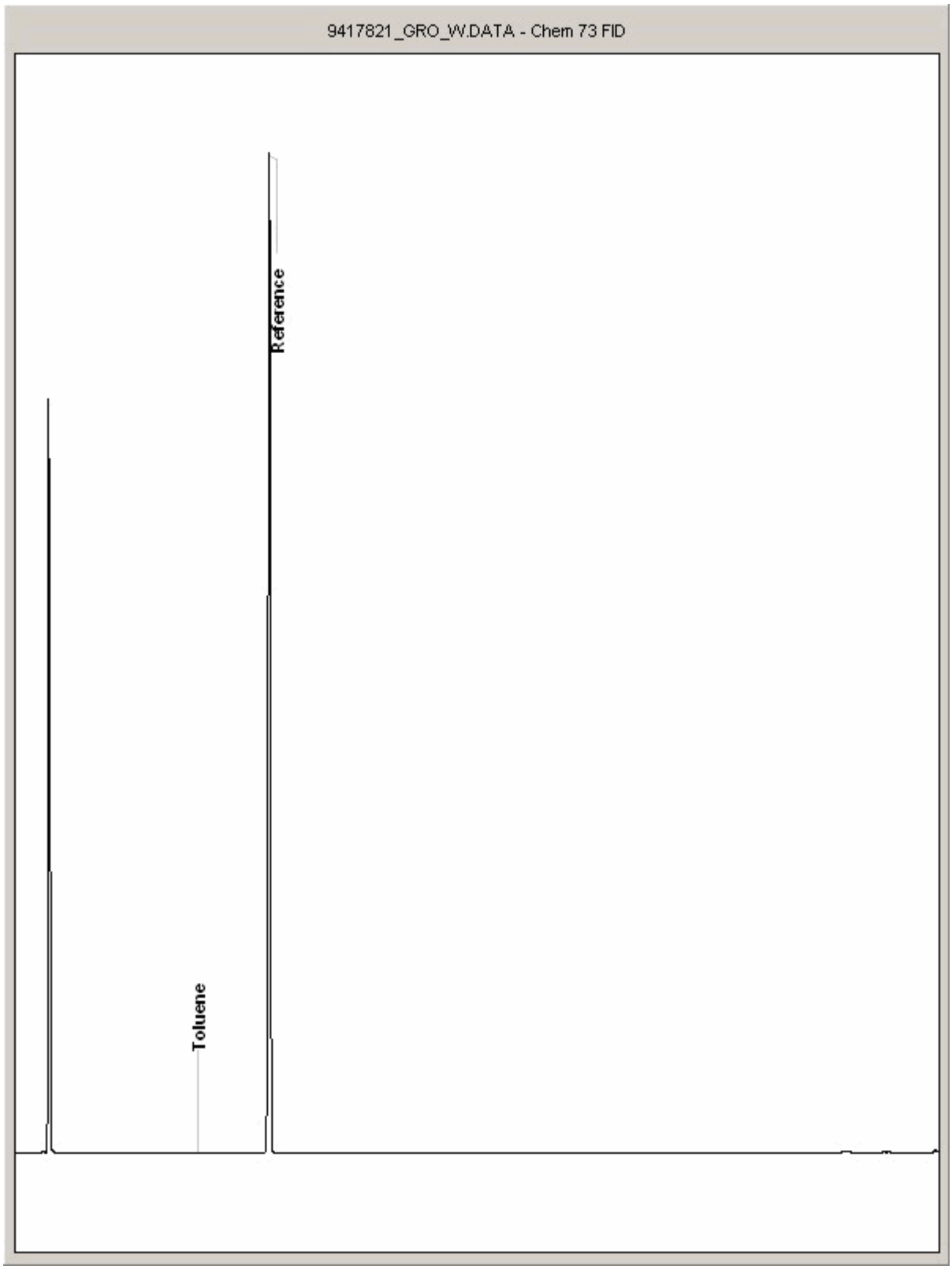
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9417821
Sample ID : BH59 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

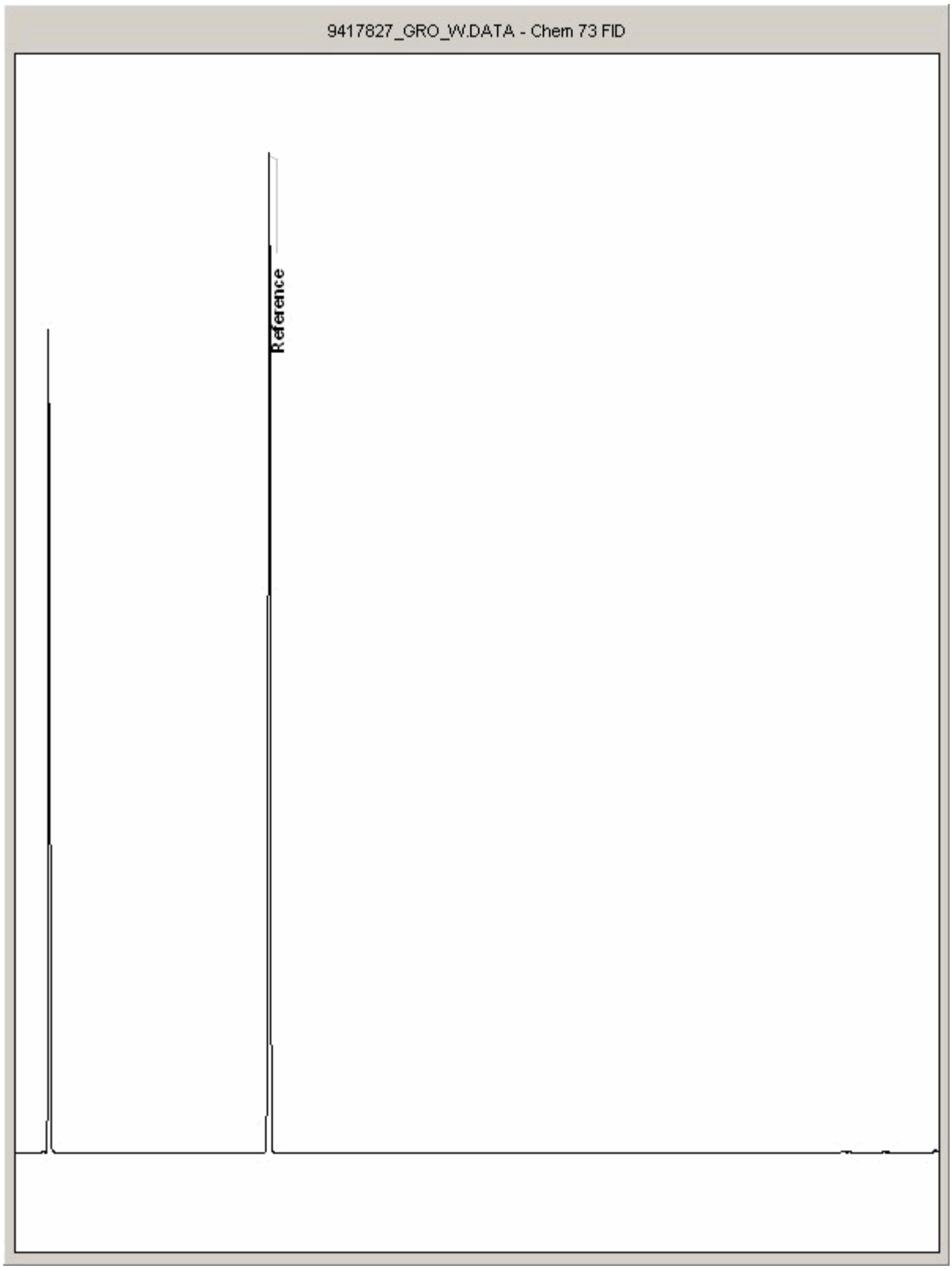
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9417827
Sample ID : BH63A

Depth :



CERTIFICATE OF ANALYSIS

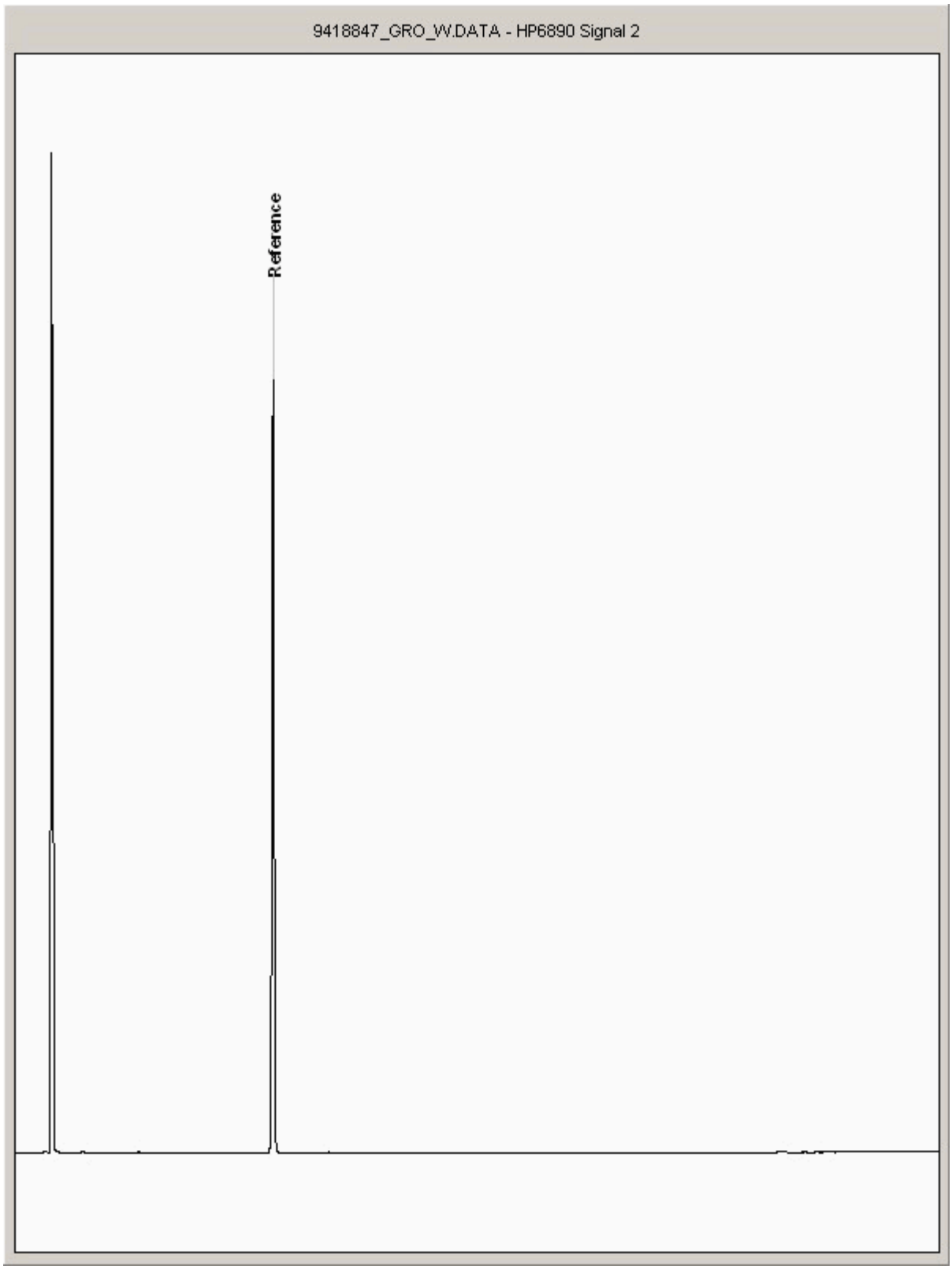
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418847
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

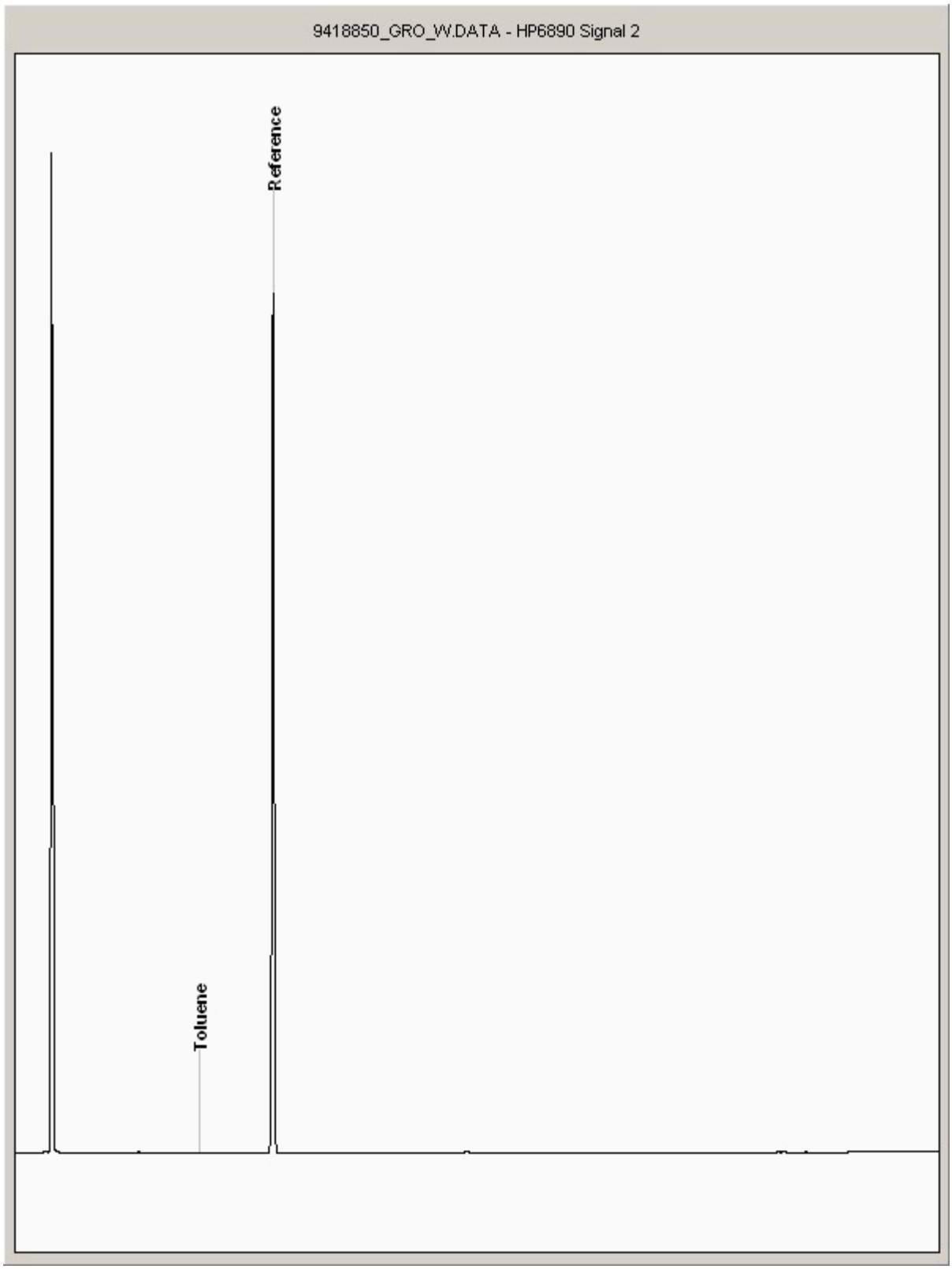
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418850
Sample ID : BH36B

Depth :



CERTIFICATE OF ANALYSIS

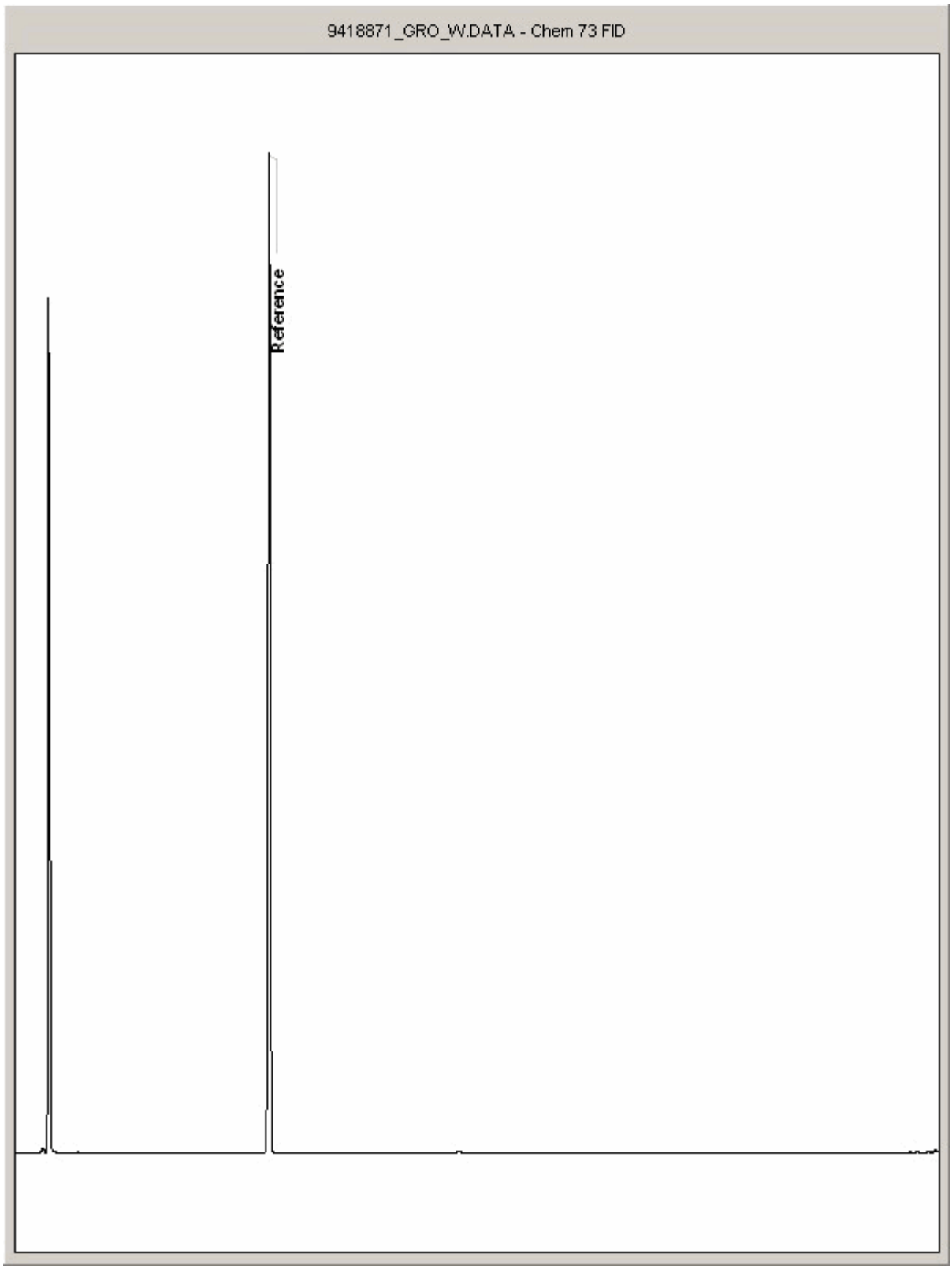
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418871
Sample ID : BH36B DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

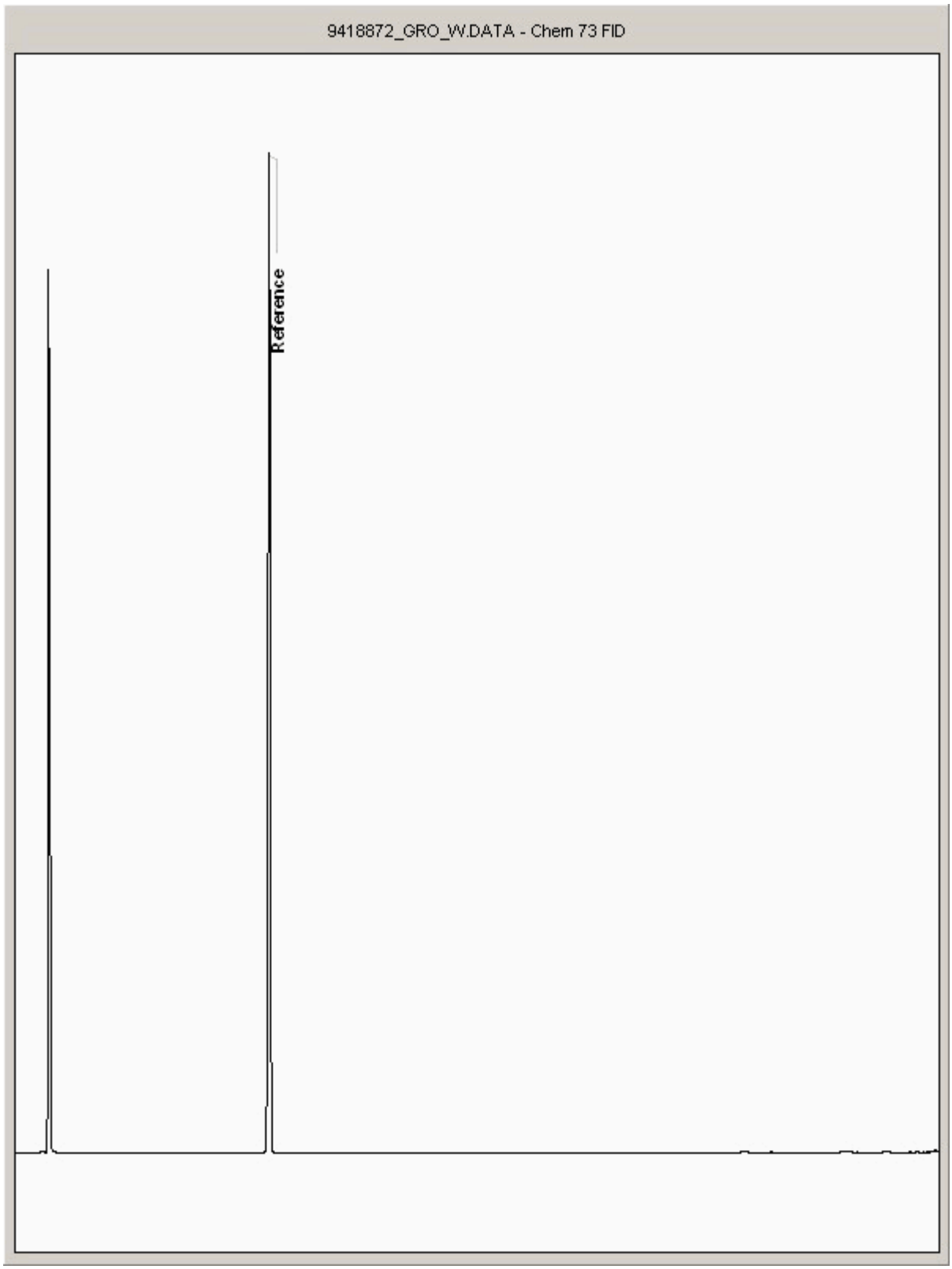
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418872
Sample ID : BH27A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

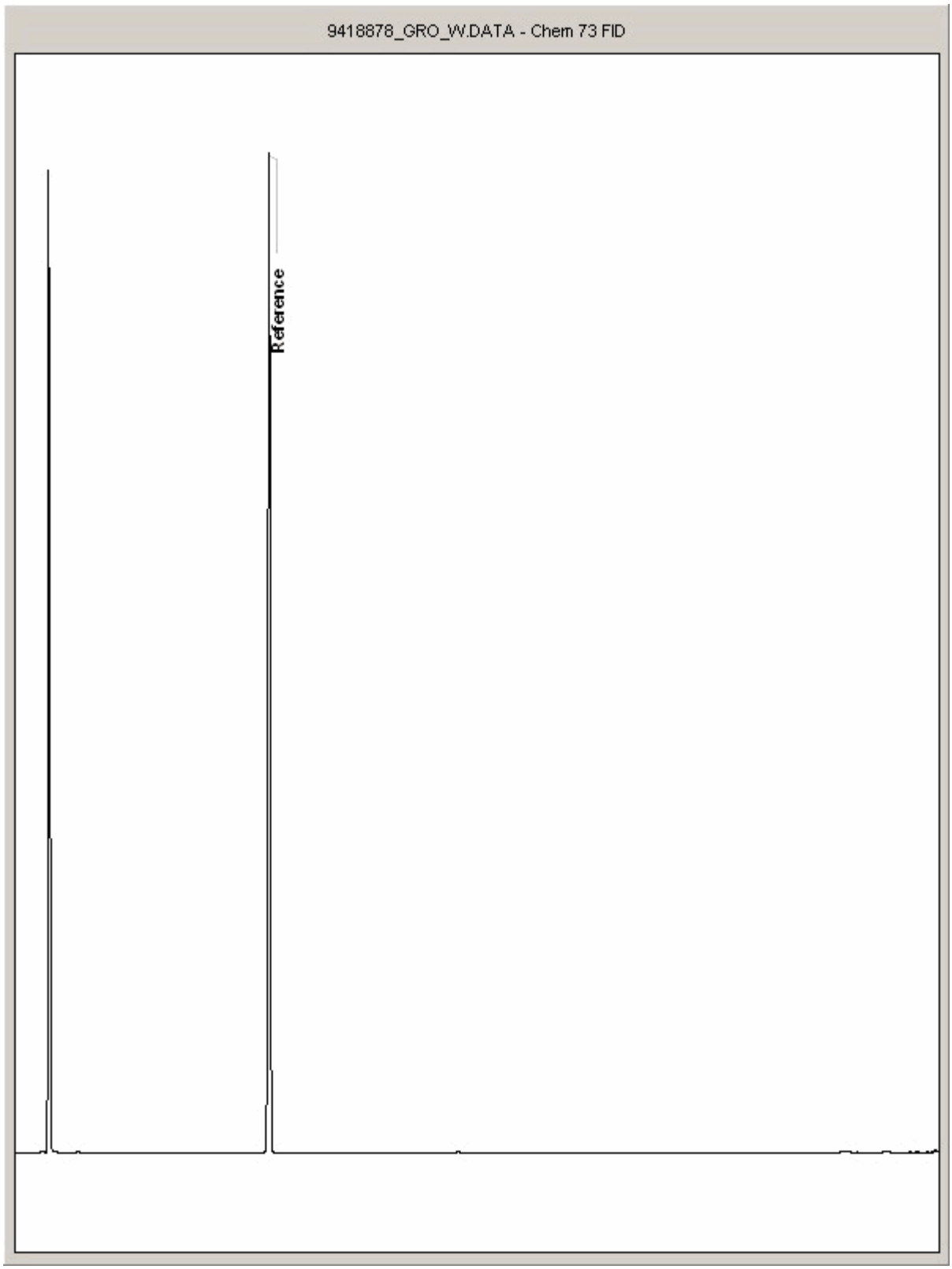
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418878
Sample ID : BH27A

Depth :



CERTIFICATE OF ANALYSIS

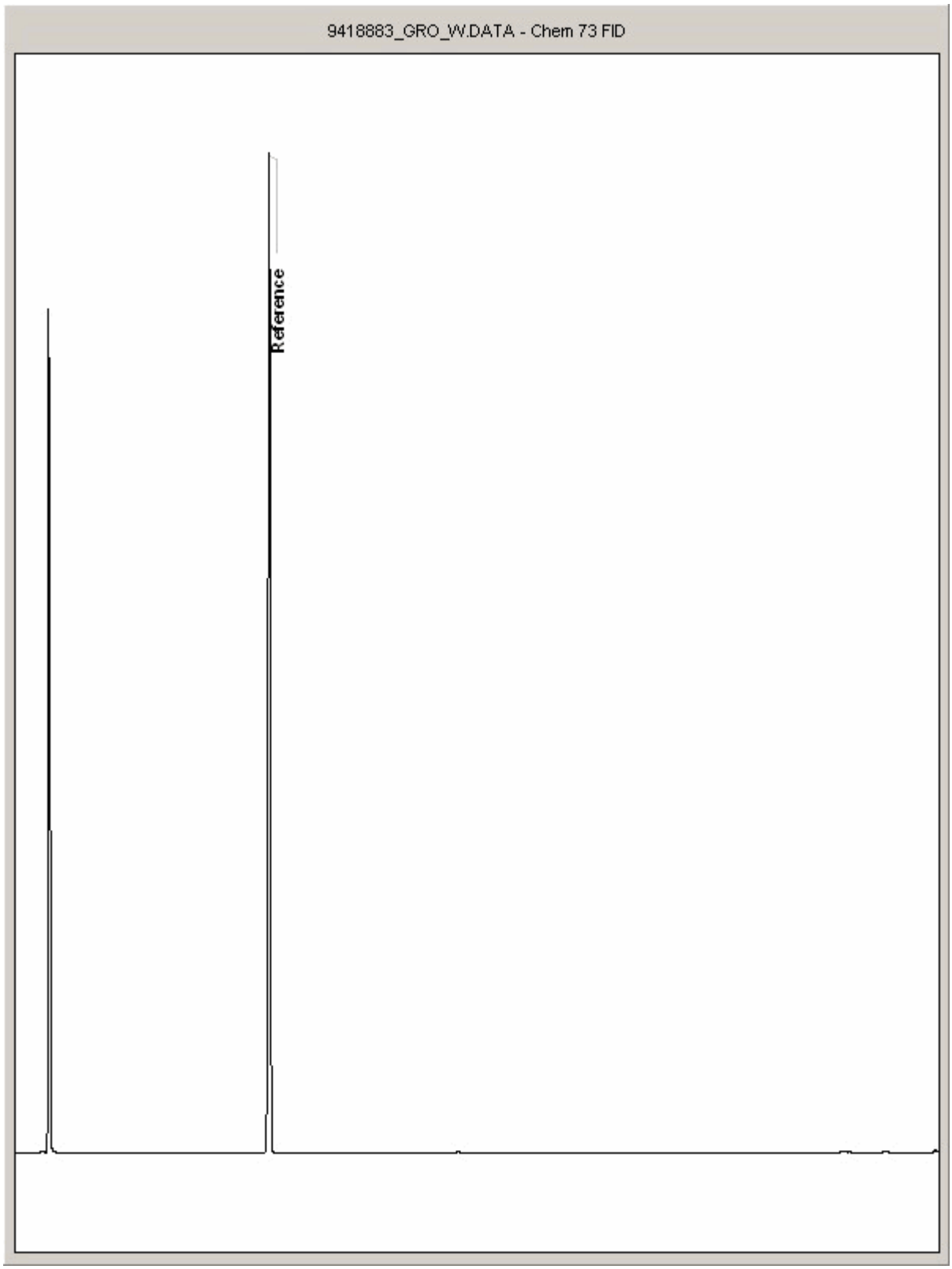
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418883
Sample ID : BH22

Depth :



CERTIFICATE OF ANALYSIS

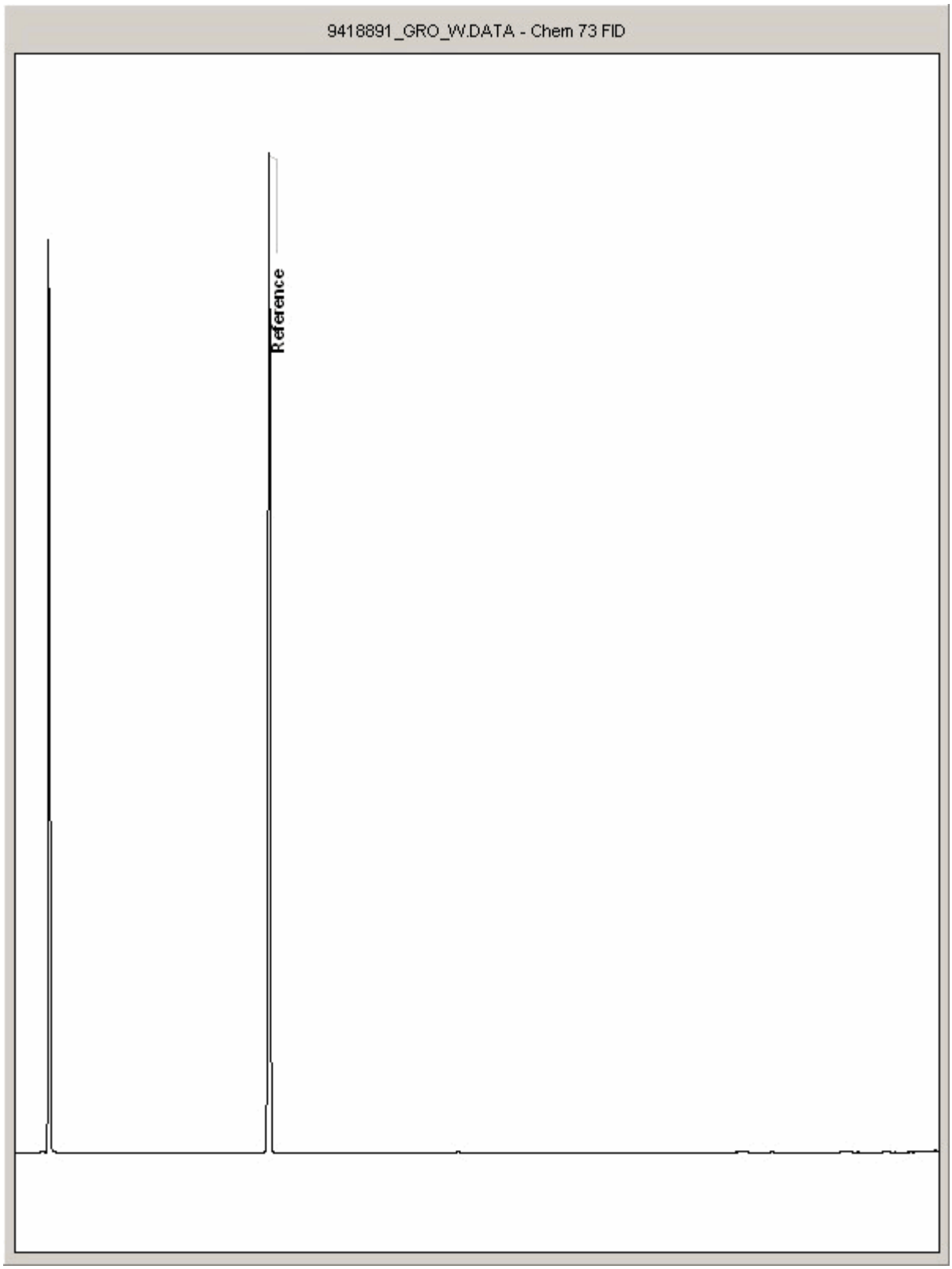
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418891
Sample ID : BH22 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

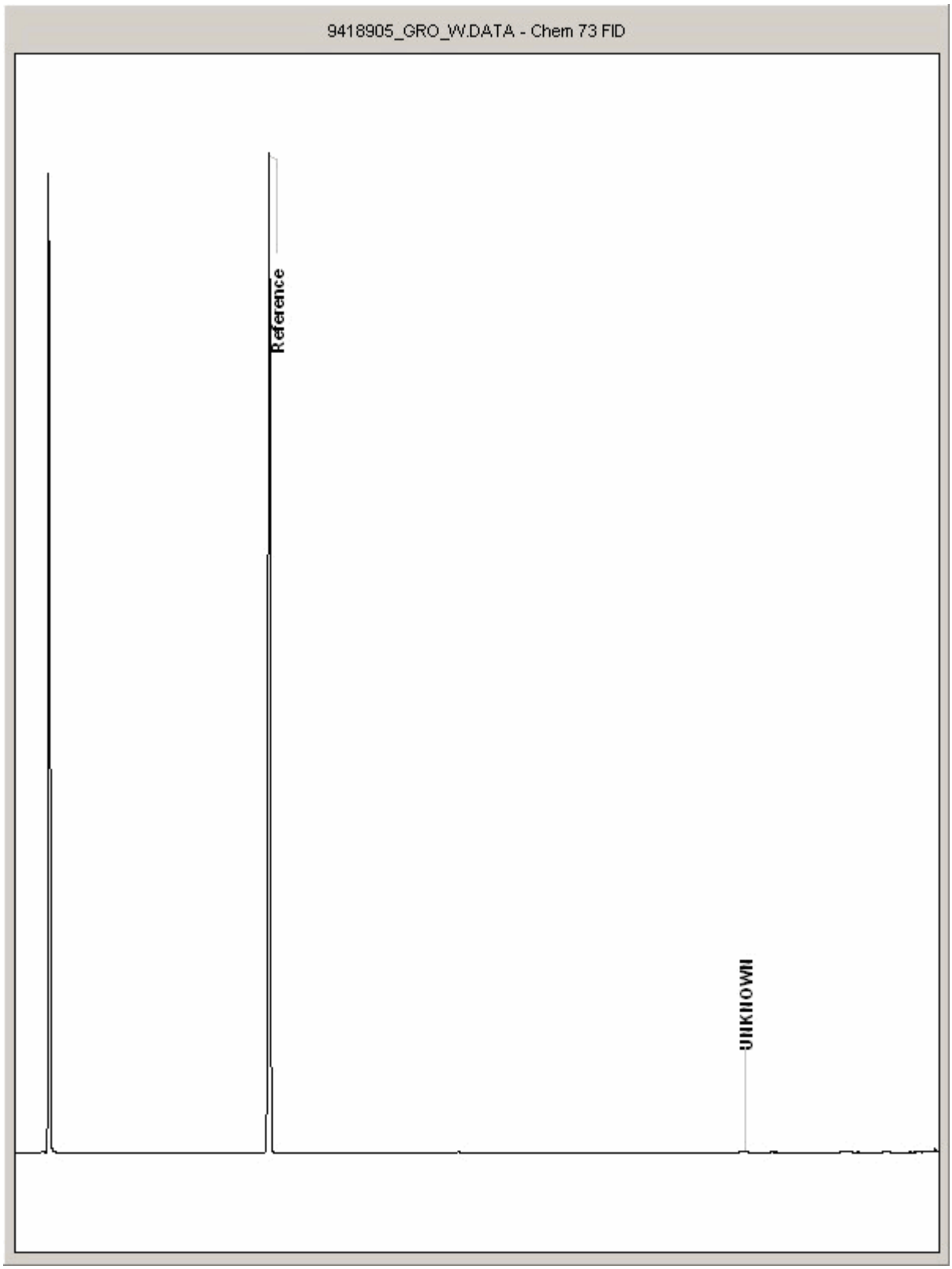
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418905
Sample ID : BH26

Depth :



CERTIFICATE OF ANALYSIS

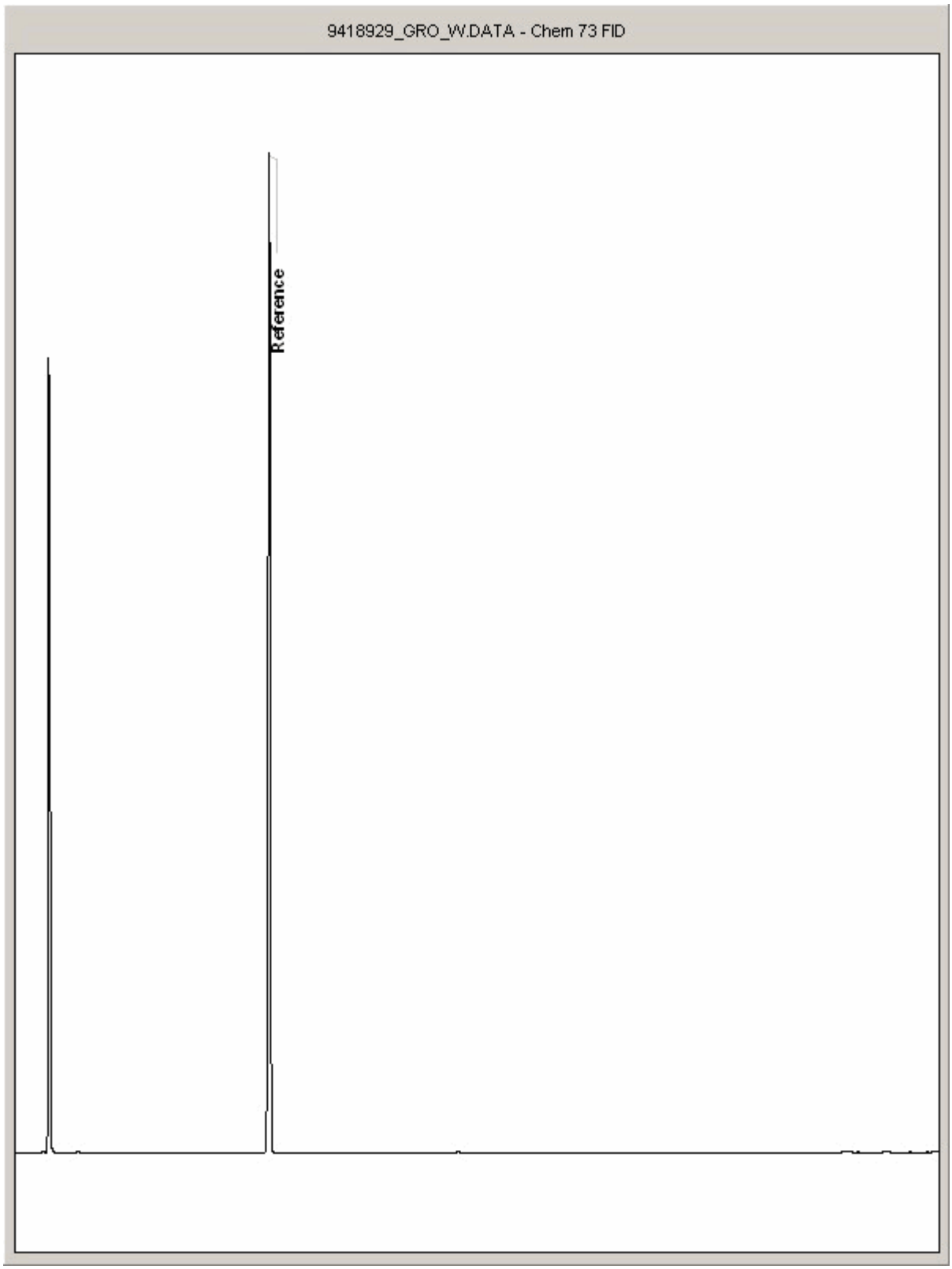
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418929
Sample ID : BH18

Depth :



CERTIFICATE OF ANALYSIS

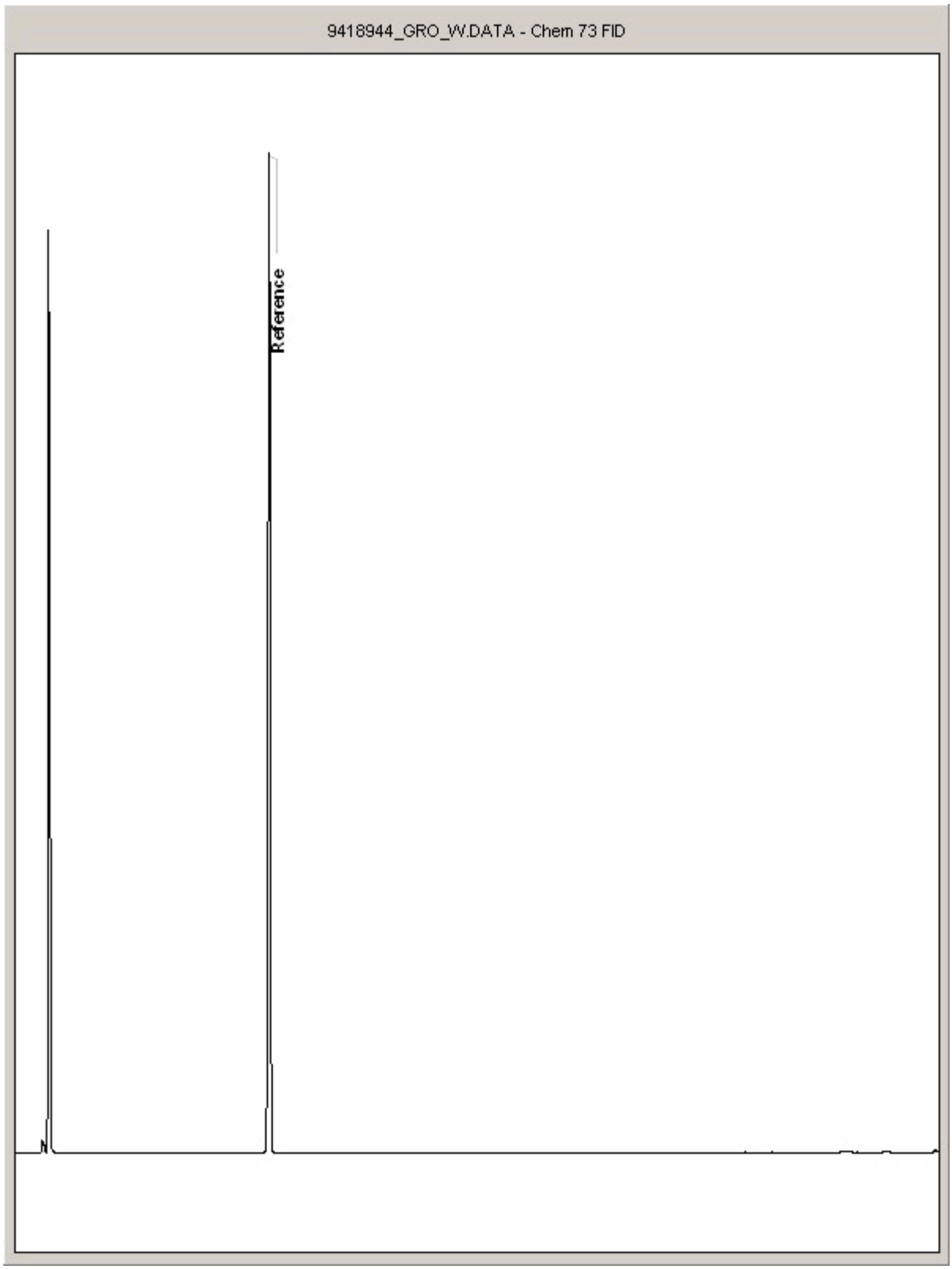
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418944
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

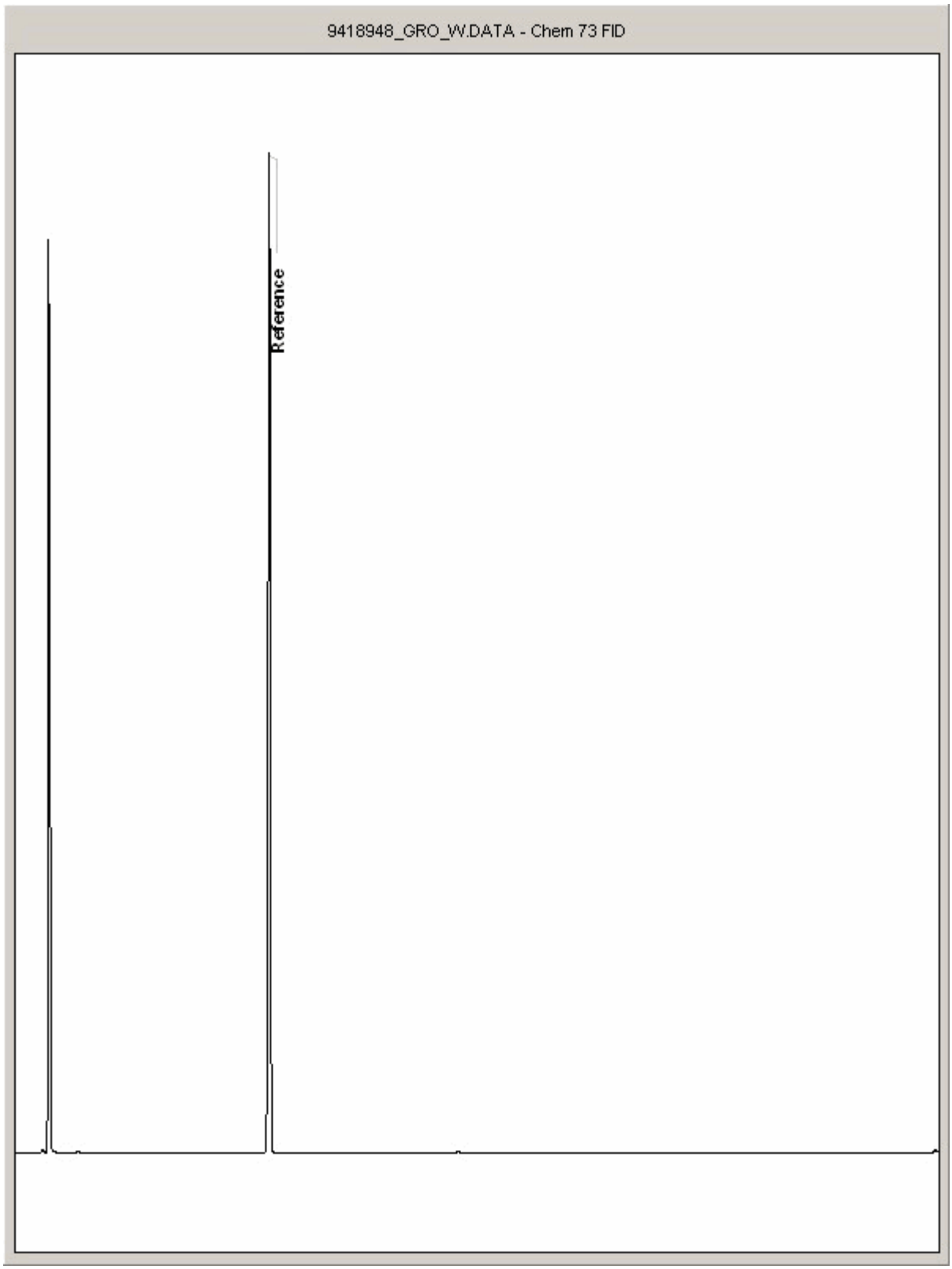
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418948
Sample ID : BH01 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

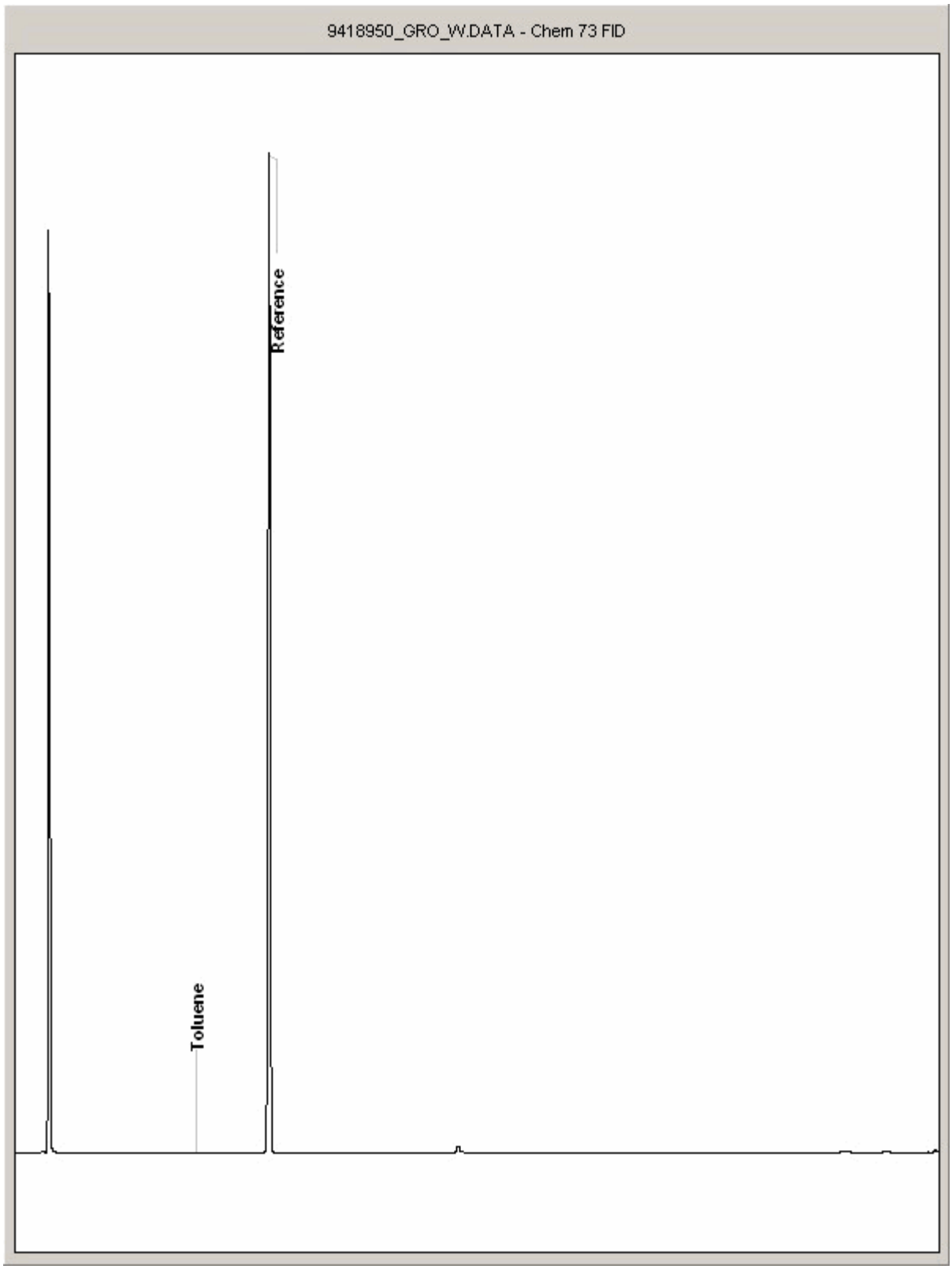
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418950
Sample ID : BH01

Depth :



CERTIFICATE OF ANALYSIS

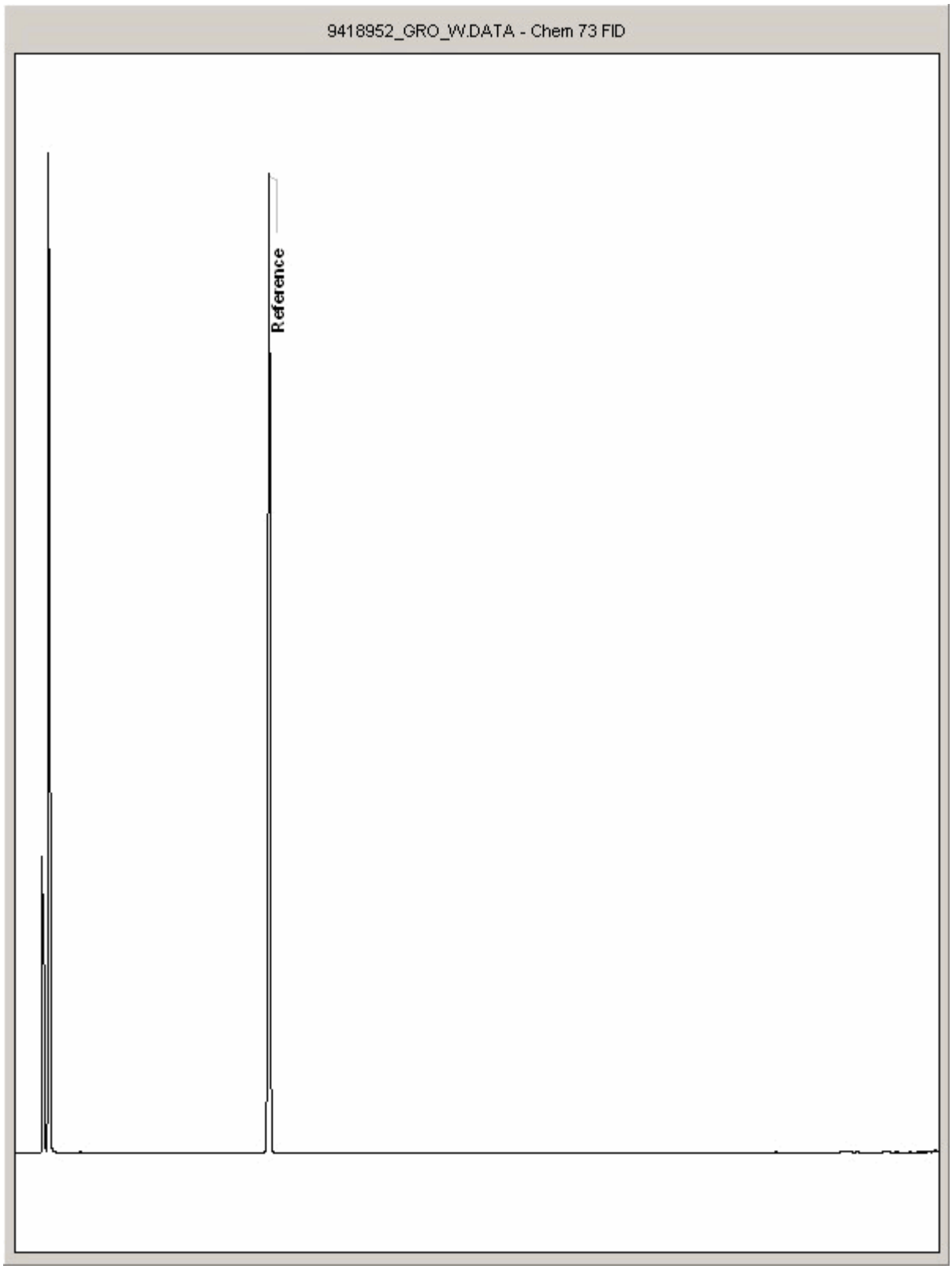
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418952
Sample ID : MW3

Depth :



CERTIFICATE OF ANALYSIS

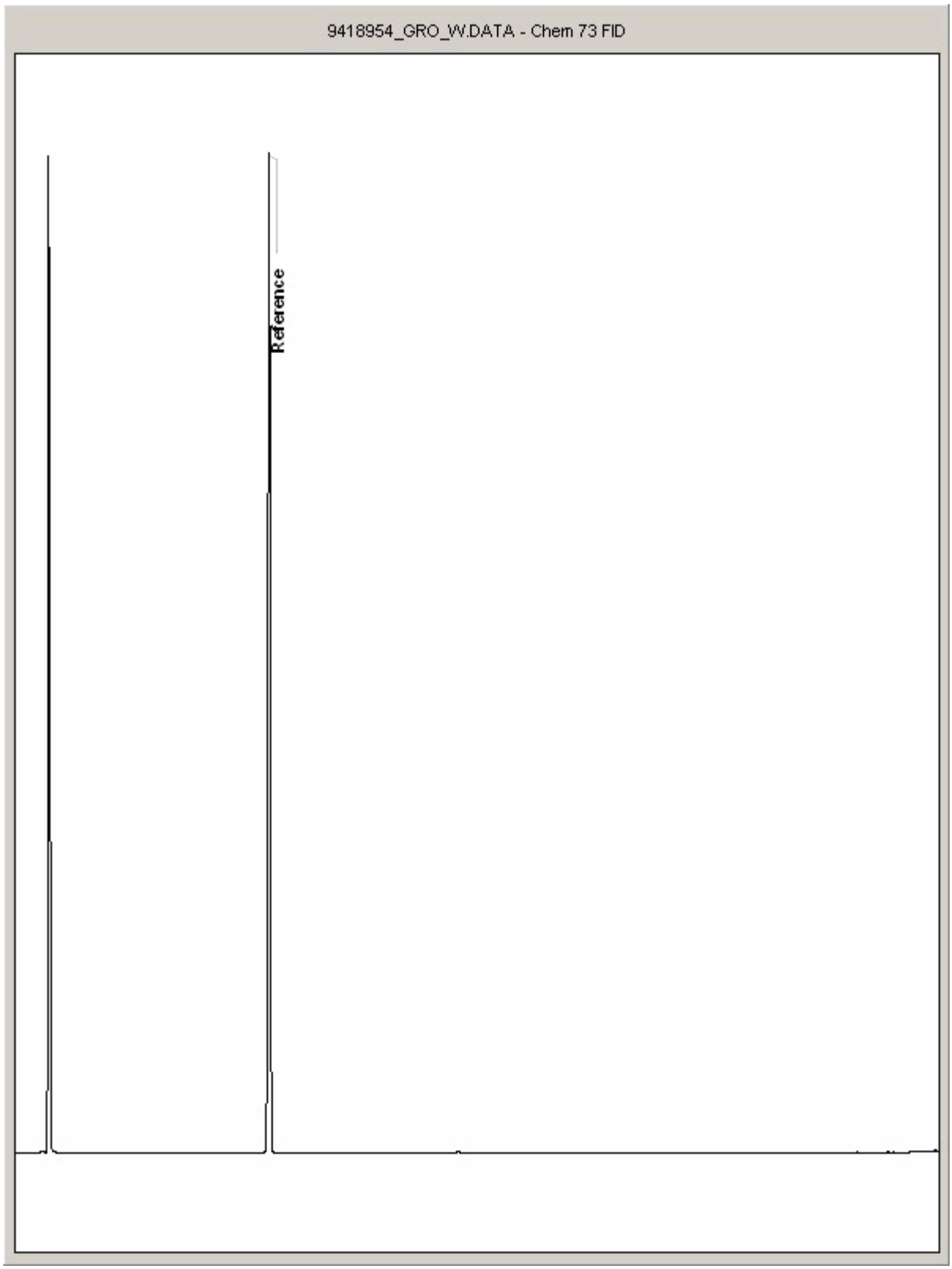
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418954
Sample ID : BH18 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

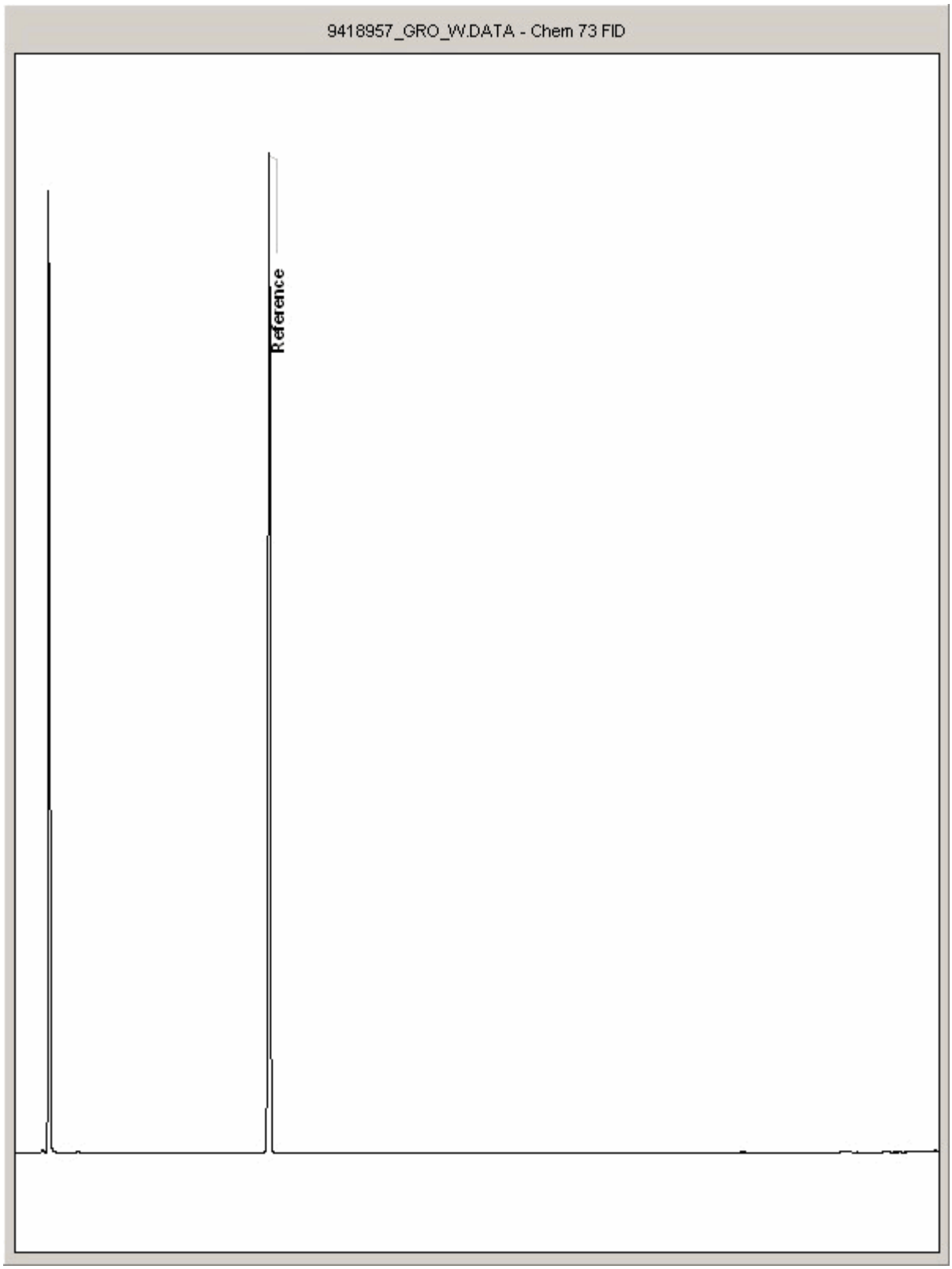
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9418957
Sample ID : MW1

Depth :



CERTIFICATE OF ANALYSIS

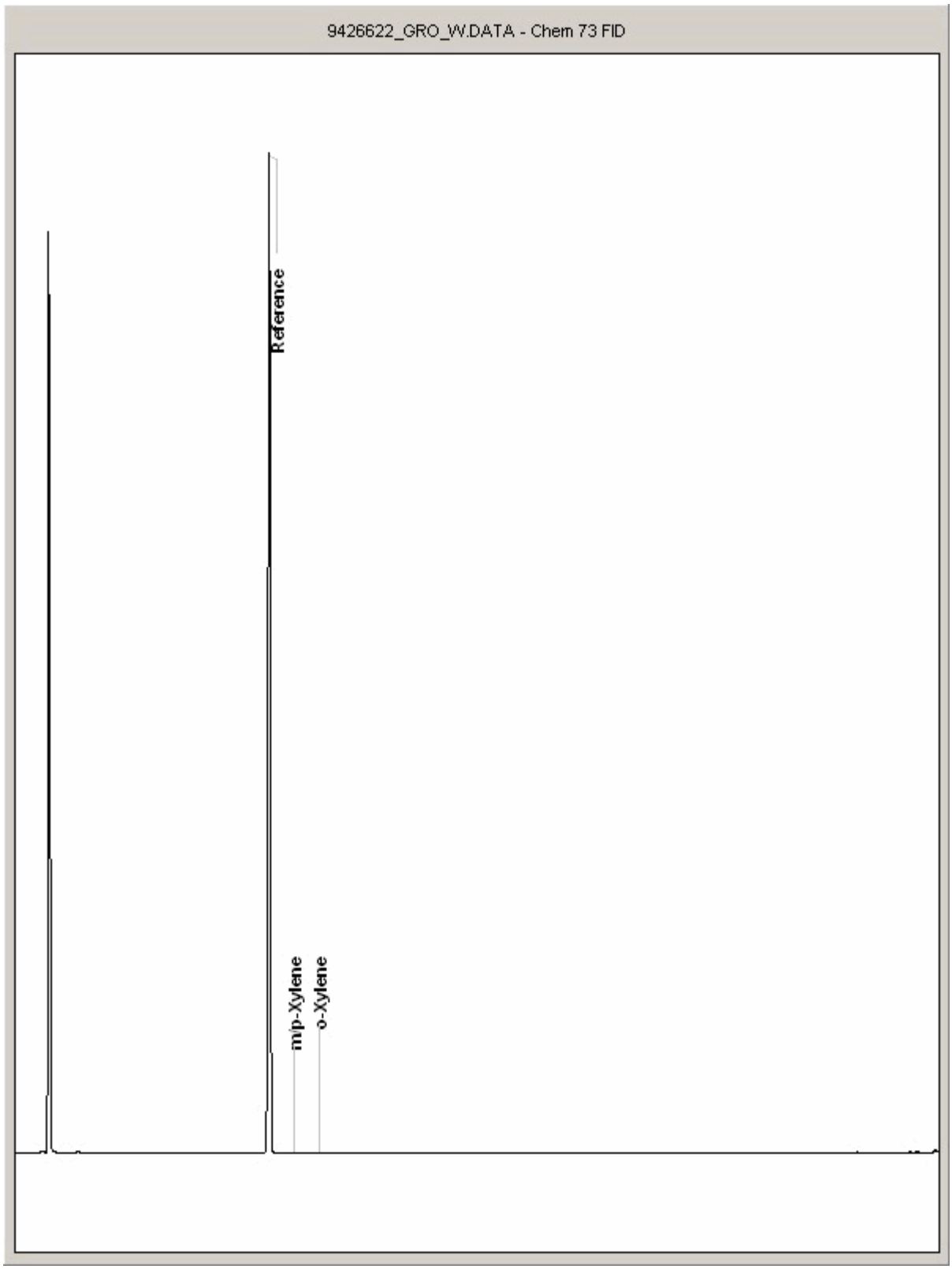
SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426622
Sample ID : BH26 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C9C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140605-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273367
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

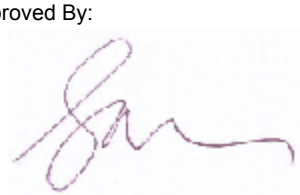
Date:	16 June 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140606-125
Your Reference:	JER5575U
Location:	SHLNG
Report No:	273595

We received 20 samples on Friday June 06, 2014 and 14 of these samples were scheduled for analysis which was completed on Monday June 16, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9404944	BG2B			04/06/2014
9404945	BG2B DUPLICATE			04/06/2014
9404941	BH20			04/06/2014
9404953	BH43			04/06/2014
9404939	BH53			04/06/2014
9404959	BH30A			04/06/2014
9404951	BH40A			04/06/2014
9404955	BH41A			04/06/2014
9404957	BH42A			04/06/2014
9404960	BH30A DUPLICATE			04/06/2014
9404952	BH40A DUPLICATE			04/06/2014
9404956	BH41A DUPLICATE			04/06/2014
9404958	BH42A DUPLICATE			04/06/2014
9404949	BH34B			04/06/2014
9404946	BH45B			04/06/2014
9404950	BH34B DUPLICATE			04/06/2014
9404947	BH45B DUPLICATE			04/06/2014
9404942	BH20 DUPLICATE			04/06/2014
9404954	BH43 DUPLICATE			04/06/2014
9404940	BH53 DUPLICATE			04/06/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

		Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 13				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 13				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5				

Lab Sample No(s)	Customer Sample Reference	Container	EPH (DRO) (C10-C40) Aqueous (W)	GRO by GC-FID (W)	SVOC MS (W) - Aqueous
9404944	BG2B	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	
9404941	BH20	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	
9404953	BH43	1l Glass bottle (ALE	X		X
		Vial (ALE297)		X	
9404939	BH53	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	
9404959	BH30A	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	
9404951	BH40A	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	
9404955	BH41A	1l Glass bottle (ALE	X		X
		Vial (ALE297)		X	
9404957	BH42A	1l Glass bottle (ALE	X		X
		Vial (ALE297)		X	
9404958	BH42A DUPLICATE	1l Glass bottle (ALE	X		X
		Vial (ALE297)		X	
9404949	BH34B	1l Glass bottle (ALE	X		X
		Vial (ALE297)		X	
9404946	BH45B	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	
9404942	BH20 DUPLICATE	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	
9404940	BH53 DUPLICATE	1l Glass bottle (ALE	X		
		Vial (ALE297)		X	

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BG2B	BH20	BH43	BH53	BH30A	BH40A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014
			SDG Ref	140606-125	140606-125	140606-125	140606-125	140606-125	140606-125
			Lab Sample No.(s)	9404944	9404941	9404953	9404939	9404959	9404951
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	700 #	235 #	<46 #	1300 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		25.7	<10	85.2	51	<10	1180
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		20.3	<10	614	184	<10	121

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A	BH42A DUPLICATE	BH34B	BH45B	BH20 DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014
			SDG Ref	140606-125	140606-125	140606-125	140606-125	140606-125	140606-125
			Lab Sample No.(s)	9404955	9404957	9404958	9404949	9404946	9404942
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		49700 #	9210 #	5900 #	293 #	105 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		10400	2950	2160	115	71.8	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		39200	6250	3760	178	33	<10

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R			BH53 DUPLICATE
Depth (m)			.
Sample Type			Water(GW/SW)
Date Sampled			04/06/2014
Sampled Time			.
Date Received			06/06/2014
SDG Ref			140606-125
Lab Sample No.(s)			9404940
AGS Reference			
Component	**LOD/Units**	**Method**	
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	321 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	114
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	207

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BG2B	BH20	BH43	BH53	BH30A	BH40A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014
			SDG Ref	140606-125	140606-125	140606-125	140606-125	140606-125	140606-125
			Lab Sample No.(s)	9404944	9404941	9404953	9404939	9404959	9404951
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	24	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	26	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A	BH42A DUPLICATE	BH34B	BH45B	BH20 DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014
			SDG Ref	140606-125	140606-125	140606-125	140606-125	140606-125	140606-125
			Lab Sample No.(s)	9404955	9404957	9404958	9404949	9404946	9404942
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		19	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		128	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		231	35	14	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		378	38	16	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	BH53 DUPLICATE
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	04/06/2014
Sampled Time	.
Date Received	06/06/2014
SDG Ref	140606-125
Lab Sample No.(s)	9404940
AGS Reference	

Component	LOD/Units	Method	
GRO >C5-C6	<10 µg/l	TM245	<10
GRO >C6-C8	<10 µg/l	TM245	<10
GRO >C8-C10	<10 µg/l	TM245	<10
GRO >C5-C10	<10 µg/l	TM245	<10

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH42A DUPLICATE	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.
			Date Received	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014
			SDG Ref	140606-125	140606-125	140606-125	140606-125	140606-125
			Lab Sample No.(s)	9404953	9404955	9404957	9404958	9404949
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<5	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	103 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<5	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<5	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<10 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH42A DUPLICATE	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	04/06/2014	04/06/2014	04/06/2014	04/06/2014	04/06/2014
			Sampled Time	.	.	.	.	.
			Date Received	06/06/2014	06/06/2014	06/06/2014	06/06/2014	06/06/2014
			SDG Ref	140606-125	140606-125	140606-125	140606-125	140606-125
			Lab Sample No.(s)	9404953	9404955	9404957	9404958	9404949
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<25 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<5	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<5	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	31.7 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<5	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	24.1 #	<1 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<5 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<5 #	1.22 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9404944	9404941	9404953	9404939	9404959	9404951	9404955	9404957	9404958	9404949
Customer Sample Ref.	BG2B	BH20	BH43	BH53	BH30A	BH40A	BH41A	BH42A	BH42A DUPLICATE	BH34B
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	16-Jun-2014	16-Jun-2014	13-Jun-2014	13-Jun-2014	16-Jun-2014	13-Jun-2014	13-Jun-2014	13-Jun-2014	16-Jun-2014	16-Jun-2014
GRO by GC-FID (W)	14-Jun-2014	14-Jun-2014	14-Jun-2014	14-Jun-2014	14-Jun-2014	14-Jun-2014	14-Jun-2014	14-Jun-2014	14-Jun-2014	14-Jun-2014
SVOC MS (W) - Aqueous			13-Jun-2014				13-Jun-2014	12-Jun-2014	13-Jun-2014	13-Jun-2014

Lab Sample No(s)	9404942	9404940	9404946
Customer Sample Ref.	BH20 DUPLICATE	BH53 DUPLICATE	BH45B
AGS Ref.			
Depth			
Type	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	13-Jun-2014	13-Jun-2014	13-Jun-2014
GRO by GC-FID (W)	15-Jun-2014	14-Jun-2014	14-Jun-2014

CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

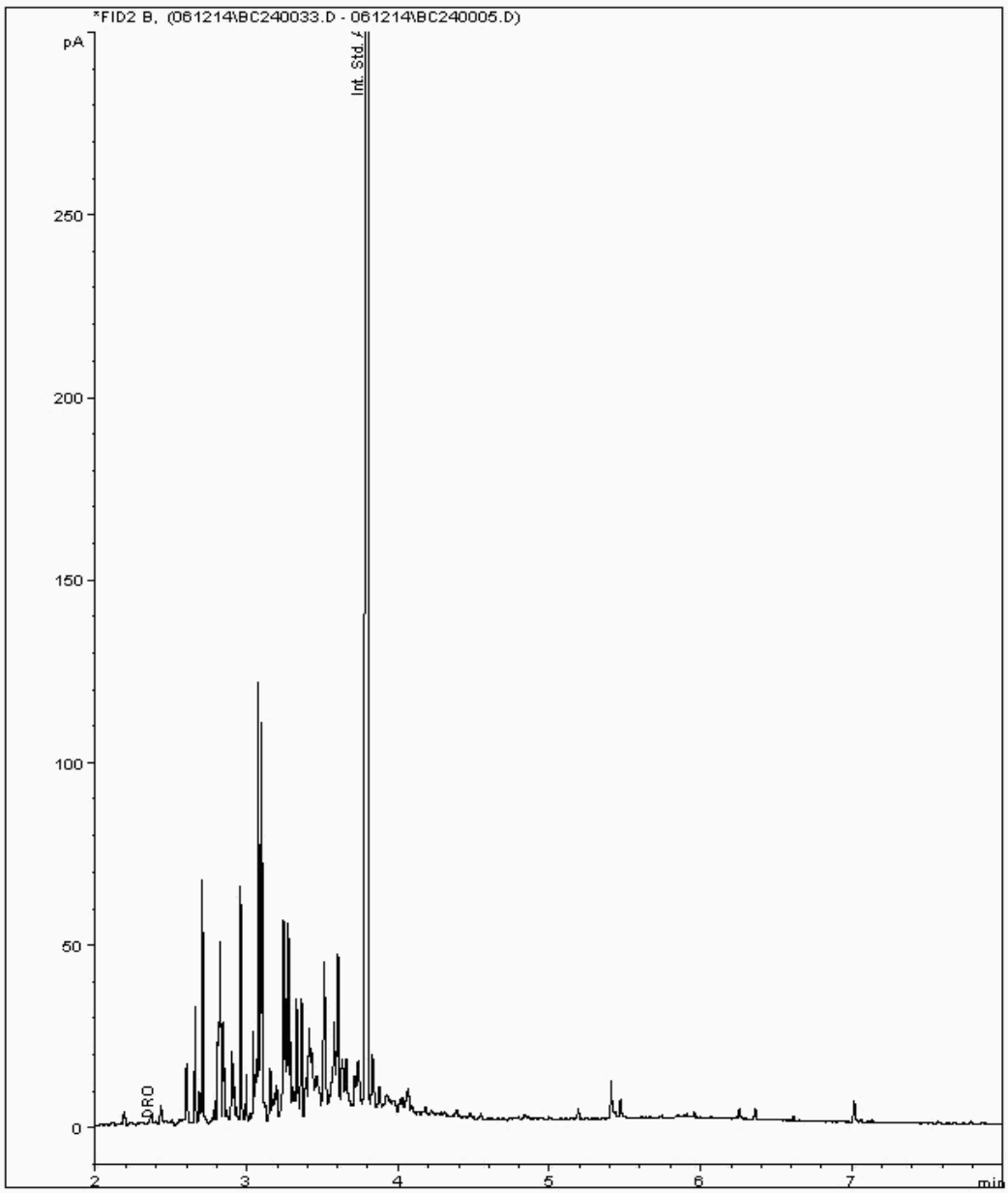
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411248
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934376-9411248
Date Acquired : 13/06/2014 04:02:32 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

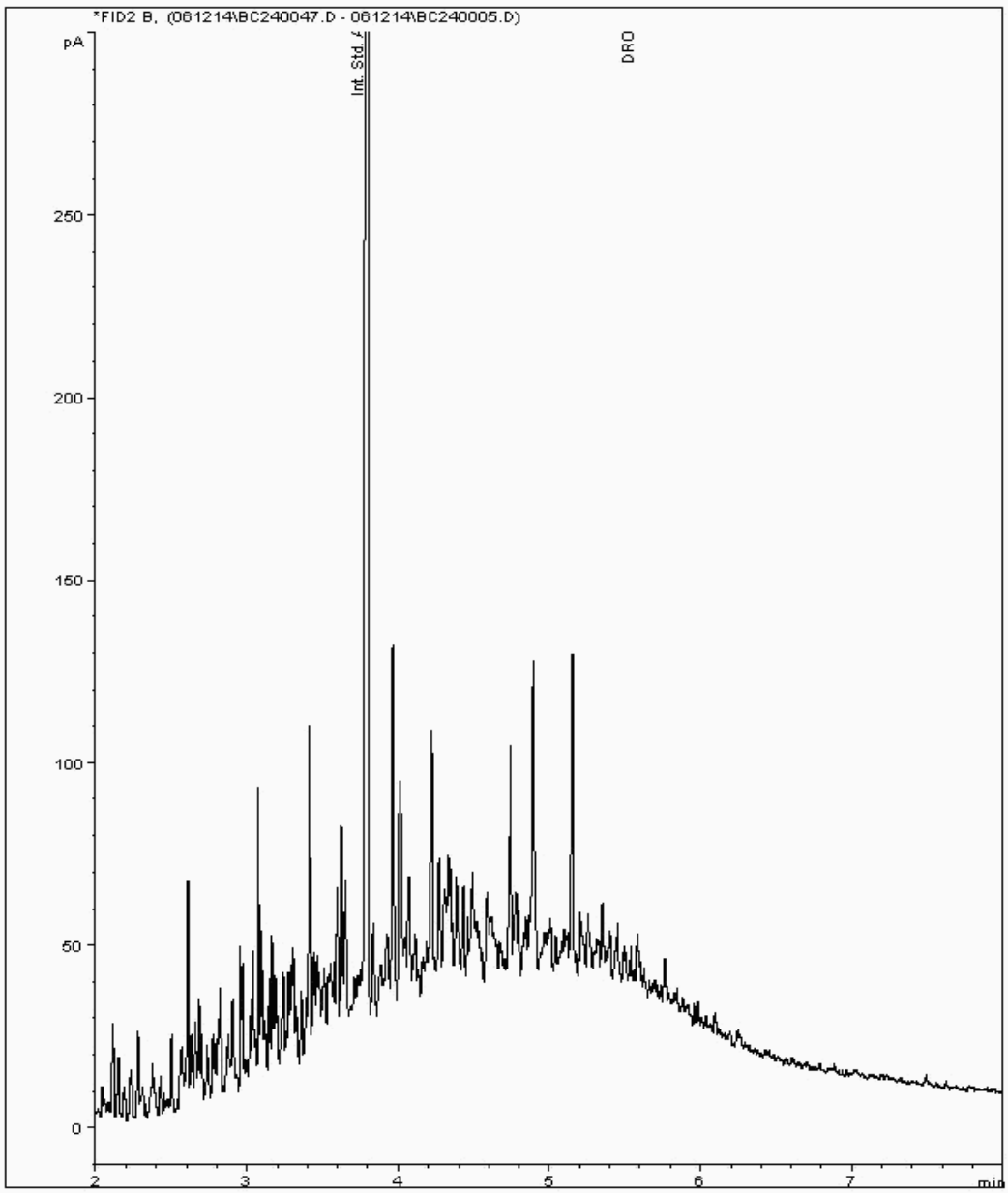
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411259
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934379-9411259
Date Acquired : 13/06/2014 11:46:30 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

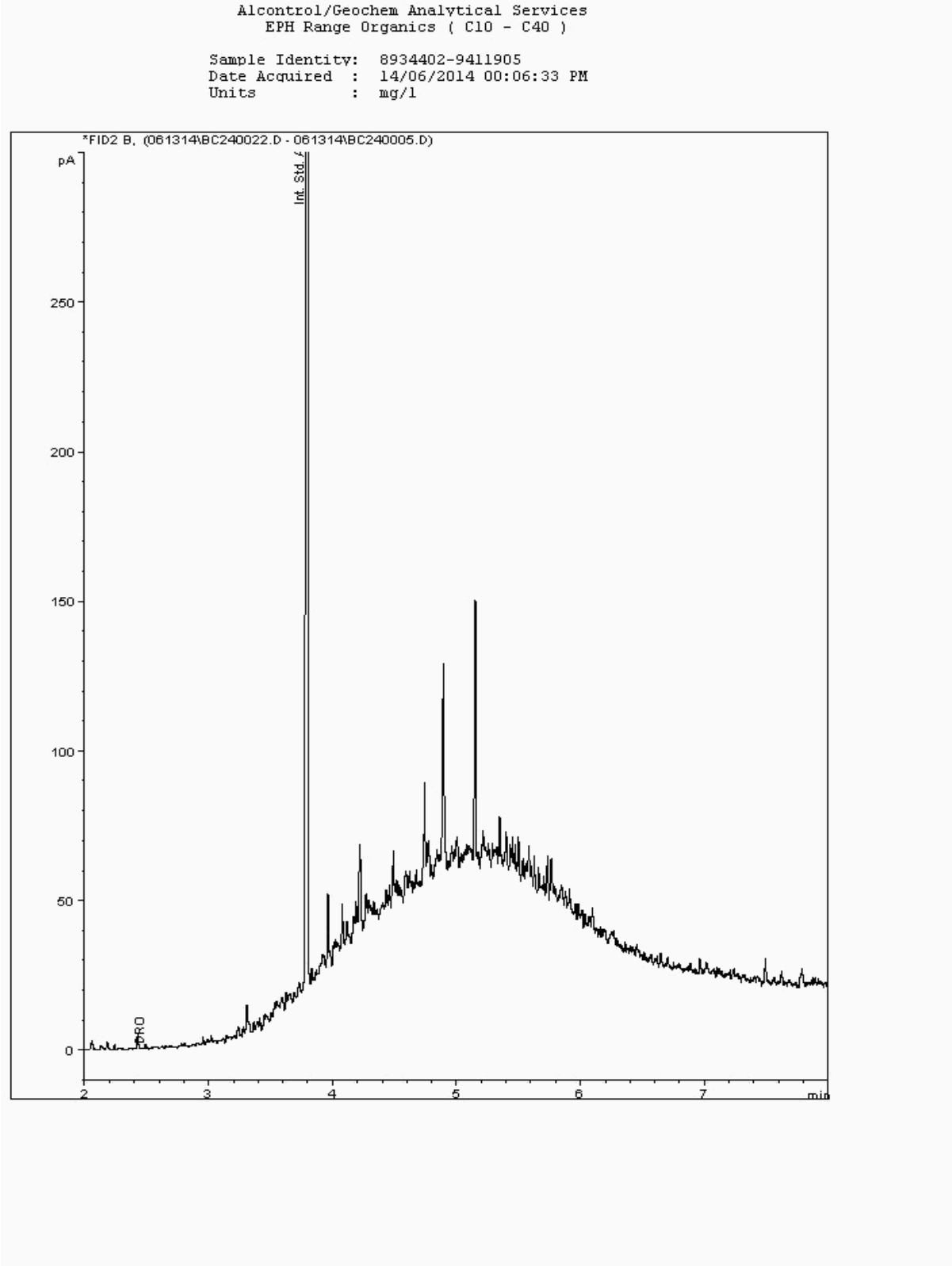
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411905
Sample ID : BH42A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

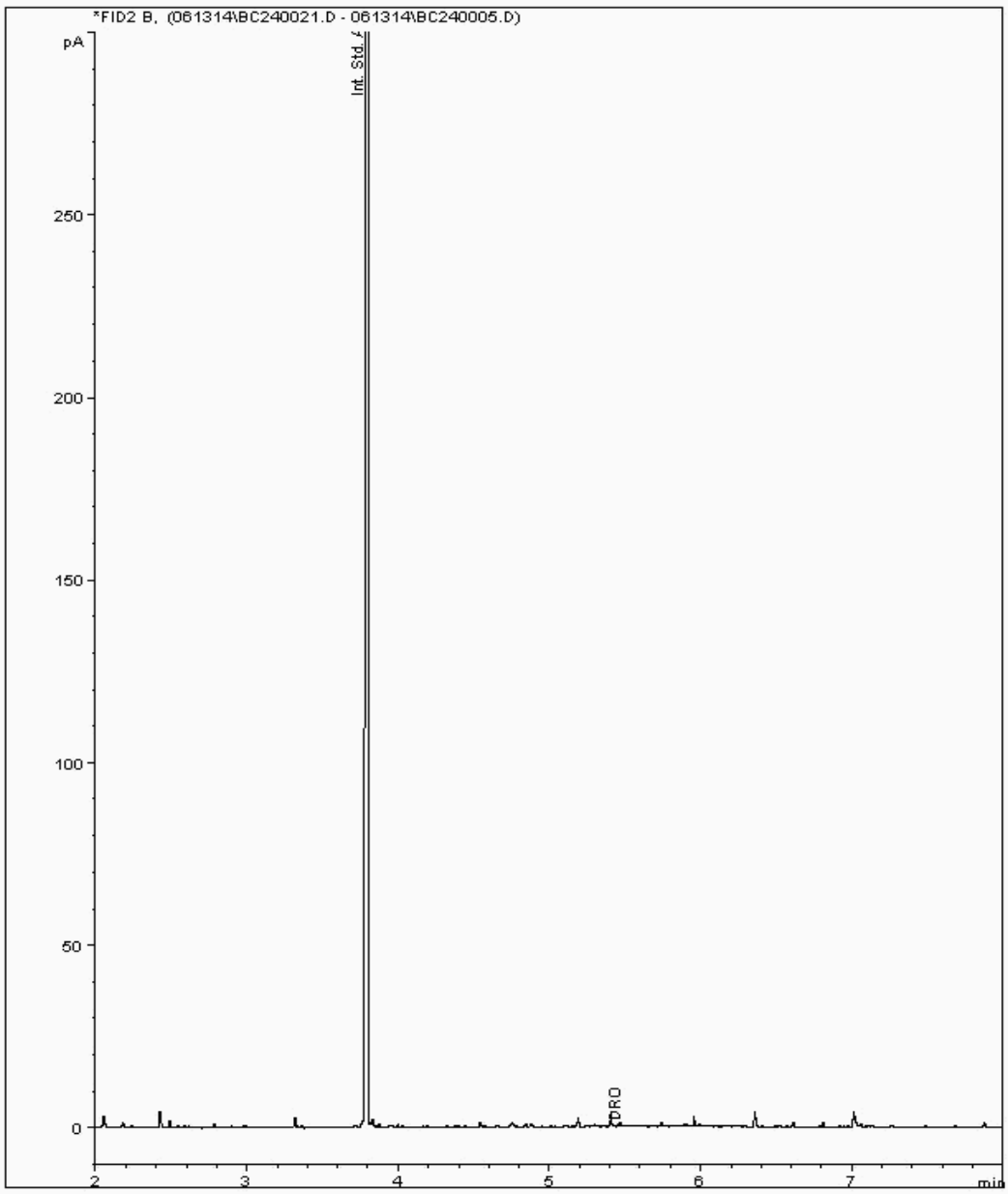
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411911
Sample ID : BH30A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934405-9411911
Date Acquired : 13/06/2014 23:43:01 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

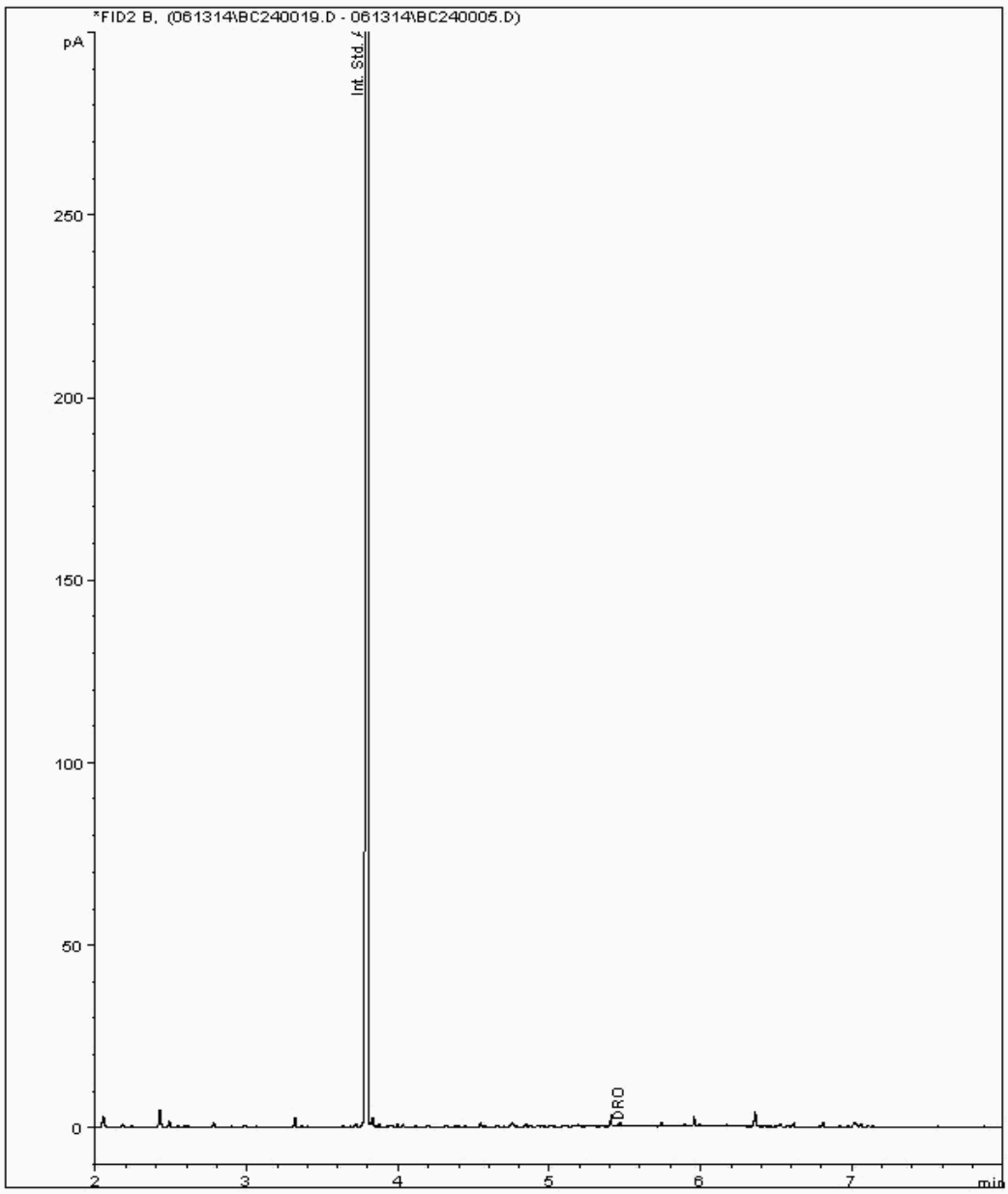
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411923
Sample ID : BH20

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934324-9411923
Date Acquired : 13/06/2014 22:56:31 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

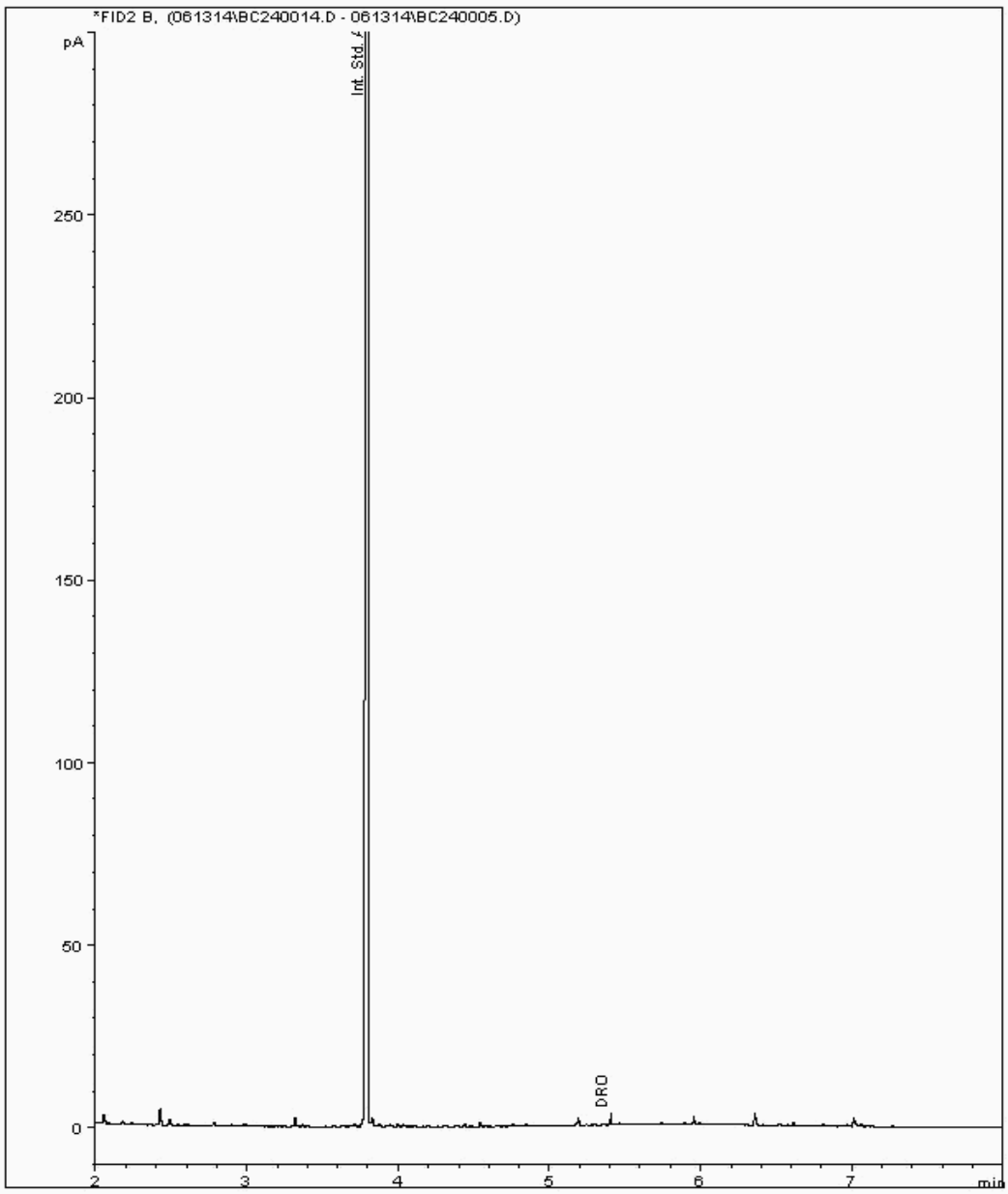
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411927
Sample ID : BG2B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934330-9411927
Date Acquired : 13/06/2014 21:01:07 PM
Units : mg/l

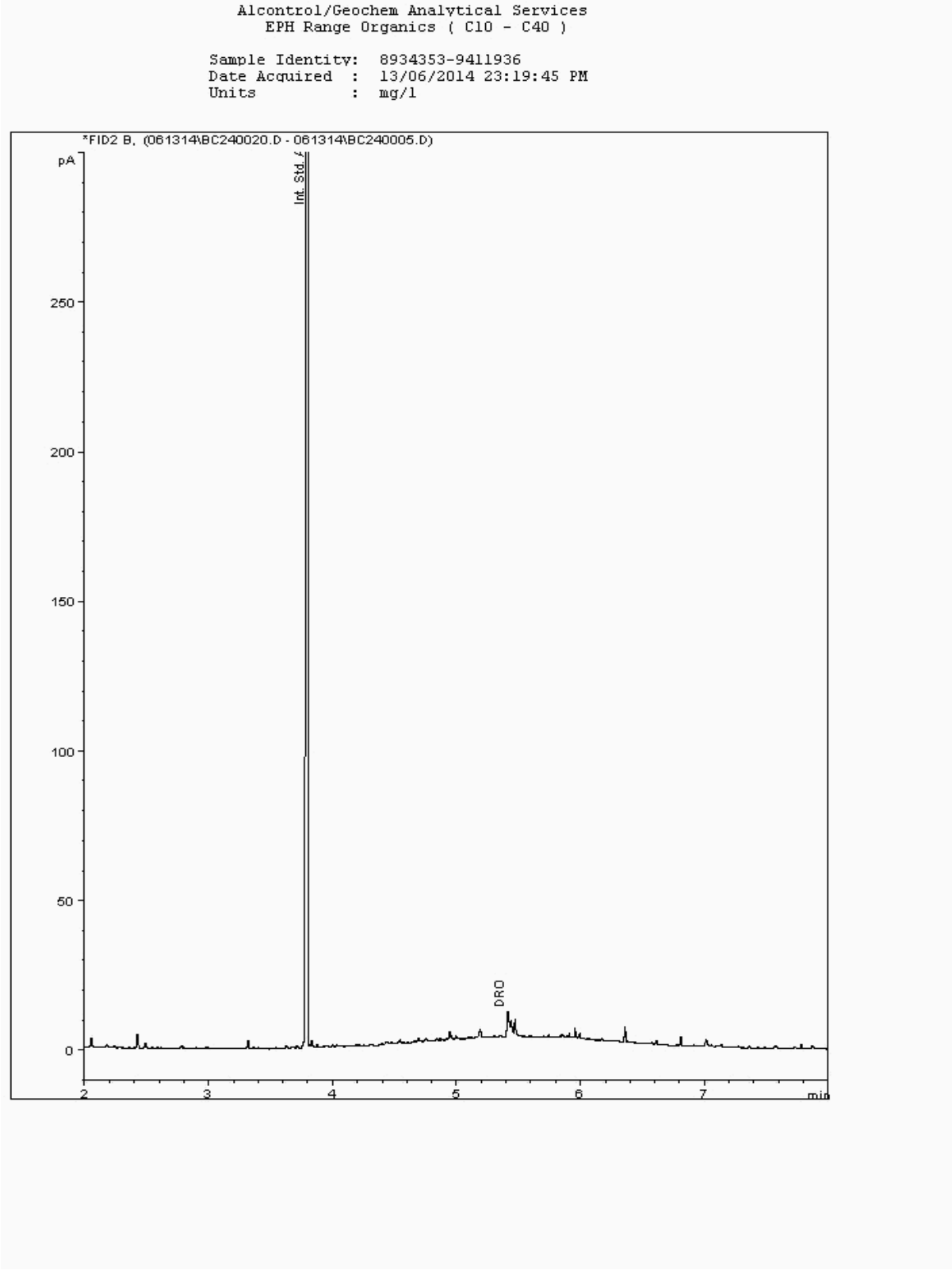


CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9411936 **Sample ID :** BH34B **Depth :**



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

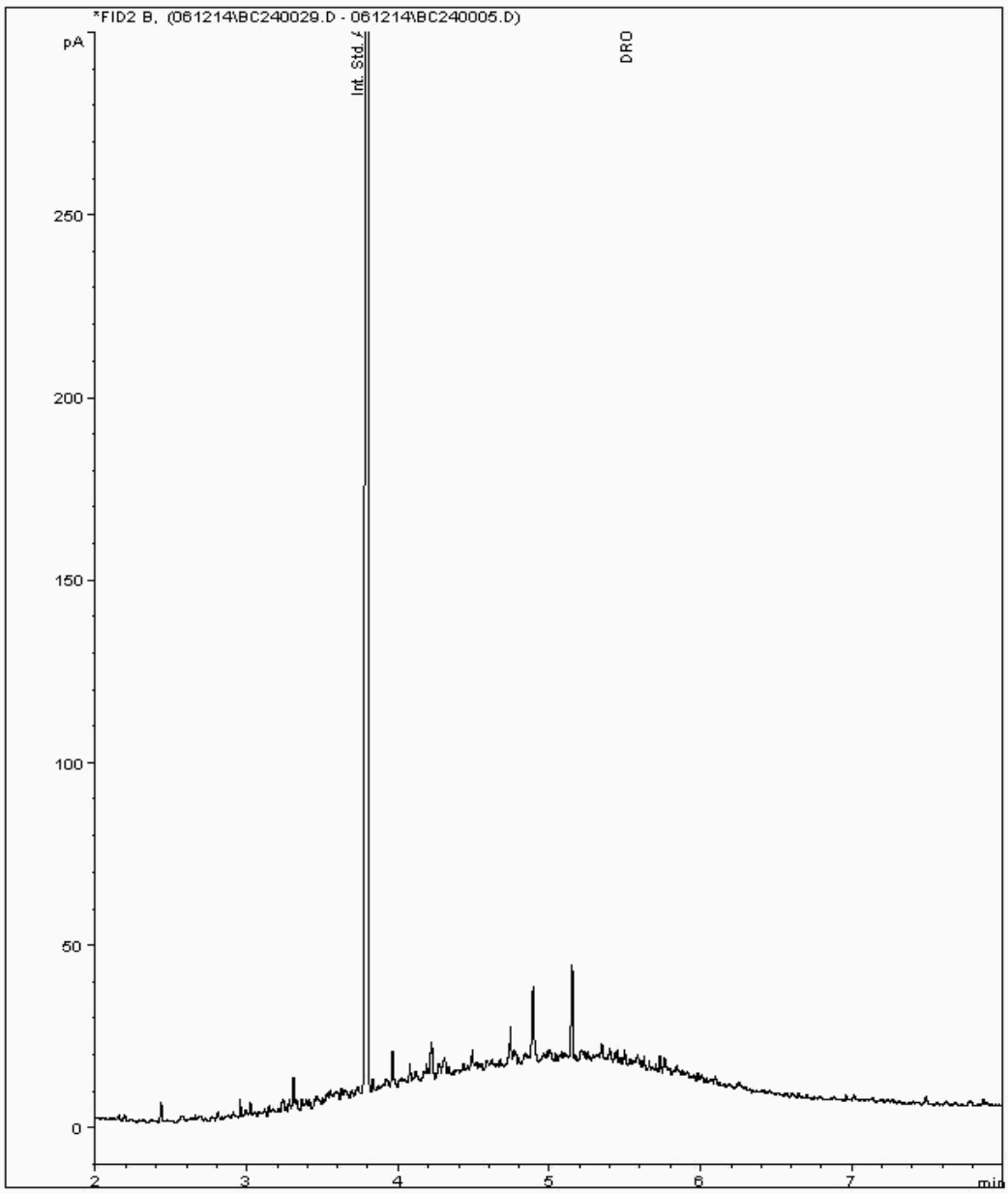
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411941
Sample ID : BH42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934399-9411941
Date Acquired : 13/06/2014 02:28:41 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

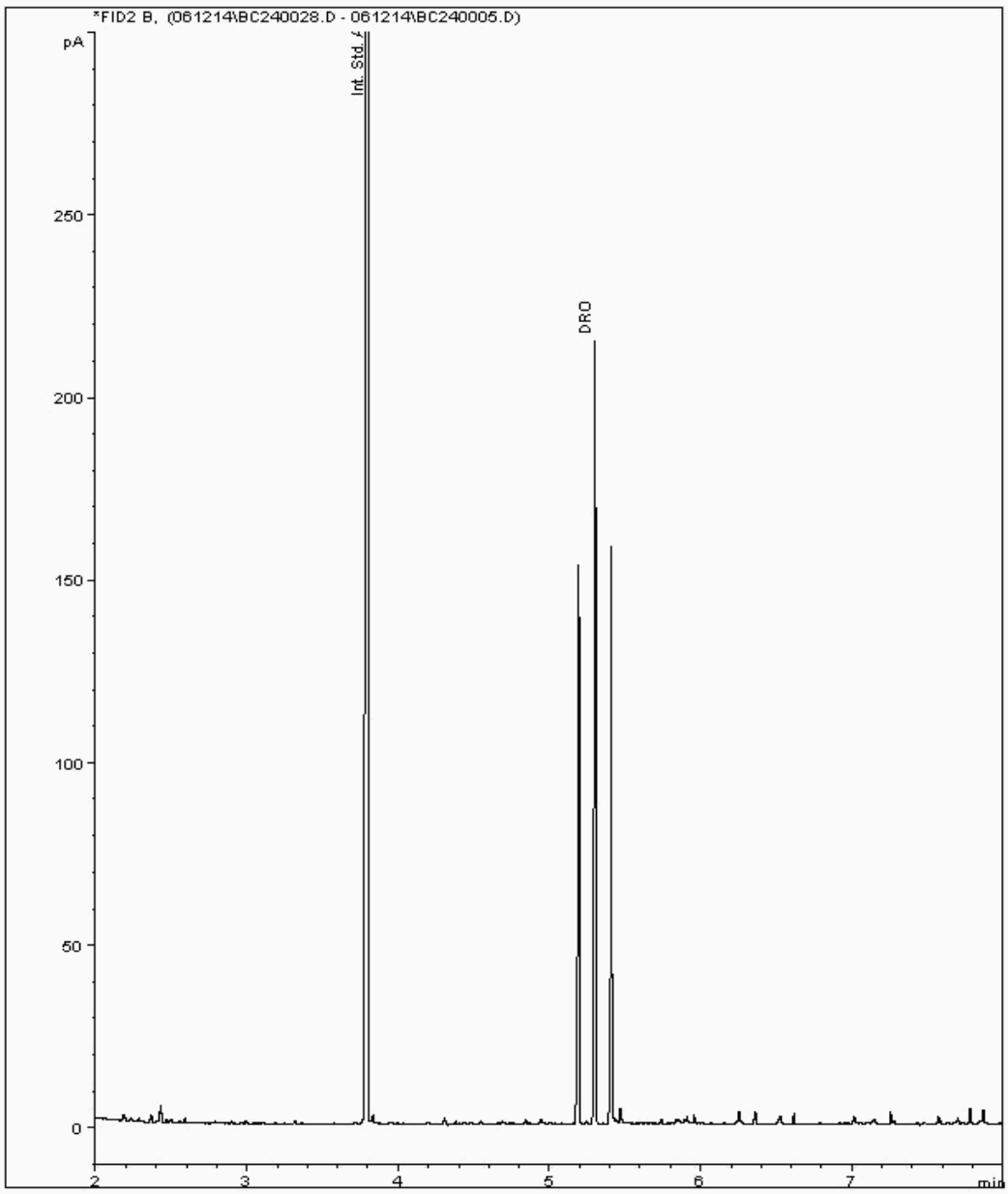
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411953
Sample ID : BH53

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934301-9411953
Date Acquired : 13/06/2014 02:05:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

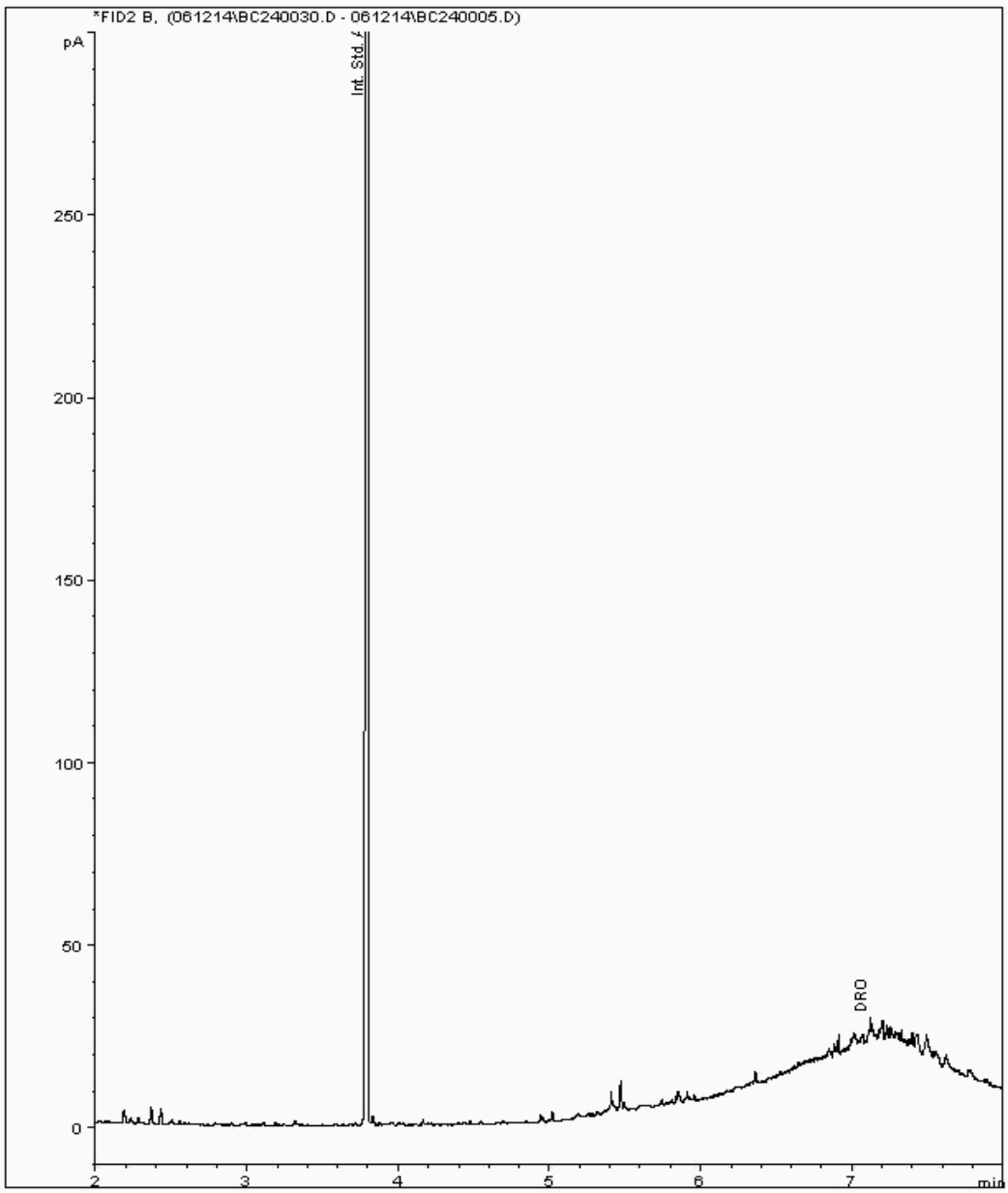
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411962
Sample ID : BH40A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934356-9411962
Date Acquired : 13/06/2014 02:52:04 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

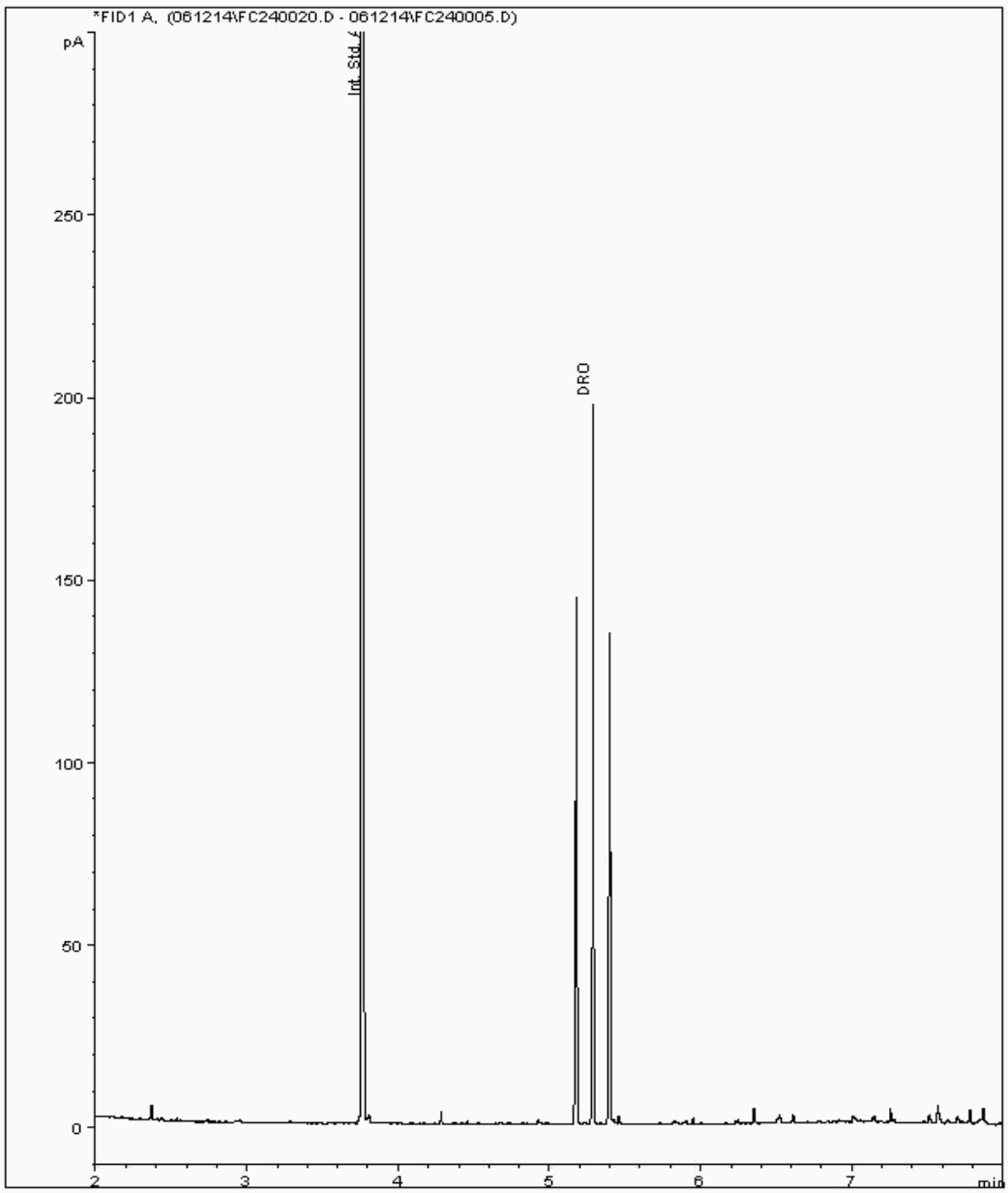
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411969
Sample ID : BH53 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934304-9411969
Date Acquired : 12/06/2014 22:58:47 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

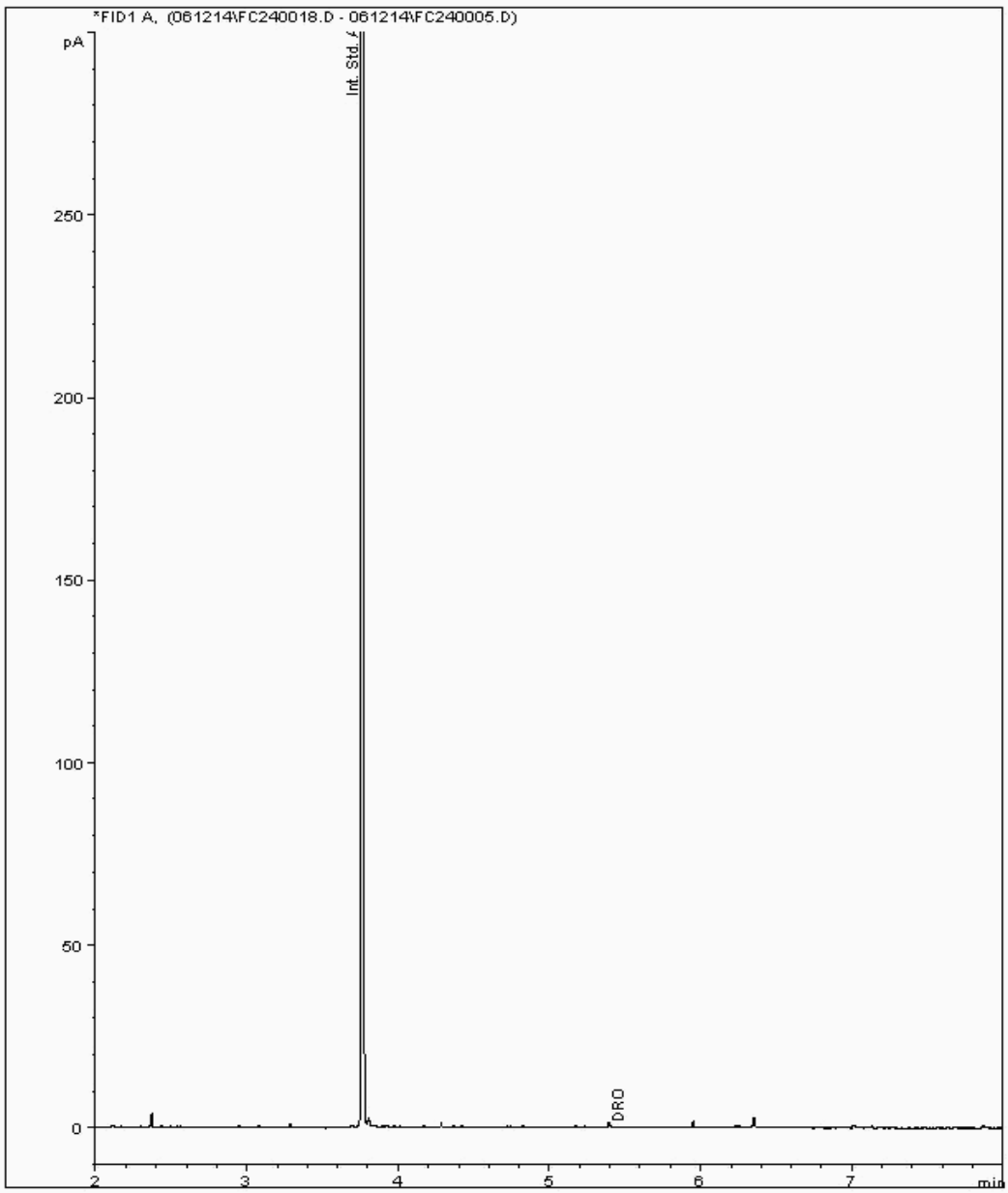
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411979
Sample ID : BH20 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934327-9411979
Date Acquired : 12/06/2014 22:12:34 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

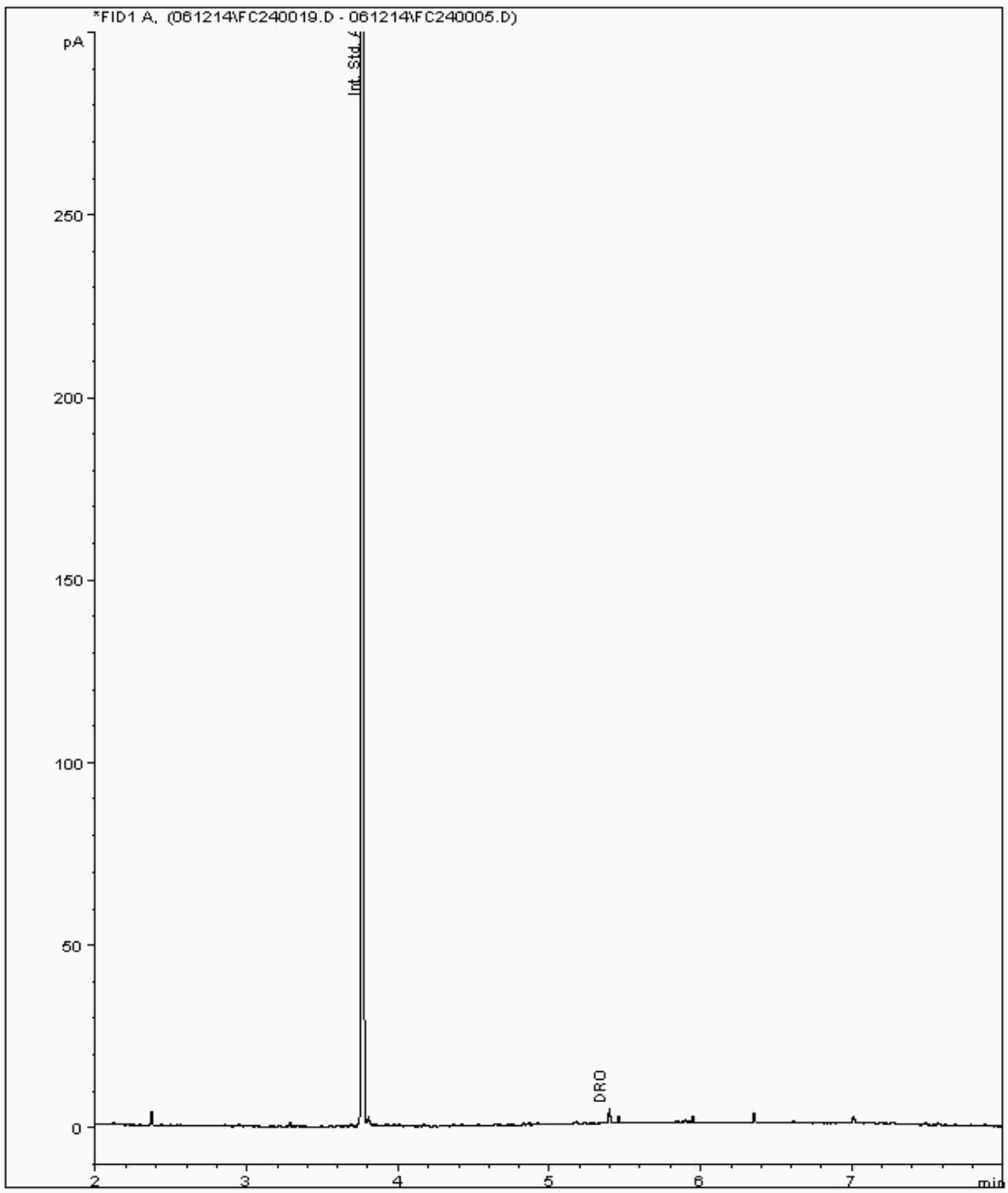
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9411983
Sample ID : BH45B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8934350-9411983
Date Acquired : 12/06/2014 22:35:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

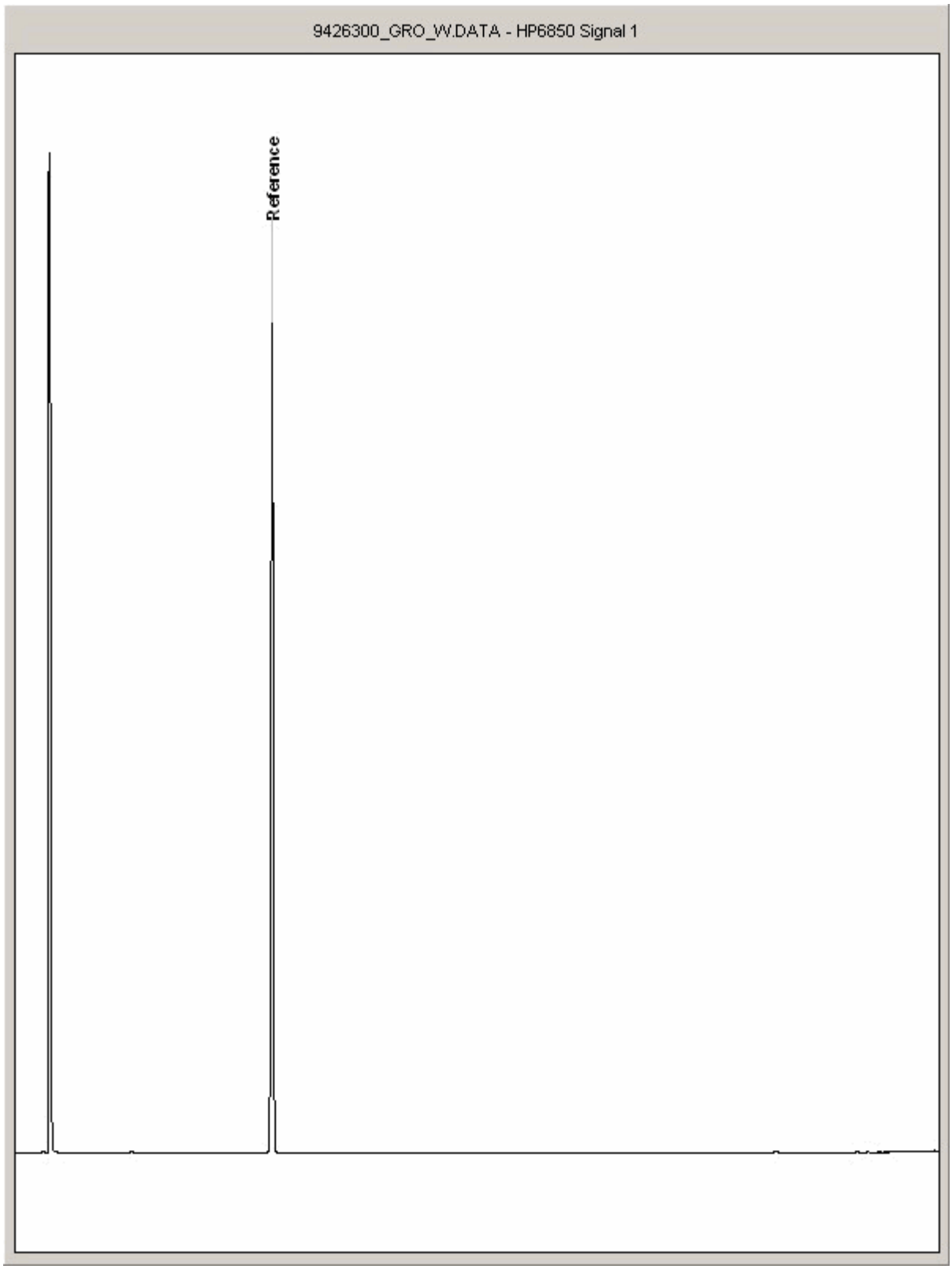
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426300
Sample ID : BH30A

Depth :



CERTIFICATE OF ANALYSIS

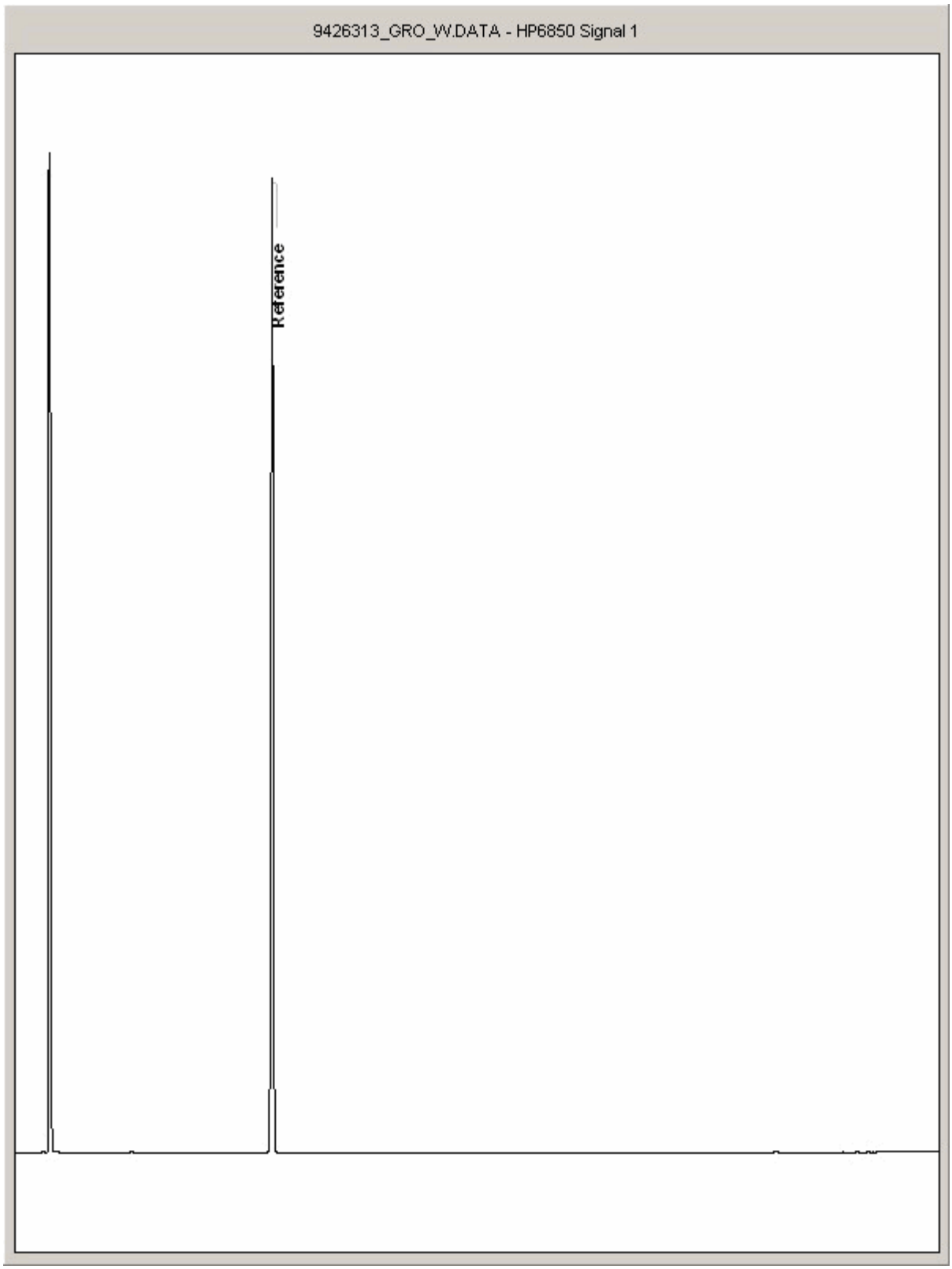
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426313
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

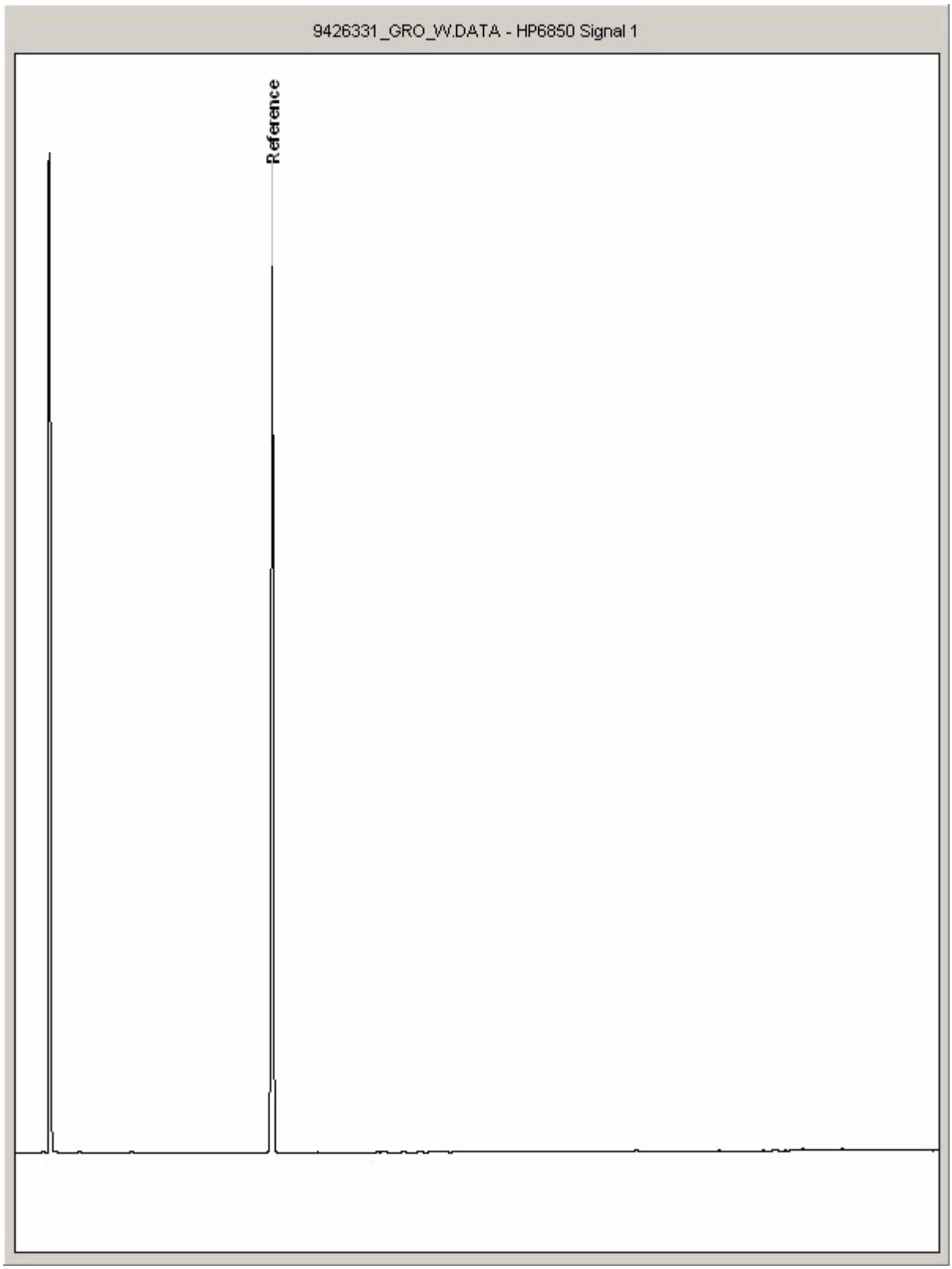
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426331
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

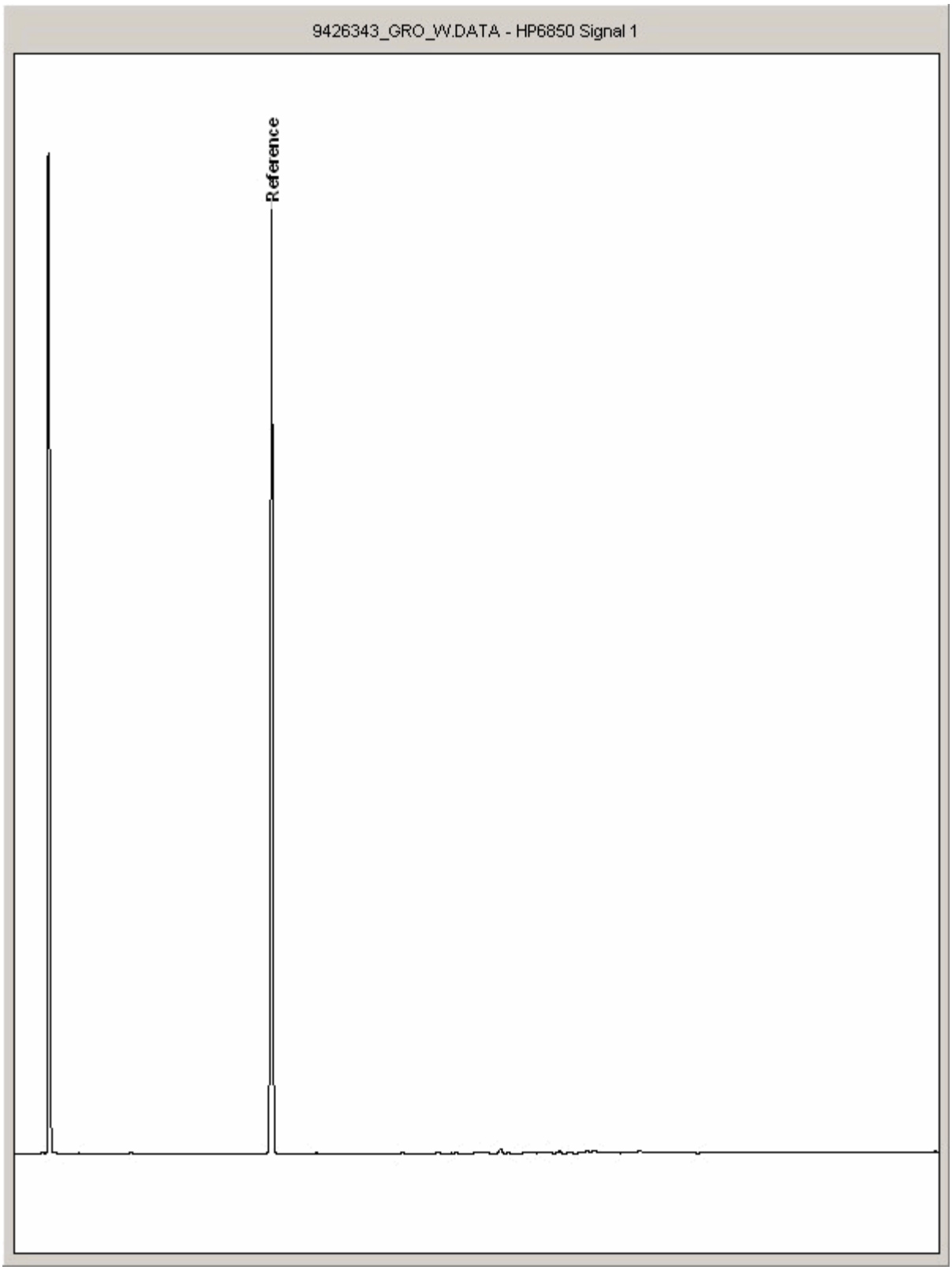
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426343
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

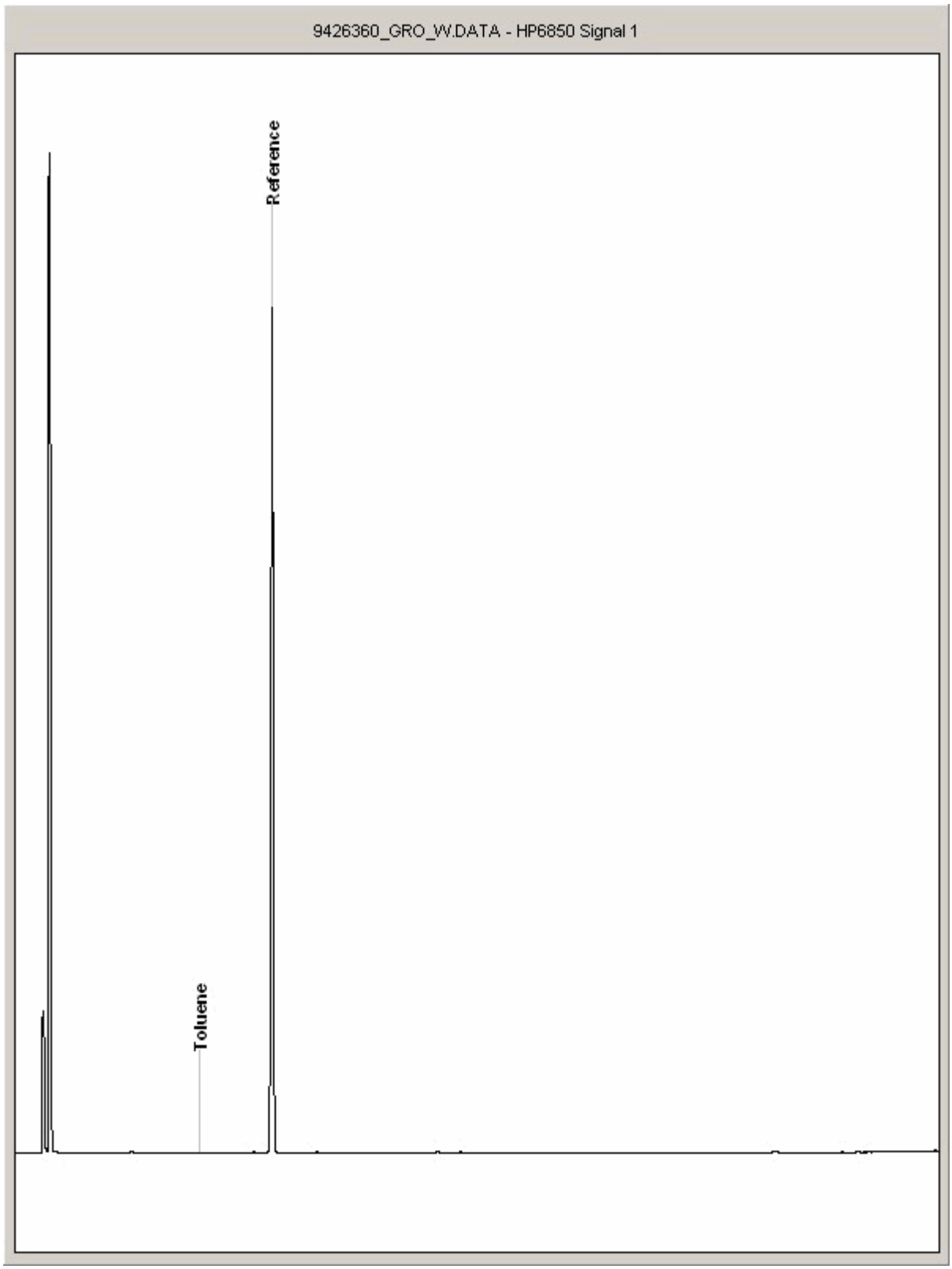
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426360
Sample ID : BH53 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

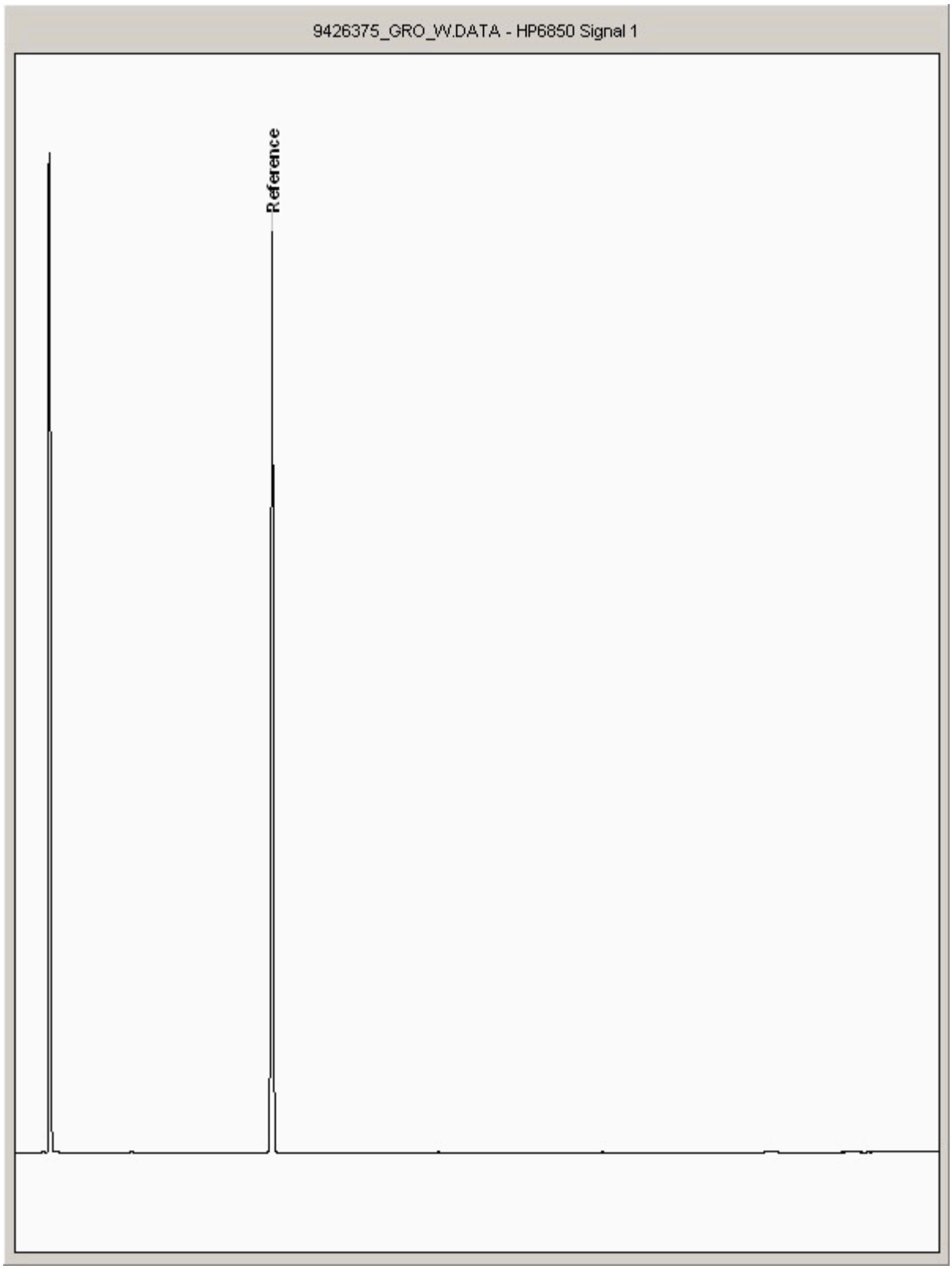
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426375
Sample ID : BH40A

Depth :



CERTIFICATE OF ANALYSIS

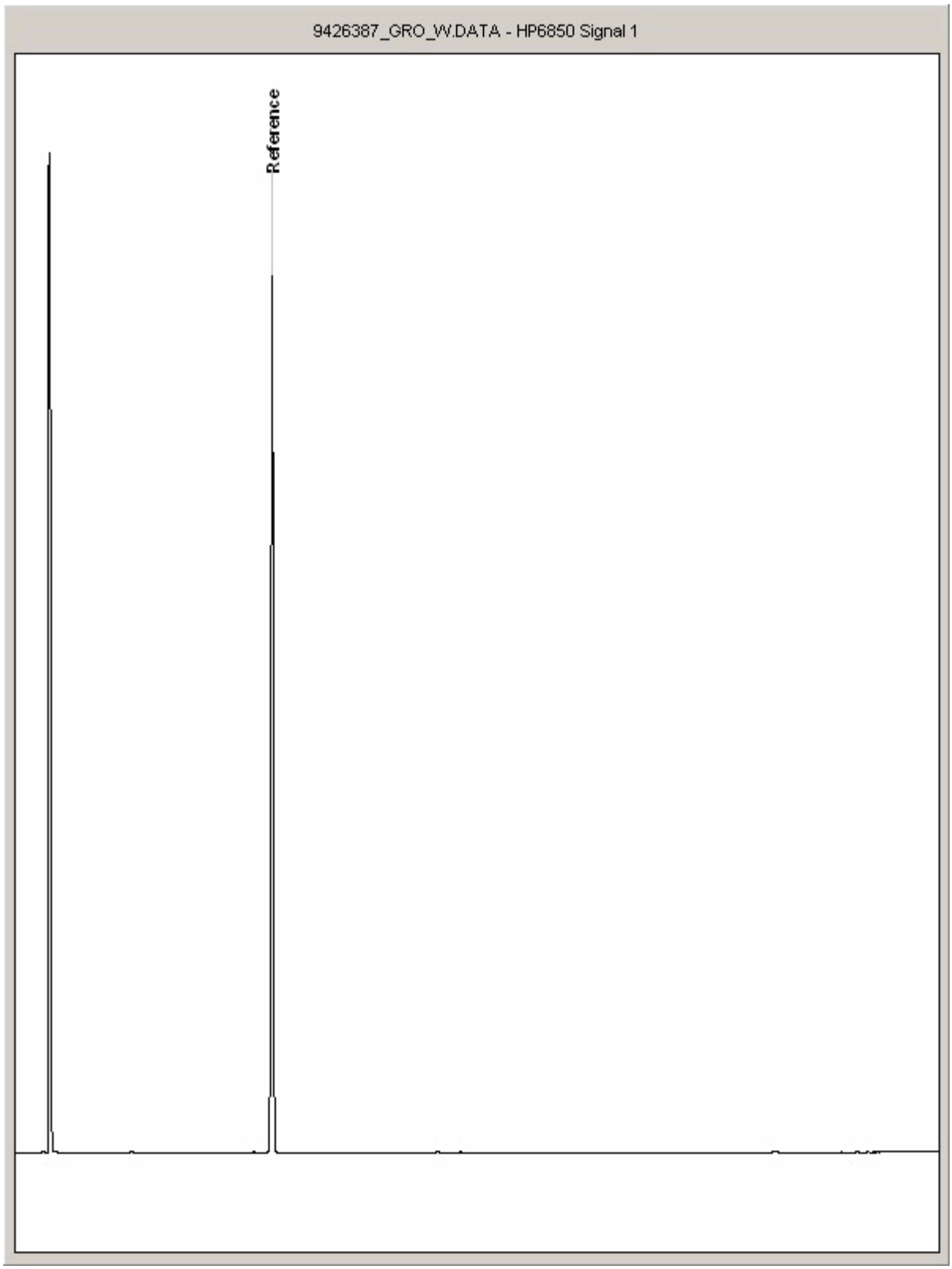
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426387
Sample ID : BH20

Depth :



CERTIFICATE OF ANALYSIS

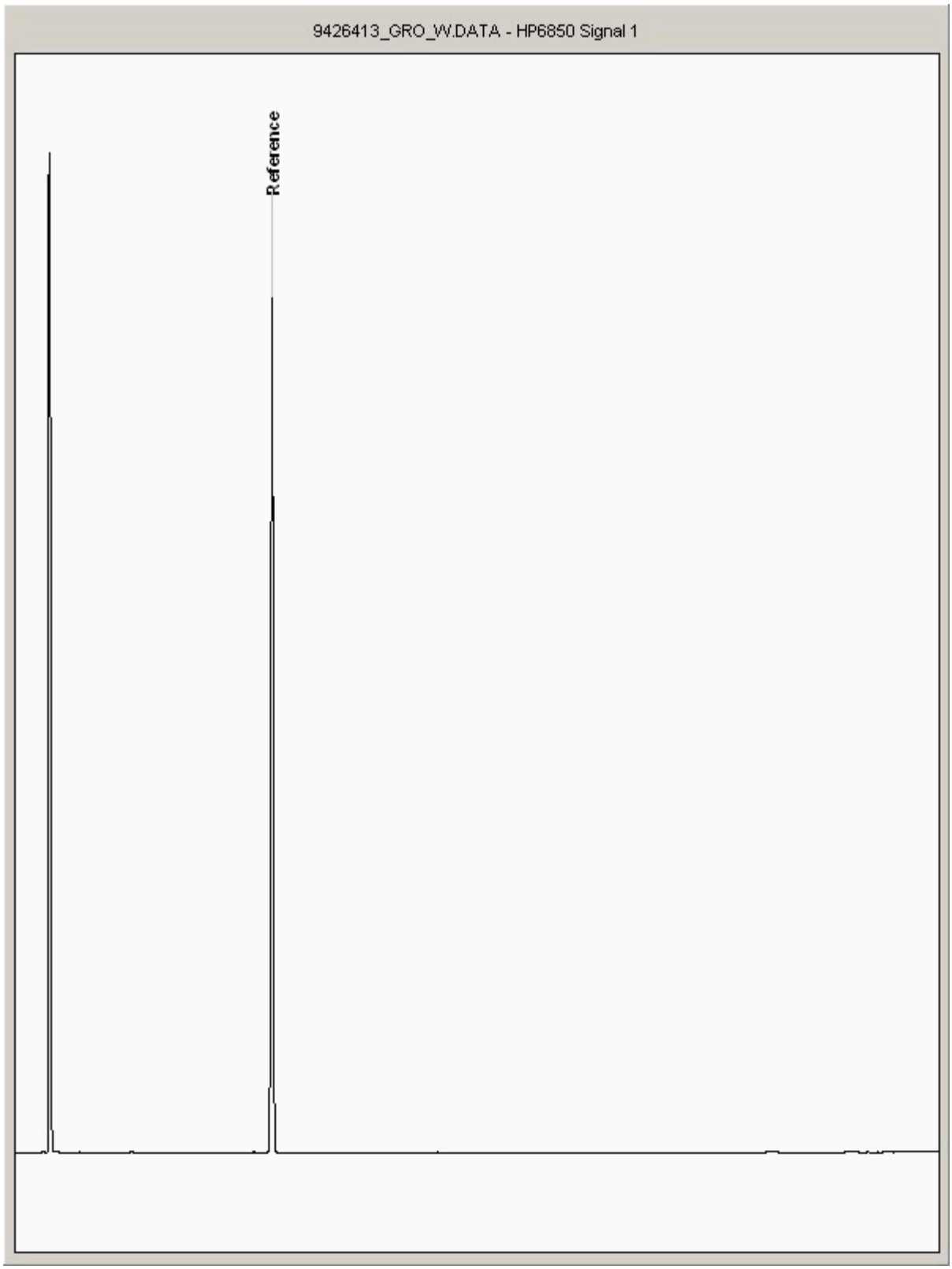
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426413
Sample ID : BH45B

Depth :



CERTIFICATE OF ANALYSIS

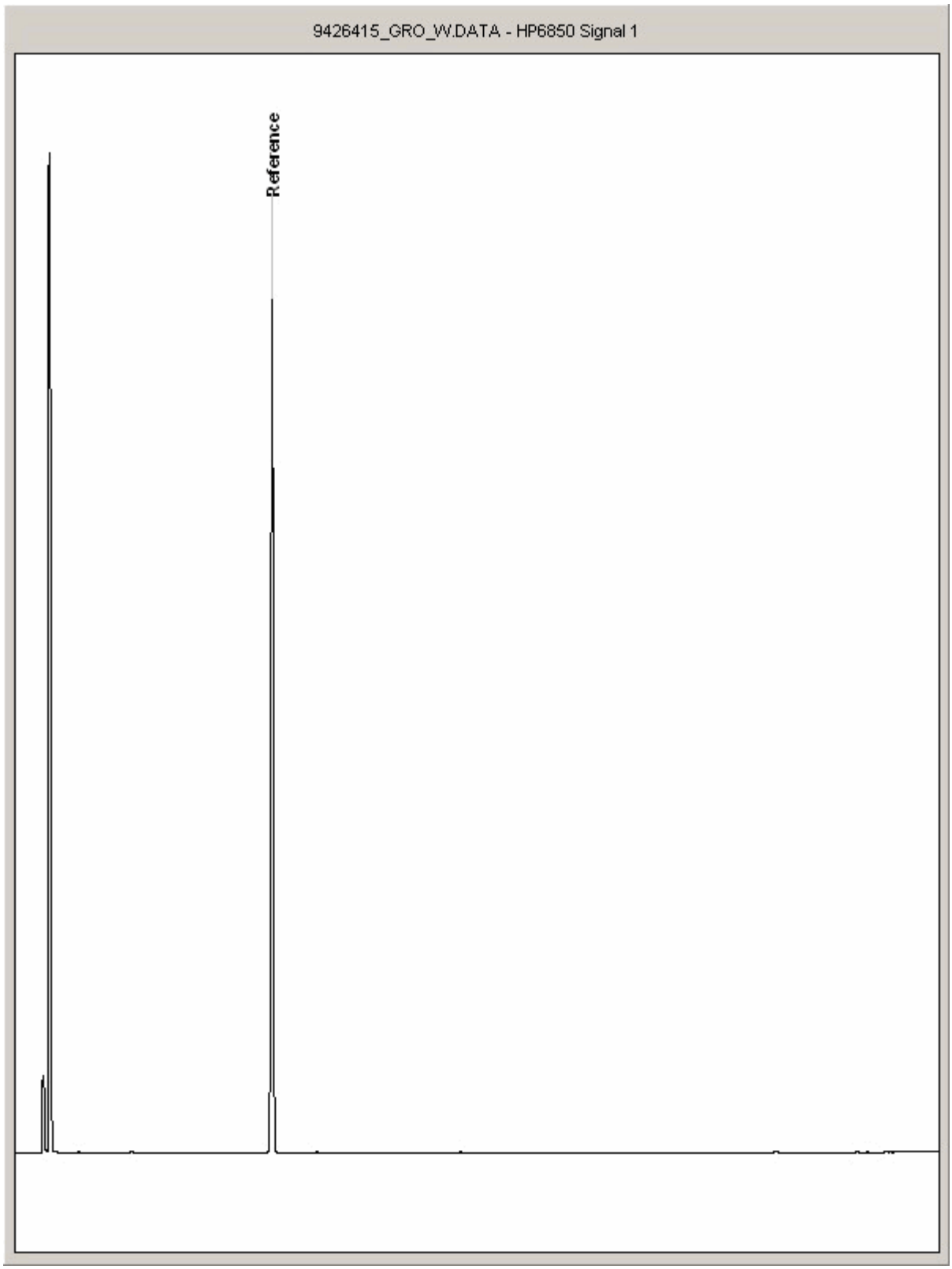
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426415
Sample ID : BH53

Depth :



CERTIFICATE OF ANALYSIS

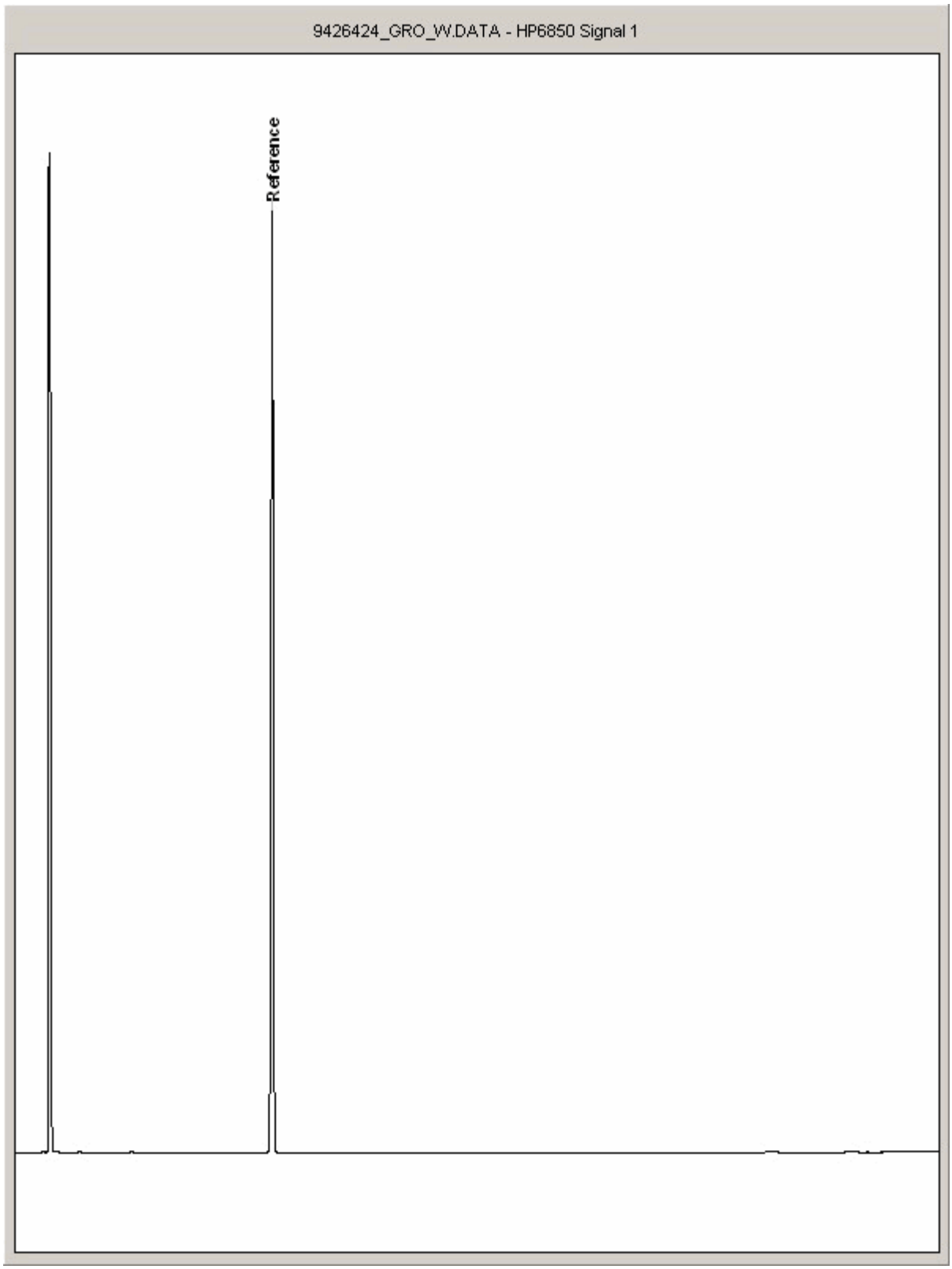
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426424
Sample ID : BG2B

Depth :



CERTIFICATE OF ANALYSIS

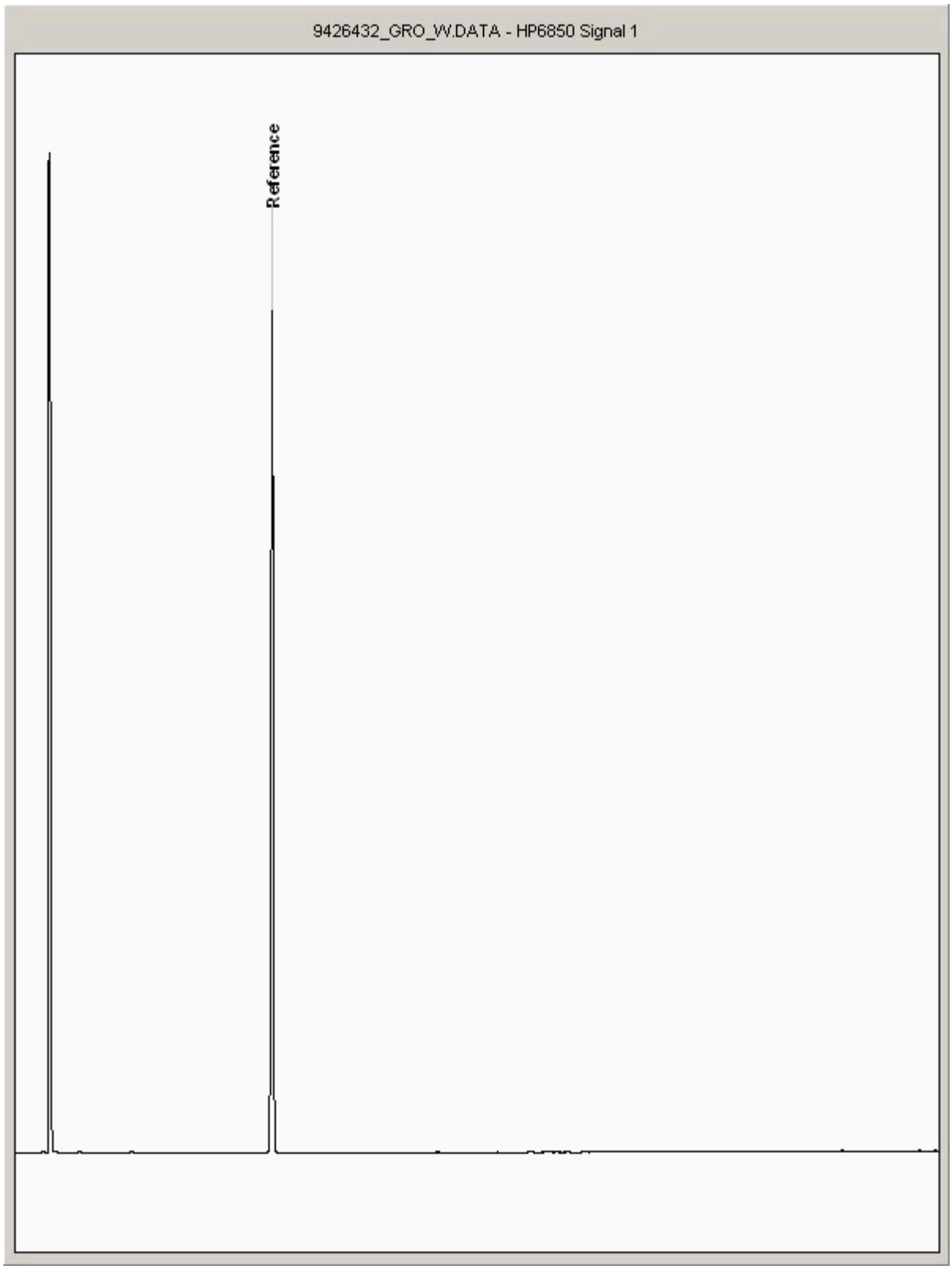
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426432
Sample ID : BH42A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

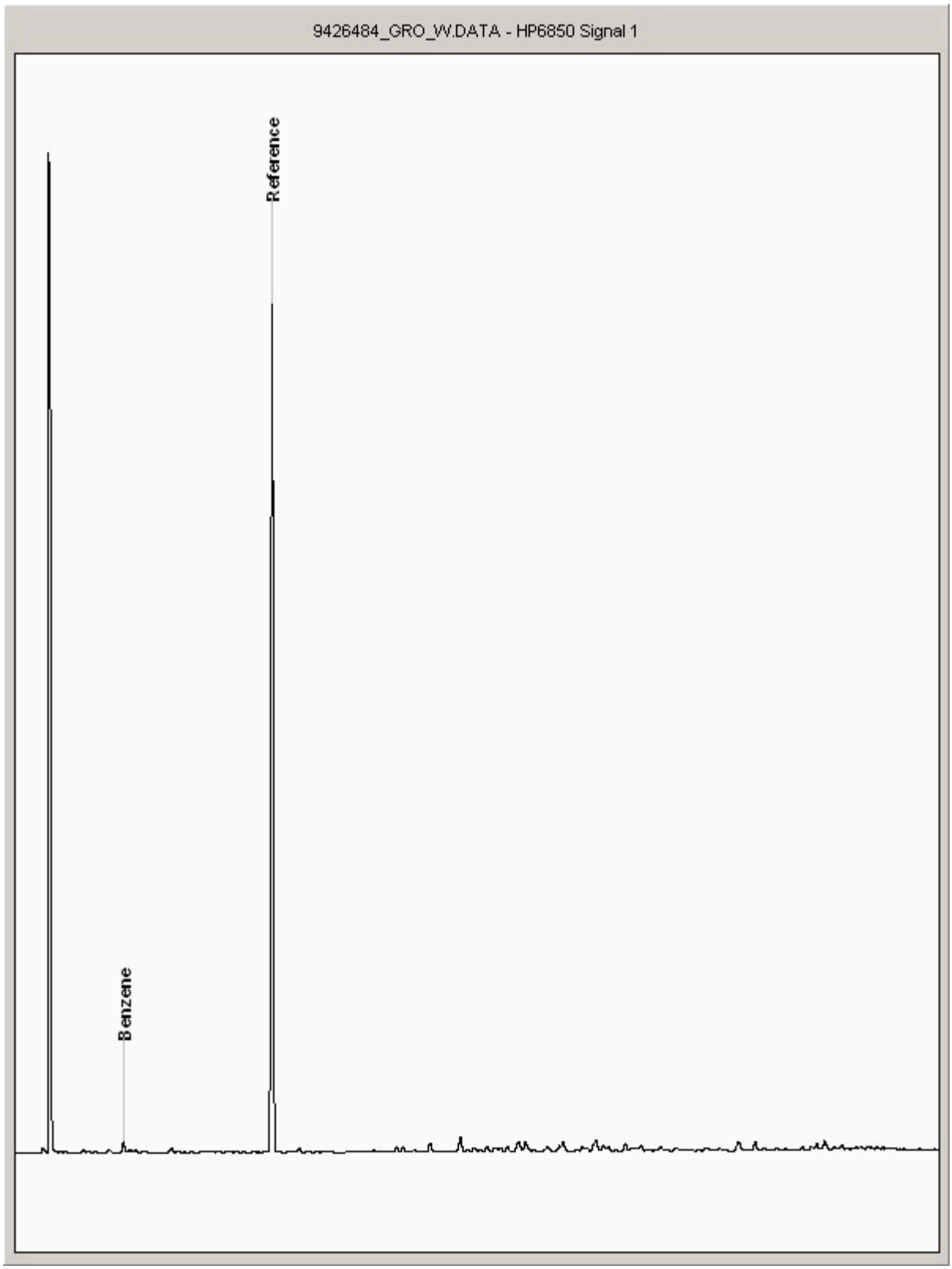
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9426484
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

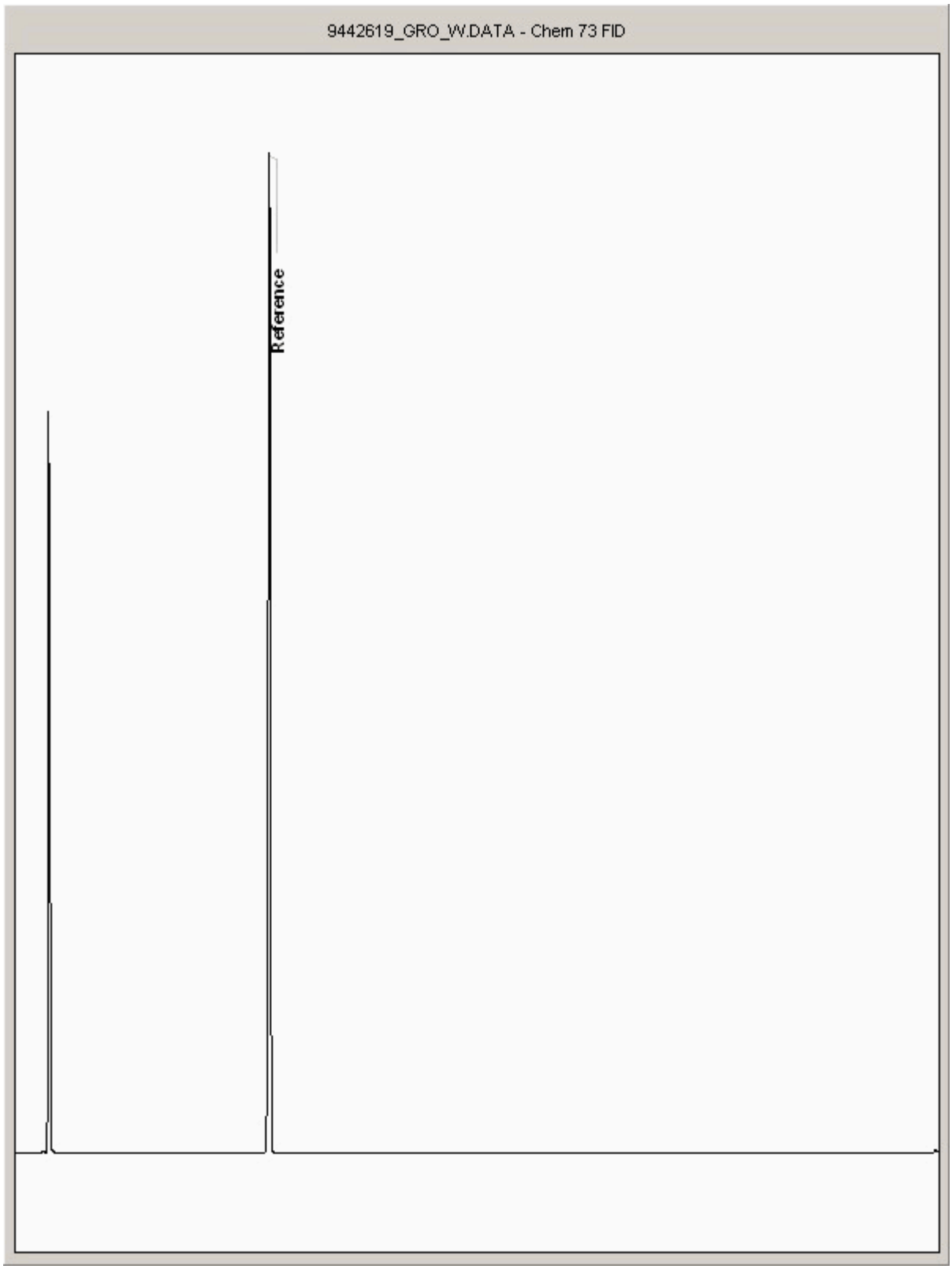
SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9442619
Sample ID : BH20 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C9C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140606-125	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273595
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

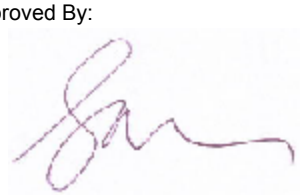
Date:	17 June 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140607-29
Your Reference:	JER5575U
Location:	SHLNG
Report No:	273783

We received 14 samples on Saturday June 07, 2014 and 14 of these samples were scheduled for analysis which was completed on Tuesday June 17, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9407049	BH19			05/06/2014
9407056	BH49			05/06/2014
9407050	BH50			05/06/2014
9407051	BH65			05/06/2014
9407055	BH47A			05/06/2014
9407058	BH61A			05/06/2014
9407053	BH47A DUPLICATE			05/06/2014
9407057	BH61A DUPLICATE			05/06/2014
9407059	BH60B			05/06/2014
9407054	BH60B DUPLICATE			05/06/2014
9407047	BH19 DUPLICATE			05/06/2014
9407046	BH49 DUPLICATE			05/06/2014
9407048	BH50 DUPLICATE			05/06/2014
9407052	BH65 DUPLICATE			05/06/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 14	9407049	BH19			1l Glass bottle (ALE
			9407056	BH49			Vial (ALE297)
			9407050	BH50			1l Glass bottle (ALE
			9407051	BH65			Vial (ALE297)
			9407055	BH47A			1l Glass bottle (ALE
			9407058	BH61A			Vial (ALE297)
			9407053	BH47A DUPLICATE			1l Glass bottle (ALE
			9407057	BH61A DUPLICATE			Vial (ALE297)
			9407059	BH60B			1l Glass bottle (ALE
			9407054	BH60B DUPLICATE			Vial (ALE297)
			9407047	BH19 DUPLICATE			1l Glass bottle (ALE
			9407046	BH49 DUPLICATE			Vial (ALE297)
			9407048	BH50 DUPLICATE			1l Glass bottle (ALE
			9407052	BH65 DUPLICATE			Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 14					

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH19	BH49	BH50	BH65	BH47A	BH61A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014
			SDG Ref	140607-29	140607-29	140607-29	140607-29	140607-29	140607-29
			Lab Sample No.(s)	9407049	9407056	9407050	9407051	9407055	9407058
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	2860 #	<46 #	118 #	1310 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	262	<10	63.7	286
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	2600	<10	54.2	1020

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH47A DUPLICATE	BH61A DUPLICATE	BH60B	BH60B DUPLICATE	BH19 DUPLICATE	BH49 DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014
			SDG Ref	140607-29	140607-29	140607-29	140607-29	140607-29	140607-29
			Lab Sample No.(s)	9407053	9407057	9407059	9407054	9407047	9407046
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		116 #	1320 #	<46 #	113 #	<46 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		64.5	313	<10	<10	<10	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		51.5	1010	<10	113	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH50 DUPLICATE	BH65 DUPLICATE
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/06/2014	05/06/2014
			Sampled Time	.	.
			Date Received	07/06/2014	07/06/2014
			SDG Ref	140607-29	140607-29
			Lab Sample No.(s)	9407048	9407052
			AGS Reference		
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		2420 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		262	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		2160	<10

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH19	BH49	BH50	BH65	BH47A	BH61A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014
			SDG Ref	140607-29	140607-29	140607-29	140607-29	140607-29	140607-29
			Lab Sample No.(s)	9407049	9407056	9407050	9407051	9407055	9407058
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10 1	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	70	<10 1	<10	261
GRO >C8-C10	<10 µg/l	TM245		<10	<10	1550	<10 1	<10	105
GRO >C5-C10	<10 µg/l	TM245		<10	<10	1620	<10 1	<10	371

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH47A DUPLICATE	BH61A DUPLICATE	BH60B	BH60B DUPLICATE	BH19 DUPLICATE	BH49 DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014	05/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014	07/06/2014
			SDG Ref	140607-29	140607-29	140607-29	140607-29	140607-29	140607-29
			Lab Sample No.(s)	9407053	9407057	9407059	9407054	9407047	9407046
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	229	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	85	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	319	<10	10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH50 DUPLICATE	BH65 DUPLICATE				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	05/06/2014	05/06/2014				
			Sampled Time	.	.				
			Date Received	07/06/2014	07/06/2014				
			SDG Ref	140607-29	140607-29				
			Lab Sample No.(s)	9407048	9407052				
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10				
GRO >C6-C8	<10 µg/l	TM245		55	<10				
GRO >C8-C10	<10 µg/l	TM245		1520	<10				
GRO >C5-C10	<10 µg/l	TM245		1580	10				

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9407049	9407056	9407050	9407051	9407055	9407058	9407053	9407057	9407059	9407054
Customer Sample Ref.	BH19	BH49	BH50	BH65	BH47A	BH61A	BH47A DUPLICATE	BH61A DUPLICATE	BH60B	BH60B DUPLICATE
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014
GRO by GC-FID (W)	17-Jun-2014	15-Jun-2014	15-Jun-2014	17-Jun-2014	17-Jun-2014	16-Jun-2014	15-Jun-2014	15-Jun-2014	15-Jun-2014	15-Jun-2014

Lab Sample No(s)	9407047	9407046	9407048	9407052
Customer Sample Ref.	BH19 DUPLICATE	BH49 DUPLICATE	BH50 DUPLICATE	BH65 DUPLICATE
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	16-Jun-2014	16-Jun-2014	16-Jun-2014	16-Jun-2014
GRO by GC-FID (W)	15-Jun-2014	15-Jun-2014	15-Jun-2014	15-Jun-2014

CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

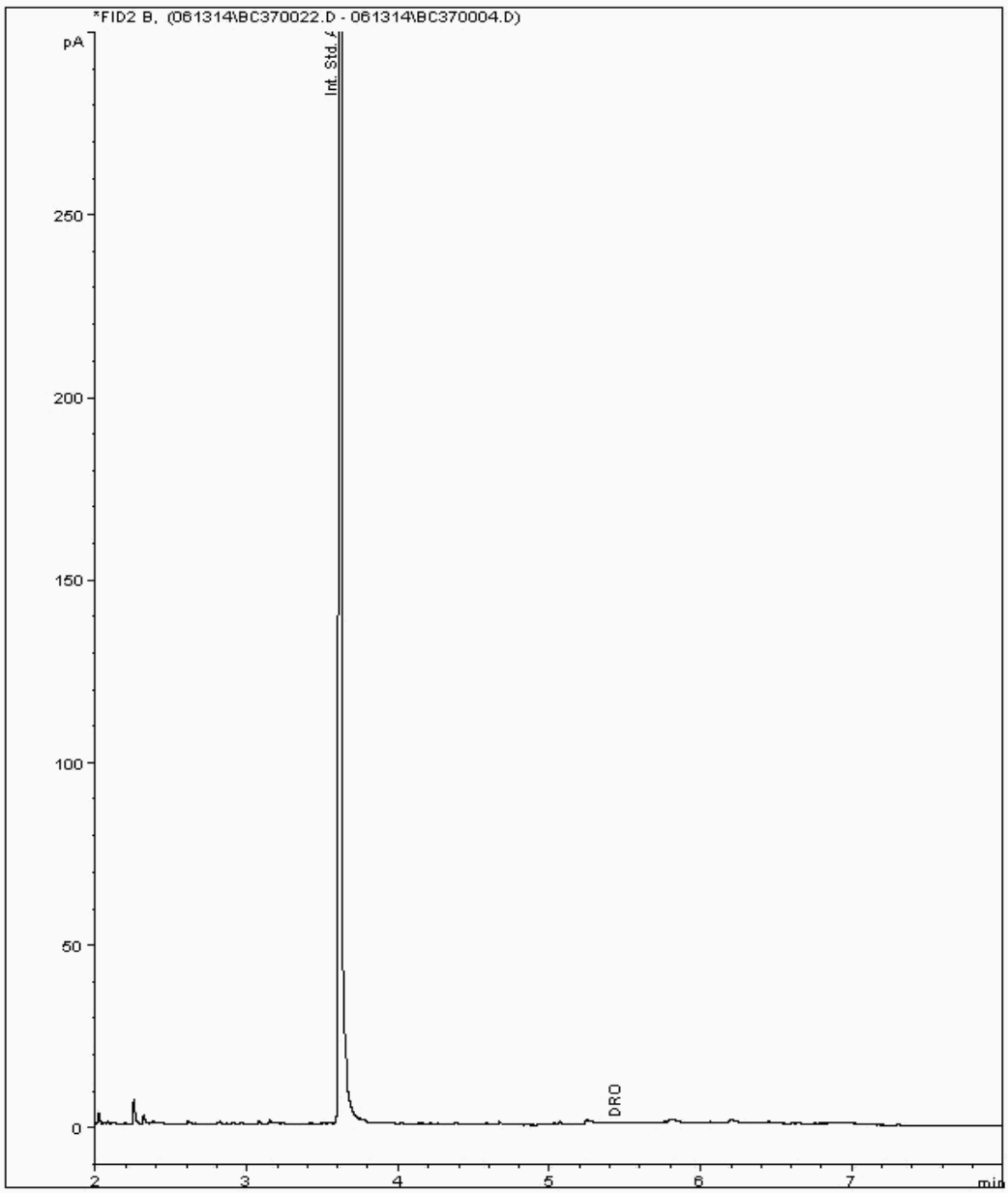
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412370
Sample ID : BH49 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936837-9412370
Date Acquired : 14/06/2014 00:04:12 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

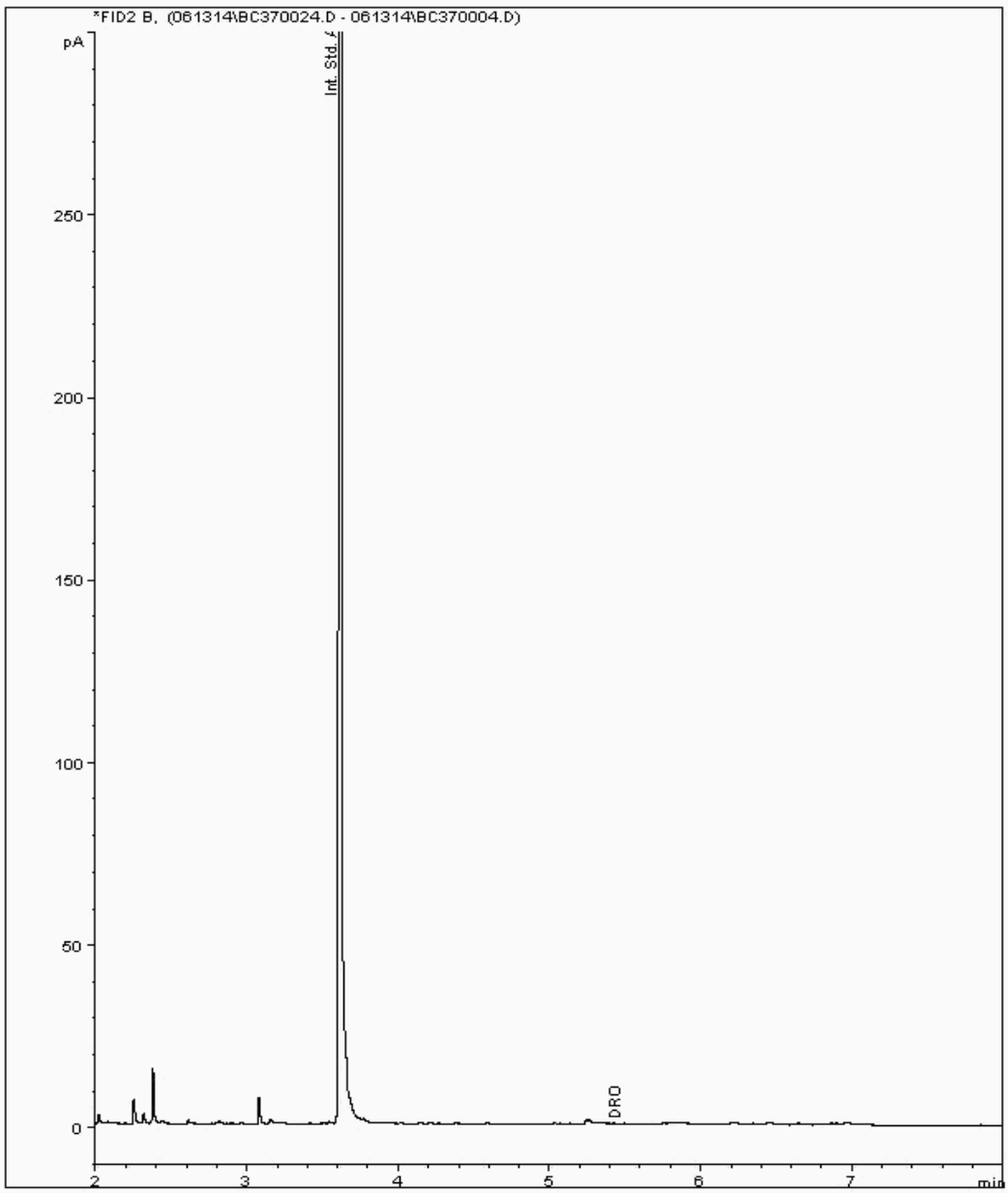
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412386
Sample ID : BH19 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936841-9412386
Date Acquired : 14/06/2014 00:50:32 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

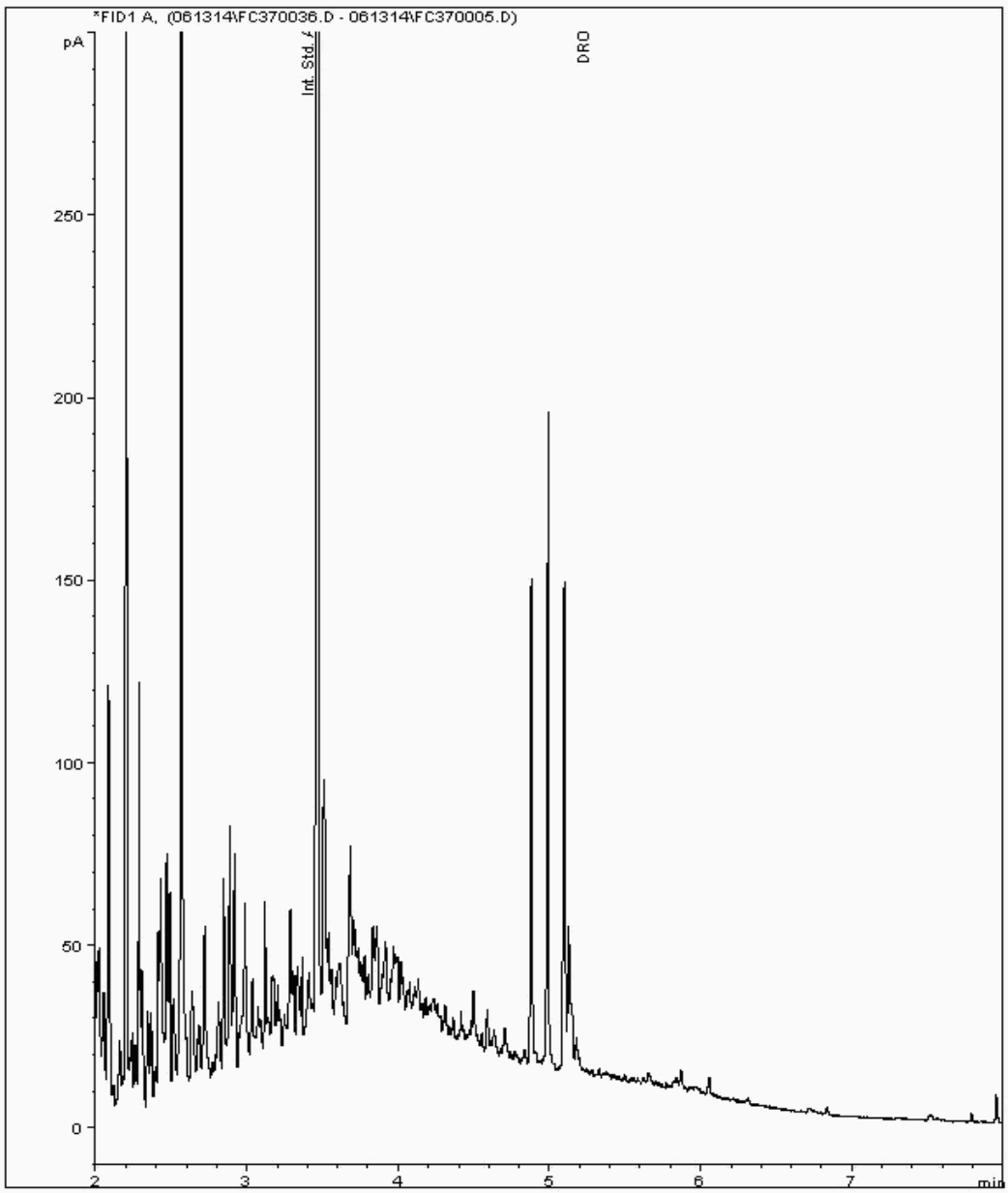
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412398
Sample ID : BH50

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936850-9412398
Date Acquired : 14/06/2014 05:30:16 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

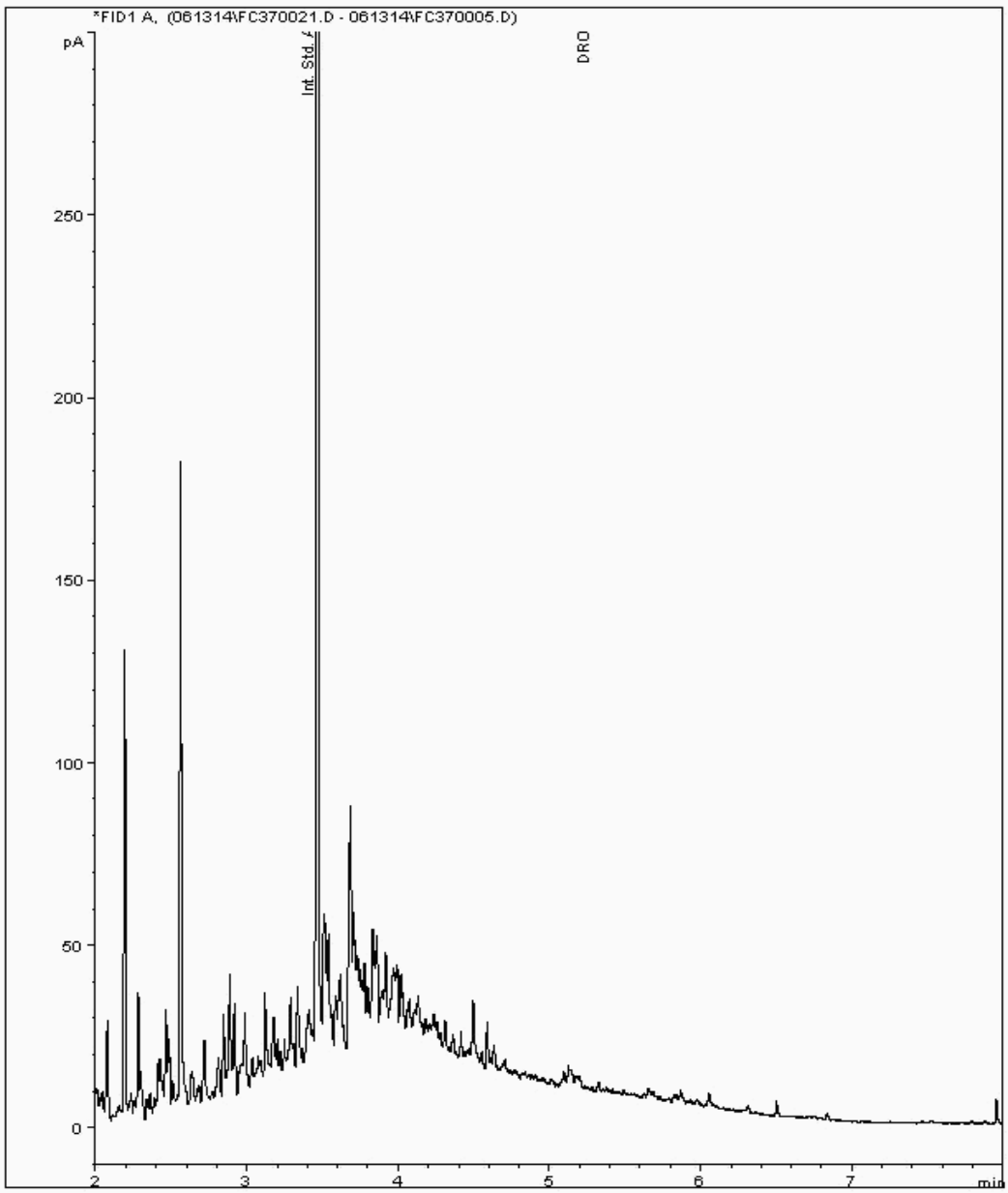
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412408
Sample ID : BH50 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936844-9412408
Date Acquired : 13/06/2014 23:41:04 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

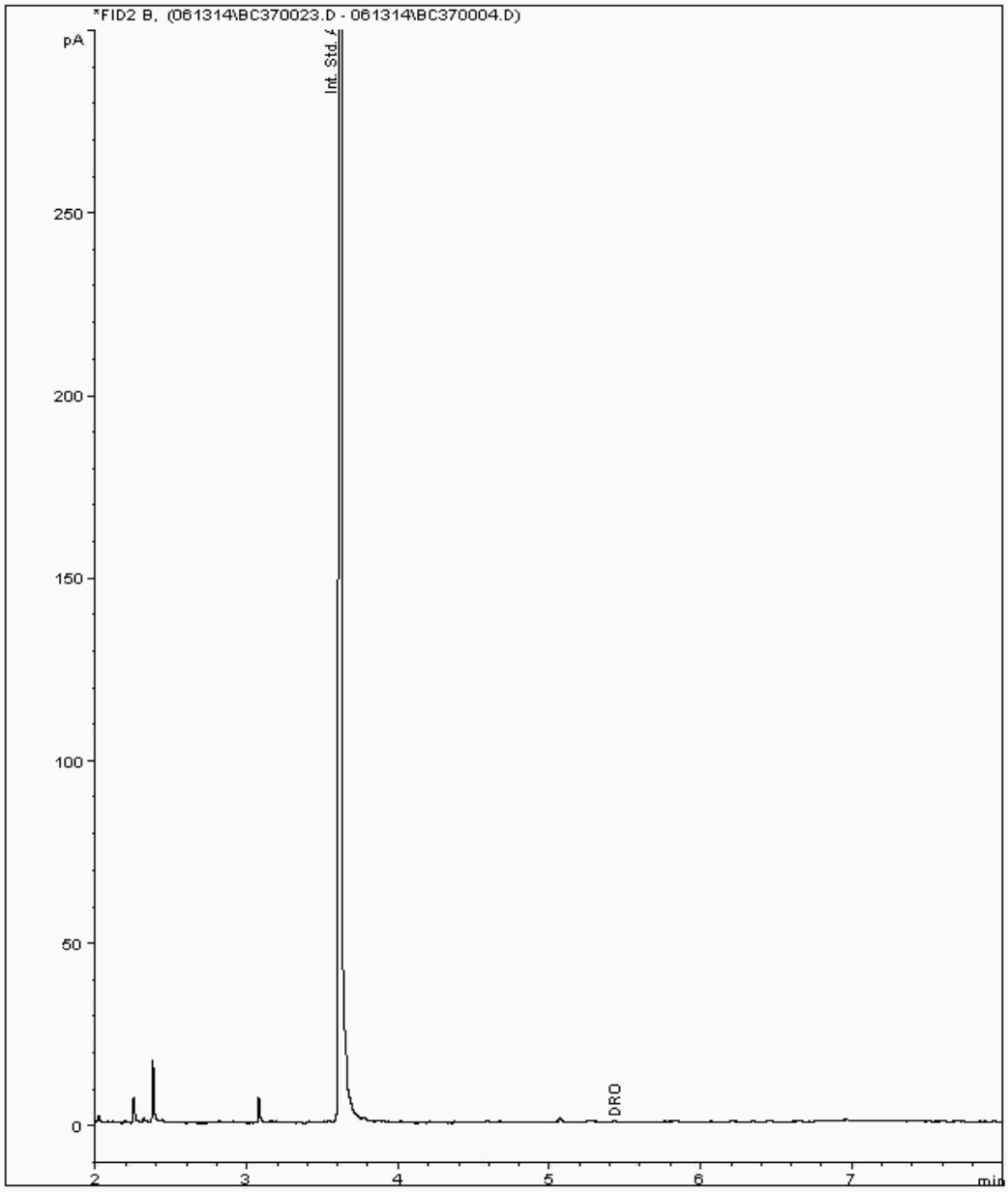
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9412422 **Sample ID :** BH65 DUPLICATE **Depth :**

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936856-9412422
Date Acquired : 14/06/2014 00:27:28 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

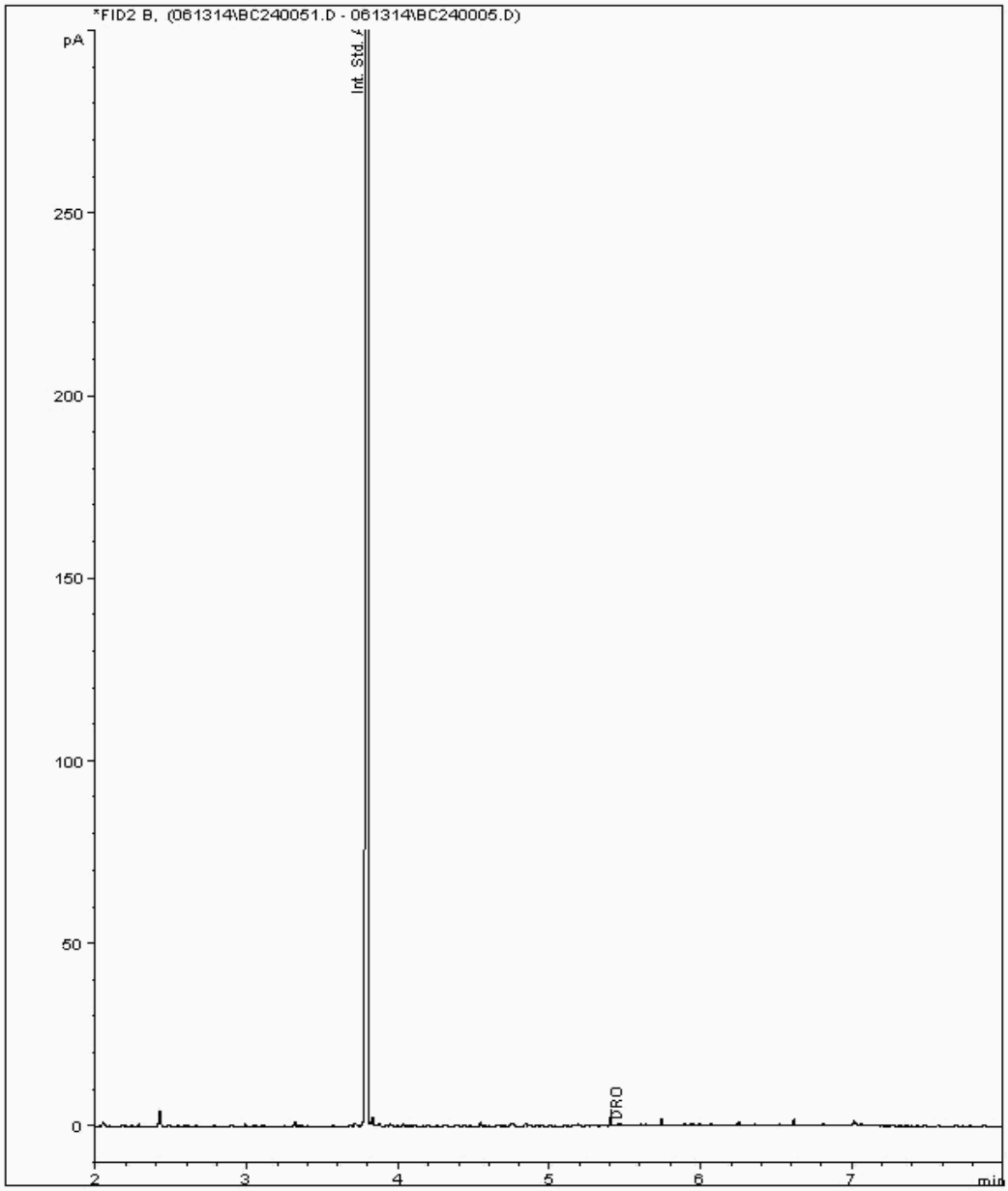
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9412440 **Sample ID :** BH19 **Depth :**

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936847-9412440
Date Acquired : 14/06/2014 16:21:32 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

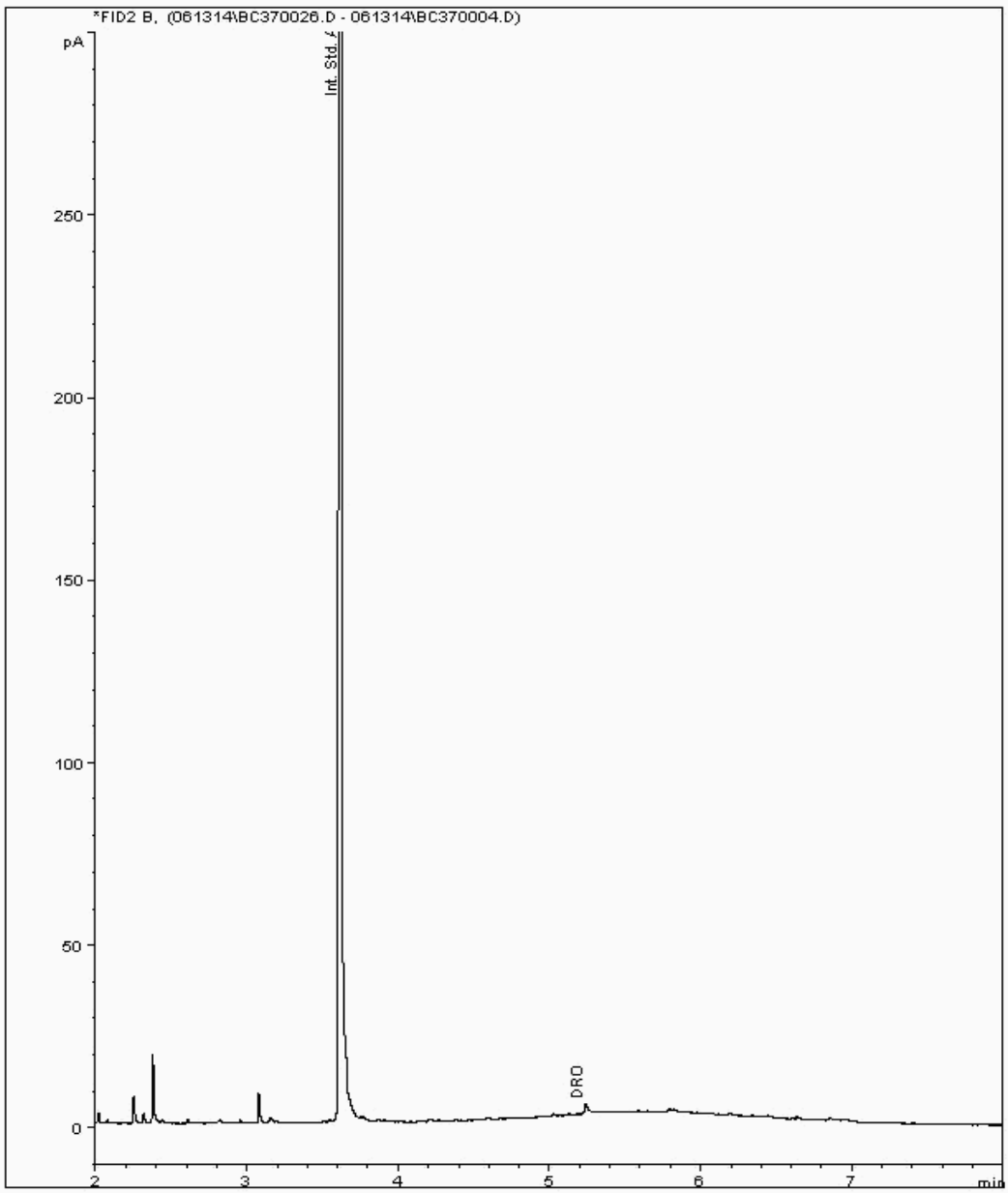
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412451
Sample ID : BH47A DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936869-9412451
Date Acquired : 14/06/2014 01:37:06 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

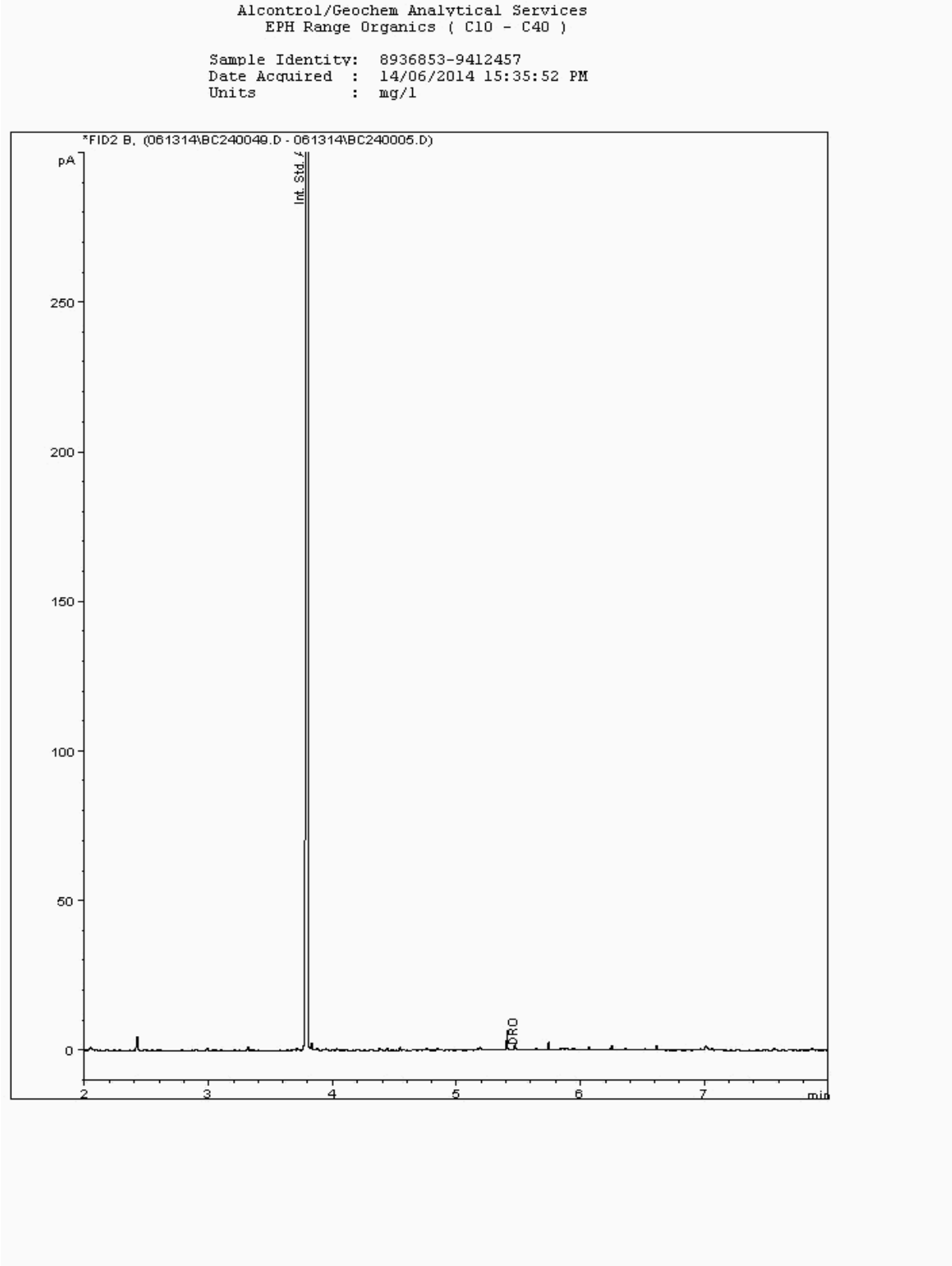
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412457
Sample ID : BH65

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

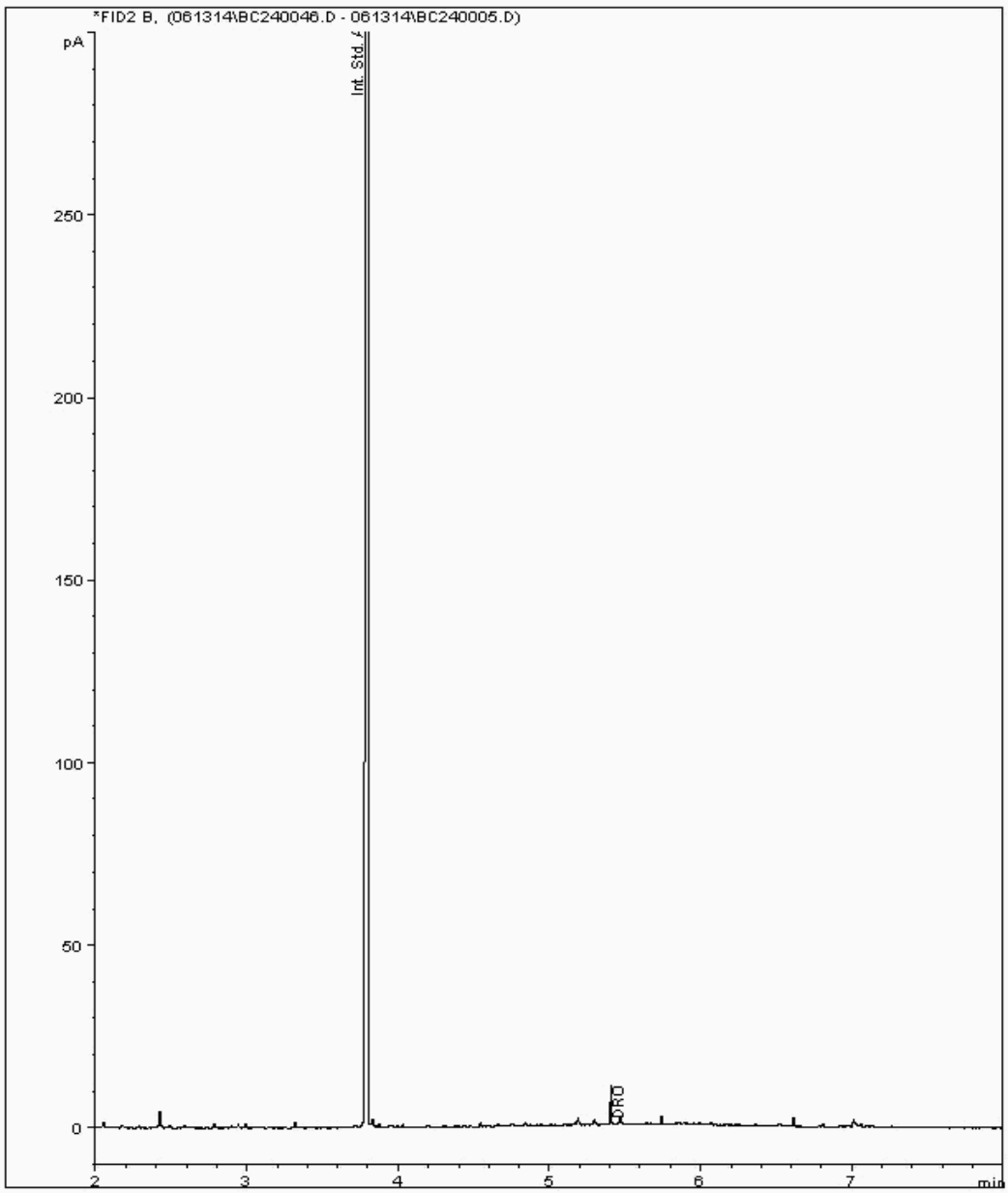
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412774
Sample ID : BH60B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936907-9412774
Date Acquired : 14/06/2014 14:26:56 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

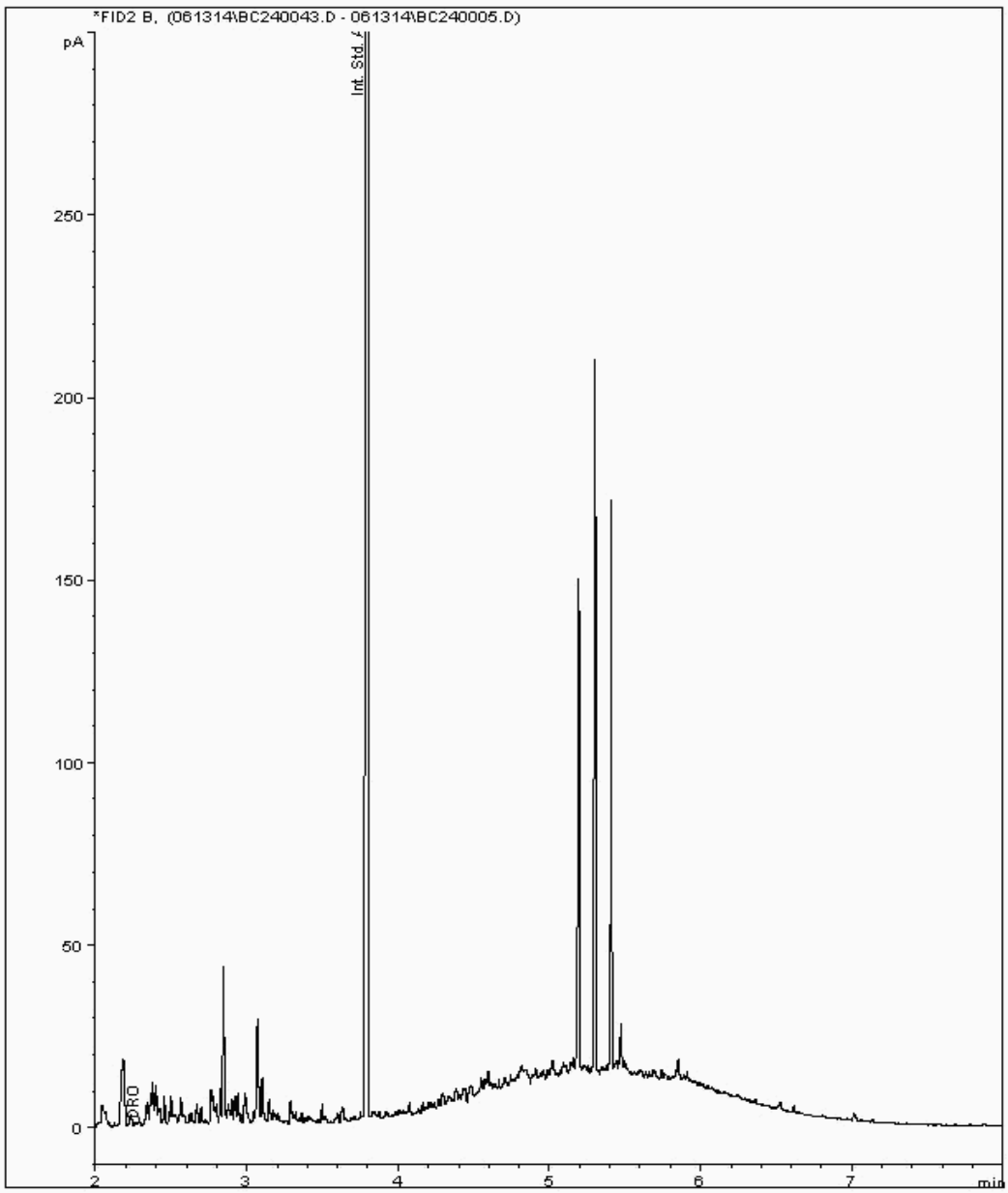
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412786
Sample ID : BH61A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936904-9412786
Date Acquired : 14/06/2014 13:18:01 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

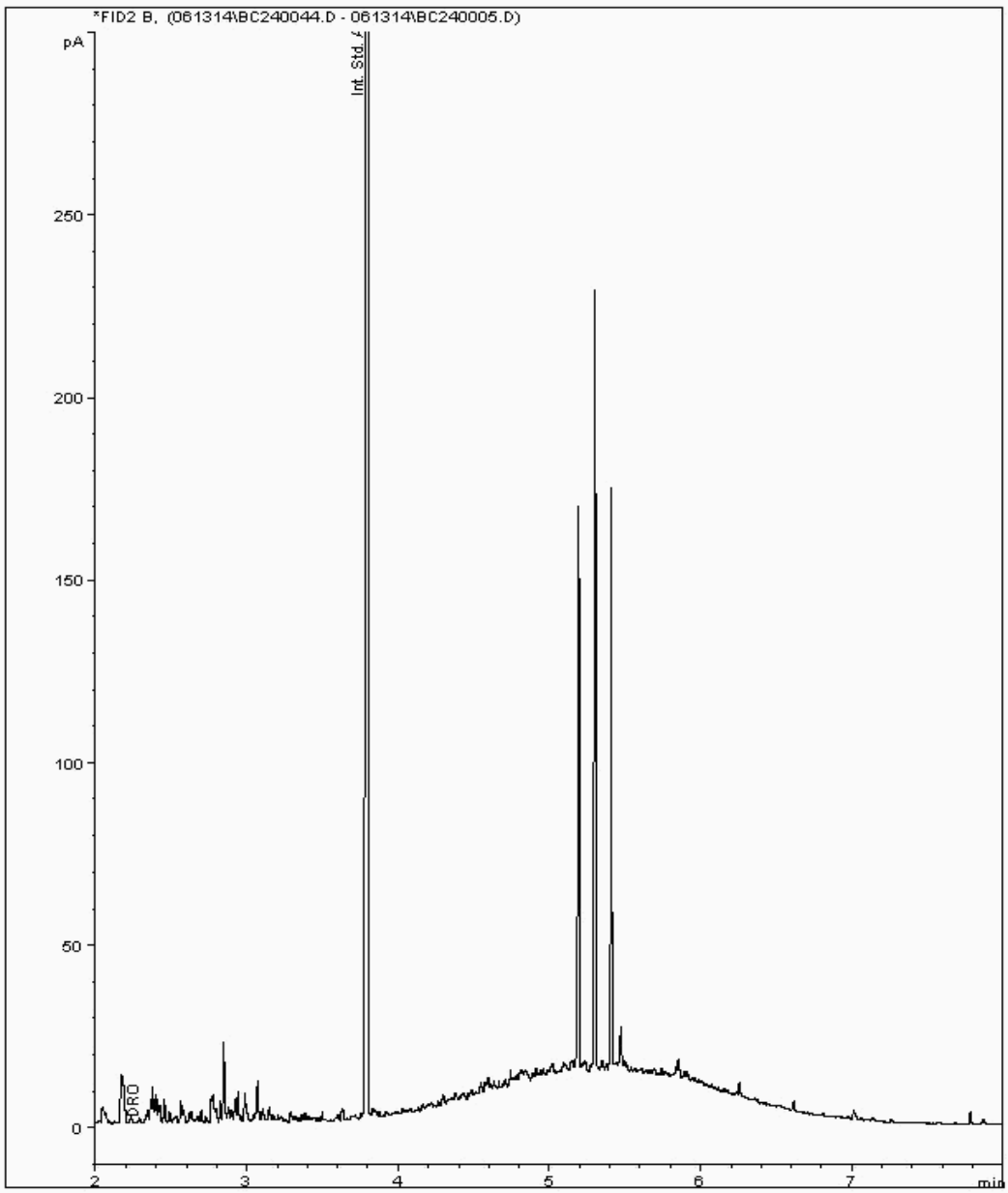
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412795
Sample ID : BH61A DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936901-9412795
Date Acquired : 14/06/2014 13:40:54 PM
Units : mg/l

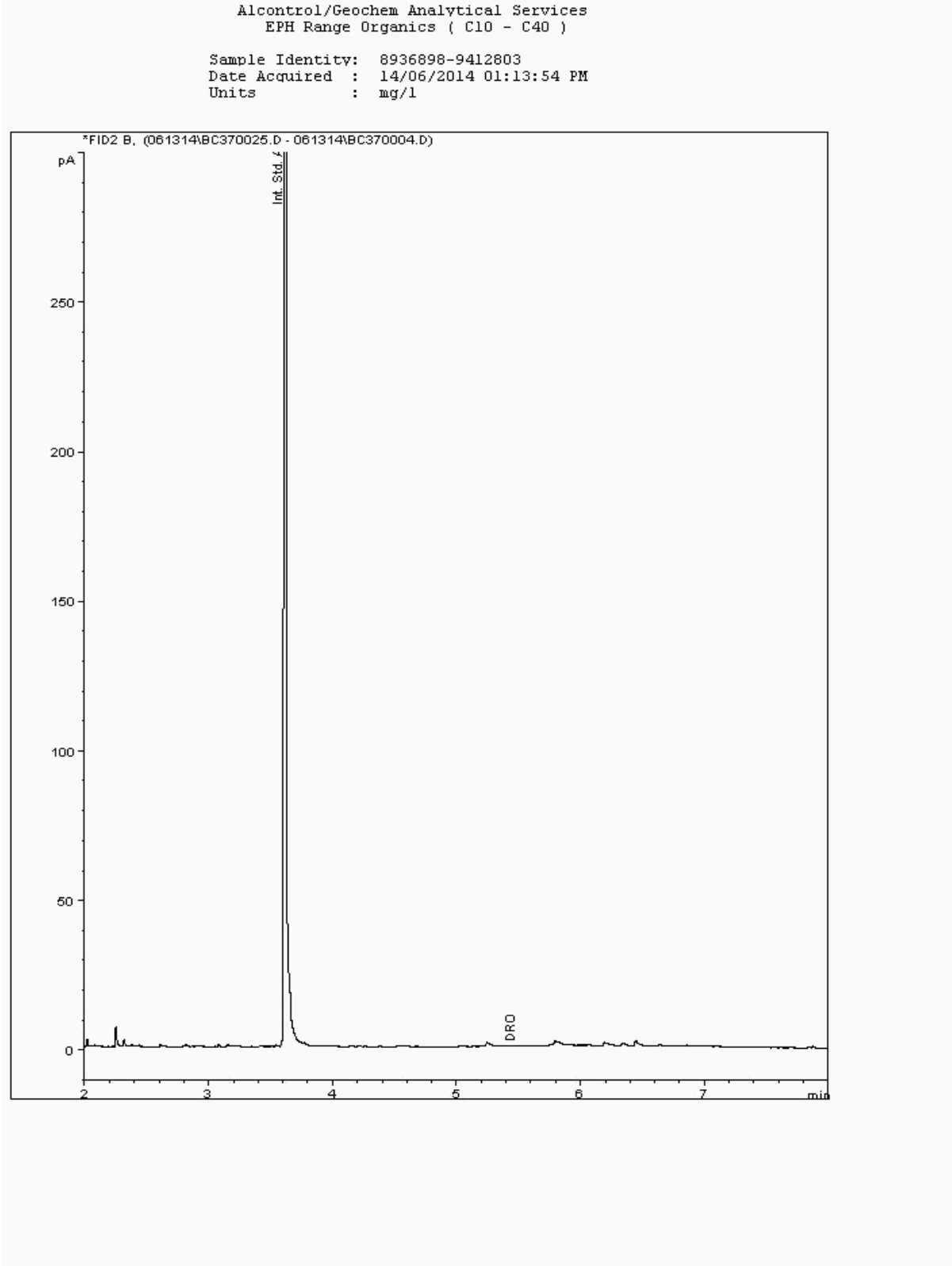


CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9412803 **Sample ID :** BH49 **Depth :**



CERTIFICATE OF ANALYSIS

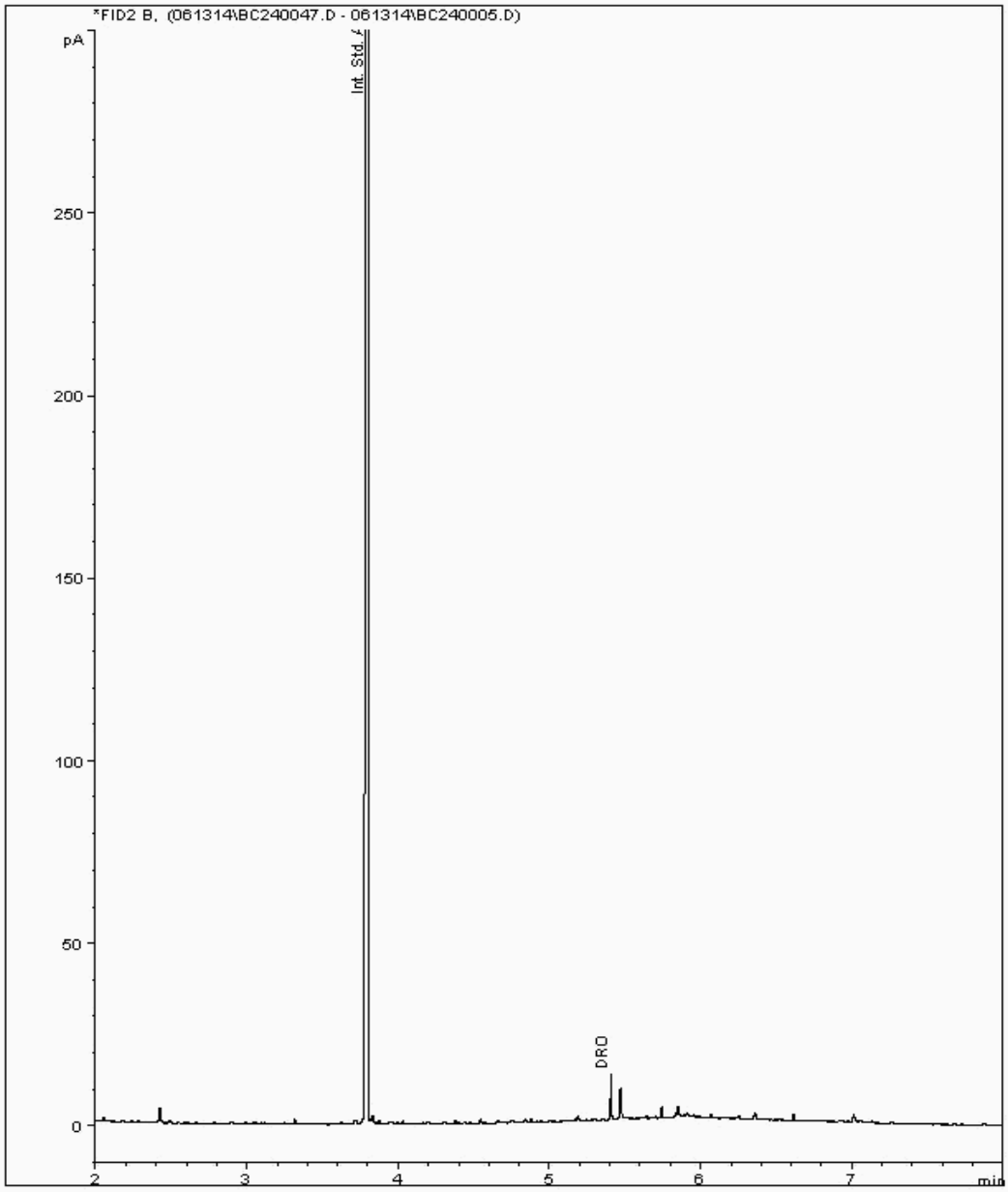
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9412808 **Sample ID :** BH47A **Depth :**

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936895-9412808
Date Acquired : 14/06/2014 14:49:48 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

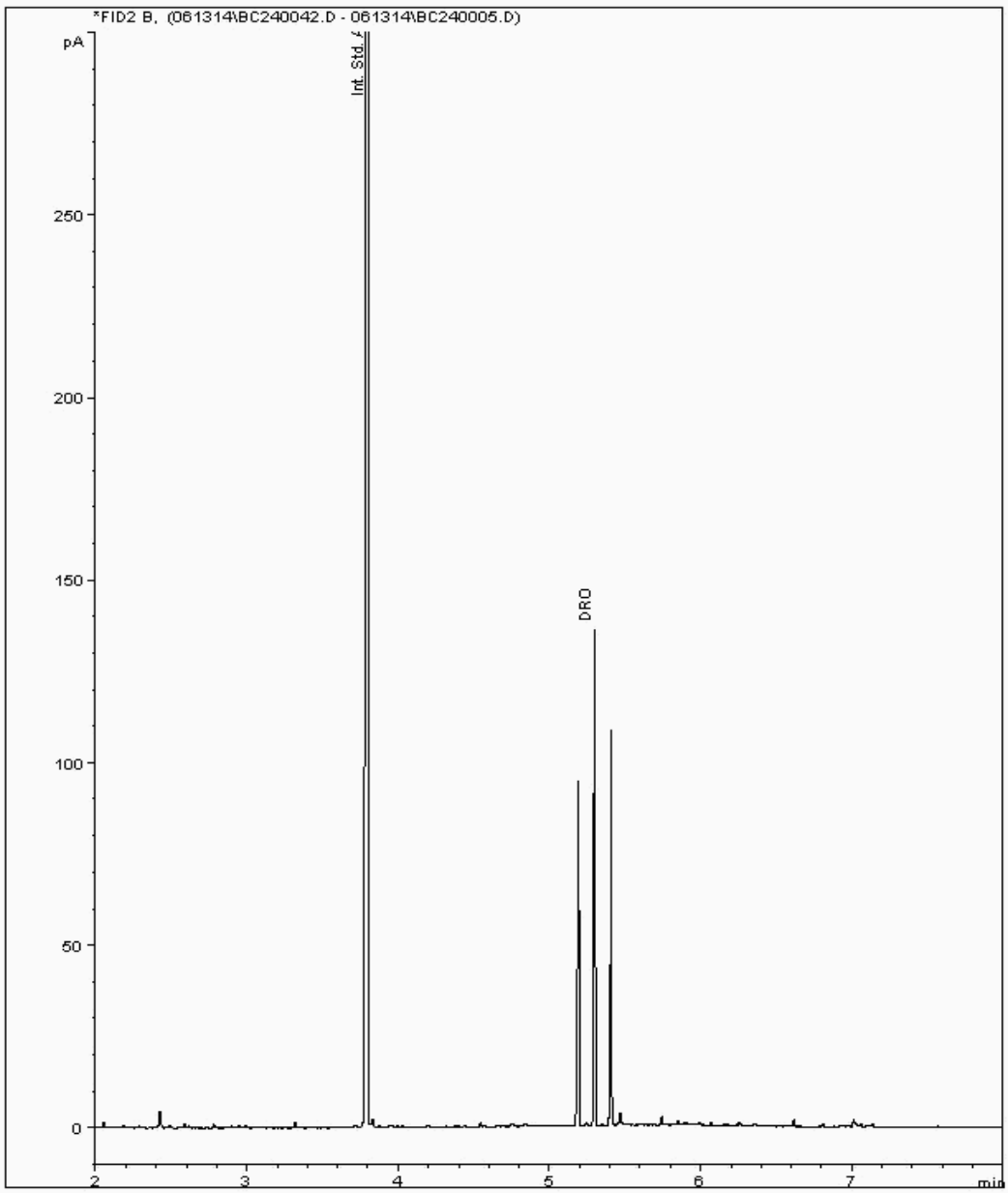
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9412819
Sample ID : BH60B DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8936882-9412819
Date Acquired : 14/06/2014 12:54:58 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

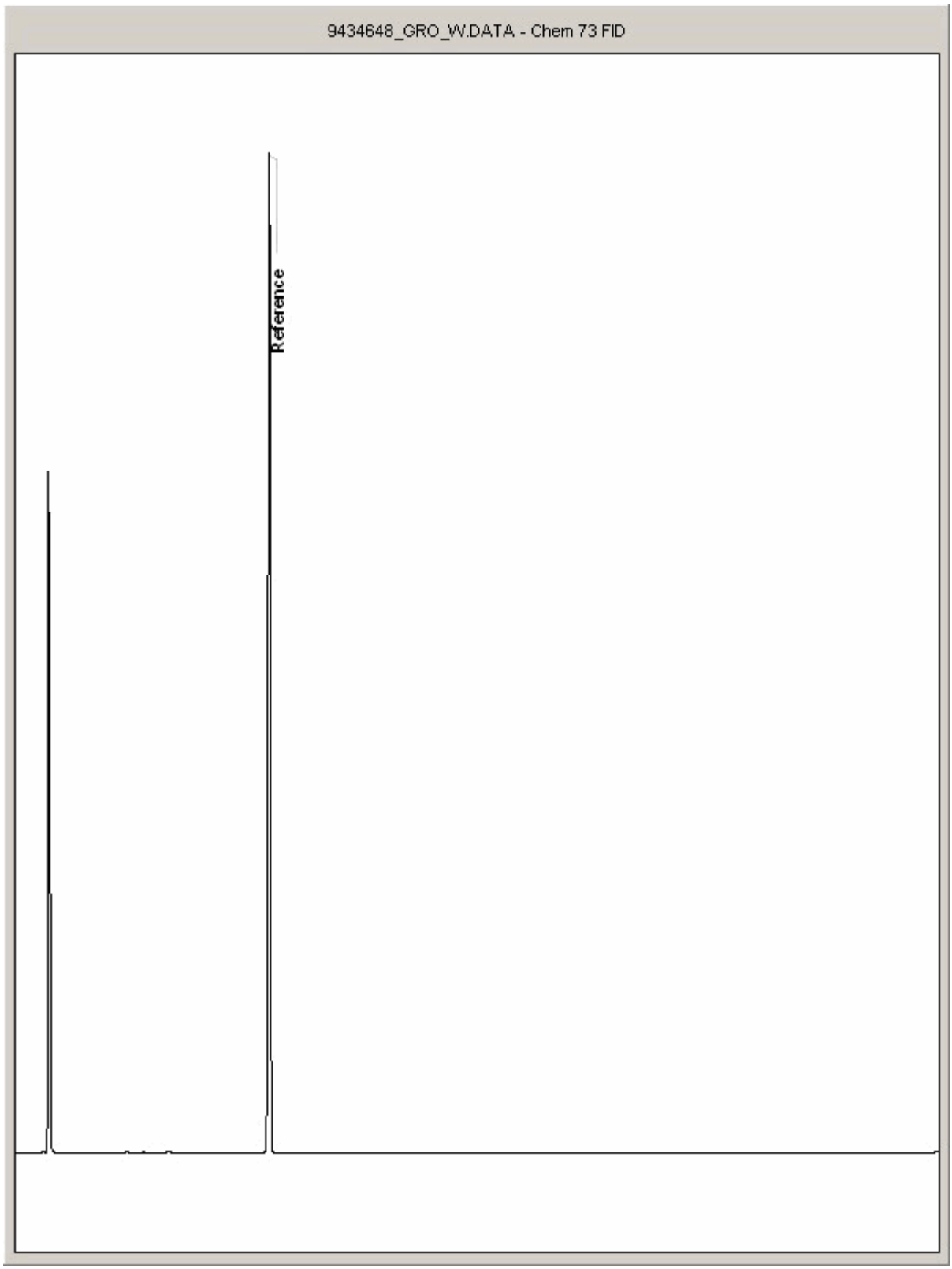
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9434648
Sample ID : BH60B

Depth :



CERTIFICATE OF ANALYSIS

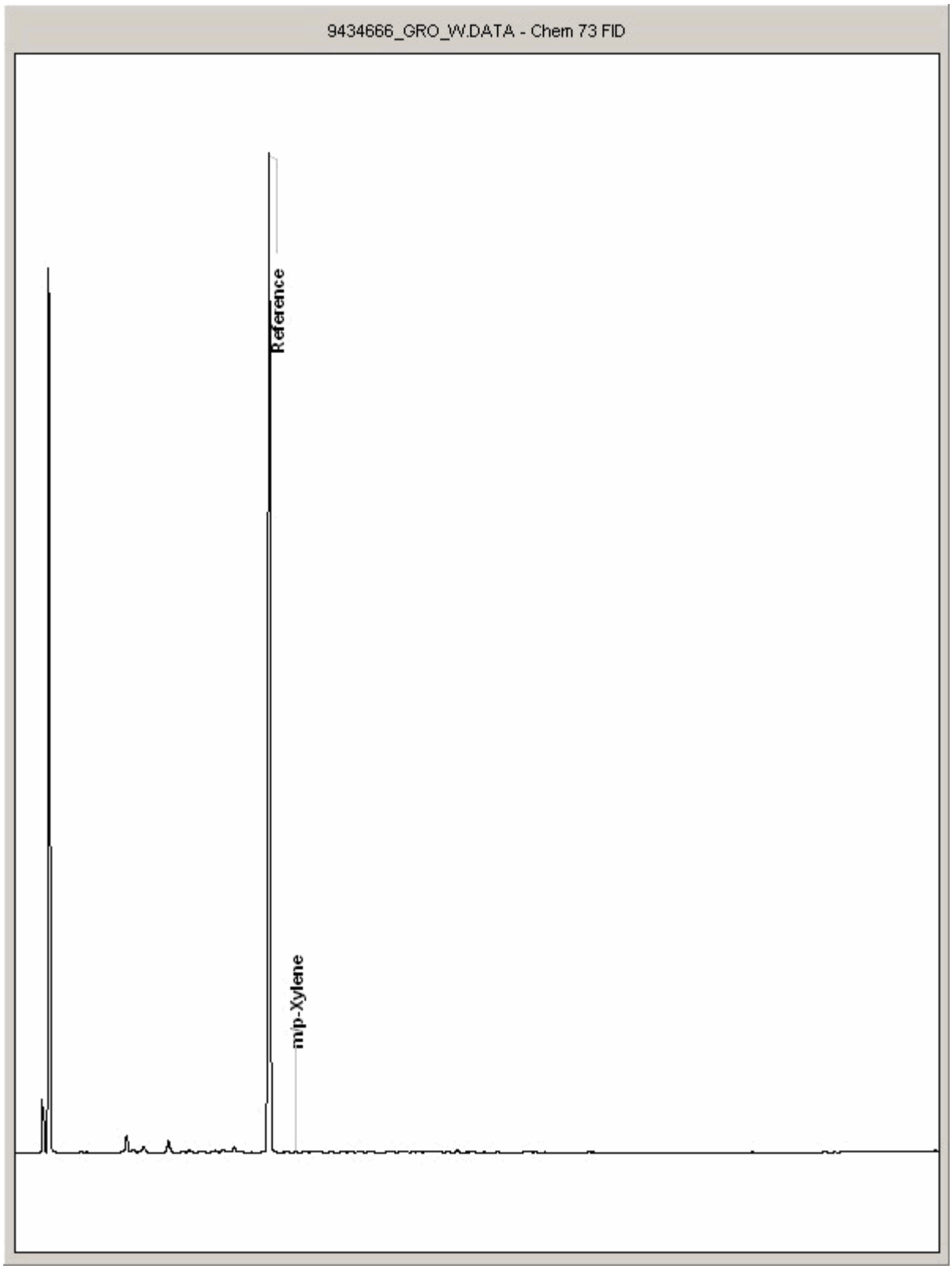
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9434666
Sample ID : BH61A

Depth :



CERTIFICATE OF ANALYSIS

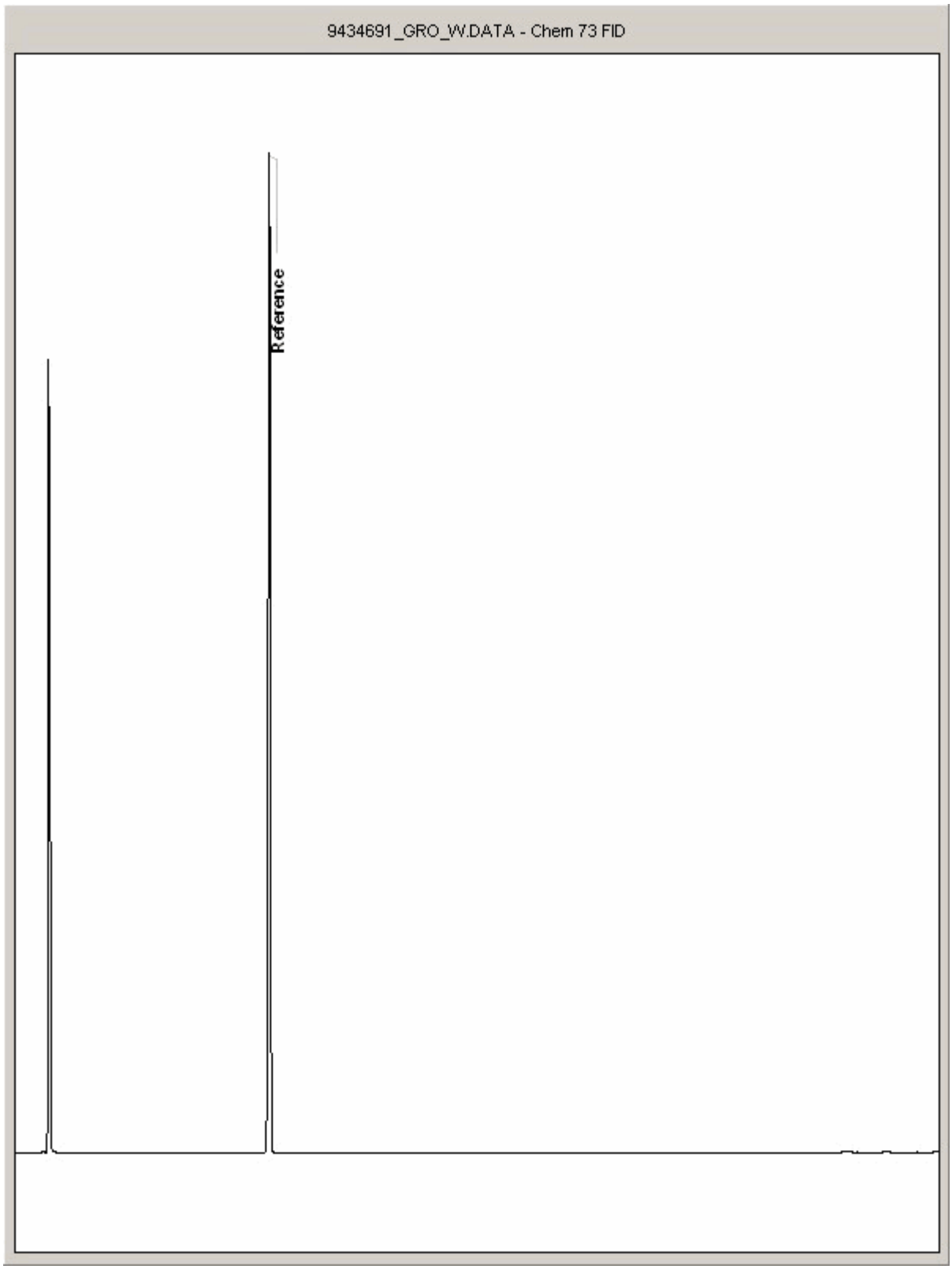
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9434691
Sample ID : BH49

Depth :



CERTIFICATE OF ANALYSIS

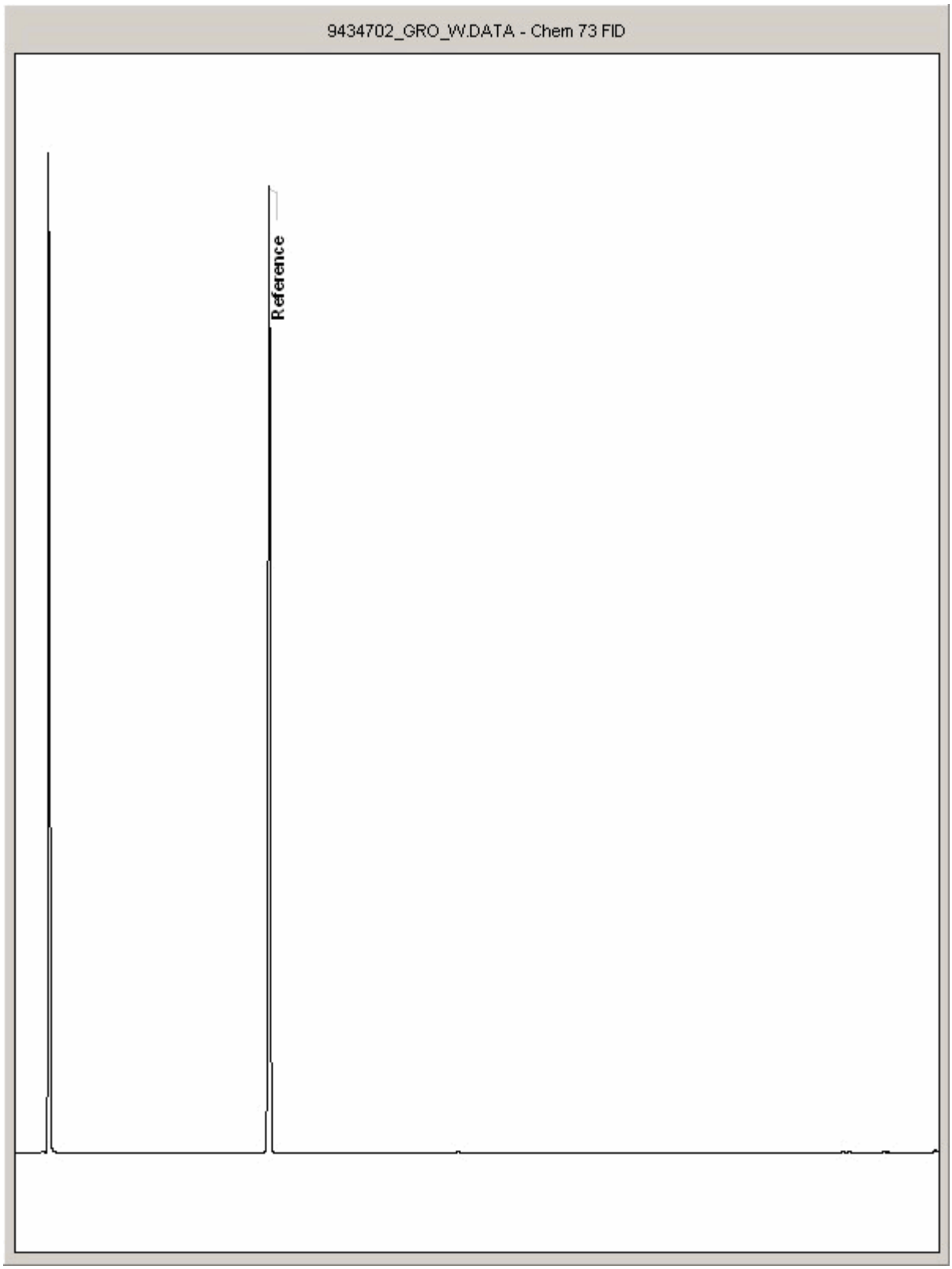
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9434702
Sample ID : BH47A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

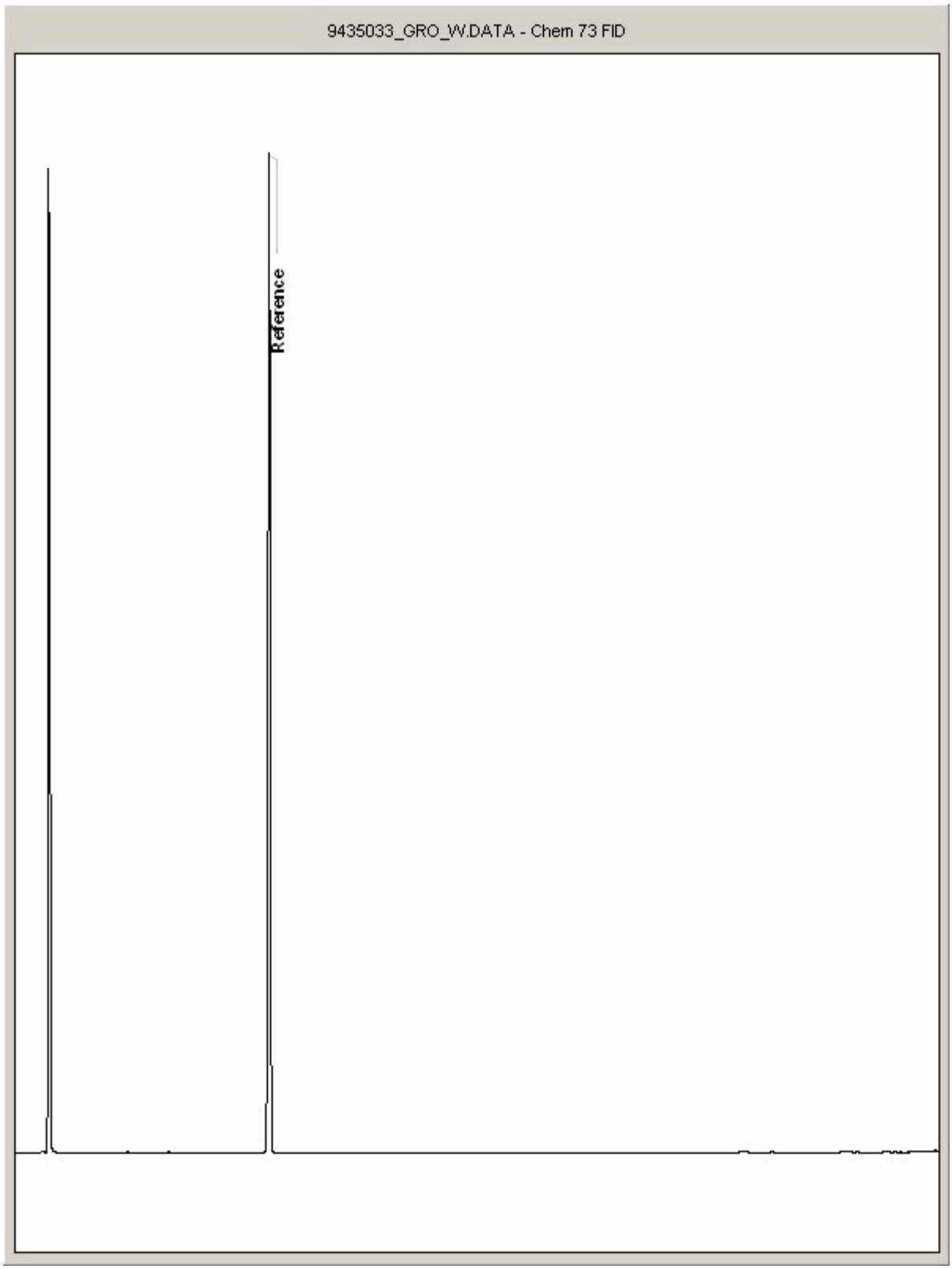
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9435033
Sample ID : BH60B DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

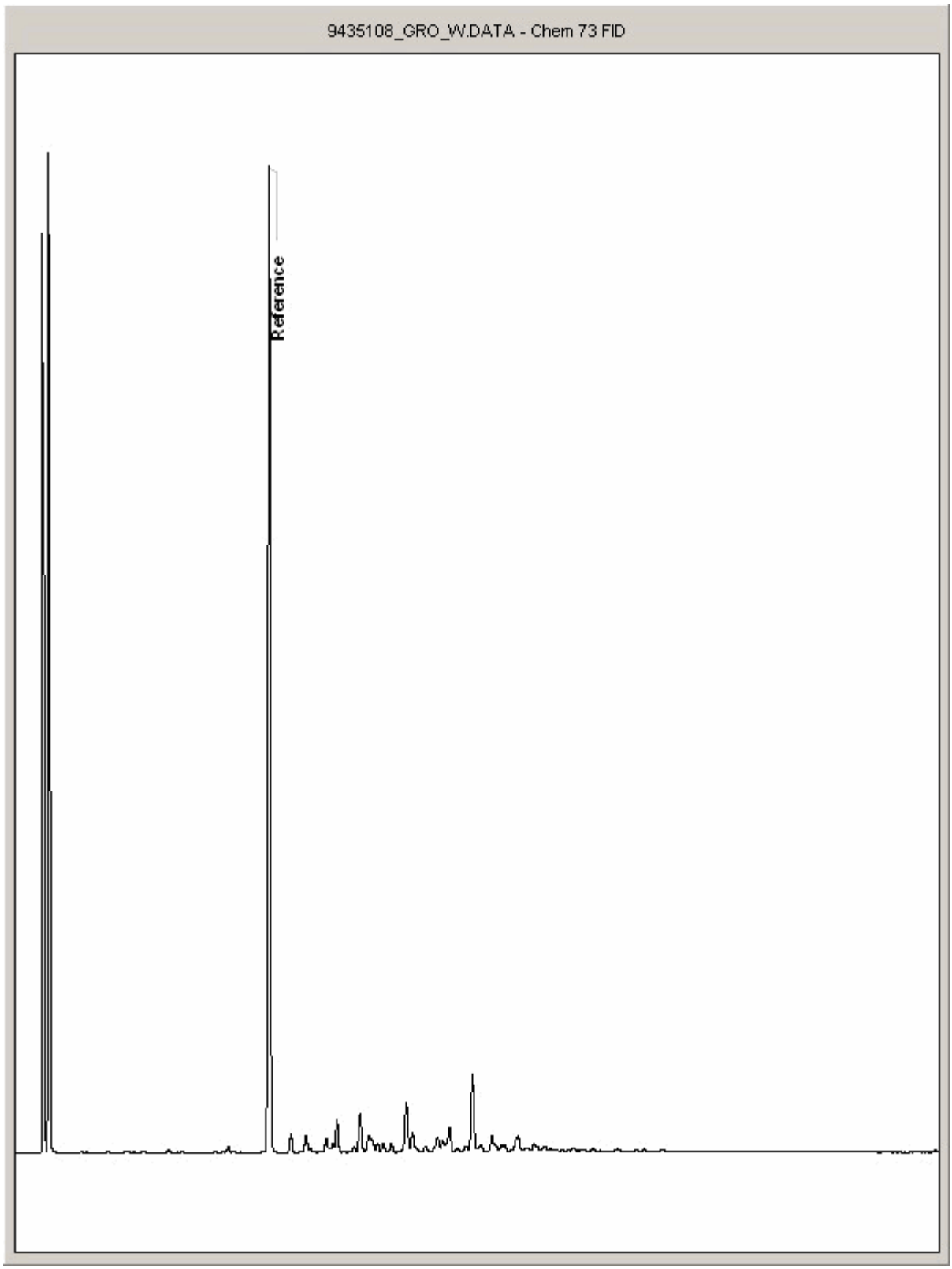
SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9435108
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

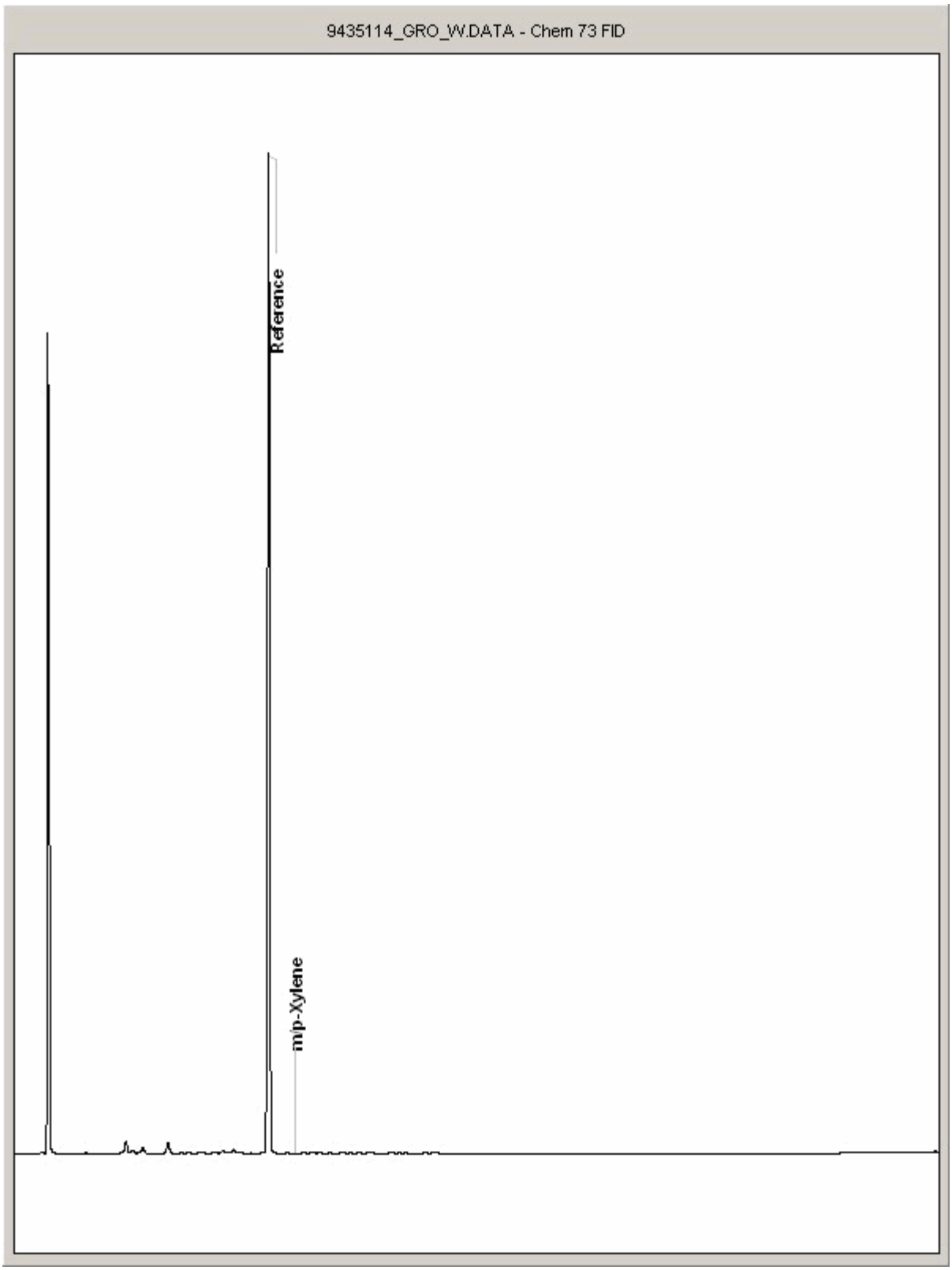
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9435114
Sample ID : BH61A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

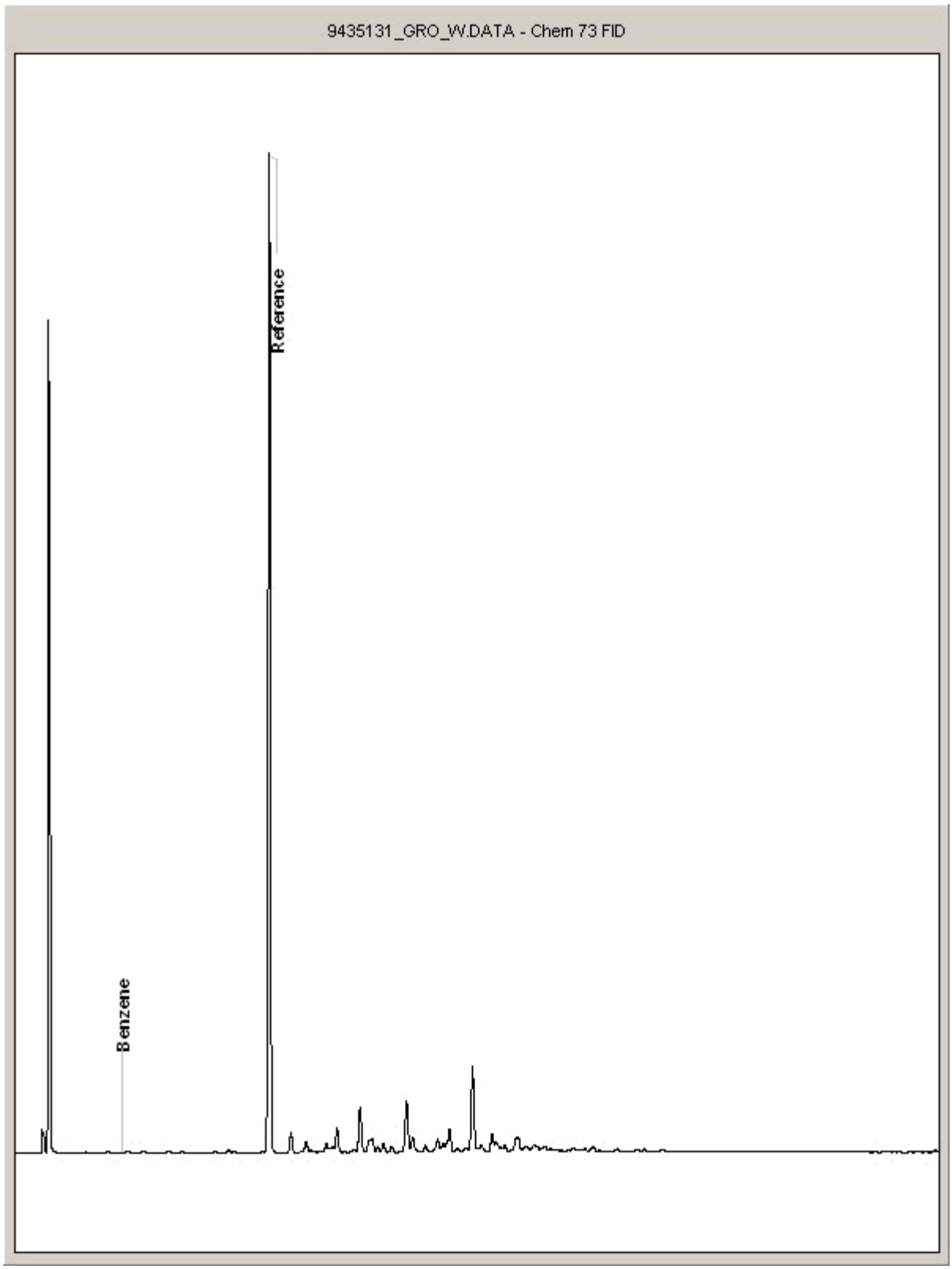
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9435131
Sample ID : BH50 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

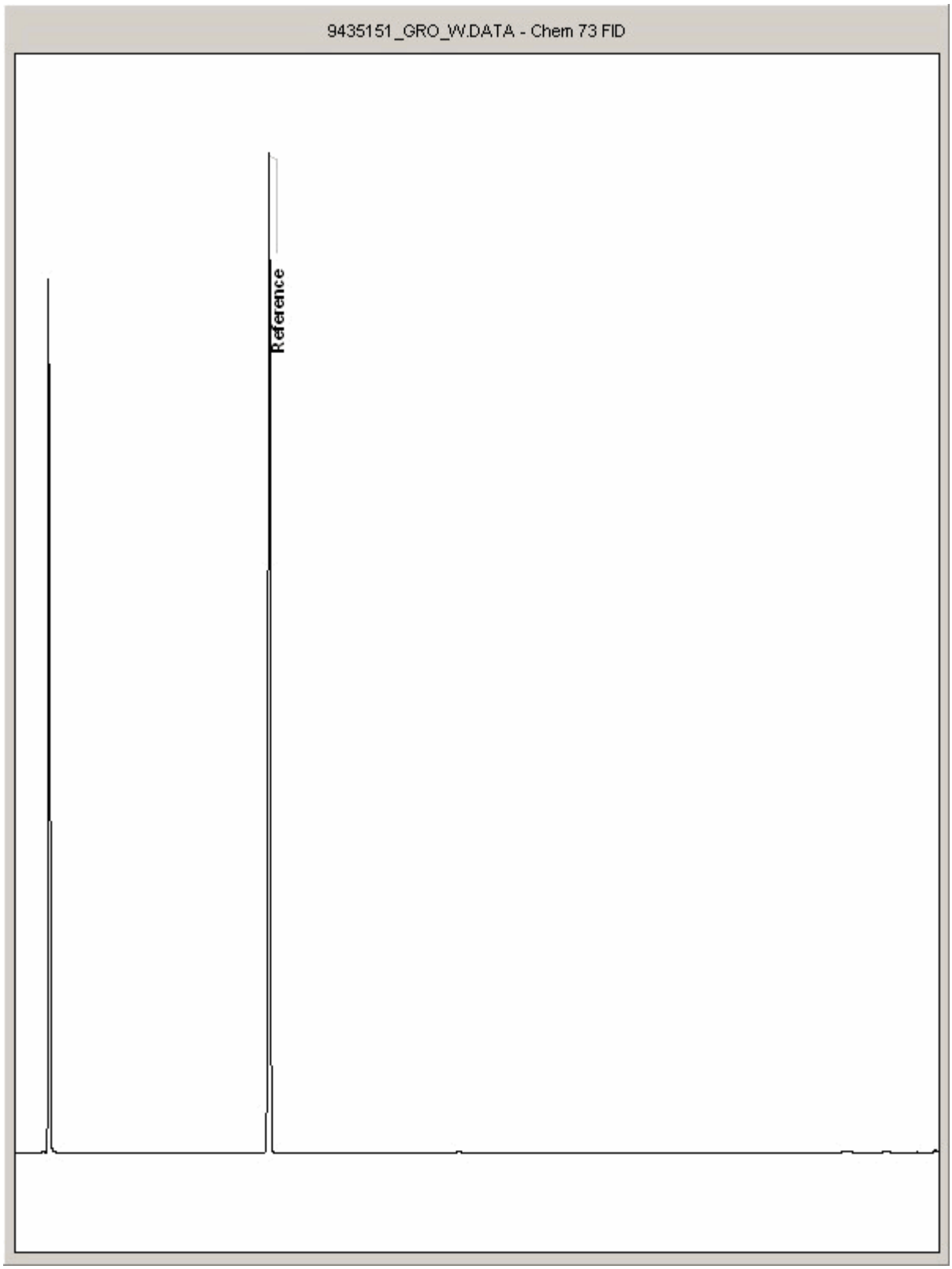
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9435151
Sample ID : BH19 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

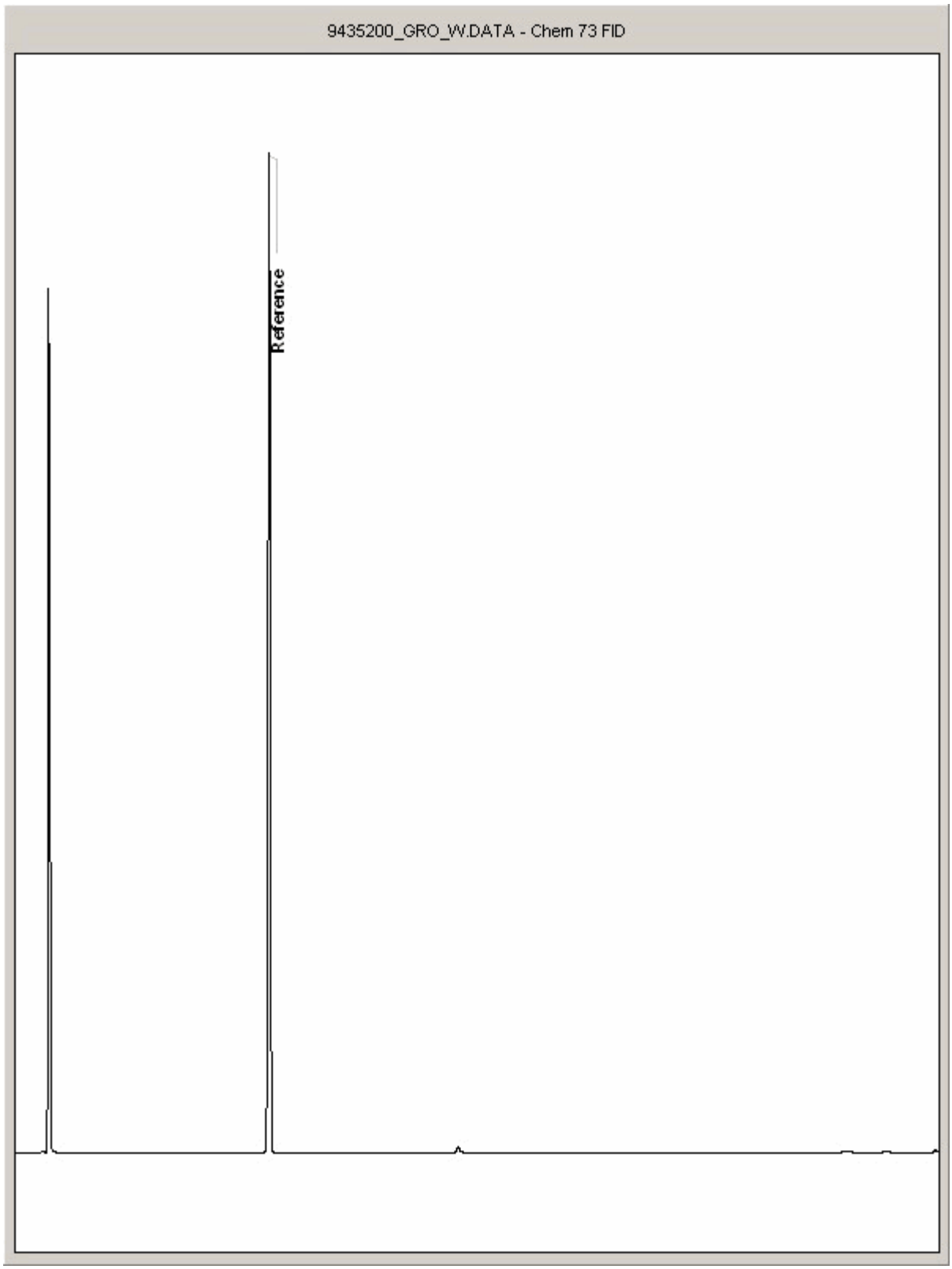
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9435200
Sample ID : BH49 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

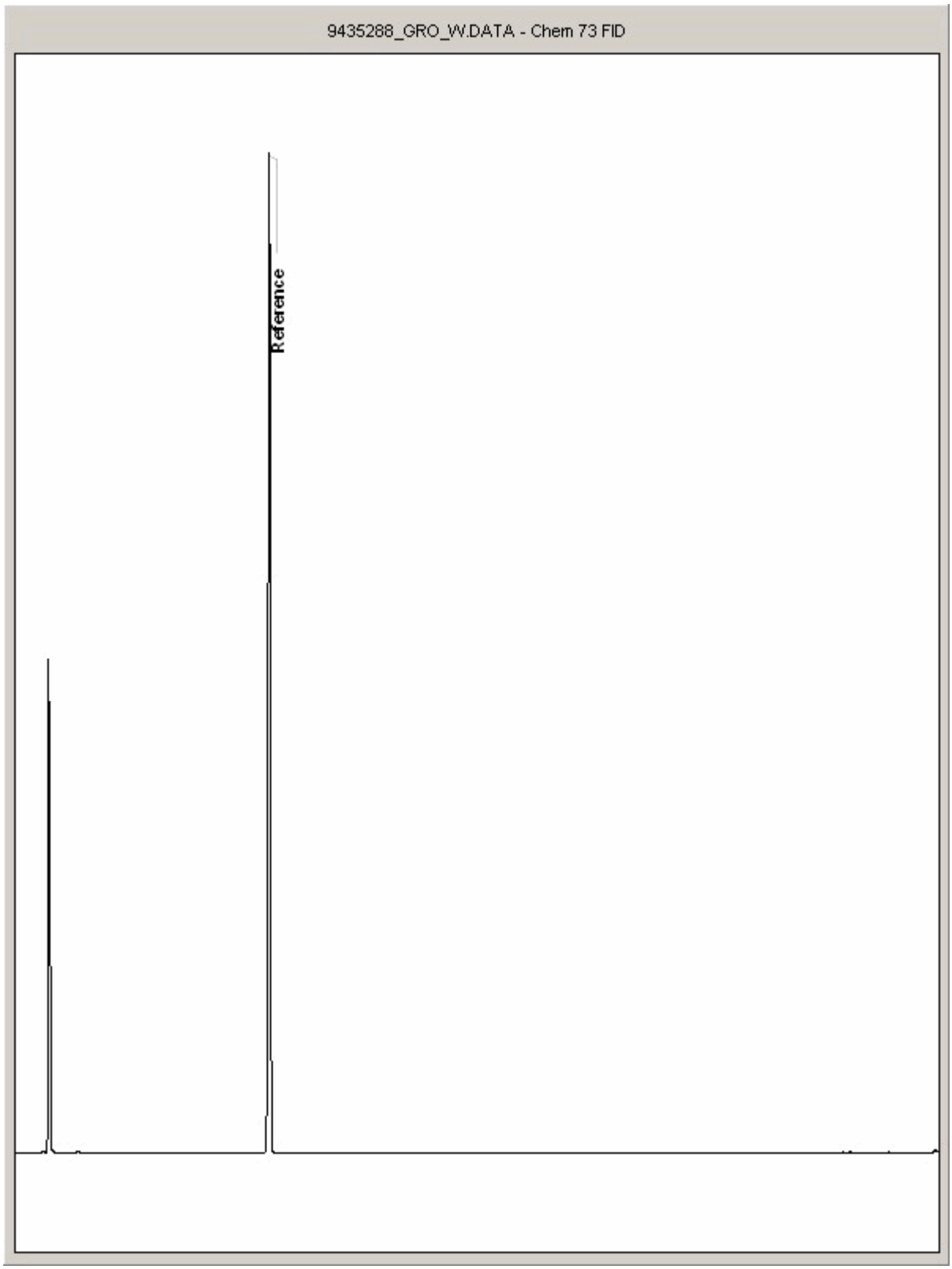
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9435288
Sample ID : BH65 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

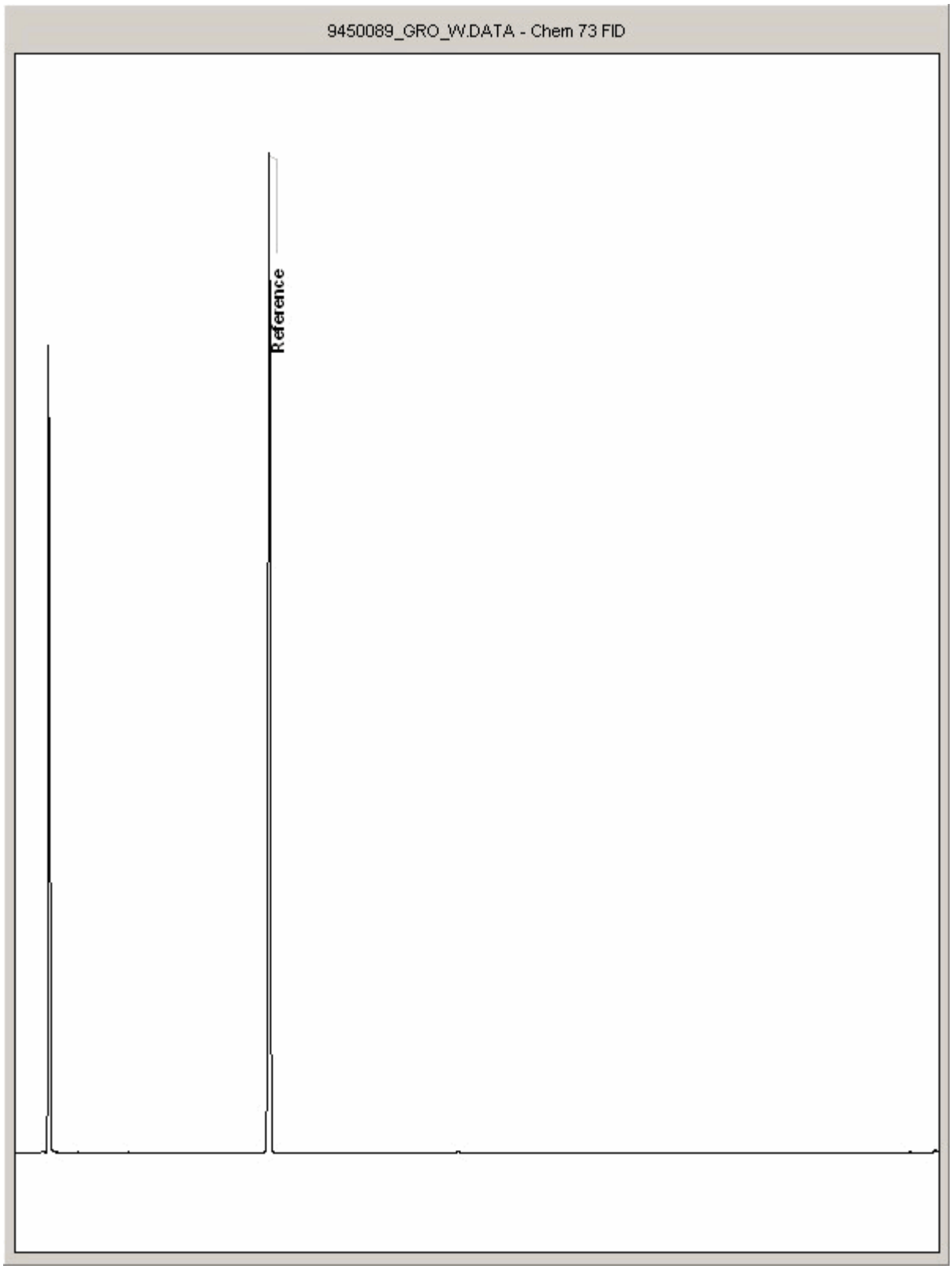
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9450089
Sample ID : BH47A

Depth :



CERTIFICATE OF ANALYSIS

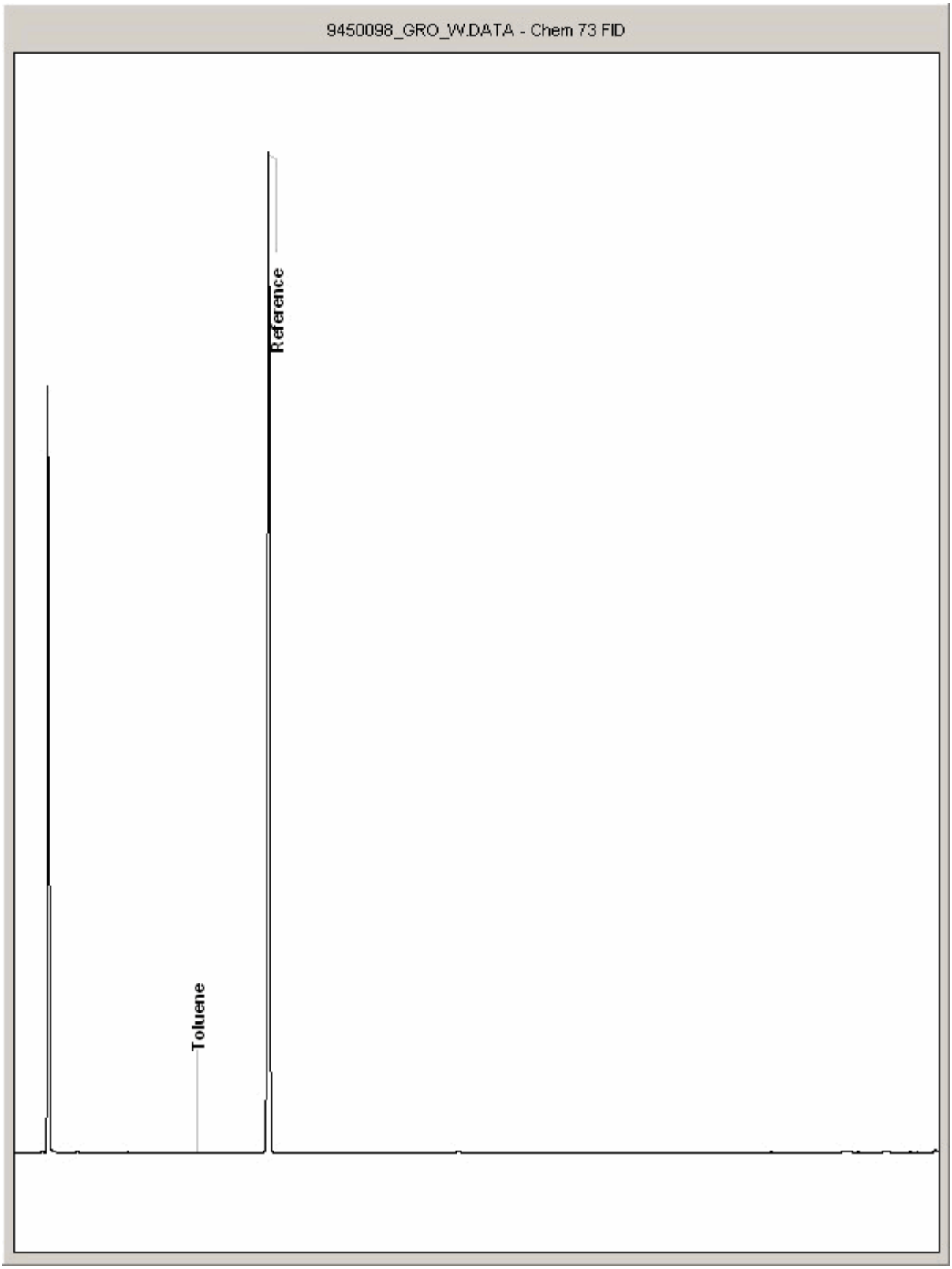
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9450098
Sample ID : BH19

Depth :



CERTIFICATE OF ANALYSIS

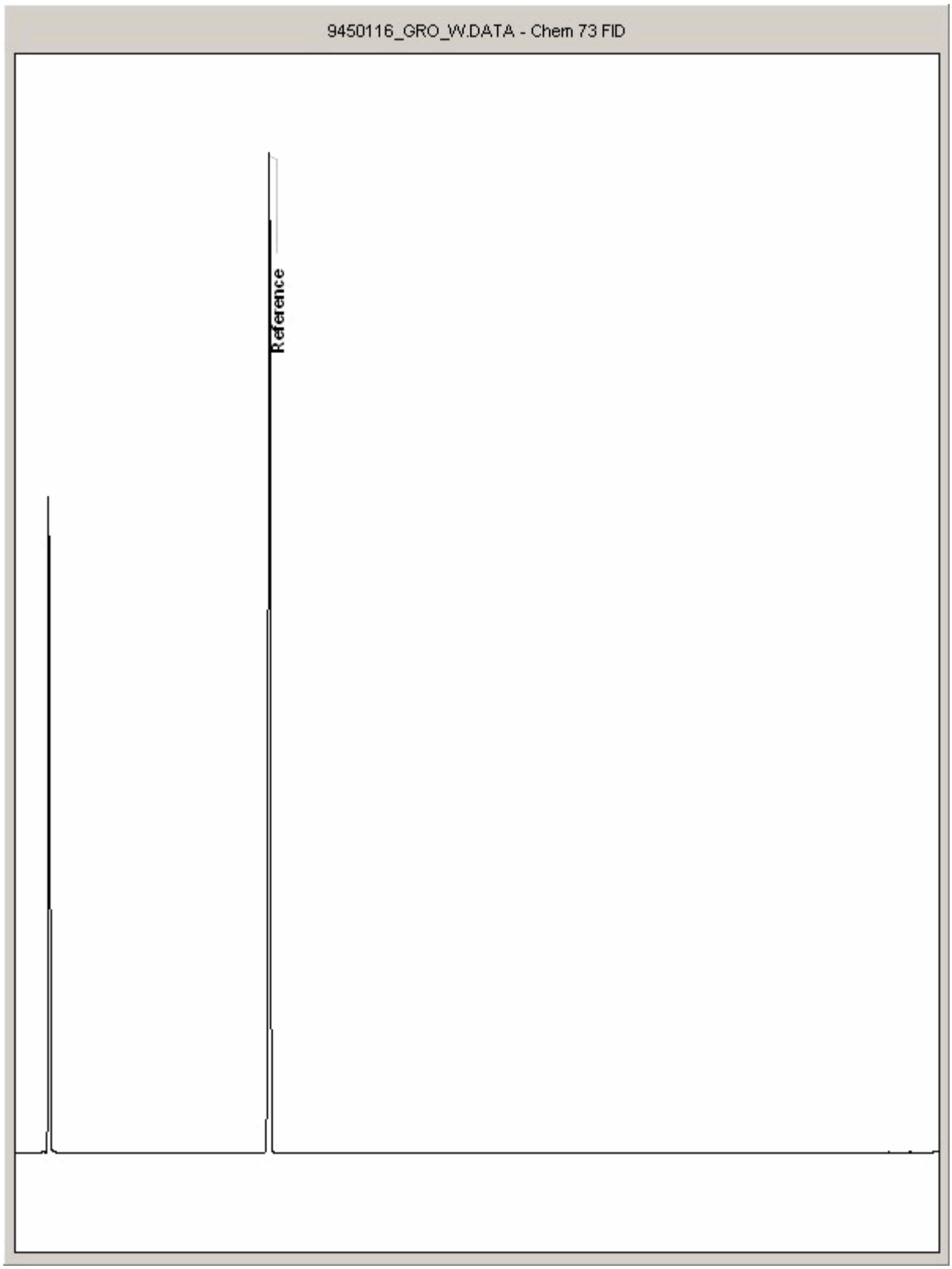
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9450116
Sample ID : BH65

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140607-29	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	273783
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

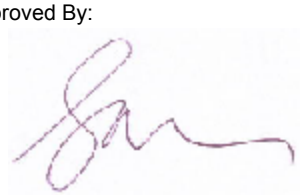
Date:	27 June 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140619-103
Your Reference:	JER5575U
Location:	SHLNG
Report No:	275011

We received 10 samples on Thursday June 19, 2014 and 5 of these samples were scheduled for analysis which was completed on Friday June 27, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9468958	SP1		0.00	17/06/2014
9468963	SP2		0.00	17/06/2014
9468967	SP3		0.00	17/06/2014
9468972	SP5		0.00	17/06/2014
9468975	SP6		0.00	17/06/2014
9468962	SP1 Duplicate		0.00	17/06/2014
9468965	SP2 Duplicate		0.00	17/06/2014
9468971	SP3 Duplicate		0.00	17/06/2014
9468974	SP5 Duplicate		0.00	17/06/2014
9468977	SP6 Duplicate		0.00	17/06/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9468958	SP1		0.00	1l Glass bottle (ALE
			9468958	SP1		0.00	Vial (ALE297)
			9468963	SP2		0.00	1l Glass bottle (ALE
			9468963	SP2		0.00	Vial (ALE297)
			9468967	SP3		0.00	1l Glass bottle (ALE
			9468967	SP3		0.00	Vial (ALE297)
			9468972	SP5		0.00	1l Glass bottle (ALE
			9468972	SP5		0.00	HNO3 Filtered (ALE
			9468972	SP5		0.00	Vial (ALE297)
			9468975	SP6		0.00	1l Glass bottle (ALE
			9468975	SP6		0.00	Vial (ALE297)
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 1					
							X
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5					
			X				
				X			
					X		
						X	
							X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5					
				X			
					X		
						X	
							X
							X

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SP1	SP2	SP3	SP5	SP6
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/06/2014	17/06/2014	17/06/2014	17/06/2014	17/06/2014
			Sampled Time	.	.	.	.	.
			Date Received	19/06/2014	19/06/2014	19/06/2014	19/06/2014	19/06/2014
			SDG Ref	140619-103	140619-103	140619-103	140619-103	140619-103
			Lab Sample No.(s)	9468958	9468963	9468967	9468972	9468975
			AGS Reference					
Copper (diss.filt)	<0.85 µg/l	TM152					87.4 #	
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	<46 #	143 #	96.6 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	<10	25.6	86.7
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	<10	118	<10

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SP1	SP2	SP3	SP5	SP6
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/06/2014	17/06/2014	17/06/2014	17/06/2014	17/06/2014
			Sampled Time	.	.	.	.	.
			Date Received	19/06/2014	19/06/2014	19/06/2014	19/06/2014	19/06/2014
			SDG Ref	140619-103	140619-103	140619-103	140619-103	140619-103
			Lab Sample No.(s)	9468958	9468963	9468967	9468972	9468975
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

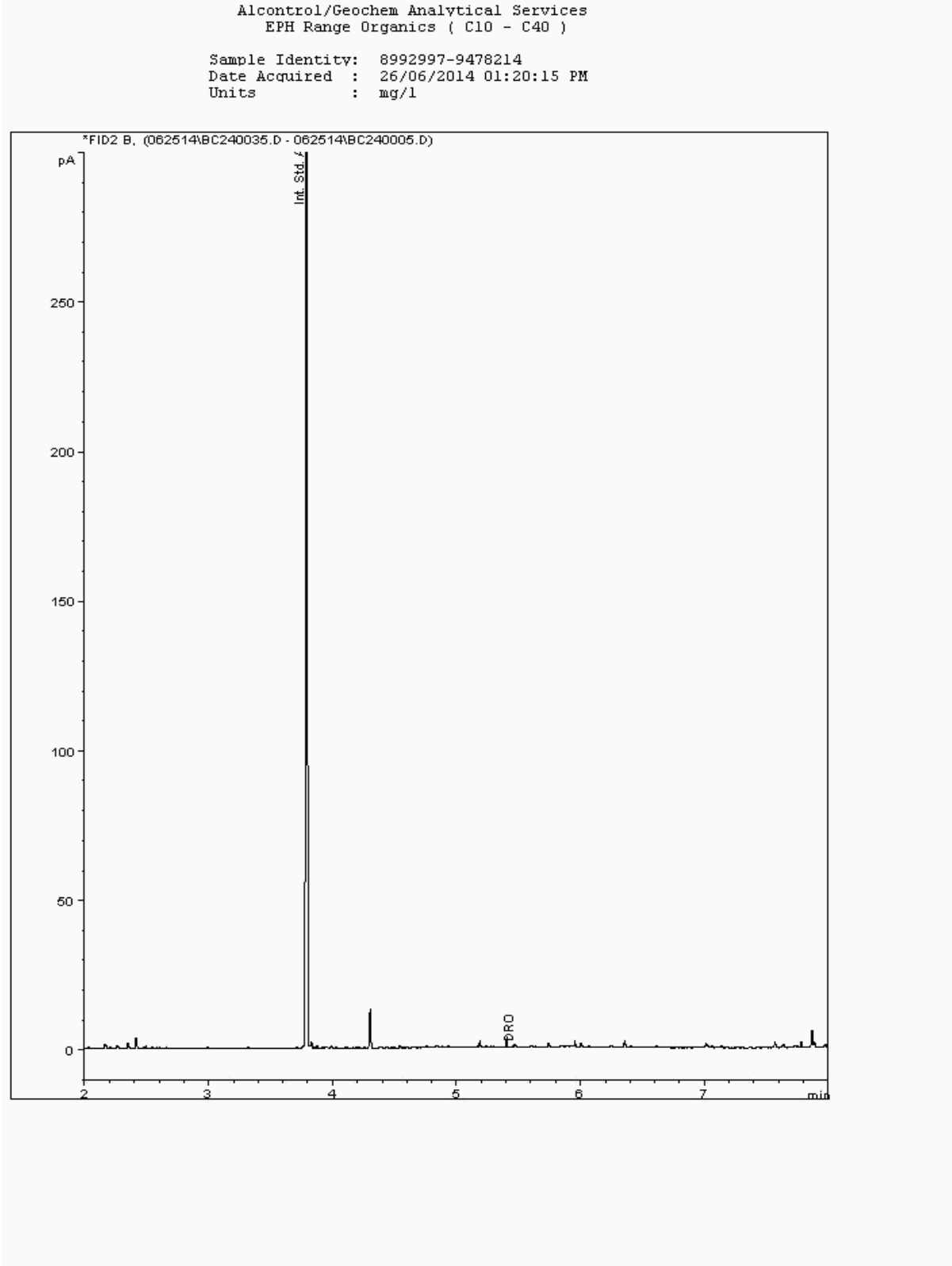
Lab Sample No(s)	9468958	9468963	9468967	9468972	9468975
Customer Sample Ref.	SP1	SP2	SP3	SP5	SP6
AGS Ref.					
Depth	0.00	0.00	0.00	0.00	0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Dissolved Metals by ICP-MS				27-Jun-2014	
EPH (DRO) (C10-C40) Aqueous (W)	26-Jun-2014	27-Jun-2014	27-Jun-2014	27-Jun-2014	27-Jun-2014
GRO by GC-FID (W)	24-Jun-2014	24-Jun-2014	24-Jun-2014	24-Jun-2014	24-Jun-2014

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9478214 **Sample ID :** SP1 **Depth :** 0.00



CERTIFICATE OF ANALYSIS

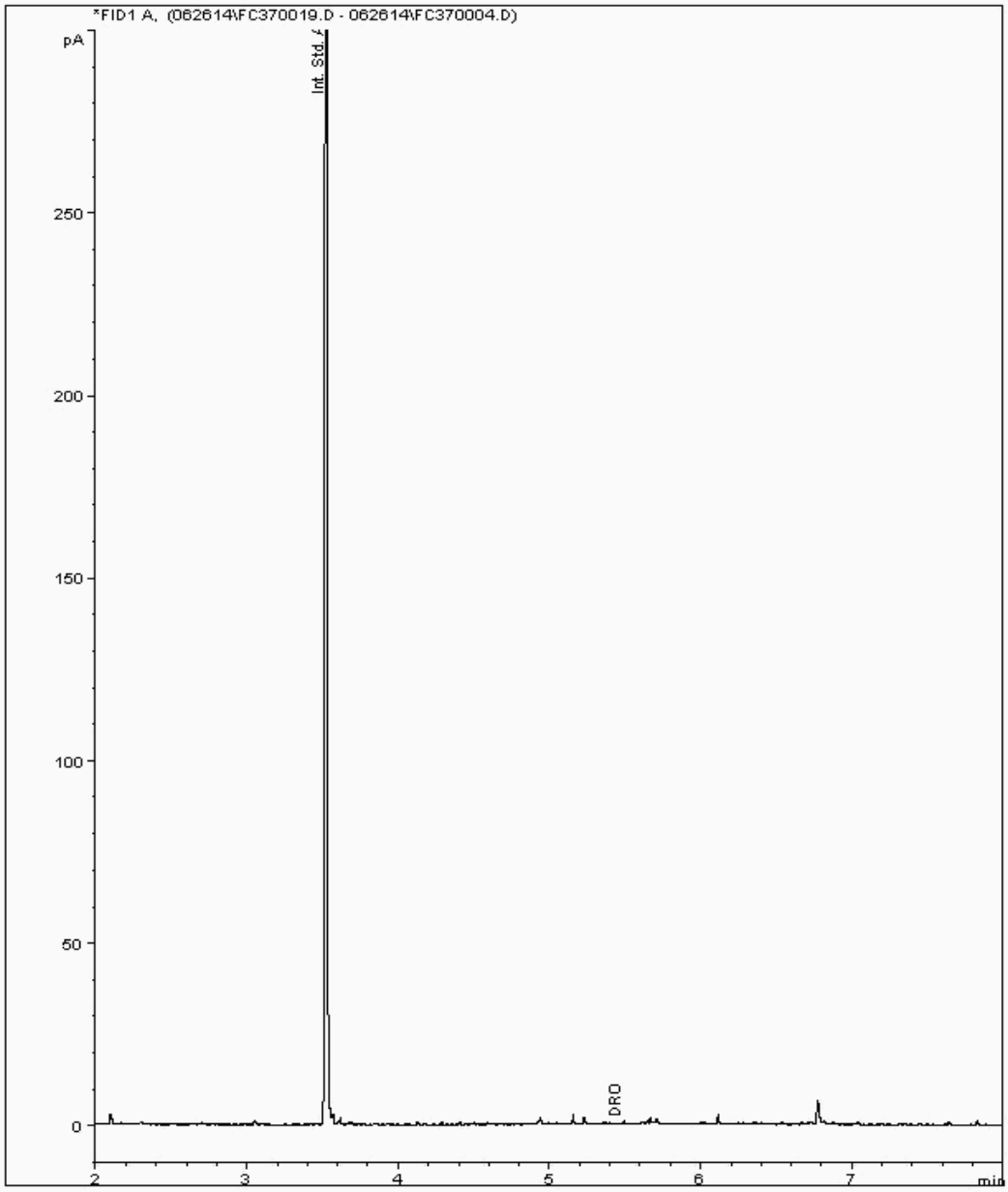
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9485082 **Sample ID :** SP2 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8993007-9485082
Date Acquired : 26/06/2014 22:13:22 PM
Units : mg/l

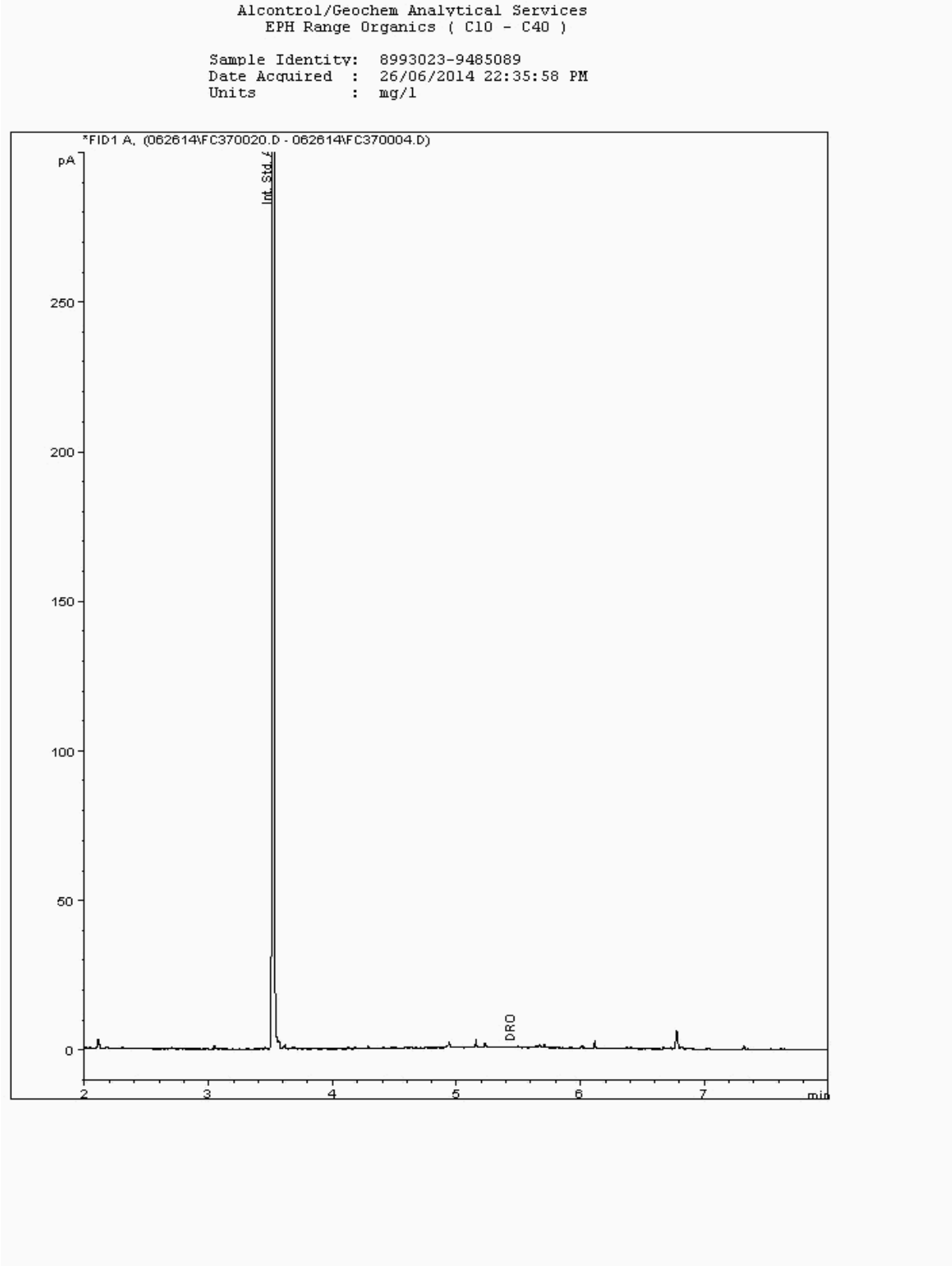


CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9485089 **Sample ID :** SP3 **Depth :** 0.00



CERTIFICATE OF ANALYSIS

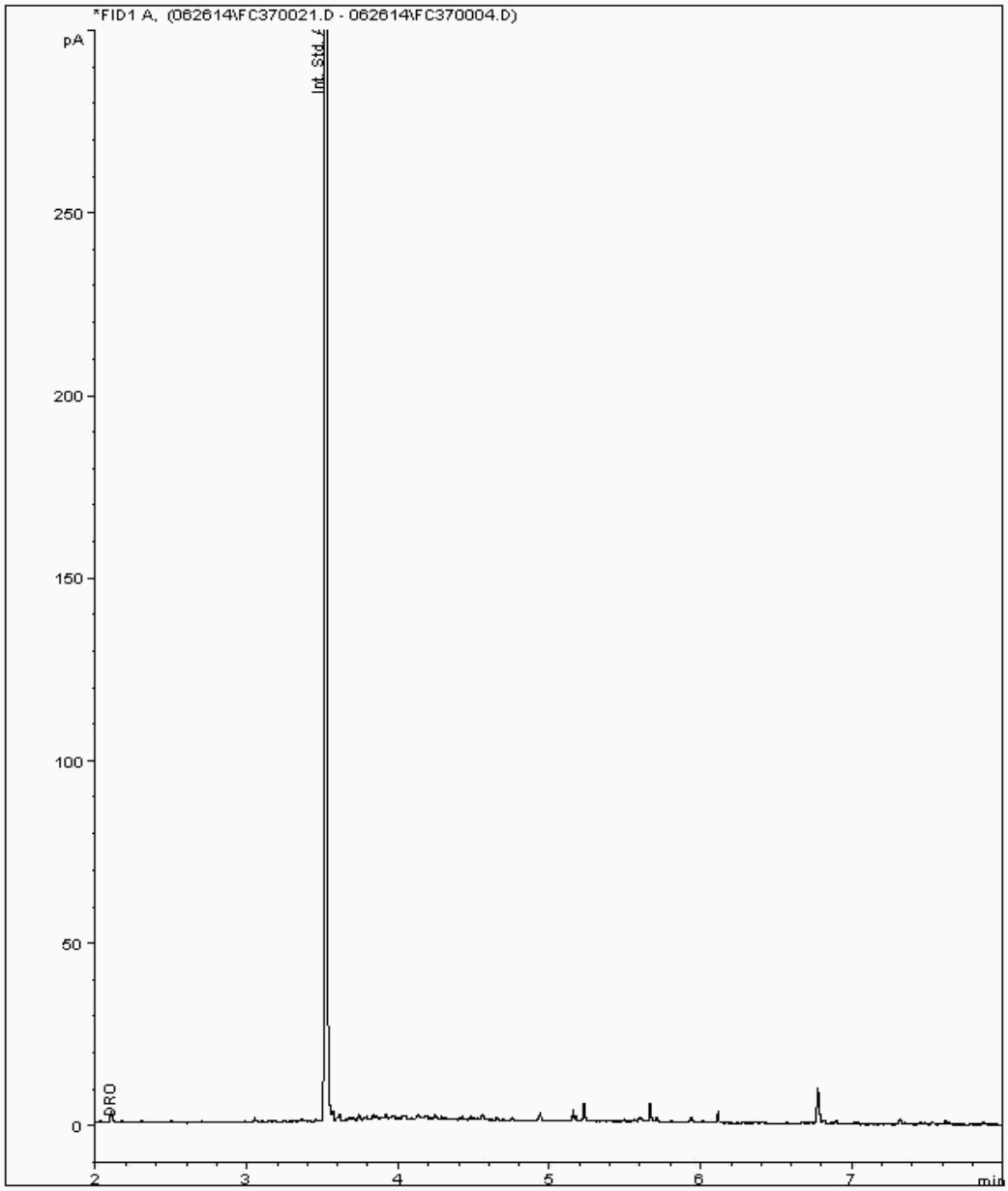
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9485099 **Sample ID :** SP5 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8993039-9485099
Date Acquired : 26/06/2014 22:58:58 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

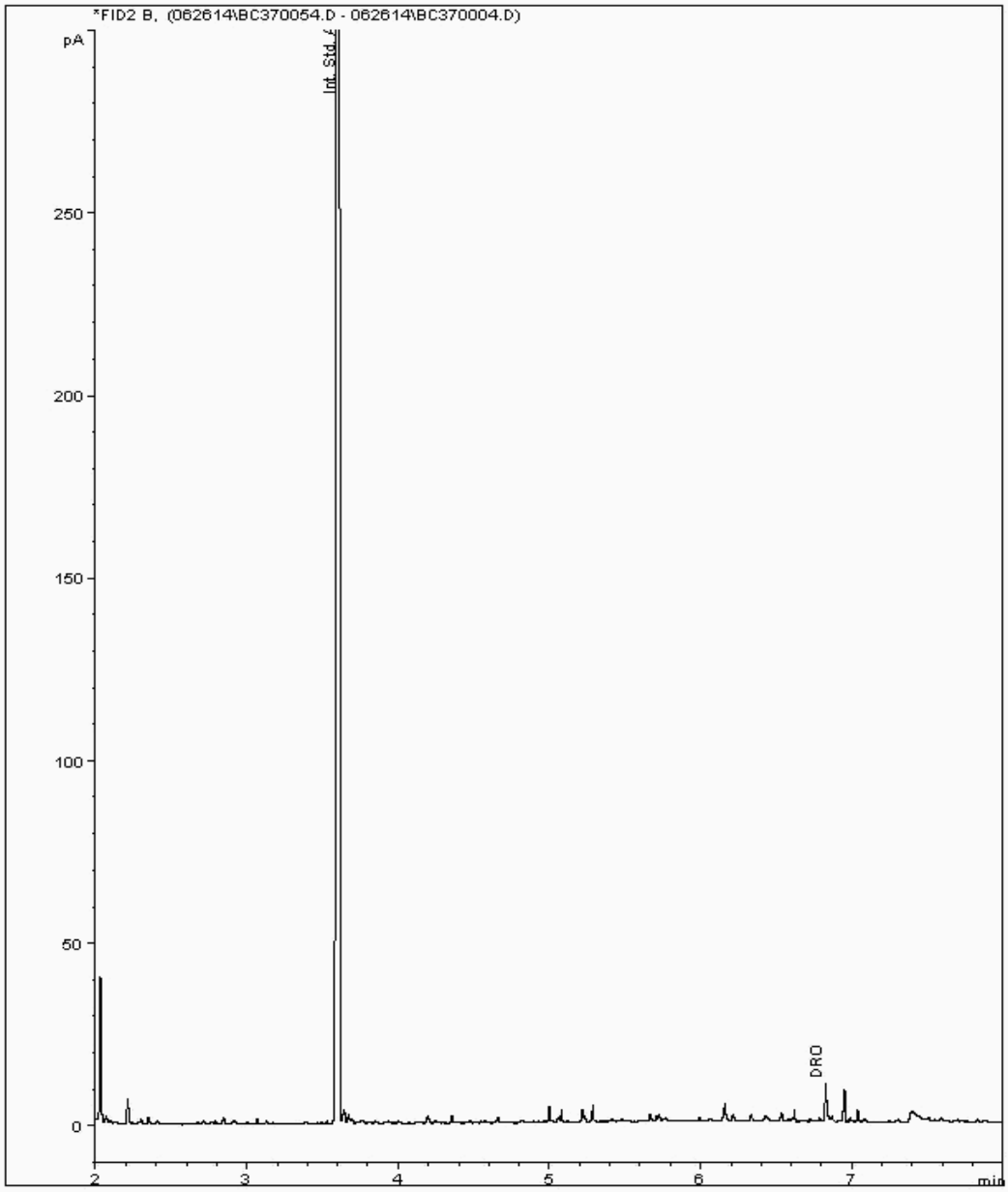
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9514038 **Sample ID :** SP6 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9026346-9469042
Date Acquired : 27/06/2014 13:12:57 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

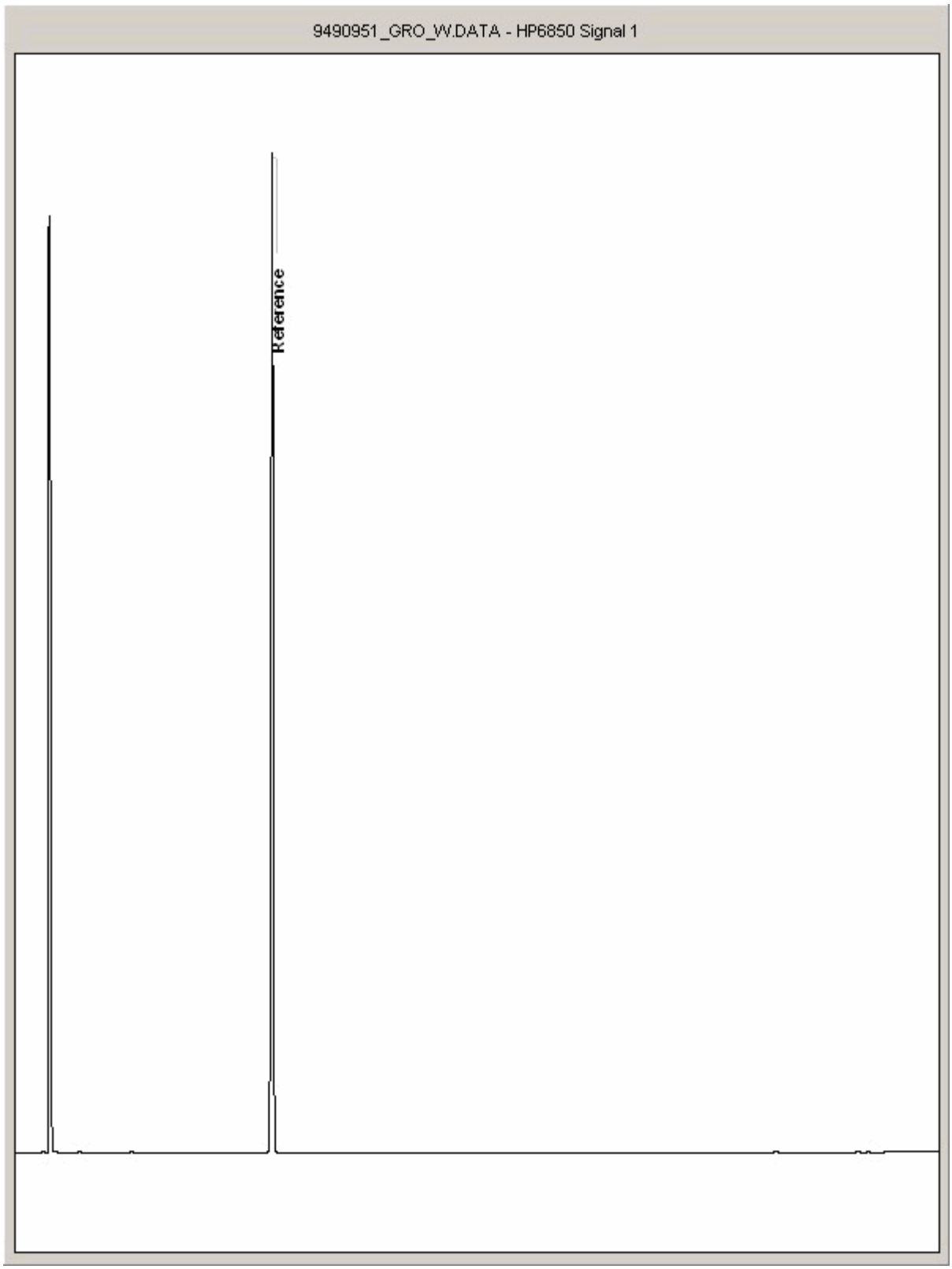
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9490951
Sample ID : SP2

Depth : 0.00



CERTIFICATE OF ANALYSIS

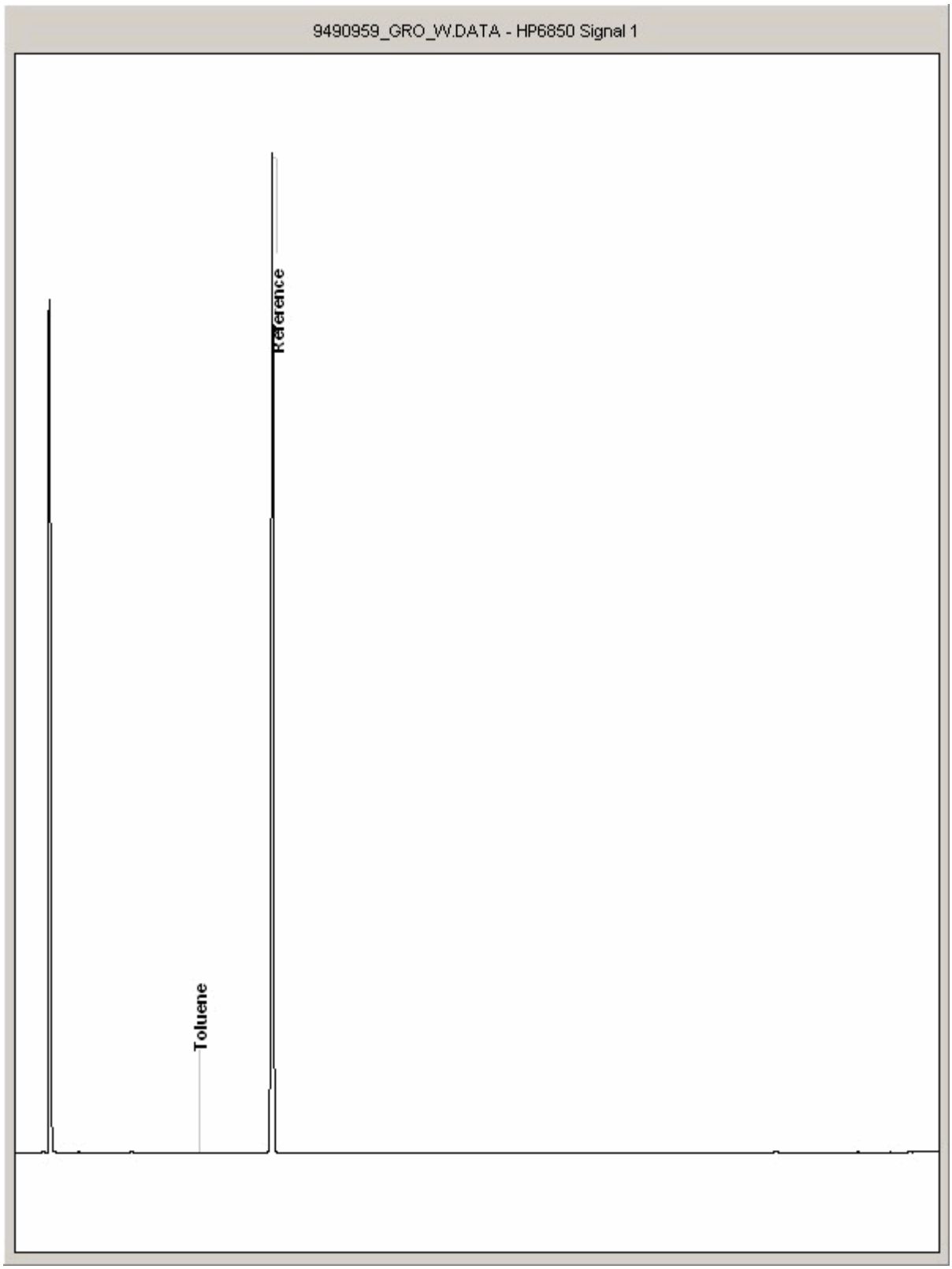
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9490959
Sample ID : SP3

Depth : 0.00



CERTIFICATE OF ANALYSIS

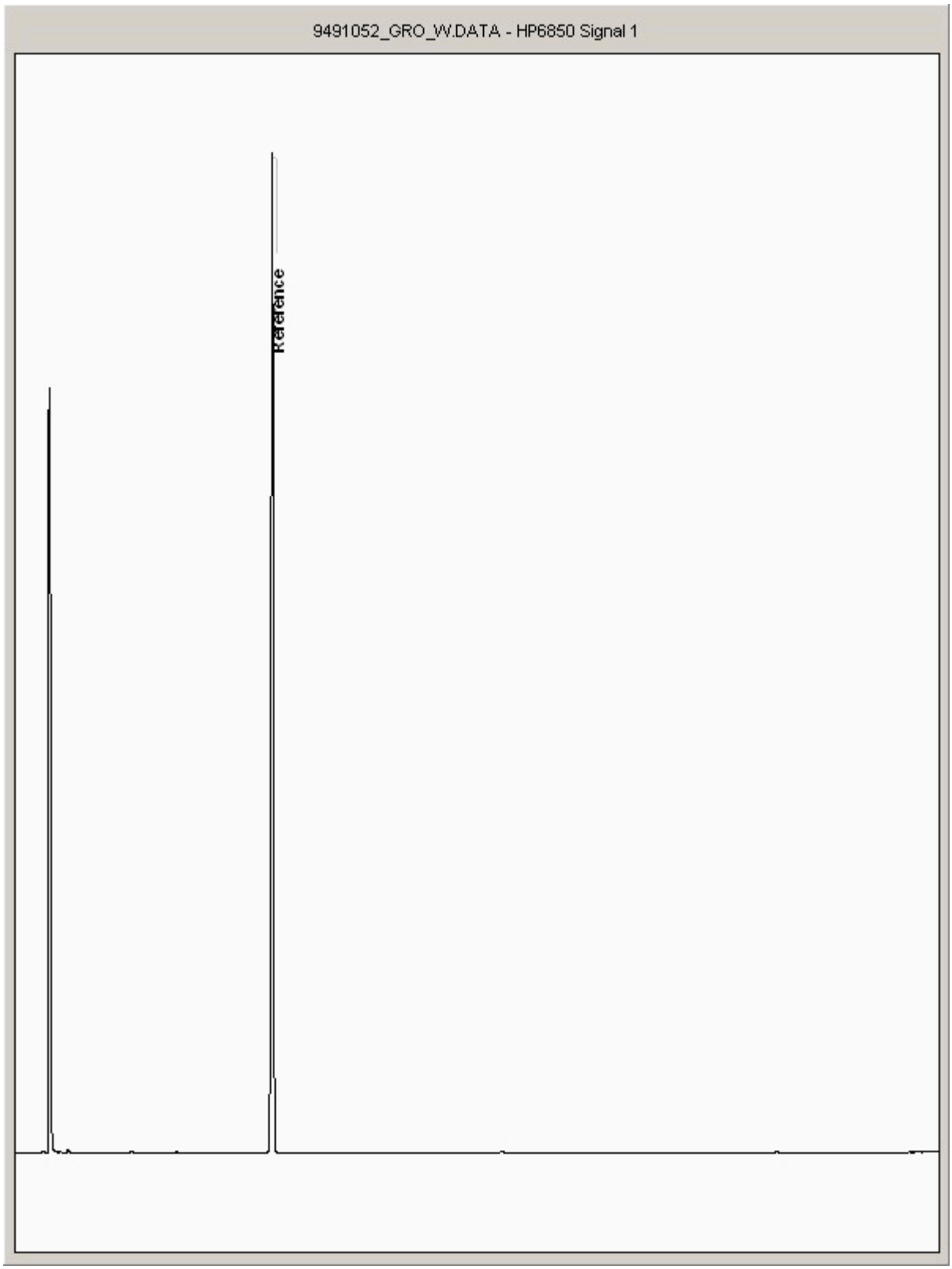
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9491052
Sample ID : SP6

Depth : 0.00



CERTIFICATE OF ANALYSIS

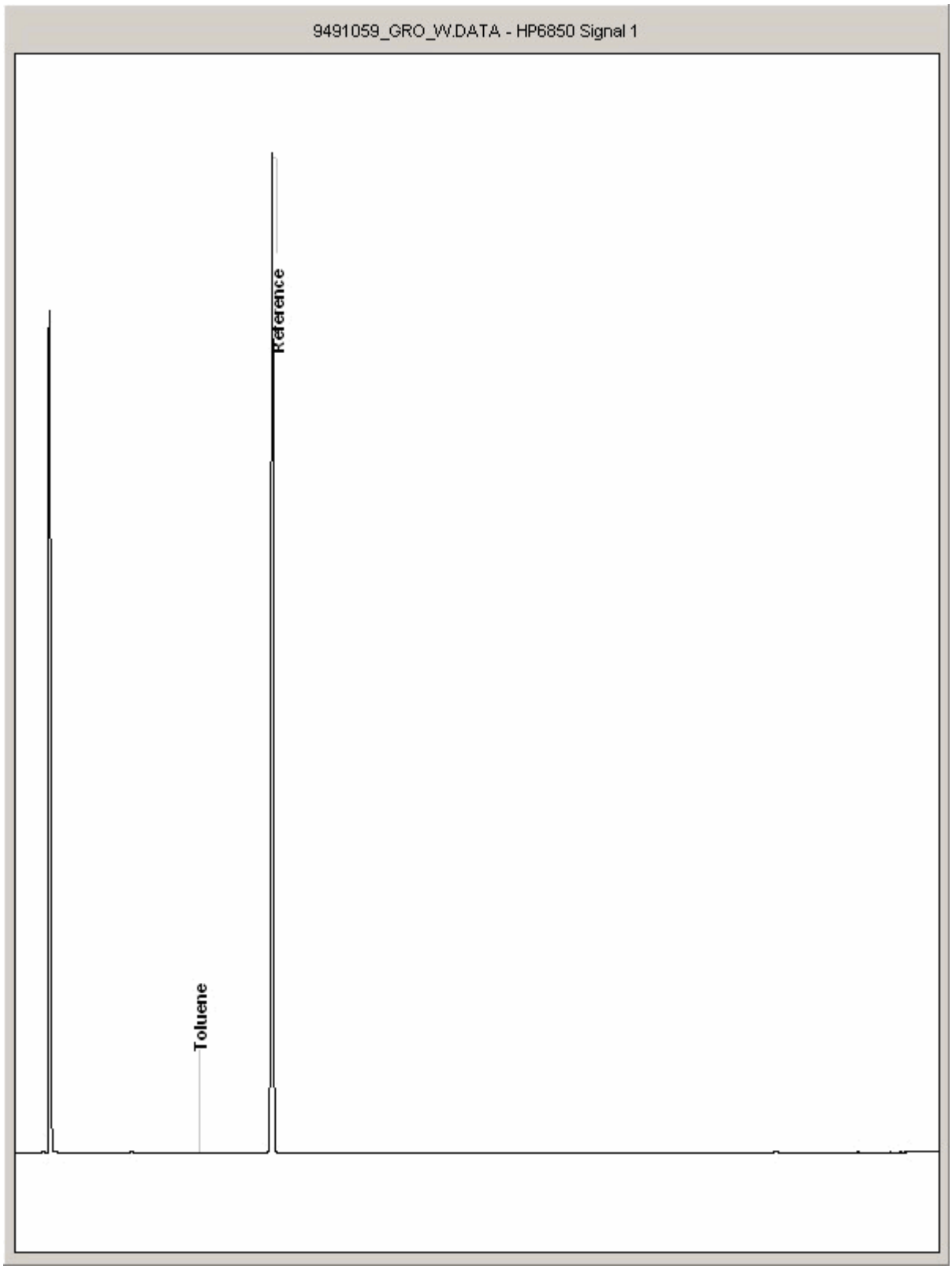
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9491059
Sample ID : SP1

Depth : 0.00



CERTIFICATE OF ANALYSIS

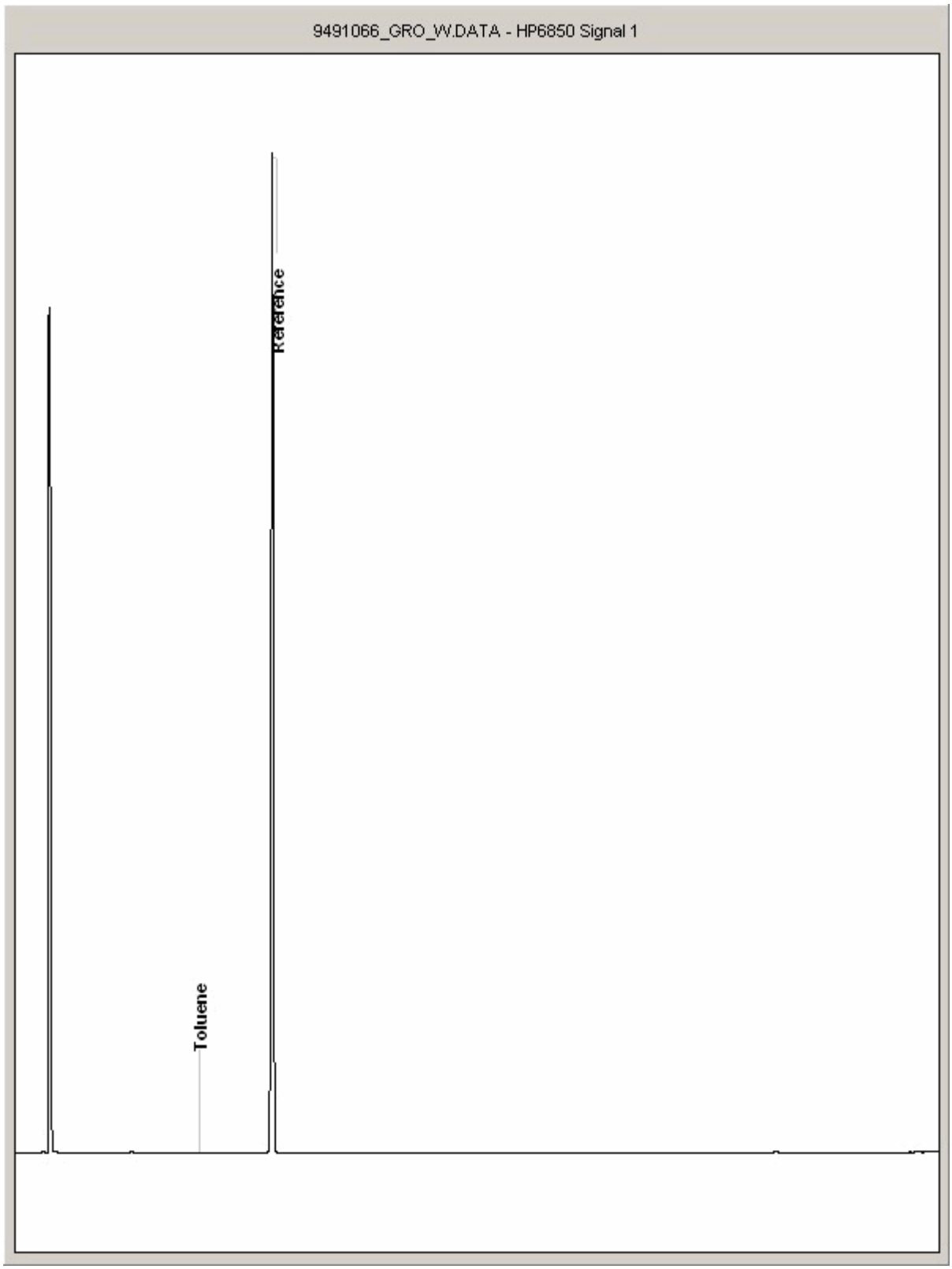
SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9491066
Sample ID : SP5

Depth : 0.00



CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C9C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	275011
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
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Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	30 July 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140619-103
Your Reference:	JER5575U
Location:	SHLNG
Report No:	278626

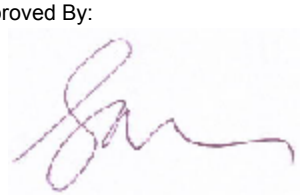
This report has been revised and directly supersedes 275011 in its entirety.

We received 10 samples on Thursday June 19, 2014 and 7 of these samples were scheduled for analysis which was completed on Wednesday July 30, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9468958	SP1	WM-Jun14	0.00	17/06/2014
9679844	SP2	WM-Jun14	0.00	17/06/2014
9468967	SP3	WM-Jun14	0.00	17/06/2014
9468972	SP5	WM-Jun14	0.00	17/06/2014
9468975	SP6	WM-Jun14	0.00	17/06/2014
9468962	SP1 Duplicate	WM-Jun14	0.00	17/06/2014
9468965	SP2 Duplicate	WM-Jun14	0.00	17/06/2014
9468971	SP3 Duplicate	WM-Jun14	0.00	17/06/2014
9468974	SP5 Duplicate	WM-Jun14	0.00	17/06/2014
9468977	SP6 Duplicate	WM-Jun14	0.00	17/06/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

LIQUID

Results Legend

X Test

N No Determination Possible

Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	NDPs	Tests
9468958	SP1	WM-Jun14	0.00	1l Glass bottle (ALE		
				Vial (ALE297)		
9679844	SP2	WM-Jun14	0.00	1l Glass bottle (ALE		
				Vial (ALE297)		
9468967	SP3	WM-Jun14	0.00	1l Glass bottle (ALE		
				Vial (ALE297)		
9468972	SP5	WM-Jun14	0.00	1l Glass bottle (ALE		
				HNO3 Filtered (ALE		
				Vial (ALE297)		
9468975	SP6	WM-Jun14	0.00	1l Glass bottle (ALE		
				Vial (ALE297)		
9468974	SP5 Duplicate	WM-Jun14	0.00	1l Glass bottle (ALE		
				Vial (ALE297)		
9468977	SP6 Duplicate	WM-Jun14	0.00	1l Glass bottle (ALE		
				Vial (ALE297)		
Dissolved Metals by ICP-MS	All				NDPs: 0	Tests: 1
				X		
EPH (DRO) (C10-C40) Aqueous (W)	All				NDPs: 0	Tests: 7
X	X	X	X	X		X	X	X	X		
GRO by GC-FID (W)	All				NDPs: 0	Tests: 7
	X	X	X		X	X	X		X	

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SP1	SP2	SP3	SP5	SP6	SP5 Duplicate
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/06/2014	17/06/2014	17/06/2014	17/06/2014	17/06/2014	17/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	19/06/2014	19/06/2014	19/06/2014	19/06/2014	19/06/2014	19/06/2014
			SDG Ref	140619-103	140619-103	140619-103	140619-103	140619-103	140619-103
			Lab Sample No.(s)	9468958	9679844	9468967	9468972	9468975	9468974
			AGS Reference	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14
Copper (diss.filt)	<0.85 µg/l	TM152					87.4 #		
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	<46 #	143 #	96.6 #	93.7 & #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	<10	25.6	86.7	<10 &
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	<10	118	<10	89.9 &

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SP6 Duplicate
			Depth (m)	0.00
			Sample Type	Water(GW/SW)
			Date Sampled	17/06/2014
			Sampled Time	.
			Date Received	19/06/2014
			SDG Ref	140619-103
			Lab Sample No.(s)	9468977
			AGS Reference	WM-Jun14
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 & #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10 &
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10 &

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SP1	SP2	SP3	SP5	SP6	SP5 Duplicate
			Depth (m)	0.00	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/06/2014	17/06/2014	17/06/2014	17/06/2014	17/06/2014	17/06/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	19/06/2014	19/06/2014	19/06/2014	19/06/2014	19/06/2014	19/06/2014
			SDG Ref	140619-103	140619-103	140619-103	140619-103	140619-103	140619-103
			Lab Sample No.(s)	9468958	9679844	9468967	9468972	9468975	9468974
			AGS Reference	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10 &
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10 &
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10 &
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10 &

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SP6 Duplicate
			Depth (m)	0.00
			Sample Type	Water(GW/SW)
			Date Sampled	17/06/2014
			Sampled Time	.
			Date Received	19/06/2014
			SDG Ref	140619-103
			Lab Sample No.(s)	9468977
			AGS Reference	WM-Jun14
GRO >C5-C6	<10 µg/l	TM245		<10 &
GRO >C6-C8	<10 µg/l	TM245		<10 &
GRO >C8-C10	<10 µg/l	TM245		<10 &
GRO >C5-C10	<10 µg/l	TM245		<10 &

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Test Completion Dates

Lab Sample No(s)	9468958	9679844	9468967	9468972	9468975	9468974	9468977
Customer Sample Ref.	SP1	SP2	SP3	SP5	SP6	SP5 Duplicate	SP6 Duplicate
AGS Ref.	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14	WM-Jun14
Depth	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Dissolved Metals by ICP-MS				27-Jun-2014			
EPH (DRO) (C10-C40) Aqueous (W)	26-Jun-2014	27-Jun-2014	27-Jun-2014	27-Jun-2014	27-Jun-2014	30-Jul-2014	29-Jul-2014
GRO by GC-FID (W)	24-Jun-2014	24-Jun-2014	24-Jun-2014	24-Jun-2014	24-Jun-2014	29-Jul-2014	29-Jul-2014

CERTIFICATE OF ANALYSIS

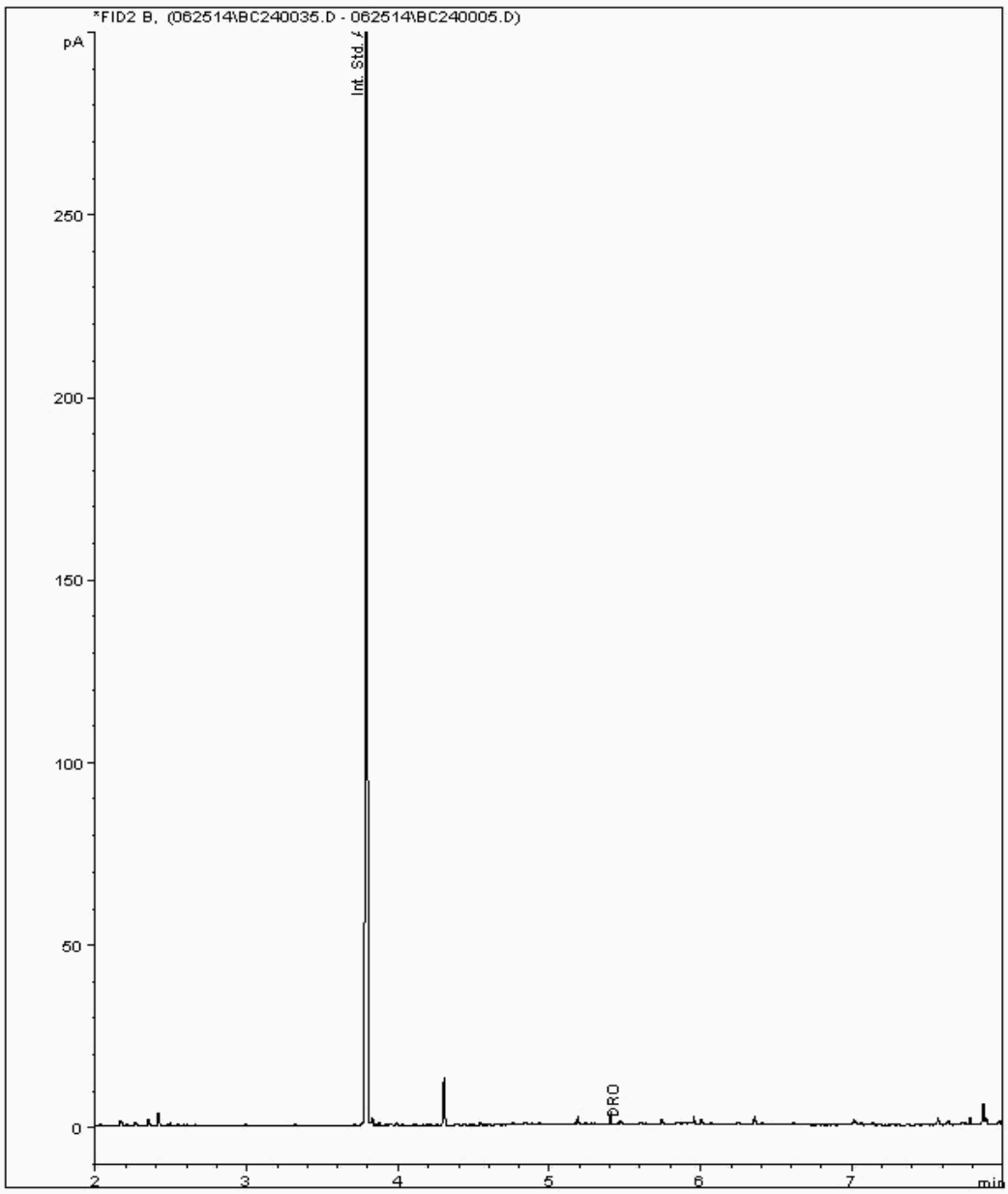
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9478214 **Sample ID :** SP1 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8992997-9478214
Date Acquired : 26/06/2014 01:20:15 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

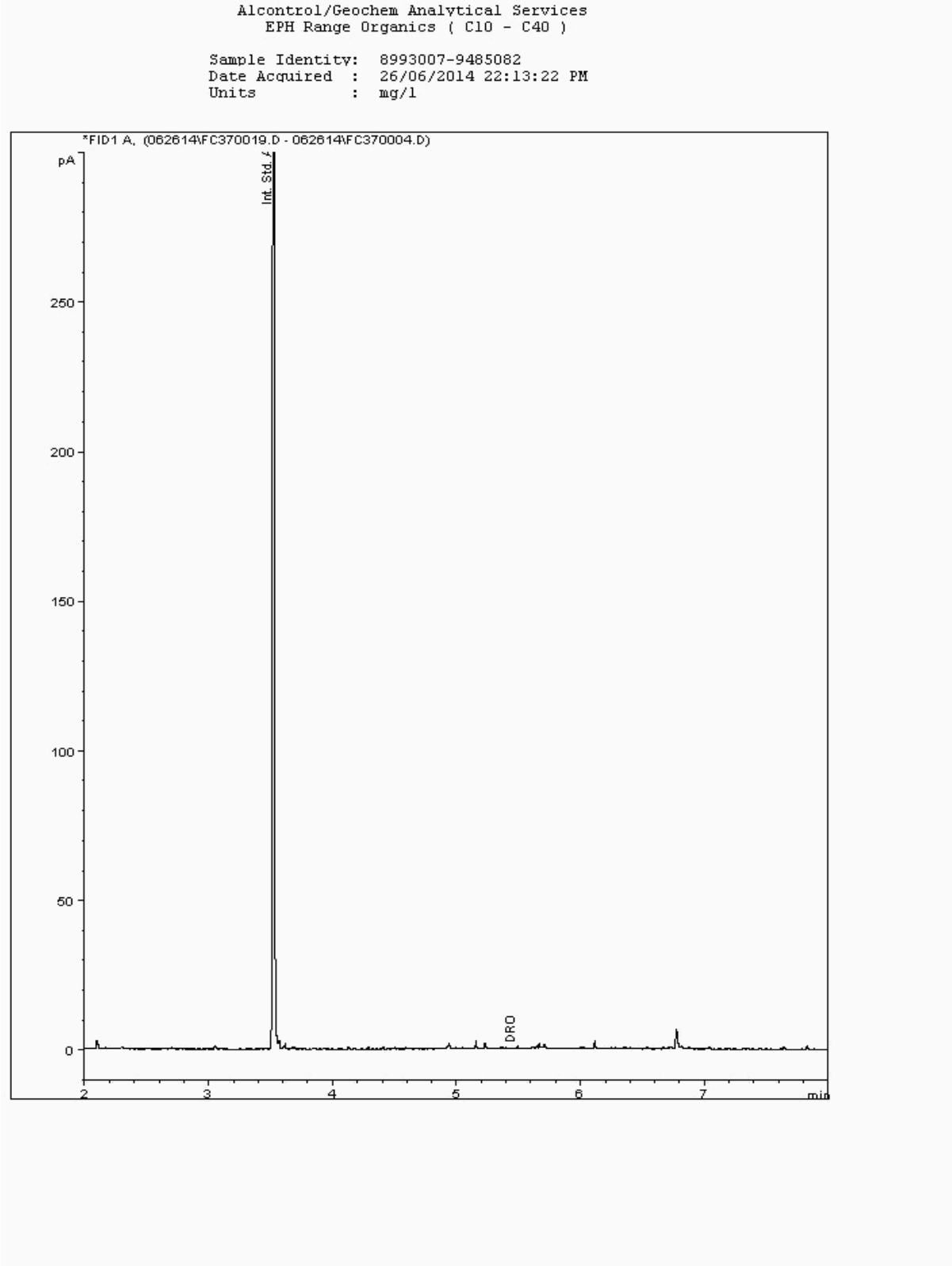
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9485082
Sample ID : SP2

Depth : 0.00



CERTIFICATE OF ANALYSIS

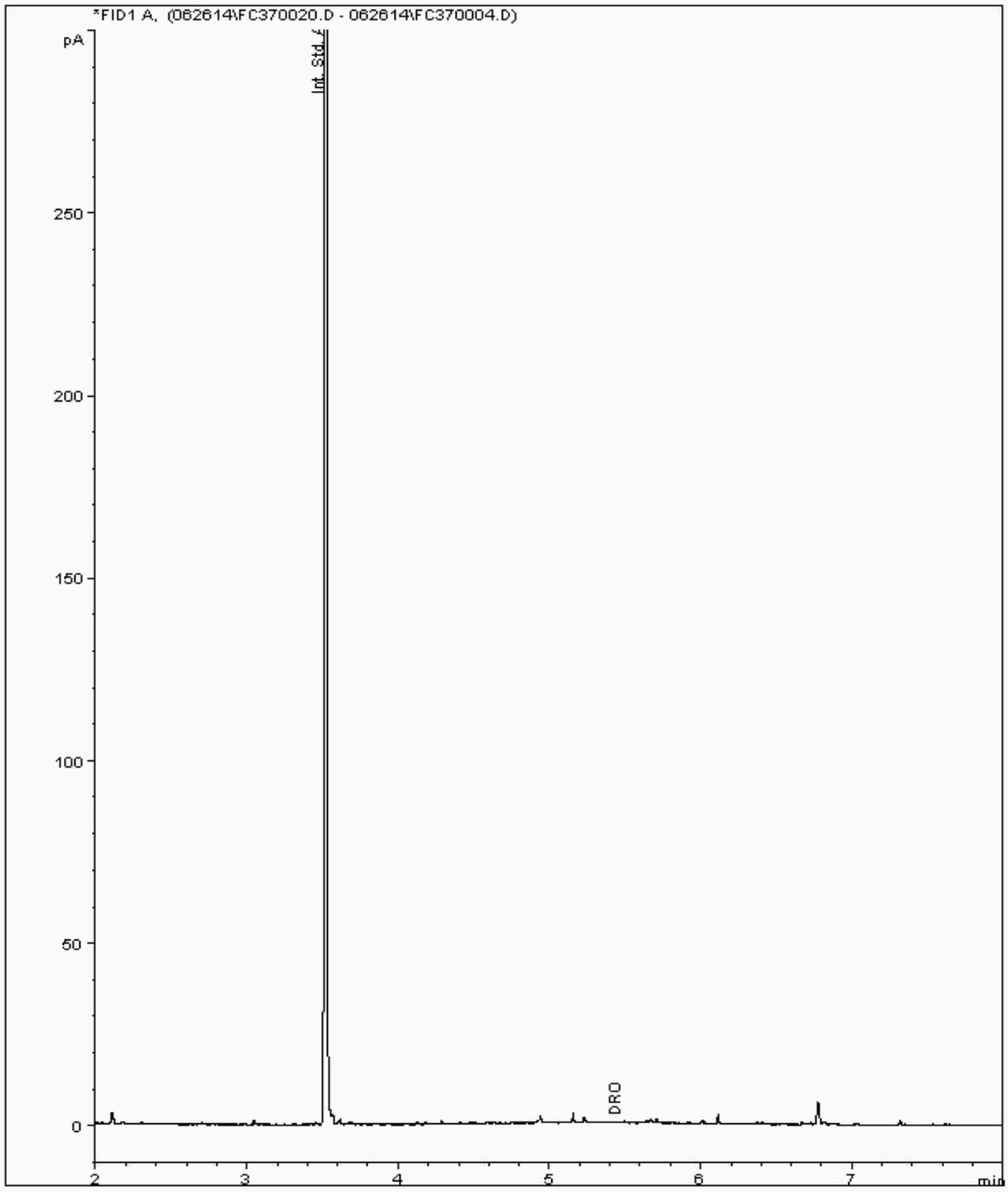
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9485089 **Sample ID :** SP3 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8993023-9485089
Date Acquired : 26/06/2014 22:35:58 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

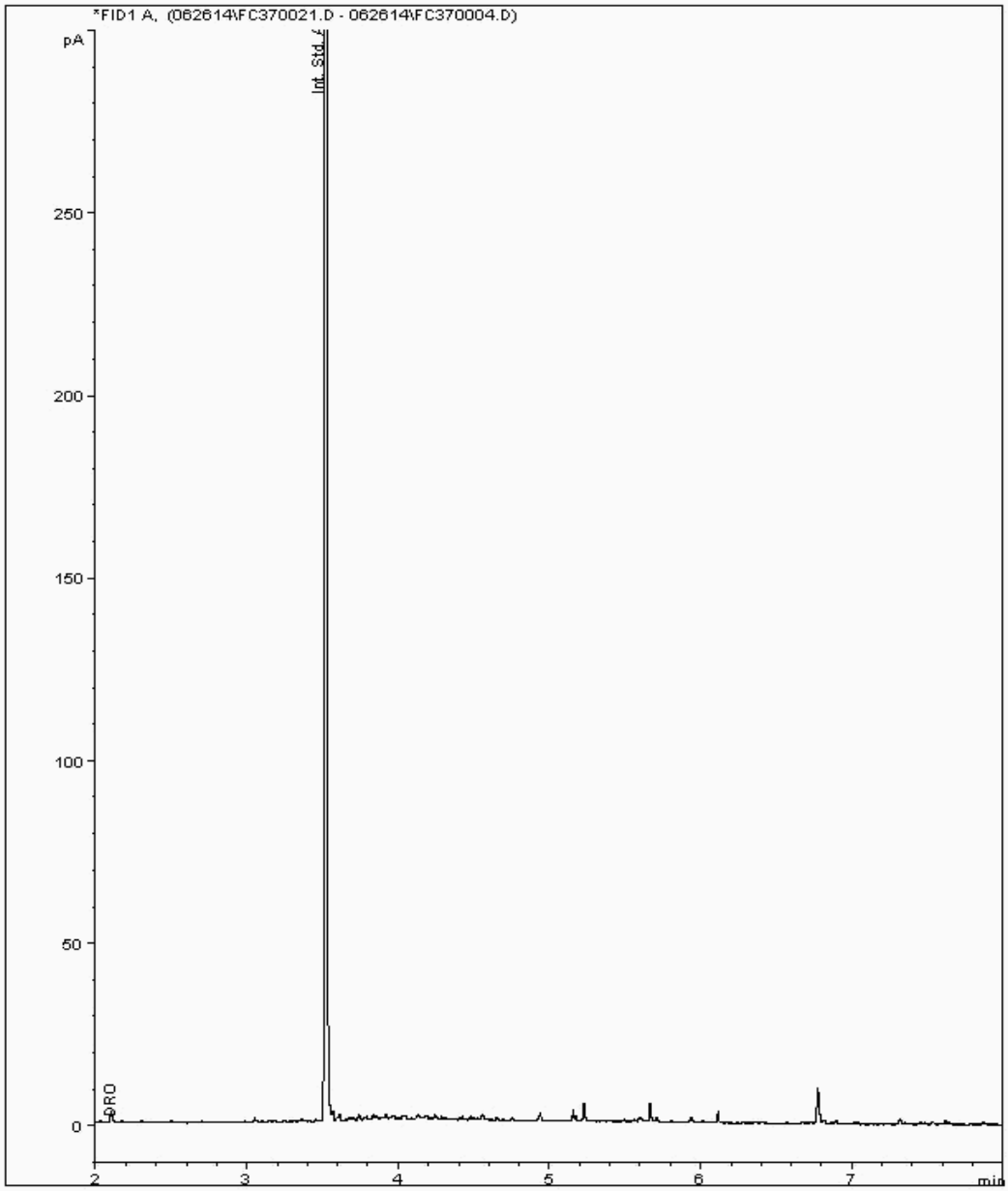
SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9485099 **Sample ID :** SP5 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 8993039-9485099
Date Acquired : 26/06/2014 22:58:58 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

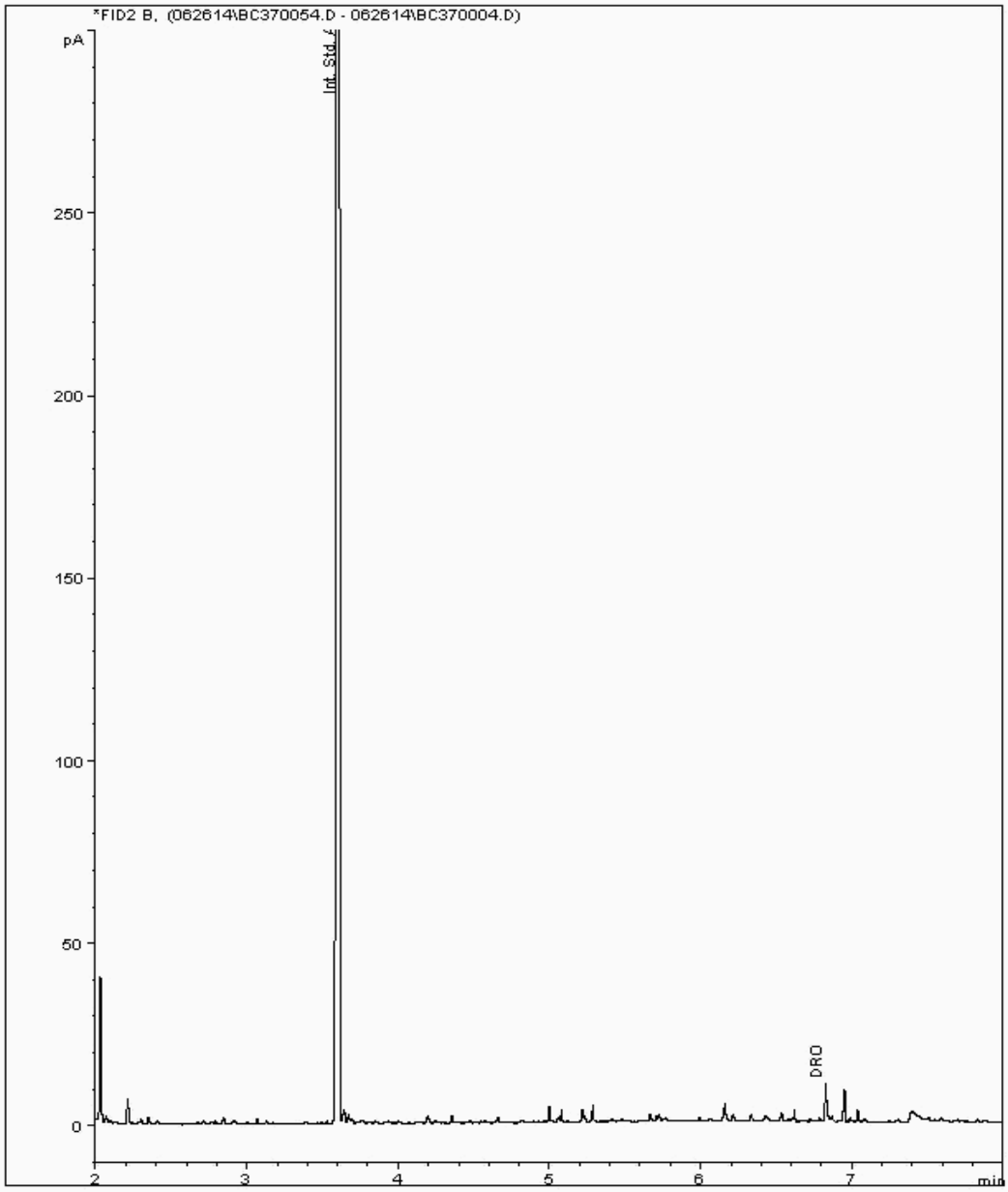
SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9514038 **Sample ID :** SP6 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9026346-9469042
Date Acquired : 27/06/2014 13:12:57 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

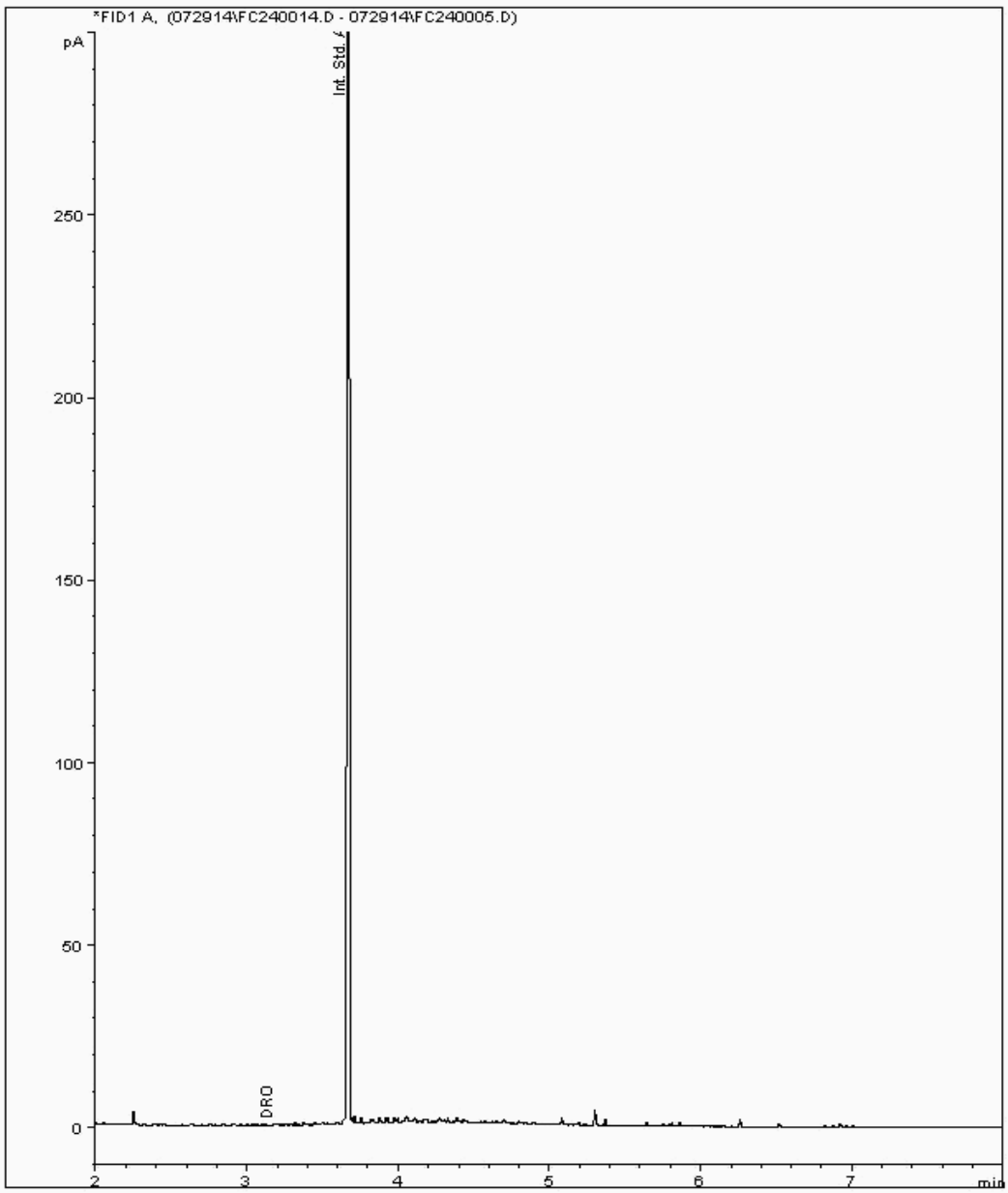
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9676368
Sample ID : SP5 Duplicate

Depth : 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9179498-9676368
Date Acquired : 29/07/2014 22:21:46 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

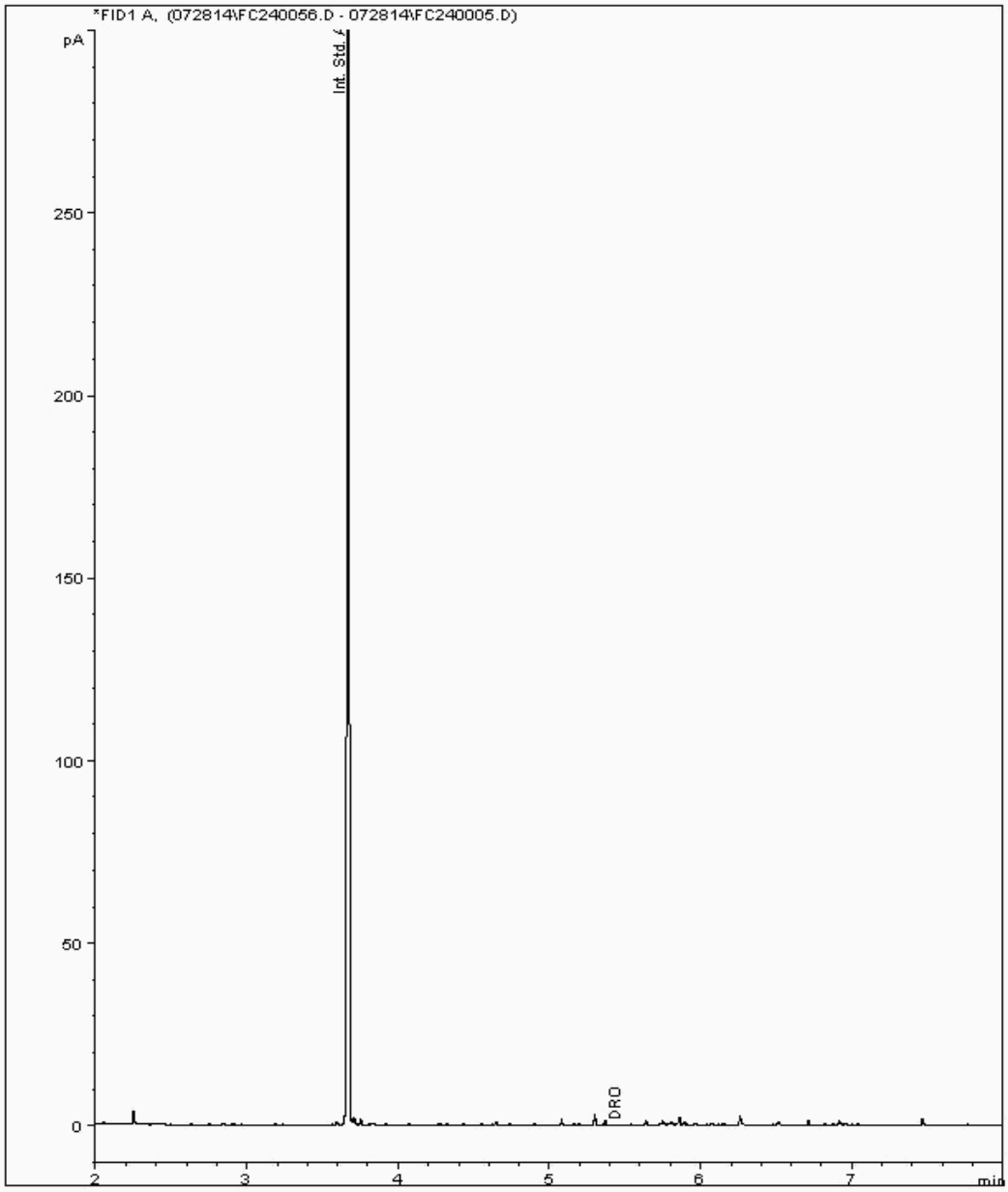
SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9676374 **Sample ID :** SP6 Duplicate **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9179501-9676374
Date Acquired : 29/07/2014 16:23:02 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

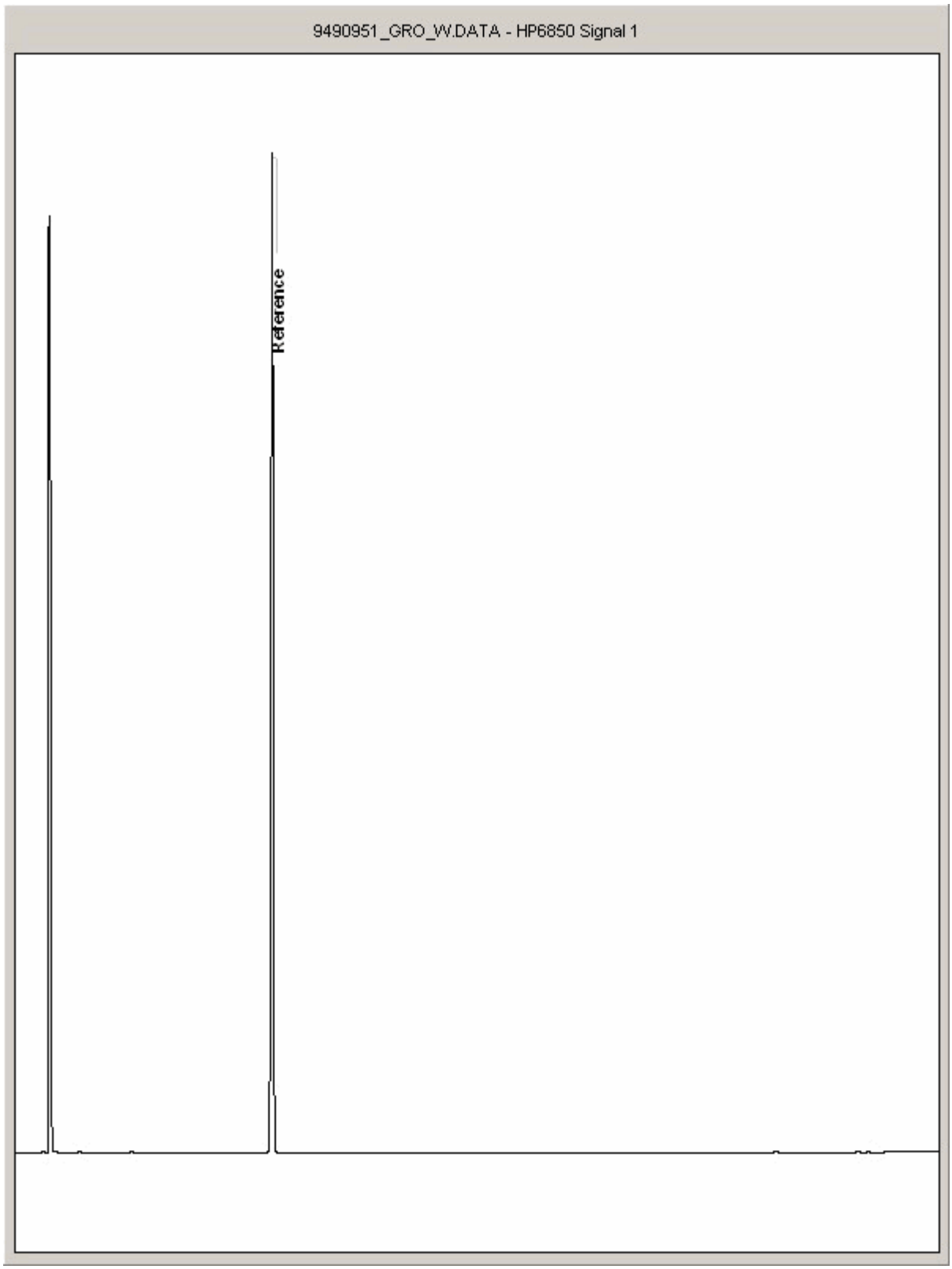
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9490951
Sample ID : SP2

Depth : 0.00



CERTIFICATE OF ANALYSIS

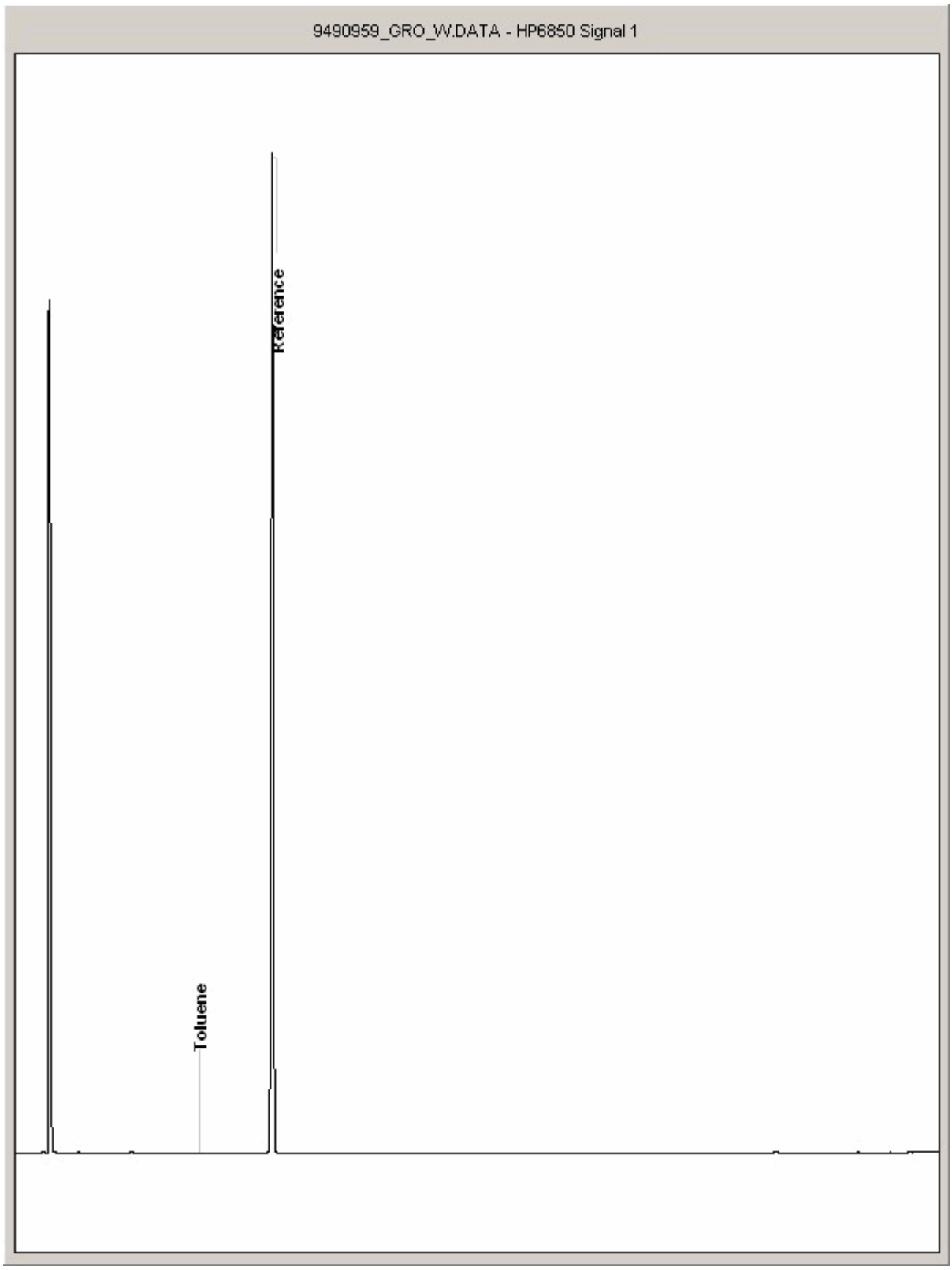
SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9490959
Sample ID : SP3

Depth : 0.00



CERTIFICATE OF ANALYSIS

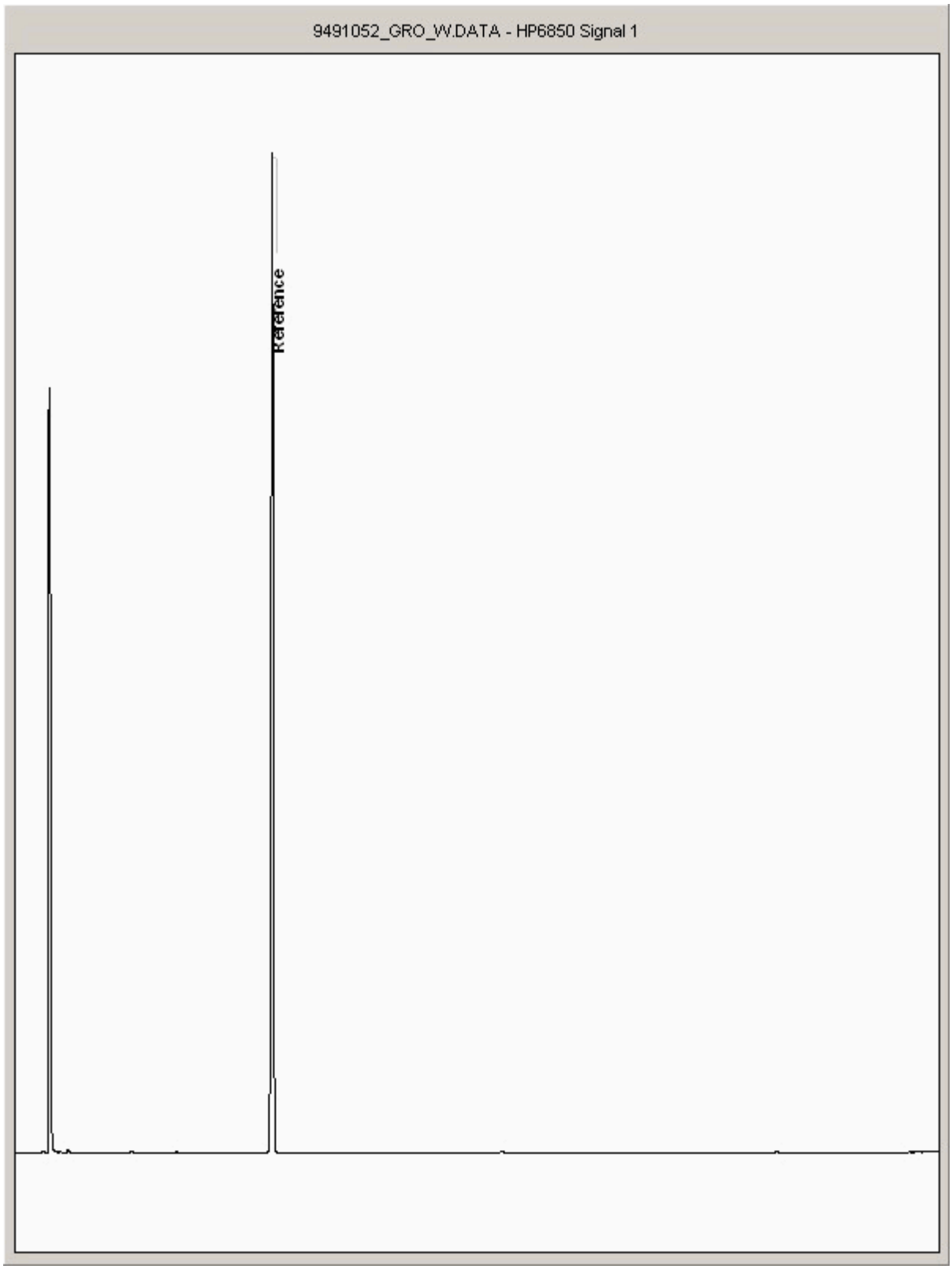
SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9491052
Sample ID : SP6

Depth : 0.00



CERTIFICATE OF ANALYSIS

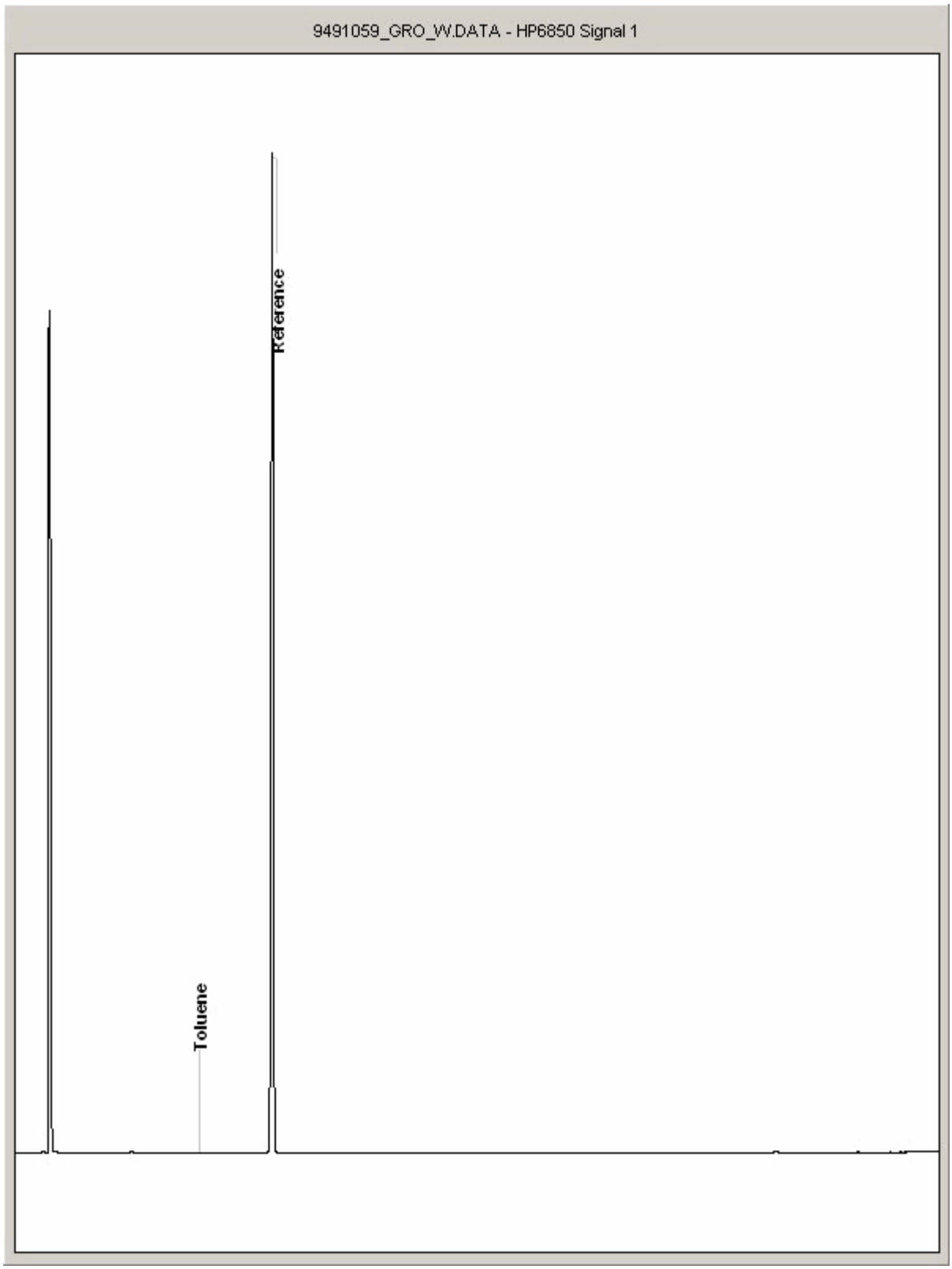
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9491059
Sample ID : SP1

Depth : 0.00



CERTIFICATE OF ANALYSIS

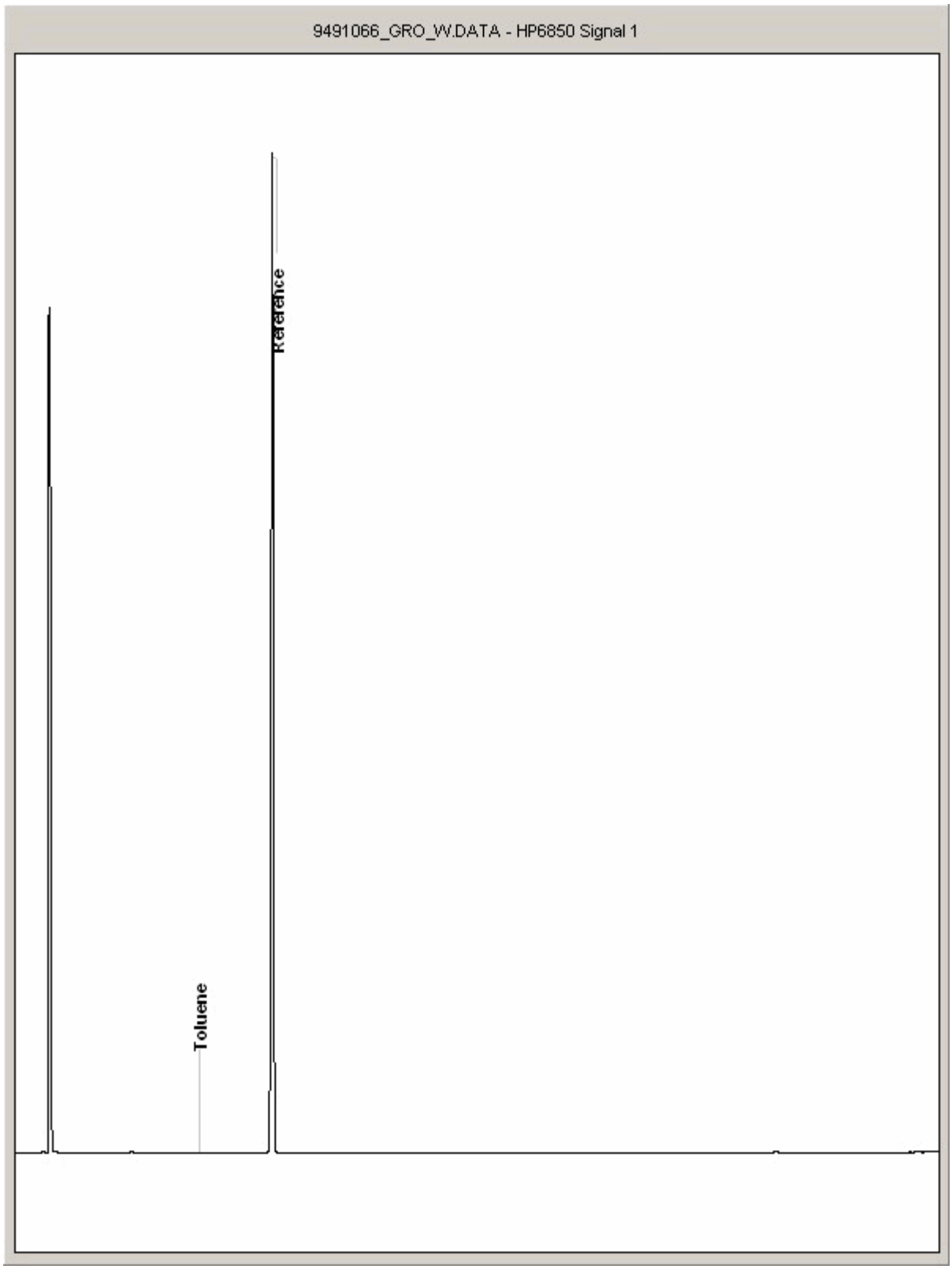
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9491066
Sample ID : SP5

Depth : 0.00



CERTIFICATE OF ANALYSIS

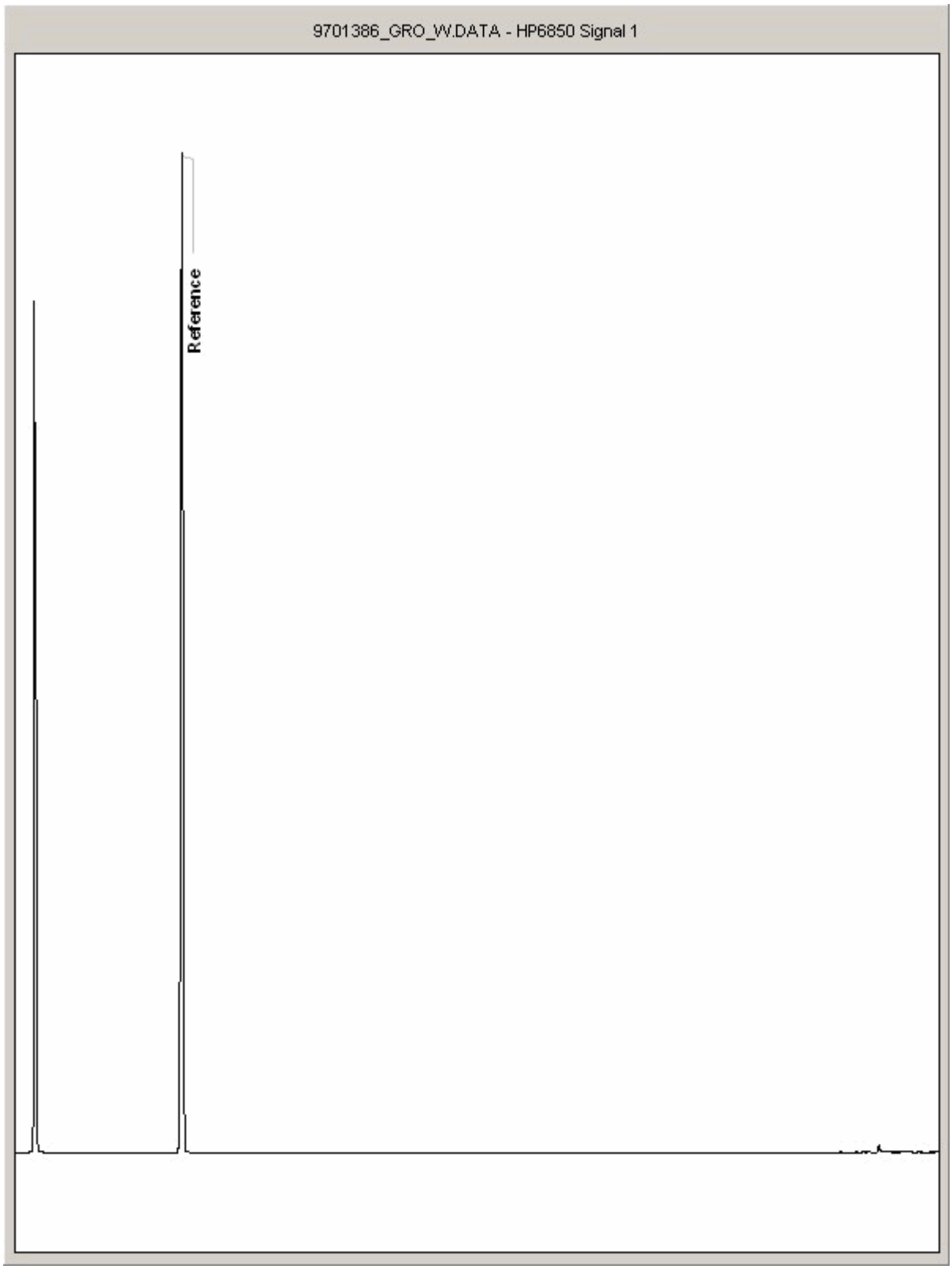
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9701386
Sample ID : SP5 Duplicate

Depth : 0.00



CERTIFICATE OF ANALYSIS

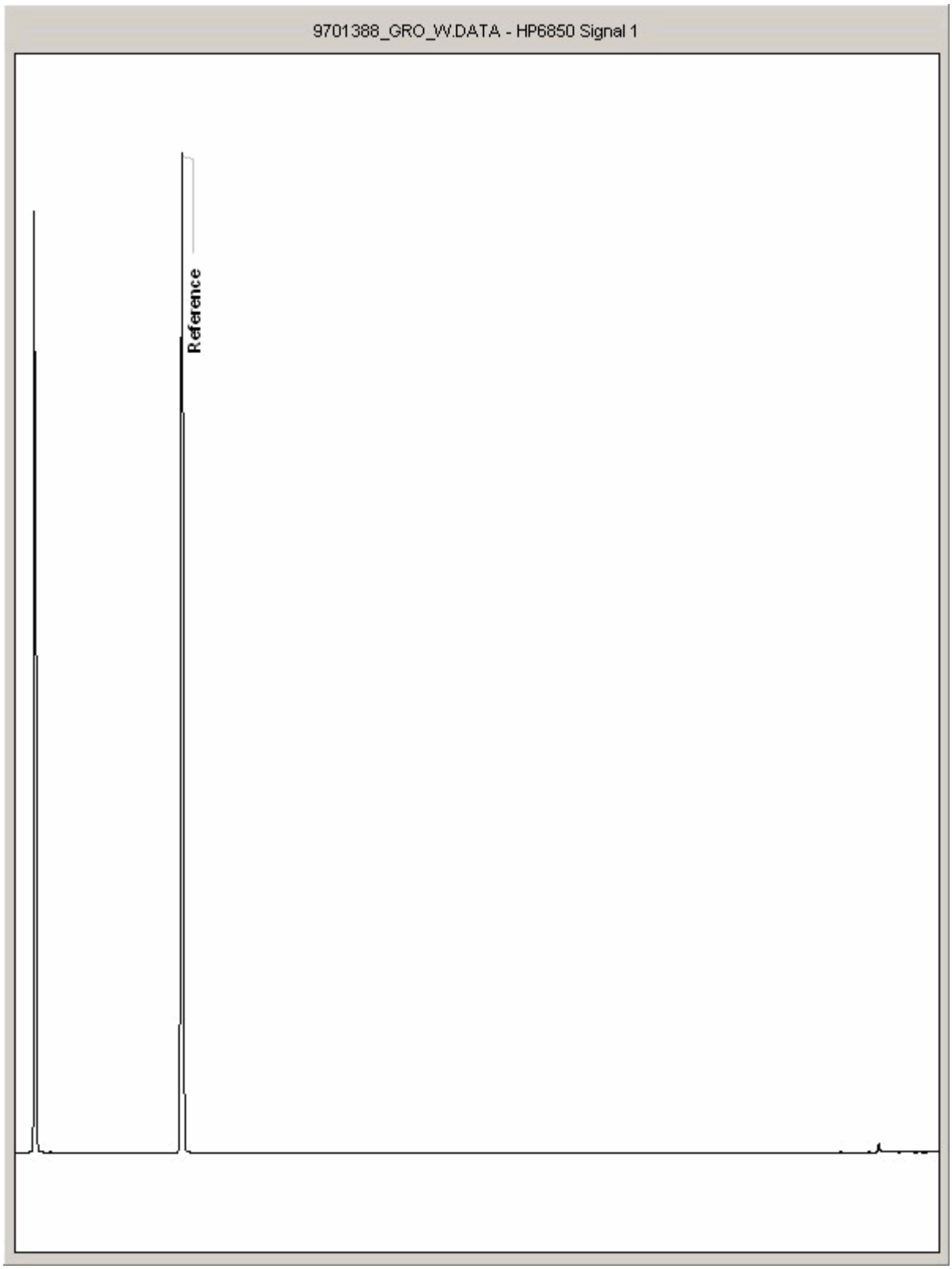
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9701388
Sample ID : SP6 Duplicate

Depth : 0.00



CERTIFICATE OF ANALYSIS

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140619-103	**Location:**	SHLNG	**Order Number:**	PO14-321
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278626
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	275011

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

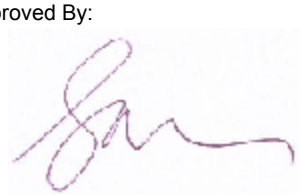
Date:	29 July 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140720-28
Your Reference:	JER5575U
Location:	SHLNG
Report No:	278544

We received 9 samples on Saturday July 19, 2014 and 9 of these samples were scheduled for analysis which was completed on Tuesday July 29, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9652843	BH43			18/07/2014
9652849	BH99			18/07/2014
9652845	BH41a			18/07/2014
9652847	BH42a			18/07/2014
9652846	BH41a DUPLICATE			18/07/2014
9652848	BH42a DUPLICATE			18/07/2014
9652841	BH34b			18/07/2014
9652842	BH34b DUPLICATE			18/07/2014
9652844	BH43 DUPLICATE			18/07/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	9652843	BH43			1l Glass bottle (ALE
			9652849	BH99			Vial (ALE297)
			9652845	BH41a			1l Glass bottle (ALE
			9652847	BH42a			Vial (ALE297)
			9652846	BH41a DUPLICATE			1l Glass bottle (ALE
			9652848	BH42a DUPLICATE			Vial (ALE297)
			9652841	BH34b			1l Glass bottle (ALE
			9652842	BH34b DUPLICATE			Vial (ALE297)
			9652844	BH43 DUPLICATE			1l Glass bottle (ALE
							Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9					

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41a DUPLICATE	BH42a DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014
			SDG Ref	140720-28	140720-28	140720-28	140720-28	140720-28	140720-28
			Lab Sample No.(s)	9652843	9652849	9652845	9652847	9652846	9652848
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		902 #	174 #	4230 #	27100 #	596 #	113000 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		60.4	55.7	1580	6400	235	<200
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		842	118	2640	20700	361	113000

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34b	BH34b DUPLICATE	BH43 DUPLICATE			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	18/07/2014	18/07/2014	18/07/2014			
			Sampled Time	.	.	.			
			Date Received	19/07/2014	19/07/2014	19/07/2014			
			SDG Ref	140720-28	140720-28	140720-28			
			Lab Sample No.(s)	9652841	9652842	9652844			
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		186 #	177 #	928 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		63.2	56.3	58.2			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		123	121	869			

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41a DUPLICATE	BH42a DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014
			SDG Ref	140720-28	140720-28	140720-28	140720-28	140720-28	140720-28
			Lab Sample No.(s)	9652843	9652849	9652845	9652847	9652846	9652848
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	21	<10	18
GRO >C6-C8	<10 µg/l	TM245		13	<10	<10	104	<10	92
GRO >C8-C10	<10 µg/l	TM245		62	<10	<10	125	<10	89
GRO >C5-C10	<10 µg/l	TM245		77	<10	12	250	<10	199

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34b	BH34b DUPLICATE	BH43 DUPLICATE
			Depth (m)	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	18/07/2014	18/07/2014	18/07/2014
			Sampled Time	.	.	.
			Date Received	19/07/2014	19/07/2014	19/07/2014
			SDG Ref	140720-28	140720-28	140720-28
			Lab Sample No.(s)	9652841	9652842	9652844
			AGS Reference			
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	13
GRO >C8-C10	<10 µg/l	TM245		<10	<10	67
GRO >C5-C10	<10 µg/l	TM245		<10	<10	82

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41a DUPLICATE	BH42a DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014
			SDG Ref	140720-28	140720-28	140720-28	140720-28	140720-28	140720-28
			Lab Sample No.(s)	9652843	9652849	9652845	9652847	9652846	9652848
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<4	<1	<4
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	21.7 #	<1 #	33.8 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<4	<1	<4
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<4	<1	<4
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		22.2 #	<2 #	<2 #	<8 #	<2 #	<8 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH41a DUPLICATE	BH42a DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014	18/07/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014	19/07/2014
			SDG Ref	140720-28	140720-28	140720-28	140720-28	140720-28	140720-28
			Lab Sample No.(s)	9652843	9652849	9652845	9652847	9652846	9652848
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<20 #	<5 #	<20 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<4	<1	<4
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<4	<1	<4
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	4.14 #	<1 #	7.36 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<4	<1	<4
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	7.84 #	<1 #	9.45 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<4 #	<1 #	<4 #

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34b	BH34b DUPLICATE	BH43 DUPLICATE			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	18/07/2014	18/07/2014	18/07/2014			
			Sampled Time	.	.	.			
			Date Received	19/07/2014	19/07/2014	19/07/2014			
			SDG Ref	140720-28	140720-28	140720-28			
			Lab Sample No.(s)	9652841	9652842	9652844			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34b	BH34b DUPLICATE	BH43 DUPLICATE			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	18/07/2014	18/07/2014	18/07/2014			
			Sampled Time	.	.	.			
			Date Received	19/07/2014	19/07/2014	19/07/2014			
			SDG Ref	140720-28	140720-28	140720-28			
			Lab Sample No.(s)	9652841	9652842	9652844			
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #			
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9652843	9652849	9652844	9652845	9652847	9652846	9652848	9652841	9652842
Customer Sample Ref.	BH43	BH99	BH43 DUPLICATE	BH41a	BH42a	BH41a DUPLICATE	BH42a DUPLICATE	BH34b	BH34b DUPLICATE
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	29-Jul-2014	28-Jul-2014	29-Jul-2014	28-Jul-2014	29-Jul-2014	28-Jul-2014	28-Jul-2014	28-Jul-2014	28-Jul-2014
GRO by GC-FID (W)	27-Jul-2014	27-Jul-2014	27-Jul-2014	27-Jul-2014	27-Jul-2014	27-Jul-2014	27-Jul-2014	27-Jul-2014	27-Jul-2014
SVOC MS (W) - Aqueous	25-Jul-2014	25-Jul-2014	28-Jul-2014	25-Jul-2014	25-Jul-2014	28-Jul-2014	25-Jul-2014	28-Jul-2014	28-Jul-2014

CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

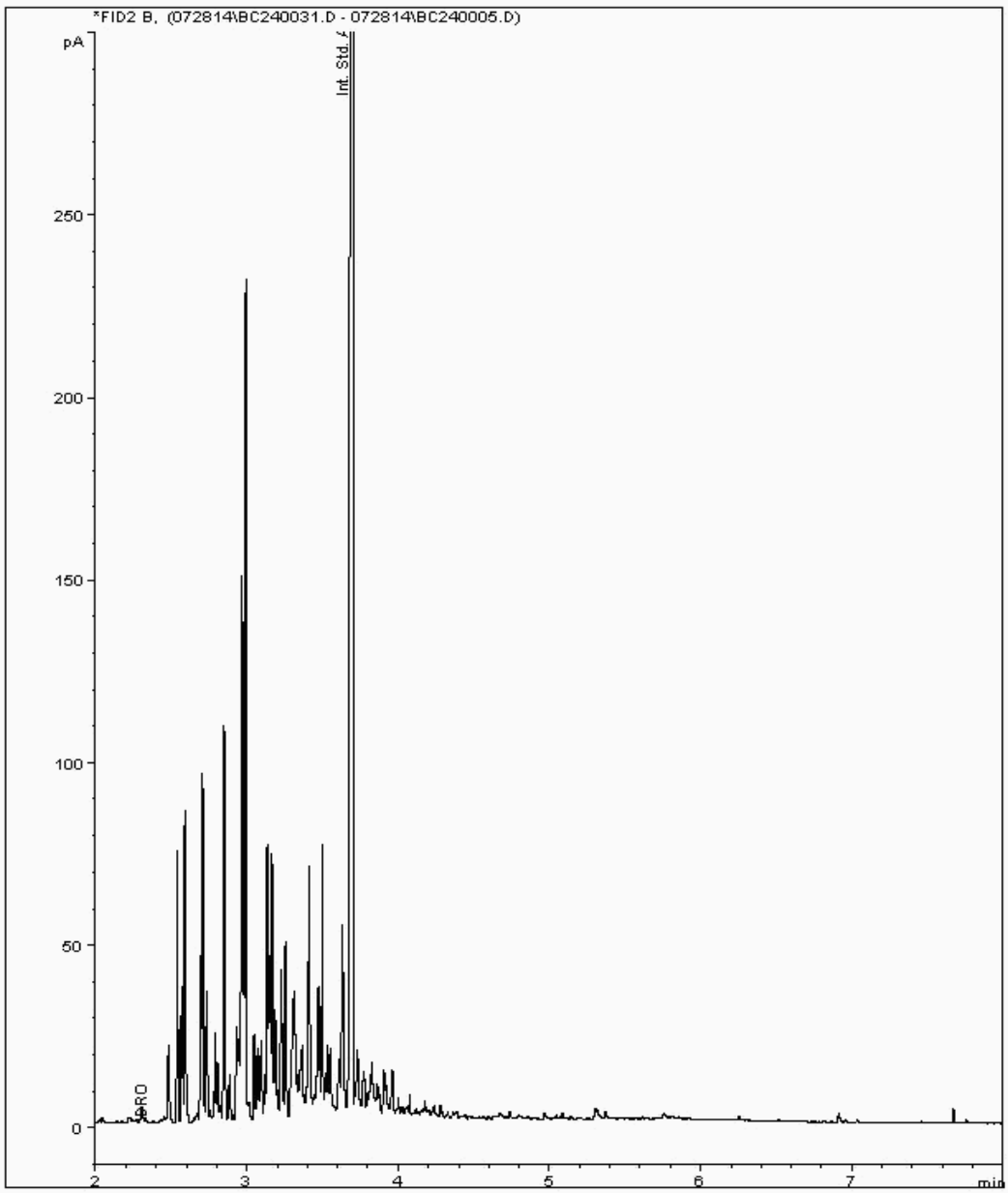
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9663312
Sample ID : BH43 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9167910-9663312
Date Acquired : 29/07/2014 07:01:28 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

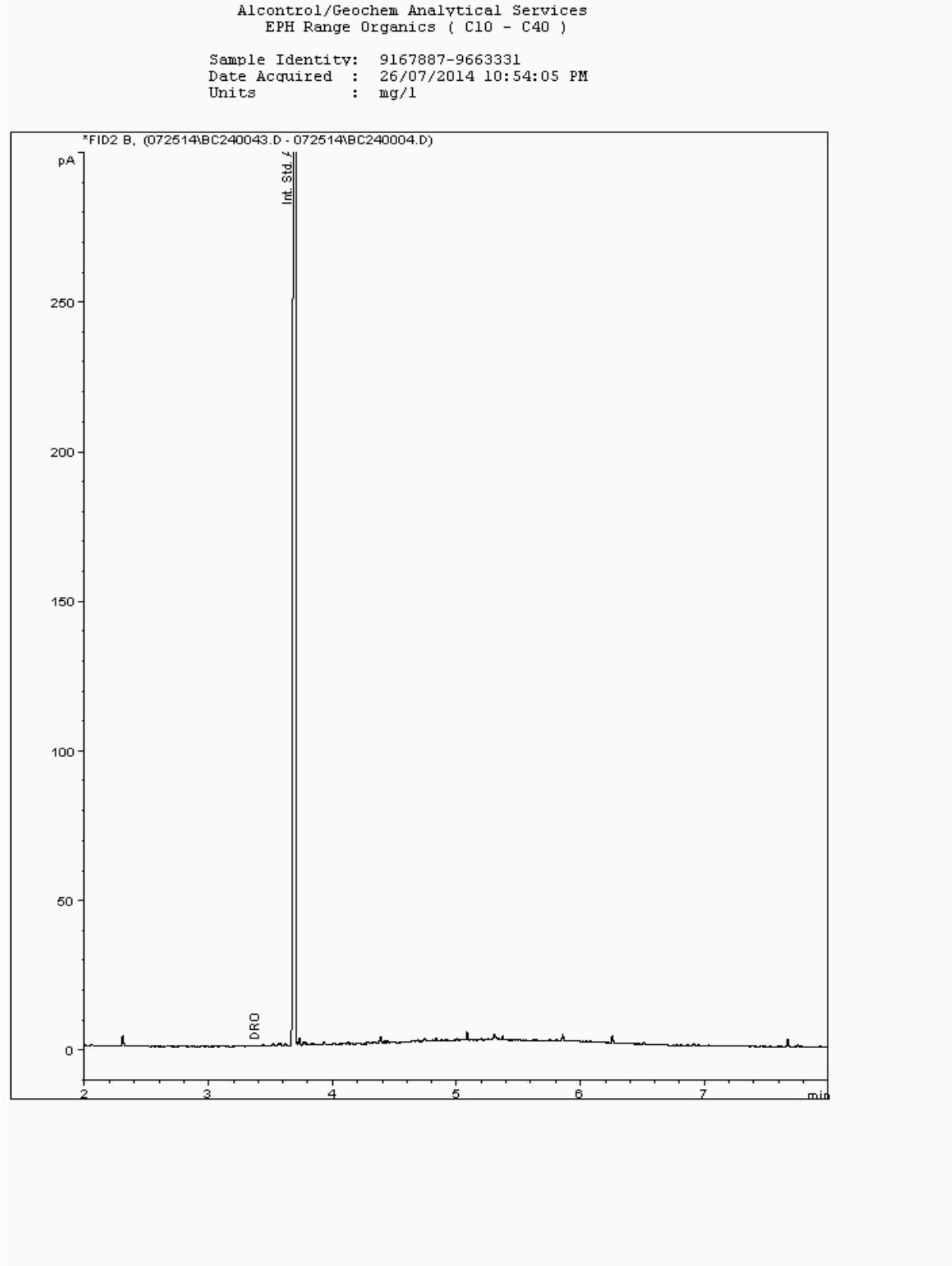
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9663331
Sample ID : BH34b DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

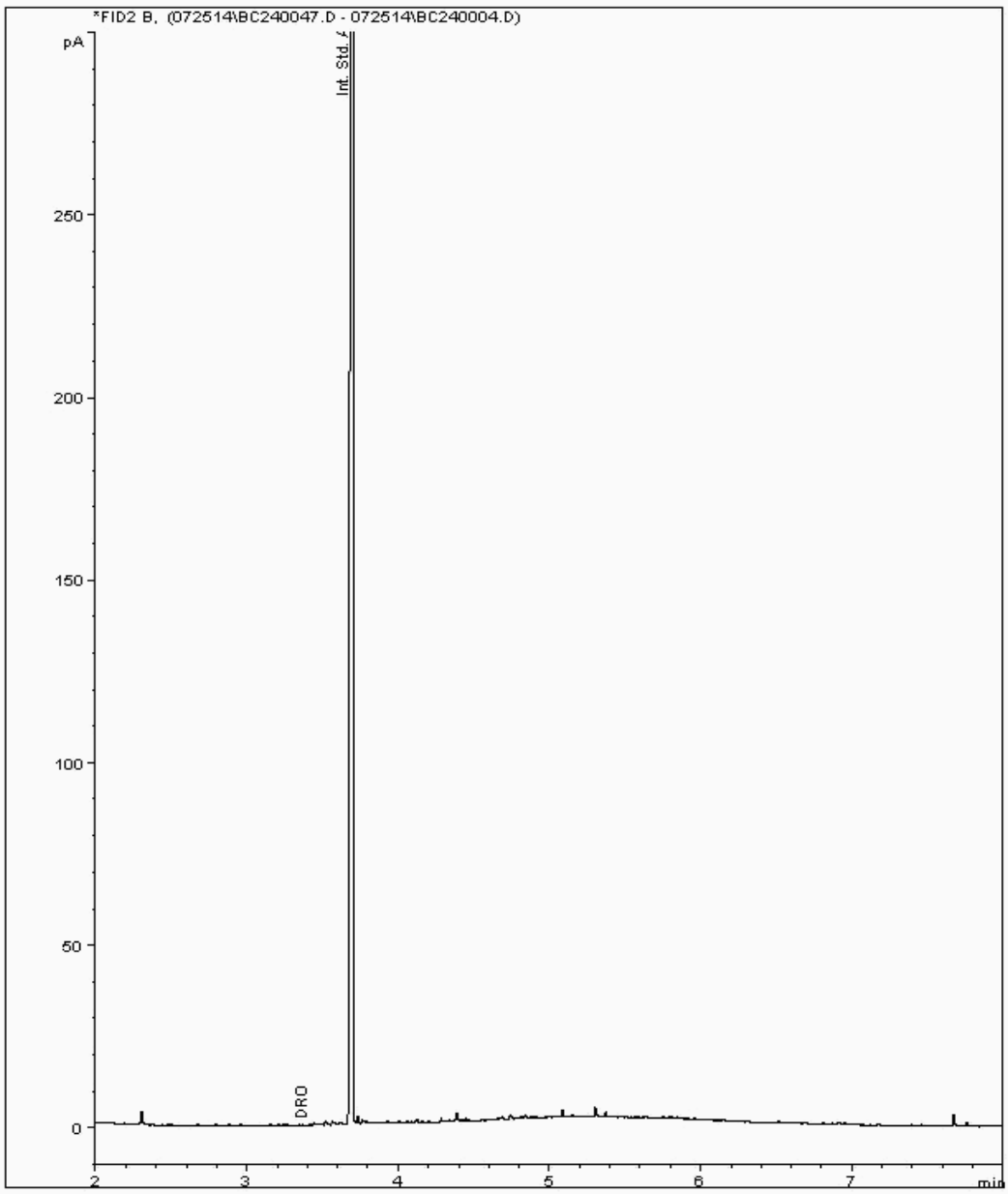
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9663351
Sample ID : BH34b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9167864-9663351
Date Acquired : 26/07/2014 12:29:56 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

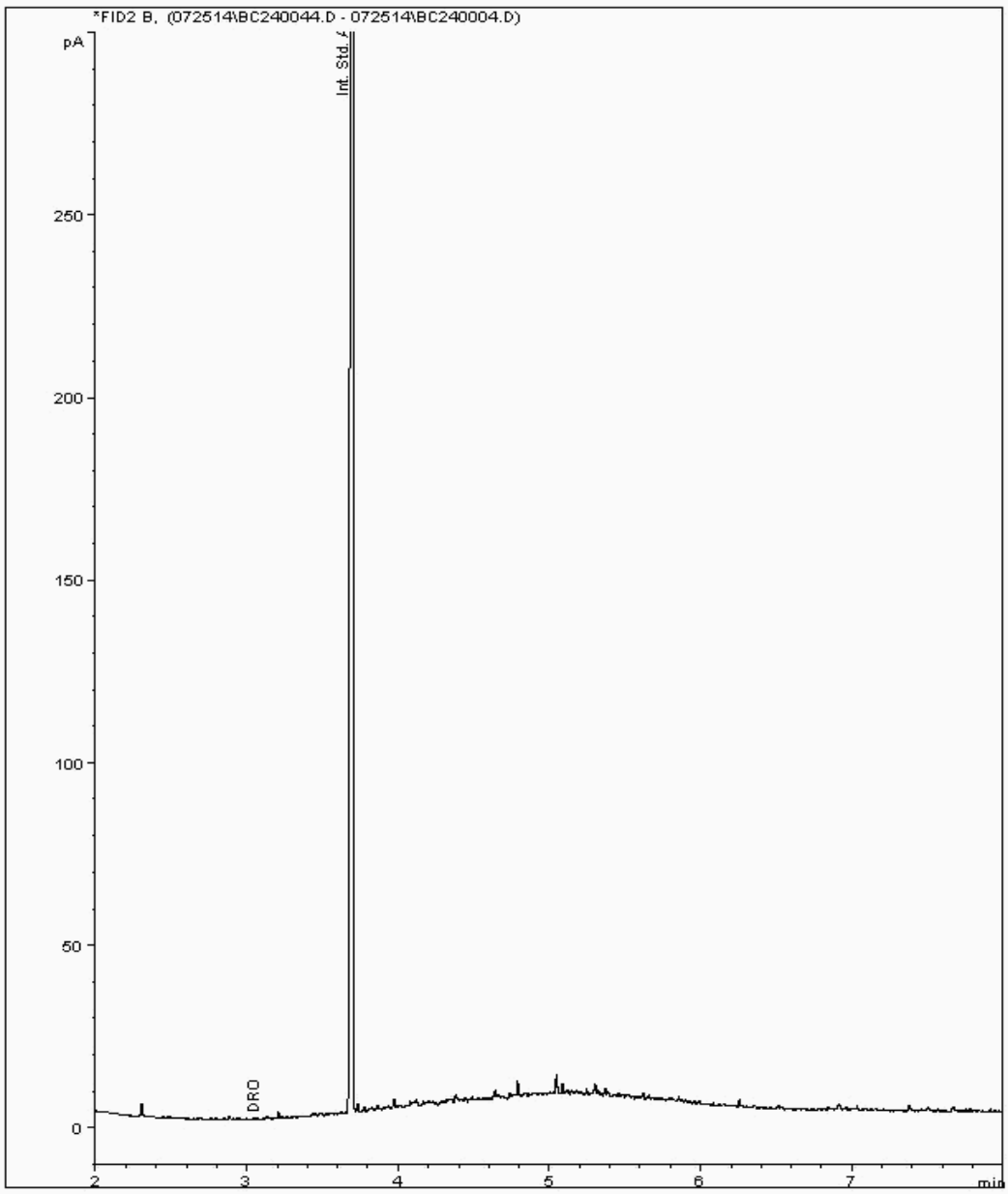
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9663380
Sample ID : BH41a DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9167952-9663380
Date Acquired : 26/07/2014 11:18:06 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

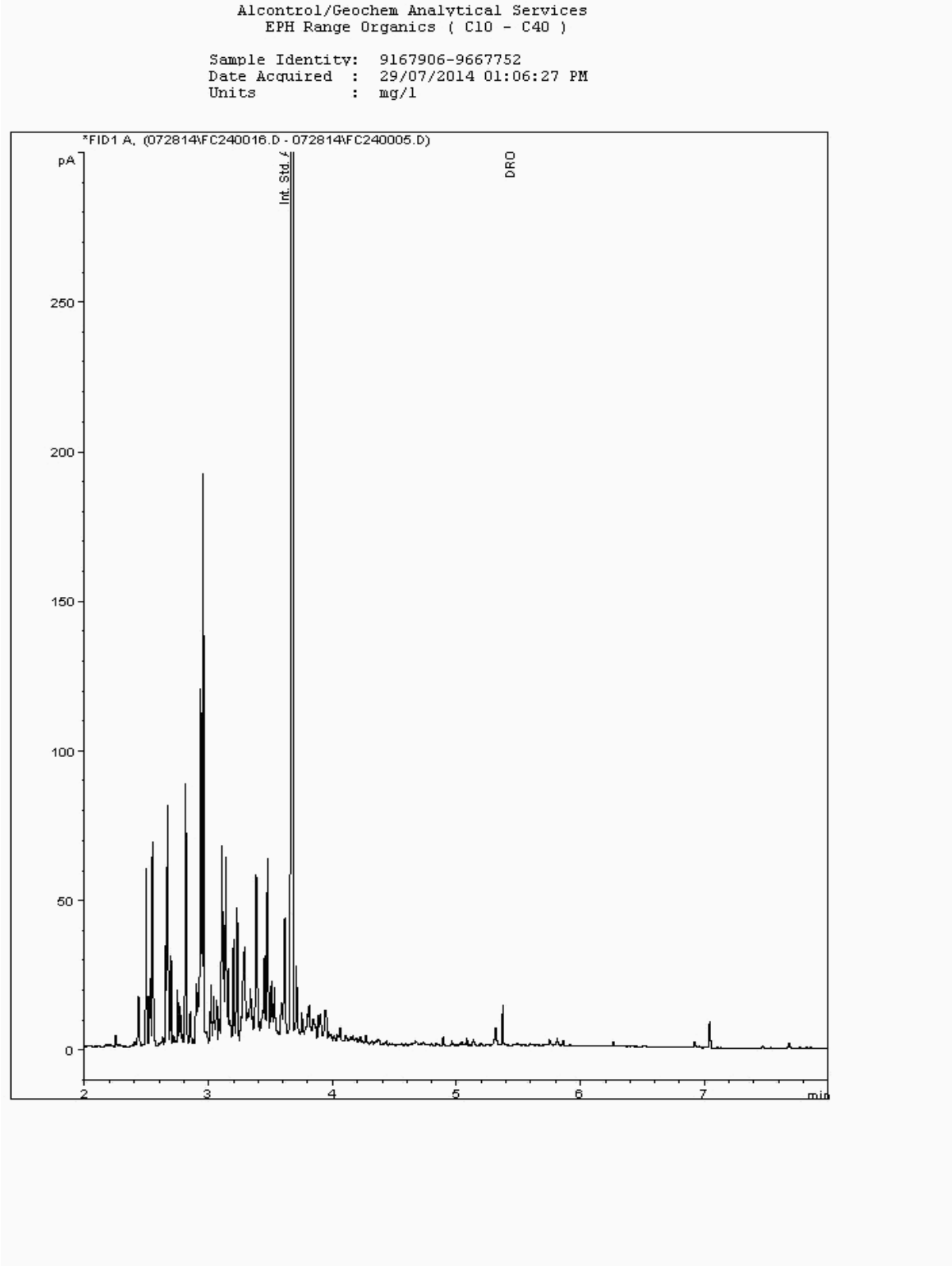
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9667752
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

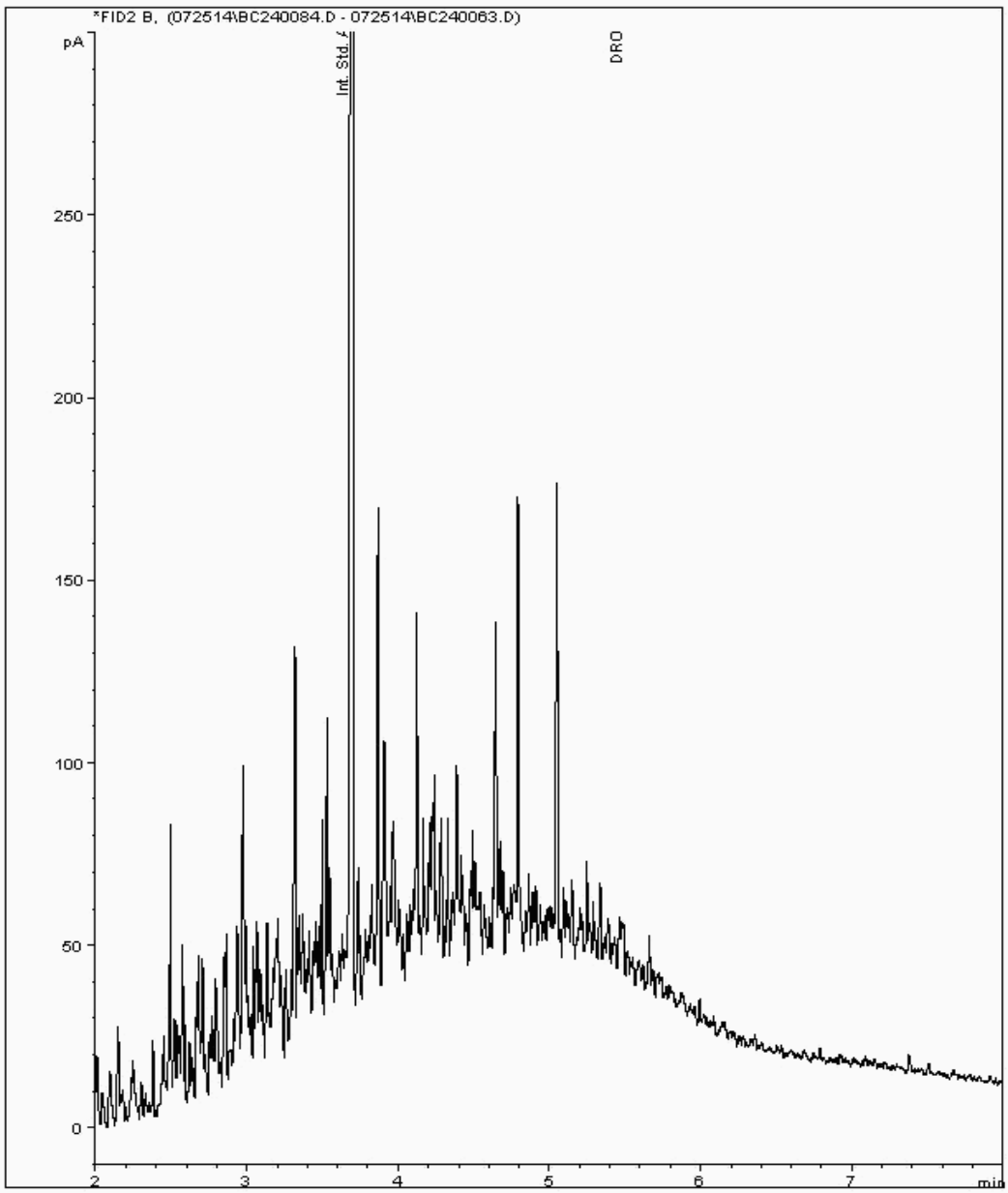
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9667764
Sample ID : BH42a DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9167979-9667764
Date Acquired : 28/07/2014 17:26:29 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

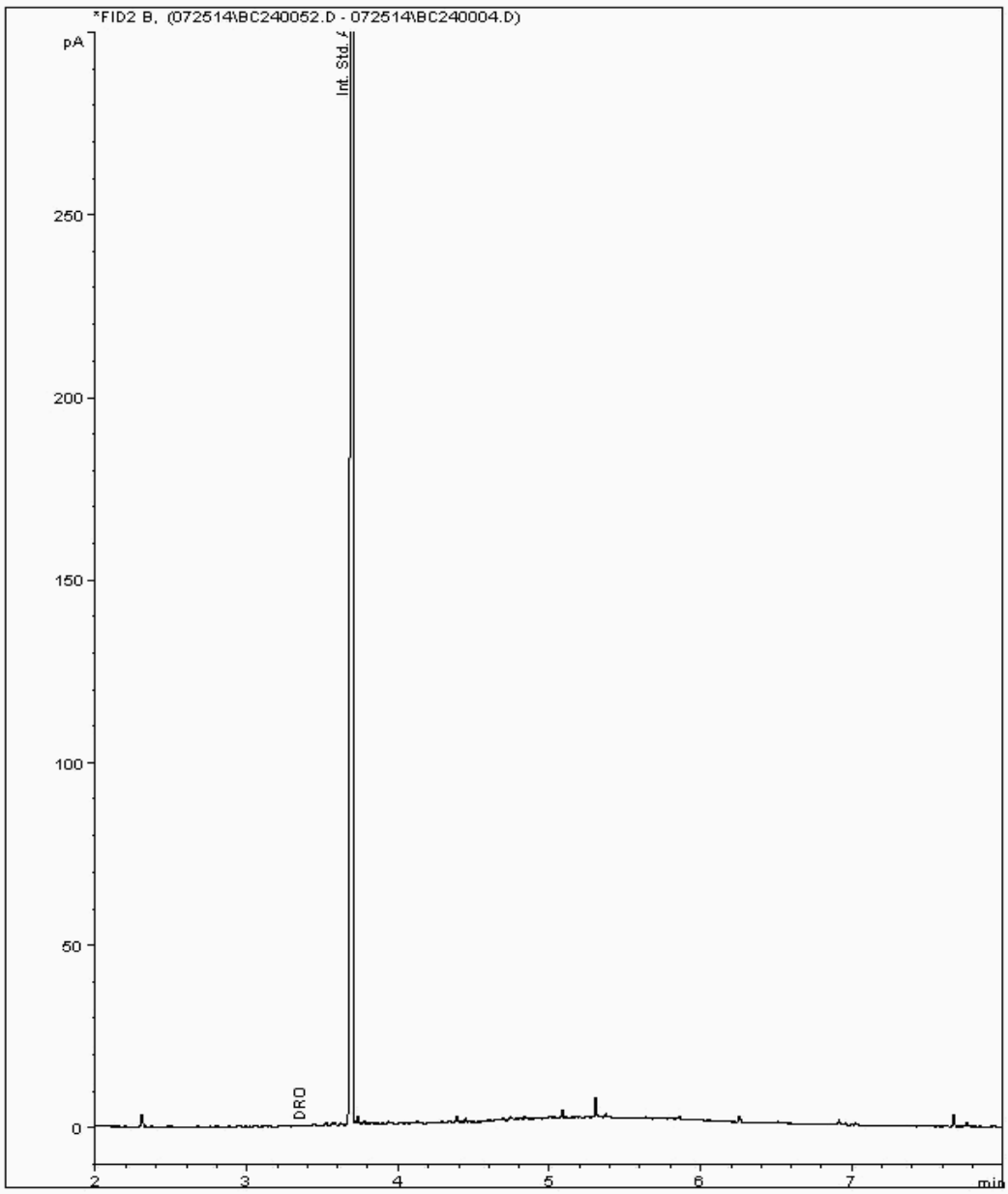
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9667775 **Sample ID :** BH99 **Depth :**

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9167985-9667775
Date Acquired : 26/07/2014 14:30:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

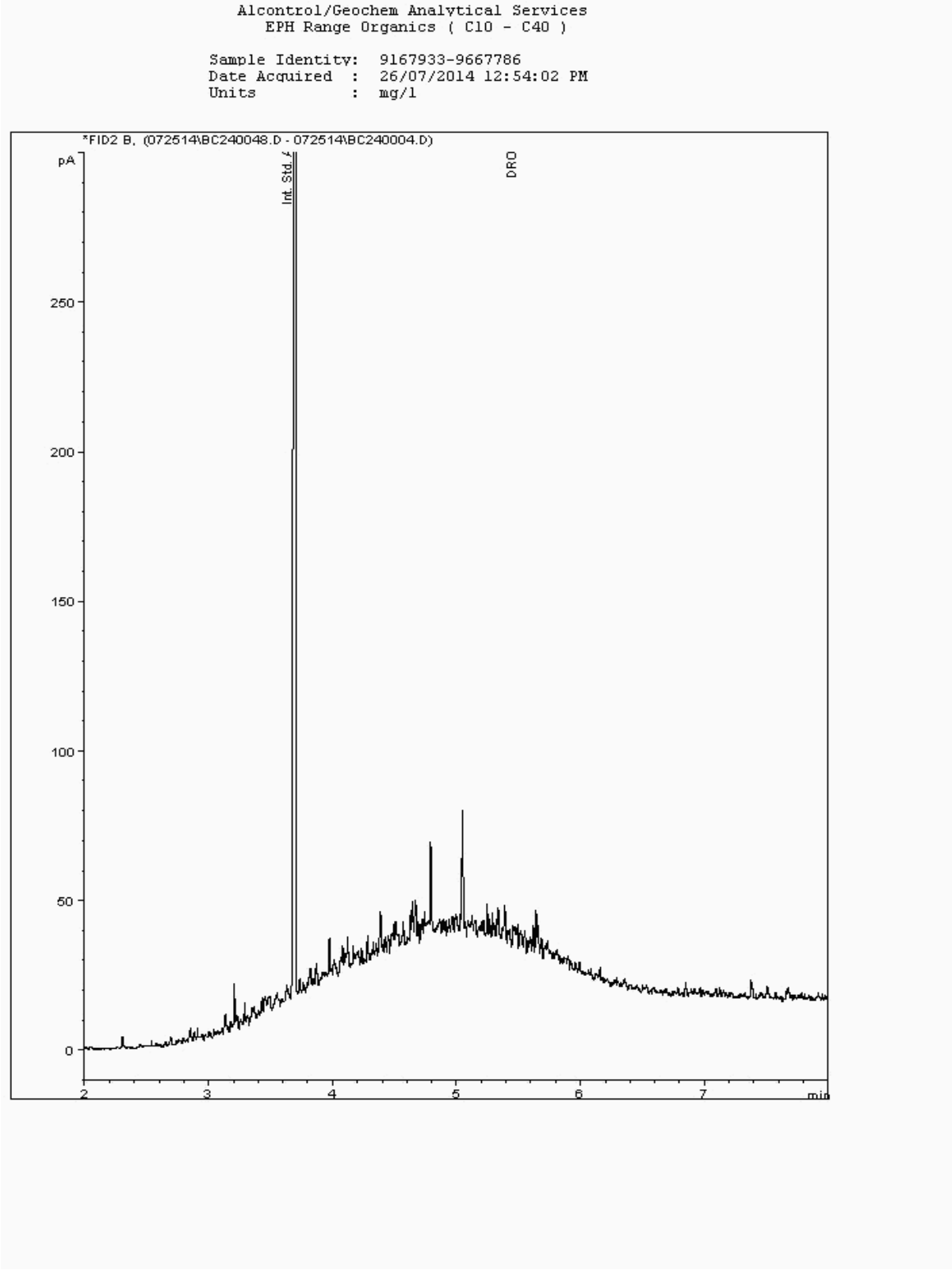
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9667786
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

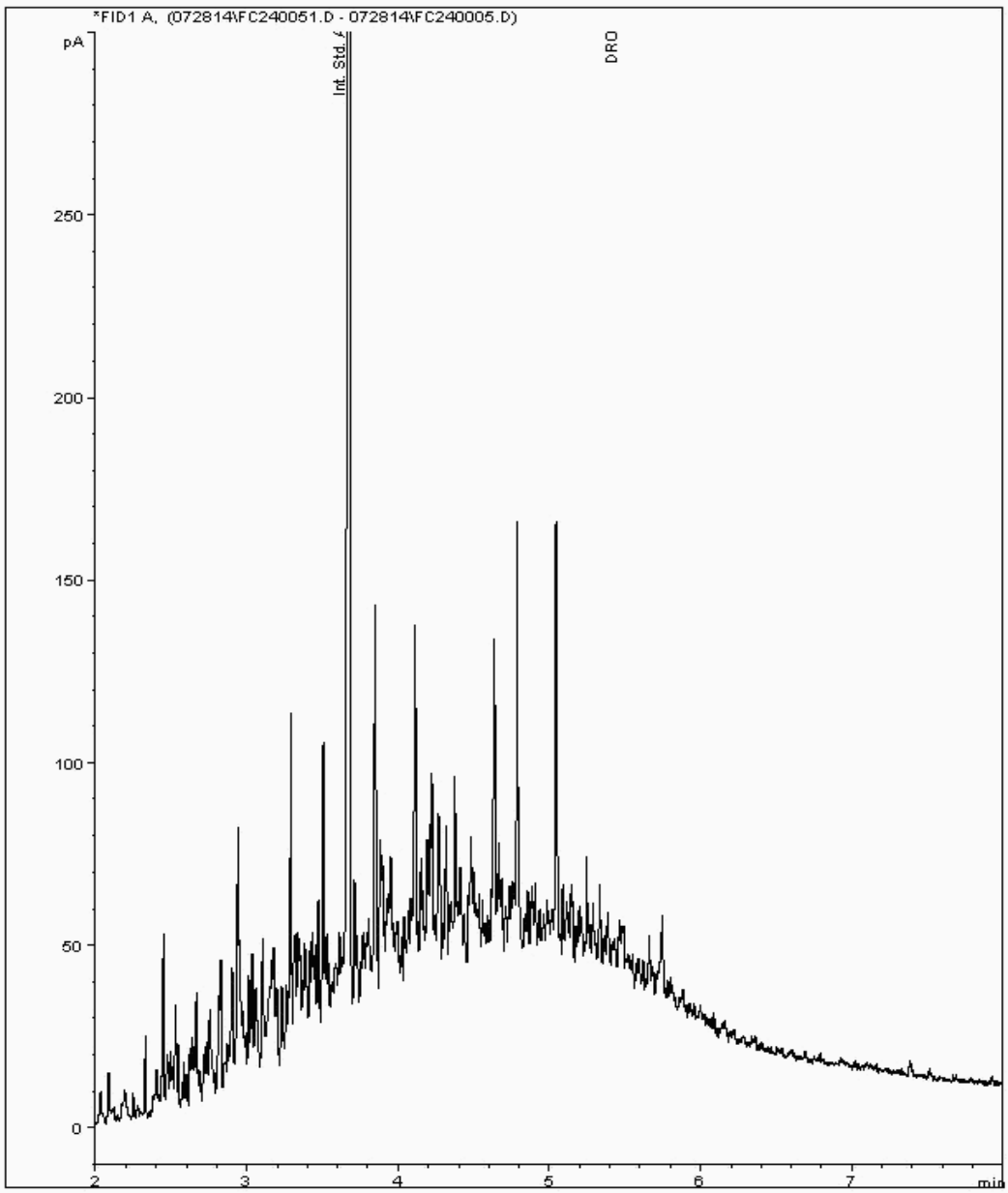
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9667796
Sample ID : BH42a

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9167957-9667796
Date Acquired : 29/07/2014 14:32:02 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

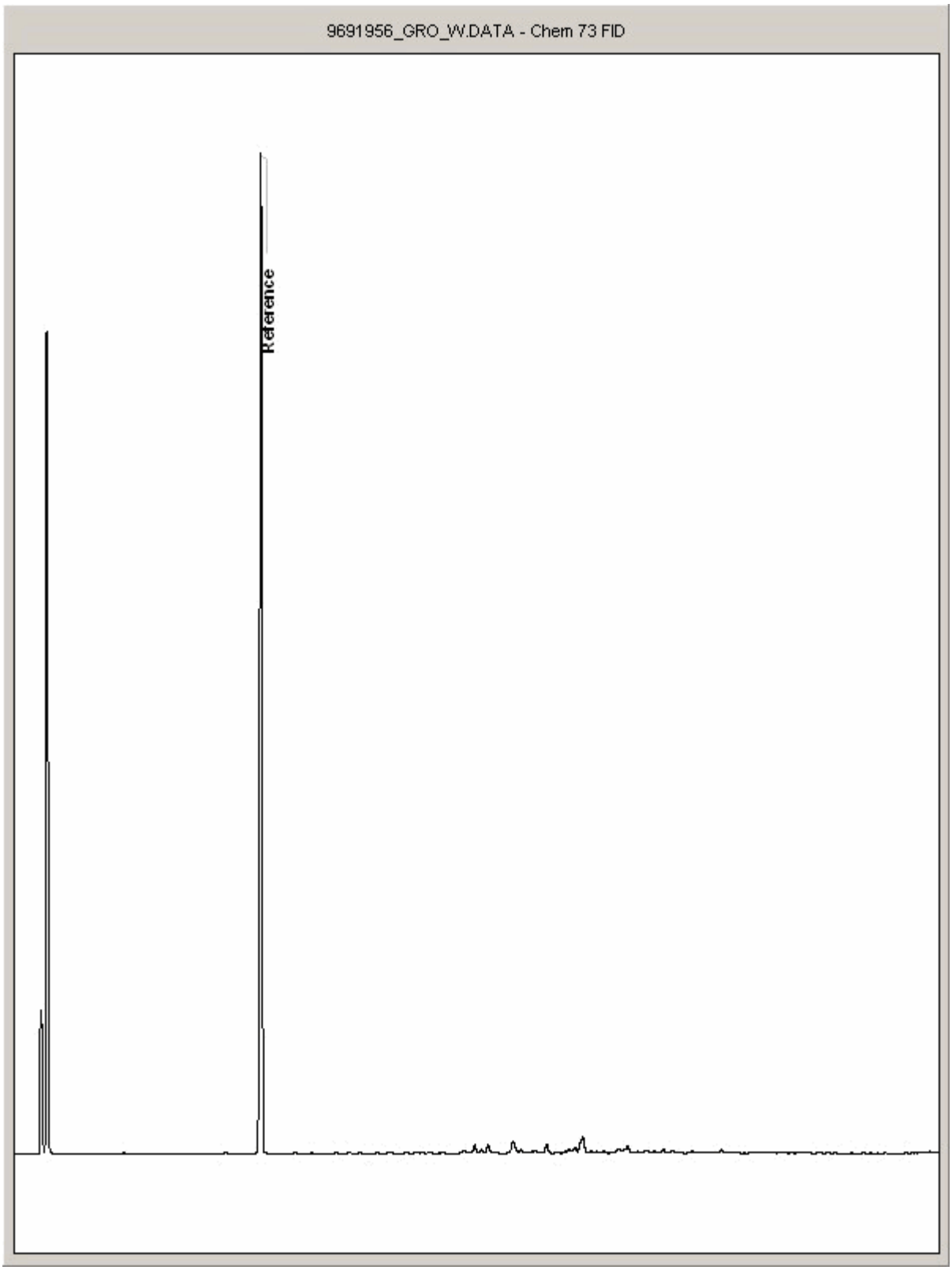
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691956
Sample ID : BH43 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

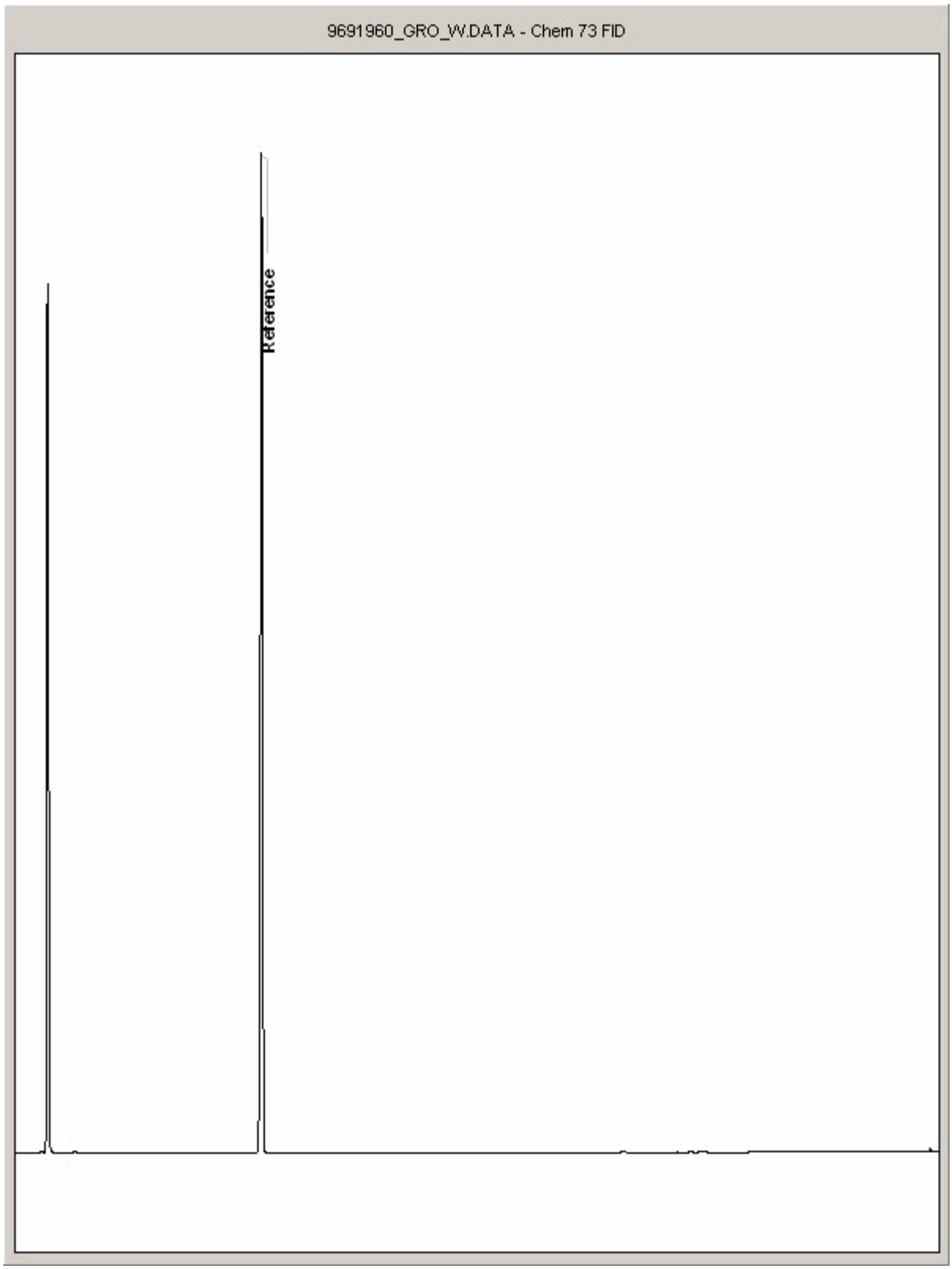
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691960
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

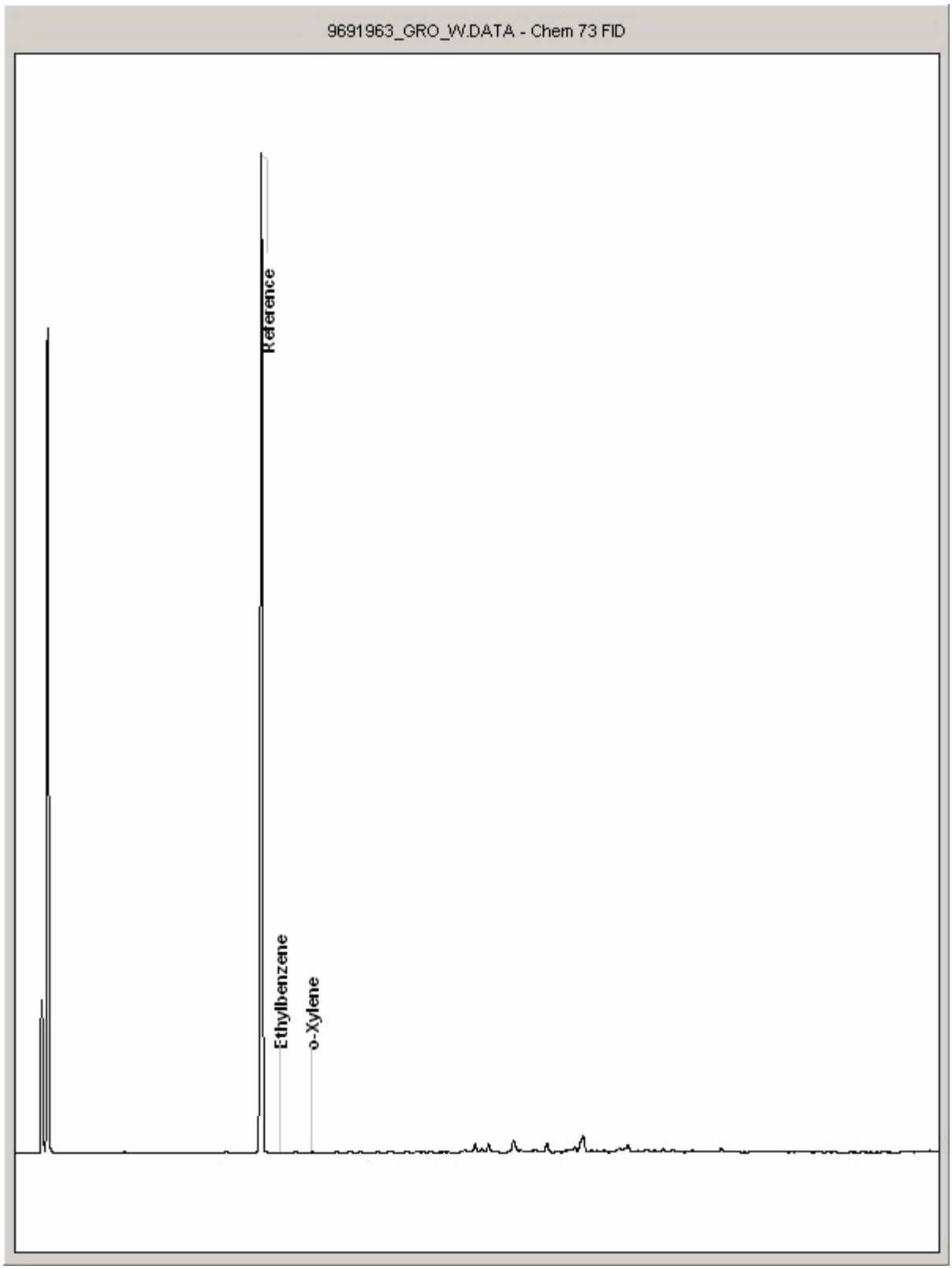
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691963
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

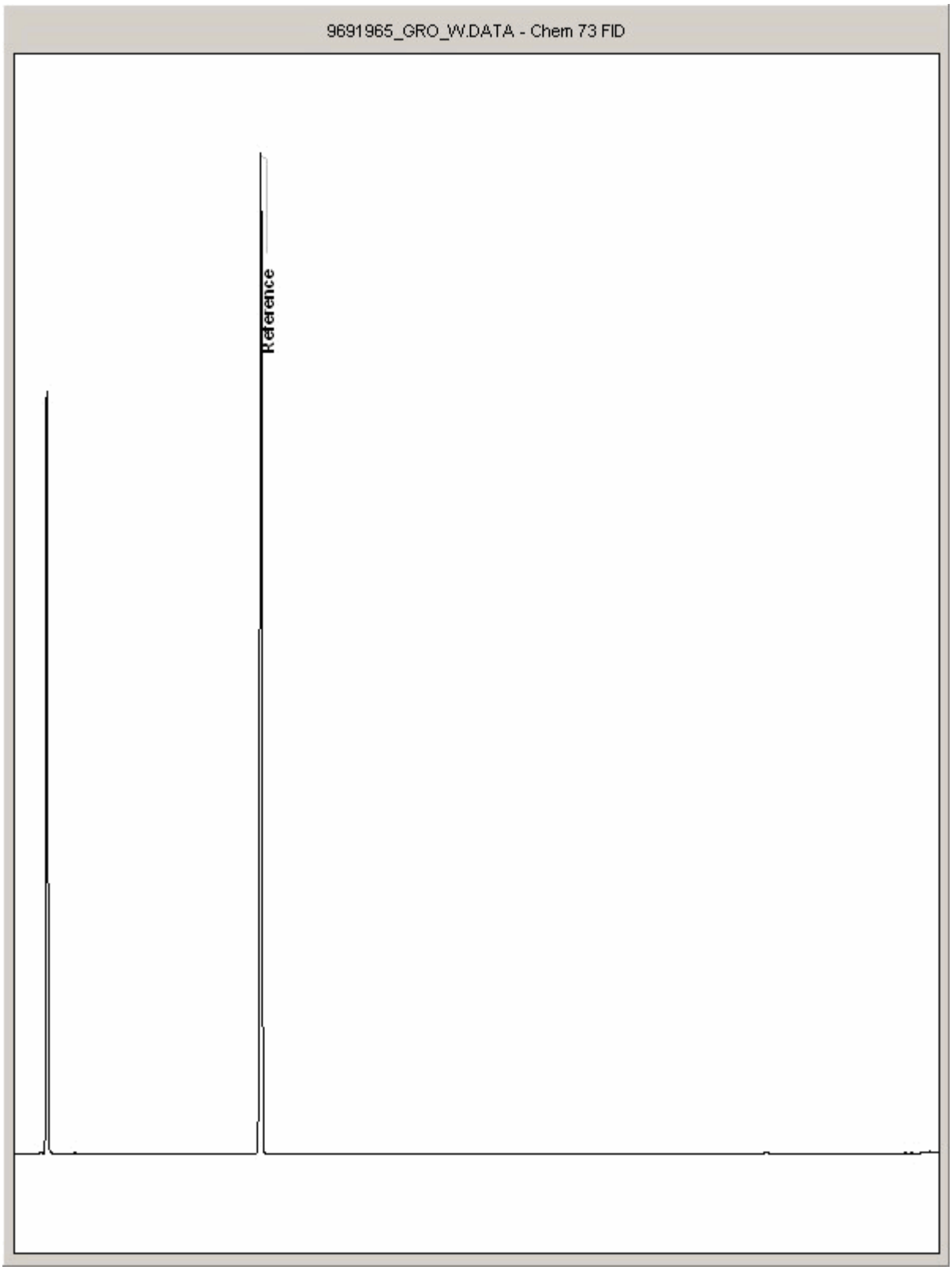
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691965
Sample ID : BH34b DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

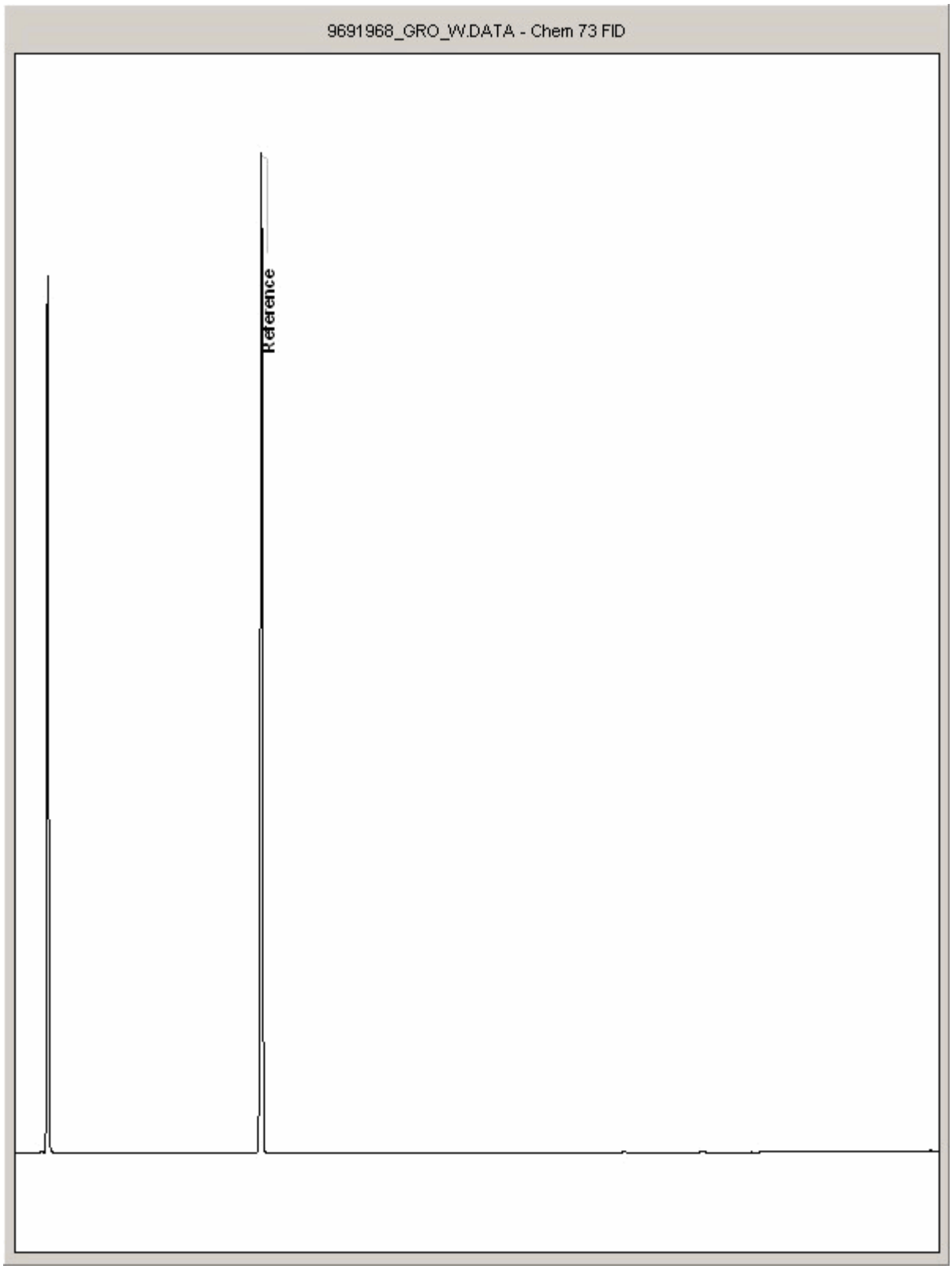
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691968
Sample ID : BH41a DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

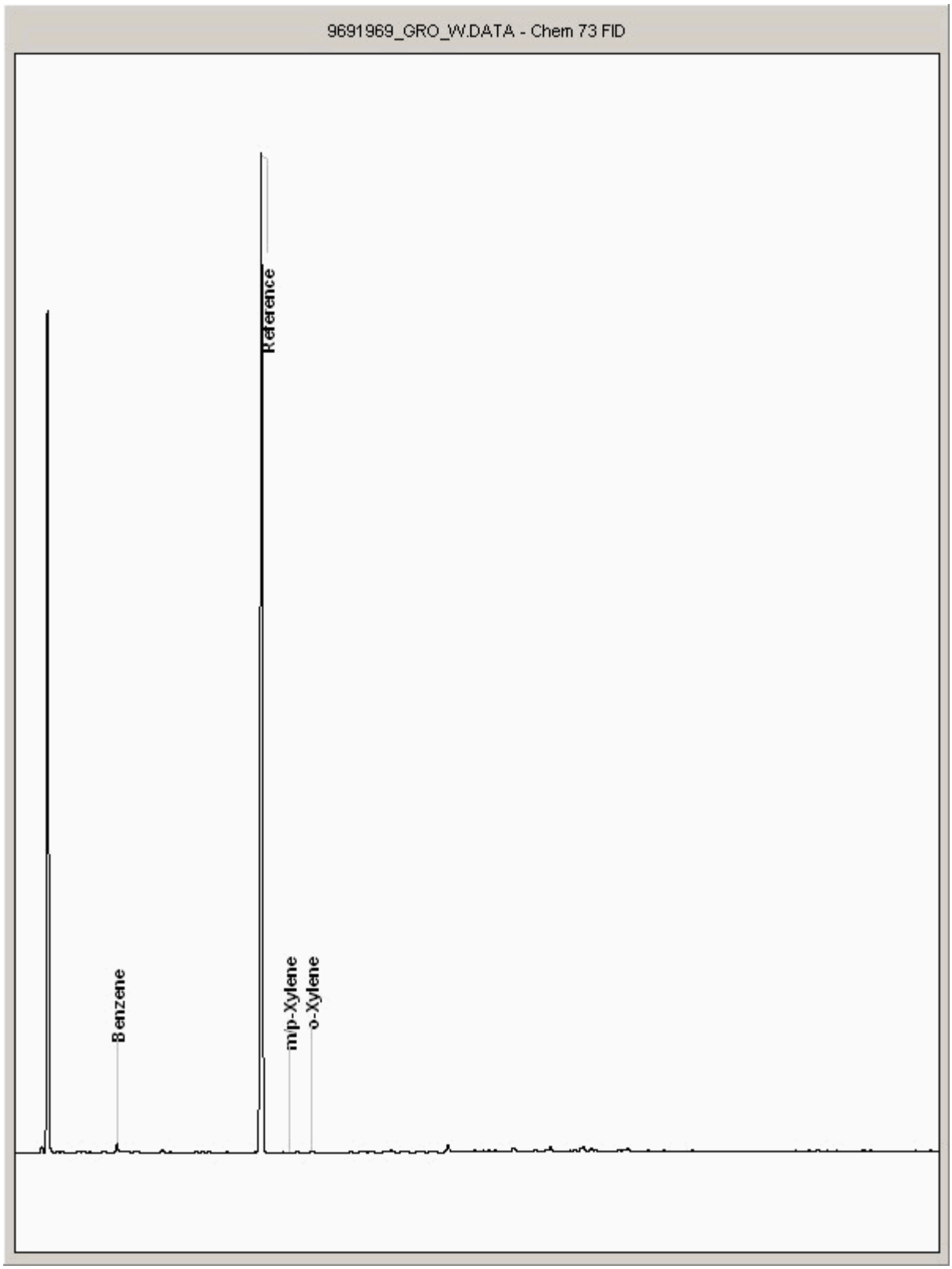
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691969
Sample ID : BH42a DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

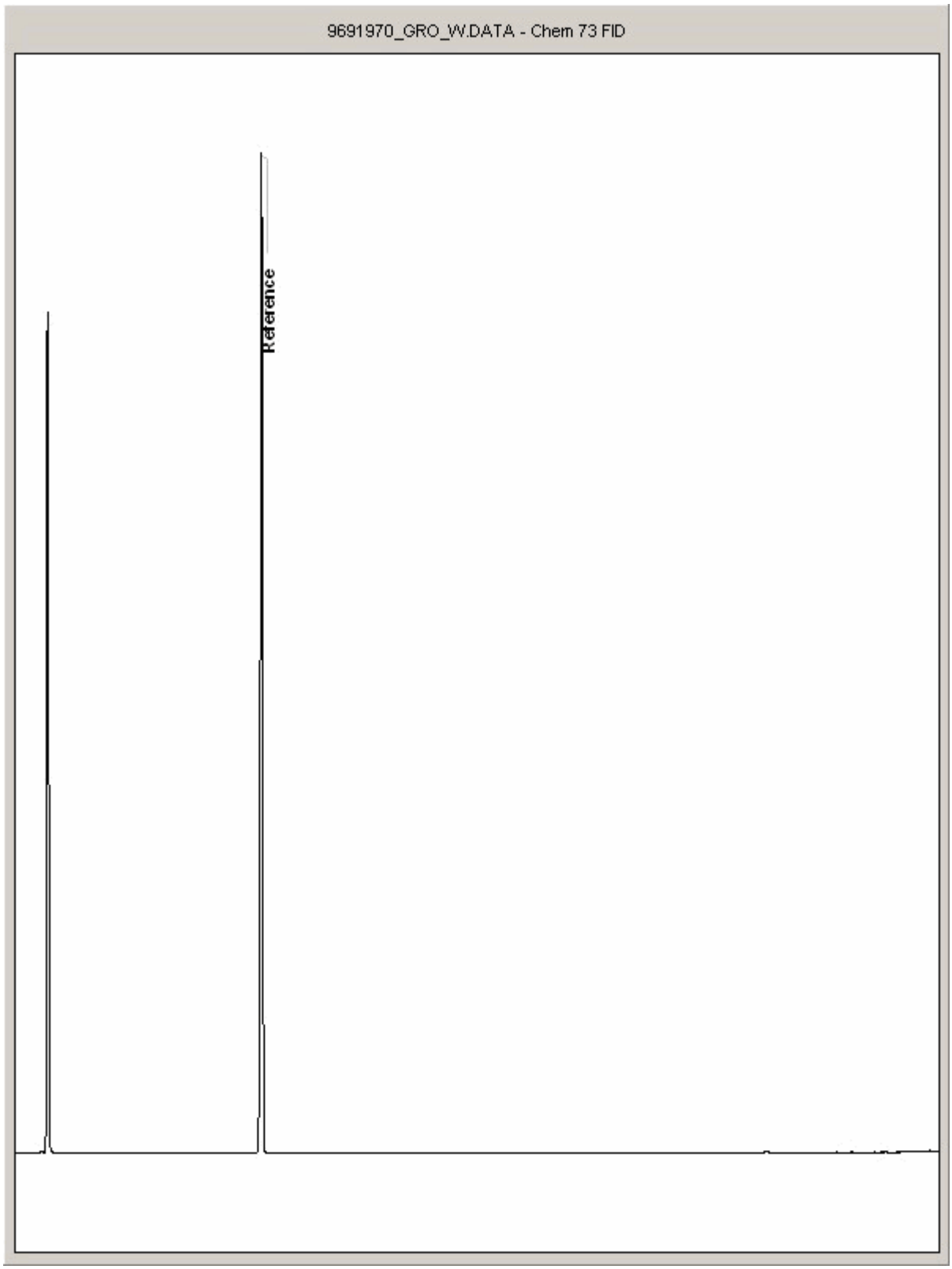
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691970
Sample ID : BH34b

Depth :



CERTIFICATE OF ANALYSIS

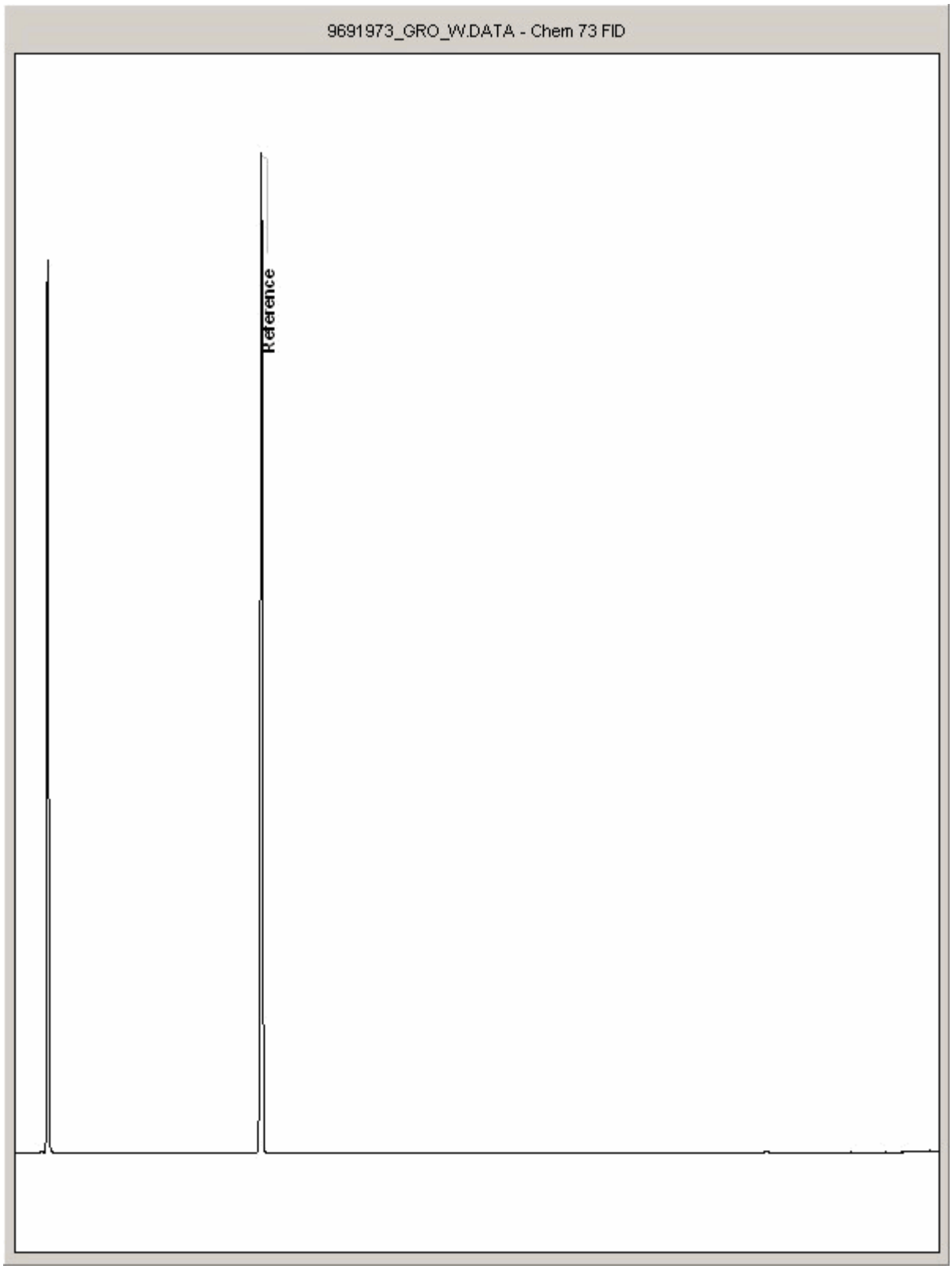
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691973
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

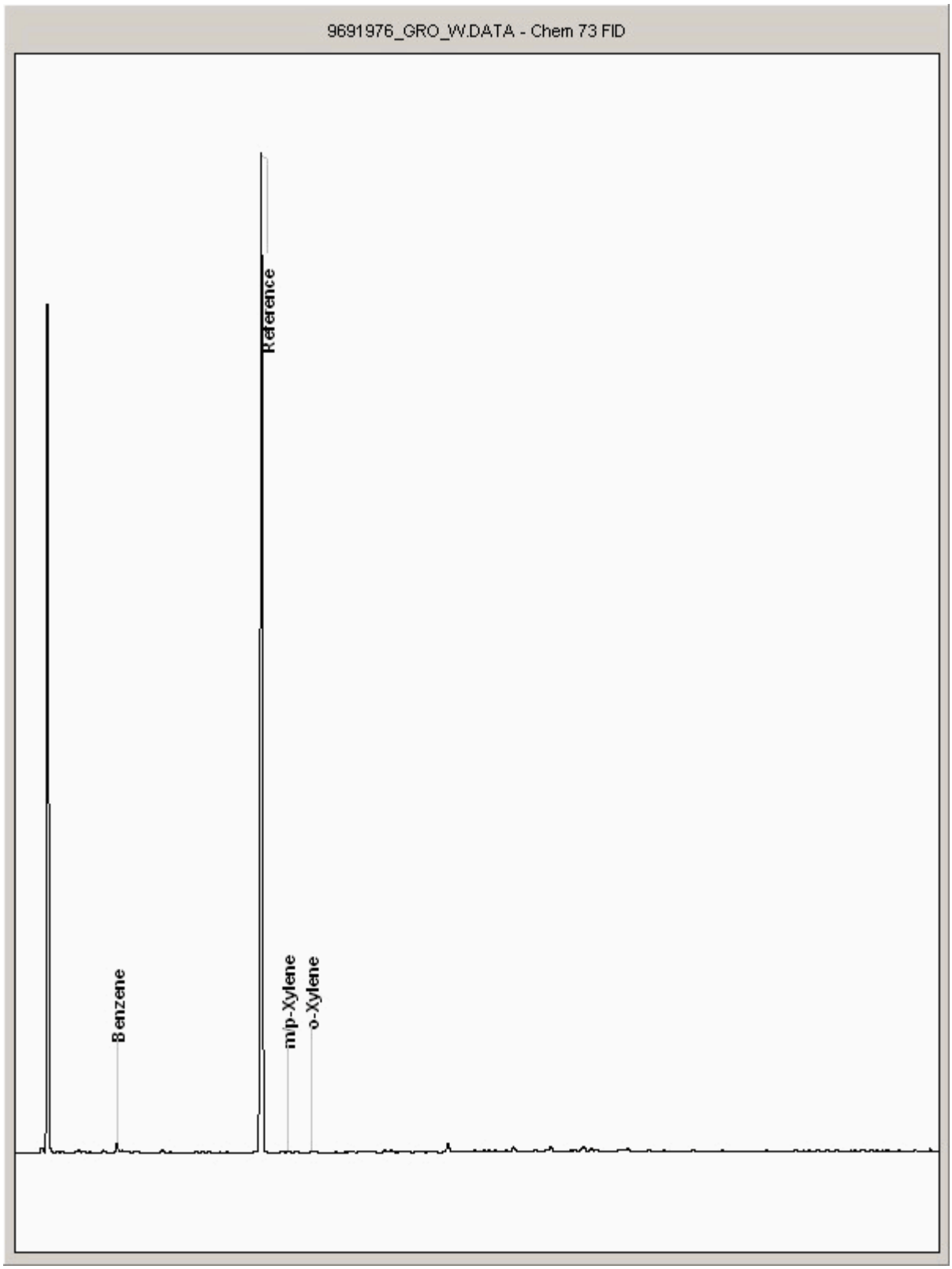
SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9691976
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140720-28	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	278544
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix
General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

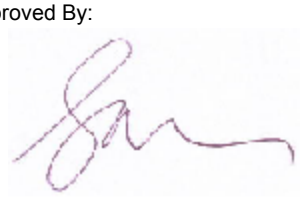
Date:	02 September 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140822-111
Your Reference:	JER5575U
Location:	SHLNG
Report No:	282551

We received 9 samples on Friday August 22, 2014 and 5 of these samples were scheduled for analysis which was completed on Tuesday September 02, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9860514	BH43		0.00	21/08/2014
9860519	BH99		0.00	21/08/2014
9860515	BH41A		0.00	21/08/2014
9860516	BH42A		0.00	21/08/2014
9860523	BH41A DUPLICATE		0.00	21/08/2014
9860524	BH42A DUPLICATE		0.00	21/08/2014
9860512	BH34B		0.00	21/08/2014
9860521	BH34B DUPLICATE		0.00	21/08/2014
9860522	BH43 DUPLICATE		0.00	21/08/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	9860514	BH43		0.00	1l Glass bottle (ALE
			9860519	BH99		0.00	Vial (ALE297)
			9860515	BH41A		0.00	1l Glass bottle (ALE
			9860516	BH42A		0.00	Vial (ALE297)
			9860512	BH34B		0.00	1l Glass bottle (ALE
							Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5					

X		X		X		X		X		
	X		X		X		X		X	
X		X		X		X		X		

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/08/2014	21/08/2014	21/08/2014	21/08/2014	21/08/2014
			Sampled Time	.	.	.	.	.
			Date Received	22/08/2014	22/08/2014	22/08/2014	22/08/2014	22/08/2014
			SDG Ref	140822-111	140822-111	140822-111	140822-111	140822-111
			Lab Sample No.(s)	9860514	9860519	9860515	9860516	9860512
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		1270 #	483 #	3280 #	27300 #	326 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		95.1	111	1120	6030	95.2
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		1180	373	2150	21200	231

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/08/2014	21/08/2014	21/08/2014	21/08/2014	21/08/2014
			Sampled Time	.	.	.	.	.
			Date Received	22/08/2014	22/08/2014	22/08/2014	22/08/2014	22/08/2014
			SDG Ref	140822-111	140822-111	140822-111	140822-111	140822-111
			Lab Sample No.(s)	9860514	9860519	9860515	9860516	9860512
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	25	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	185	<10
GRO >C8-C10	<10 µg/l	TM245		28	<10	<10	479	<10
GRO >C5-C10	<10 µg/l	TM245		31	<10	<10	689	<10

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/08/2014	21/08/2014	21/08/2014	21/08/2014	21/08/2014
			Sampled Time	.	.	.	.	.
			Date Received	22/08/2014	22/08/2014	22/08/2014	22/08/2014	22/08/2014
			SDG Ref	140822-111	140822-111	140822-111	140822-111	140822-111
			Lab Sample No.(s)	9860514	9860519	9860515	9860516	9860512
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<100	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	1060 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<100	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<100	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<200 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	0.00	0.00	0.00	0.00	0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	21/08/2014	21/08/2014	21/08/2014	21/08/2014	21/08/2014
			Sampled Time	.	.	.	.	.
			Date Received	22/08/2014	22/08/2014	22/08/2014	22/08/2014	22/08/2014
			SDG Ref	140822-111	140822-111	140822-111	140822-111	140822-111
			Lab Sample No.(s)	9860514	9860519	9860515	9860516	9860512
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<500 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<100	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<100	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	252 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<100	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	216 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<100 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9860514	9860519	9860515	9860516	9860512
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth	0.00	0.00	0.00	0.00	0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	29-Aug-2014	29-Aug-2014	29-Aug-2014	29-Aug-2014	29-Aug-2014
GRO by GC-FID (W)	29-Aug-2014	29-Aug-2014	29-Aug-2014	29-Aug-2014	29-Aug-2014
SVOC MS (W) - Aqueous	02-Sep-2014	02-Sep-2014	02-Sep-2014	02-Sep-2014	02-Sep-2014

CERTIFICATE OF ANALYSIS

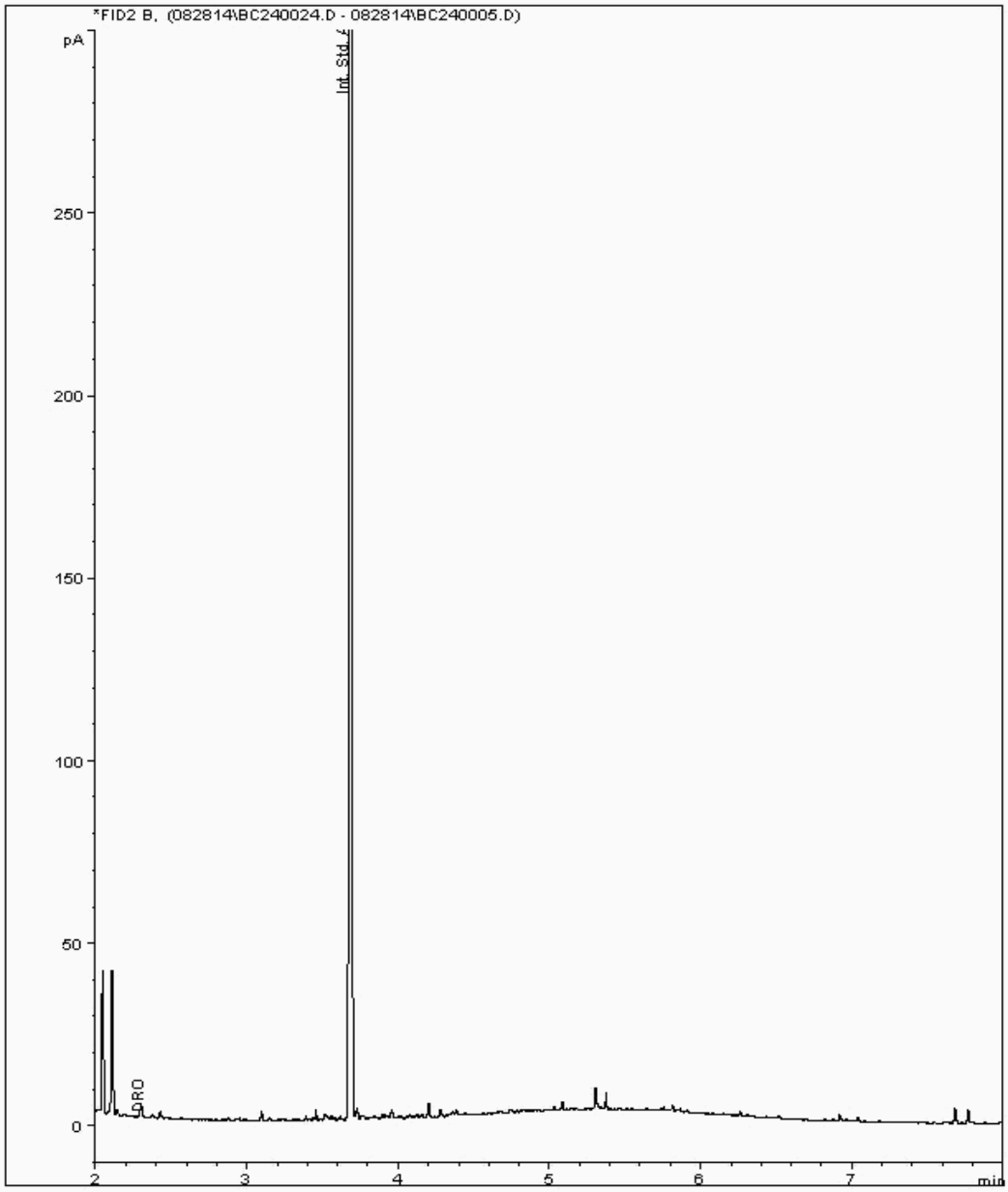
SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9868828 **Sample ID :** BH34B **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9368889-9868828
Date Acquired : 28/08/2014 22:42:16 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

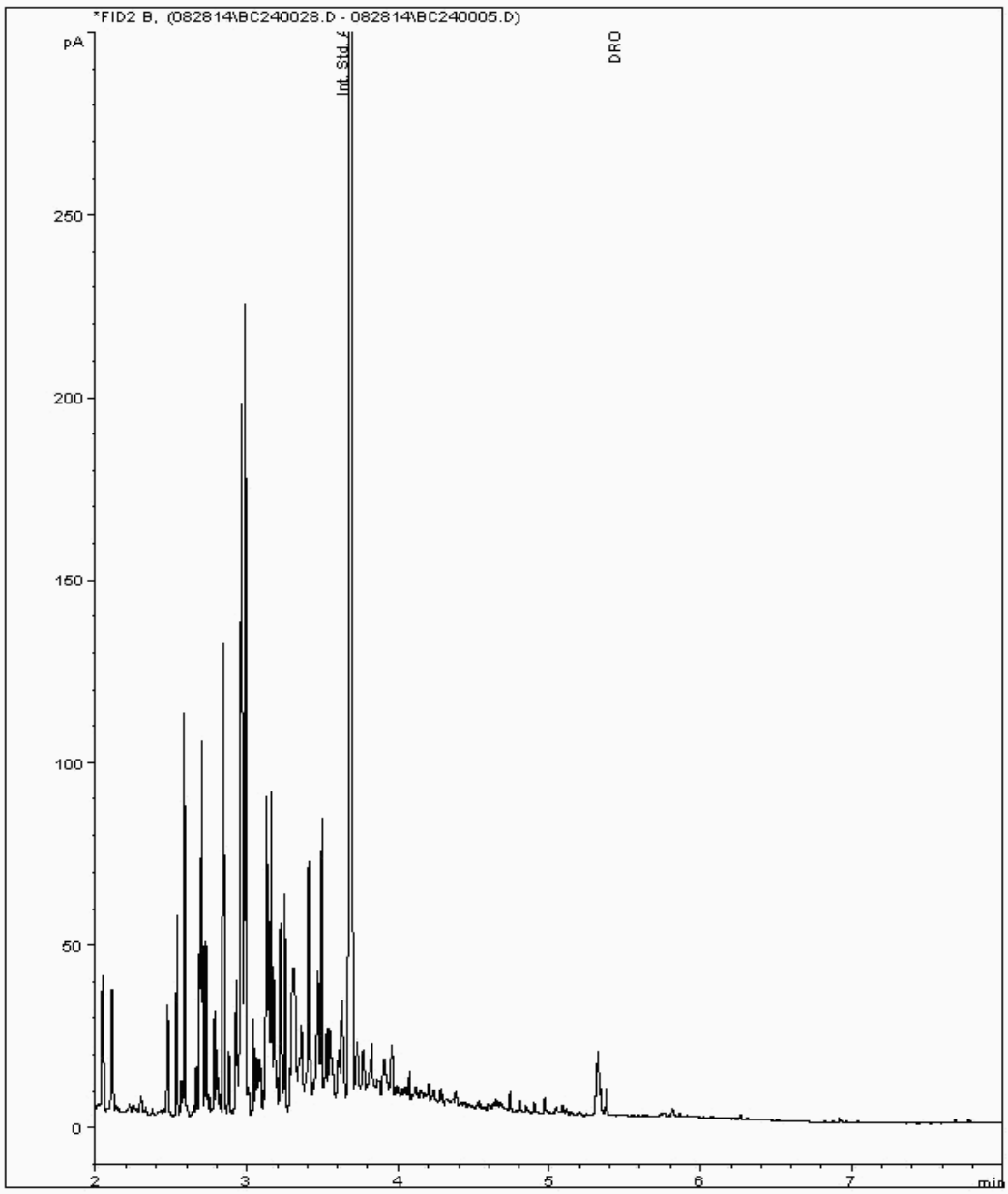
SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9873222 **Sample ID :** BH43 **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9368893-9873222
Date Acquired : 29/08/2014 00:13:43 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

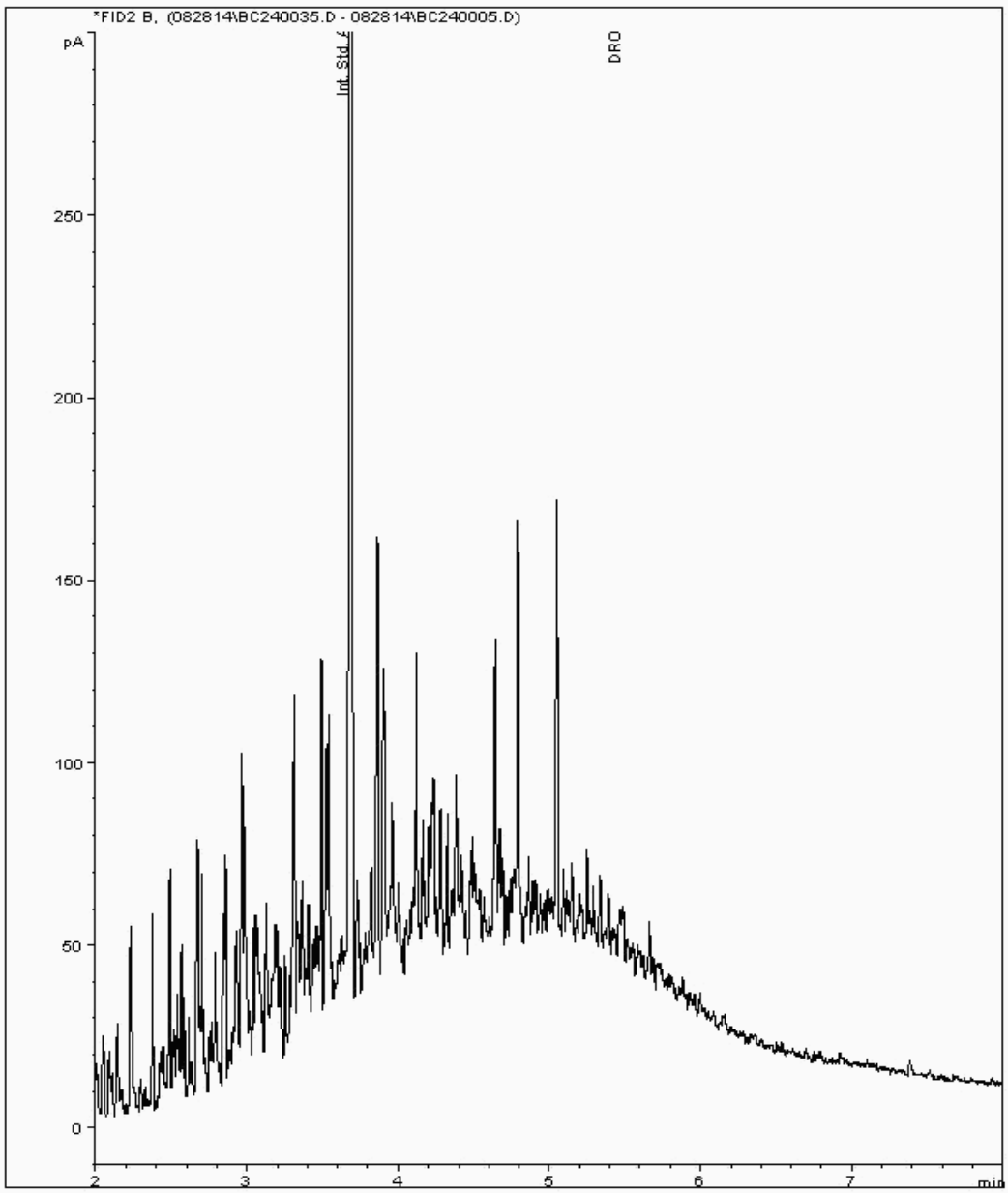
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9873230 **Sample ID :** BH42A **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9368901-9873230
Date Acquired : 29/08/2014 11:02:18 PM
Units : mg/l

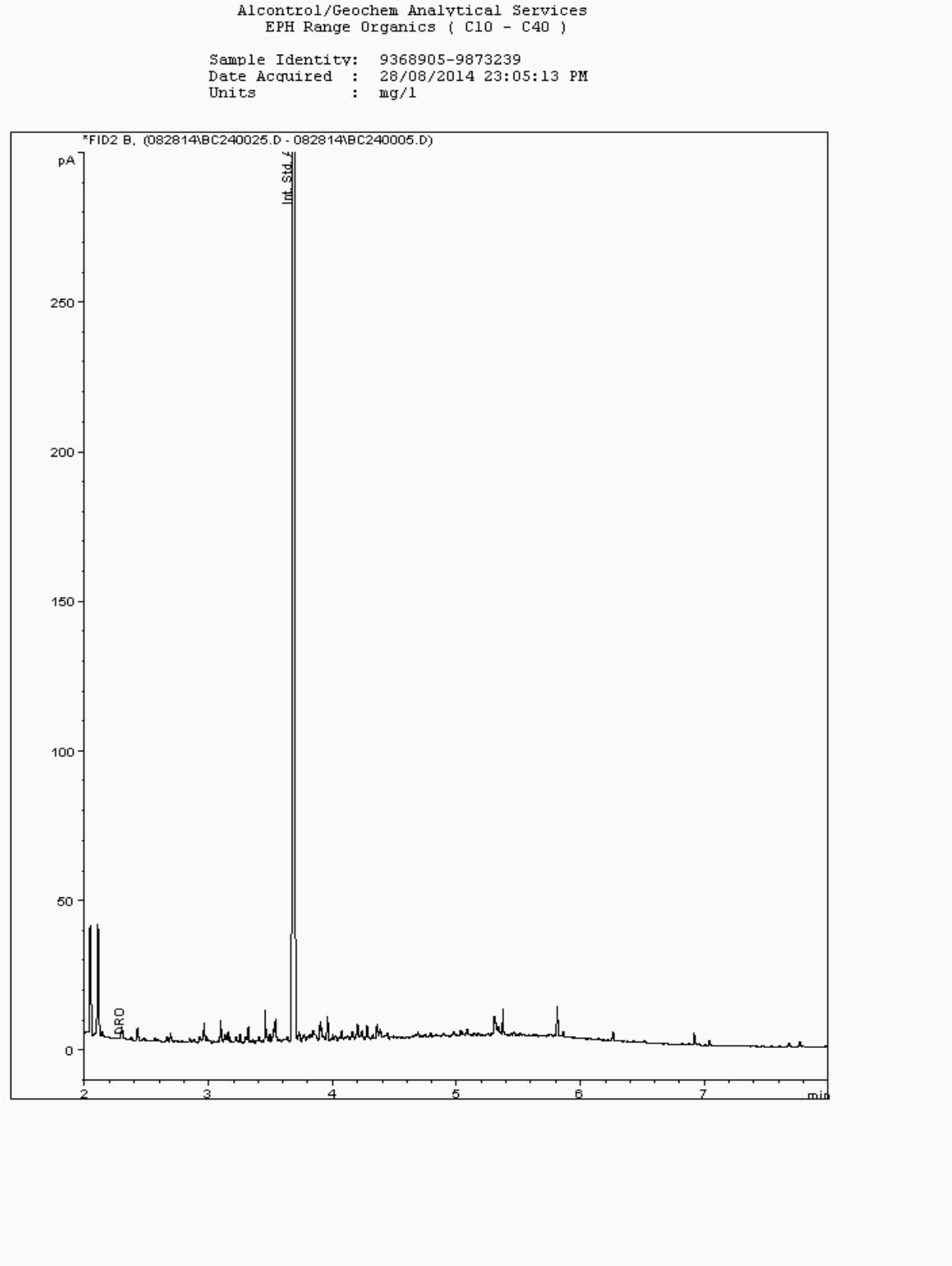


CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9873239 **Sample ID :** BH99 **Depth :** 0.00



CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9873245 **Sample ID :** BH41A **Depth :** 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9368897-9873245
Date Acquired : 28/08/2014 23:27:56 PM
Units : mg/l

==========
Error 40991 occurred in Command CopyObj in macro FRPT_P_AllSignals
at line 582 in file C:\HPCHEM\CORE\FRPT.MCX:
Fatal System Error: Check system resources or address customer service.
==========
*** End of Report ***

CERTIFICATE OF ANALYSIS

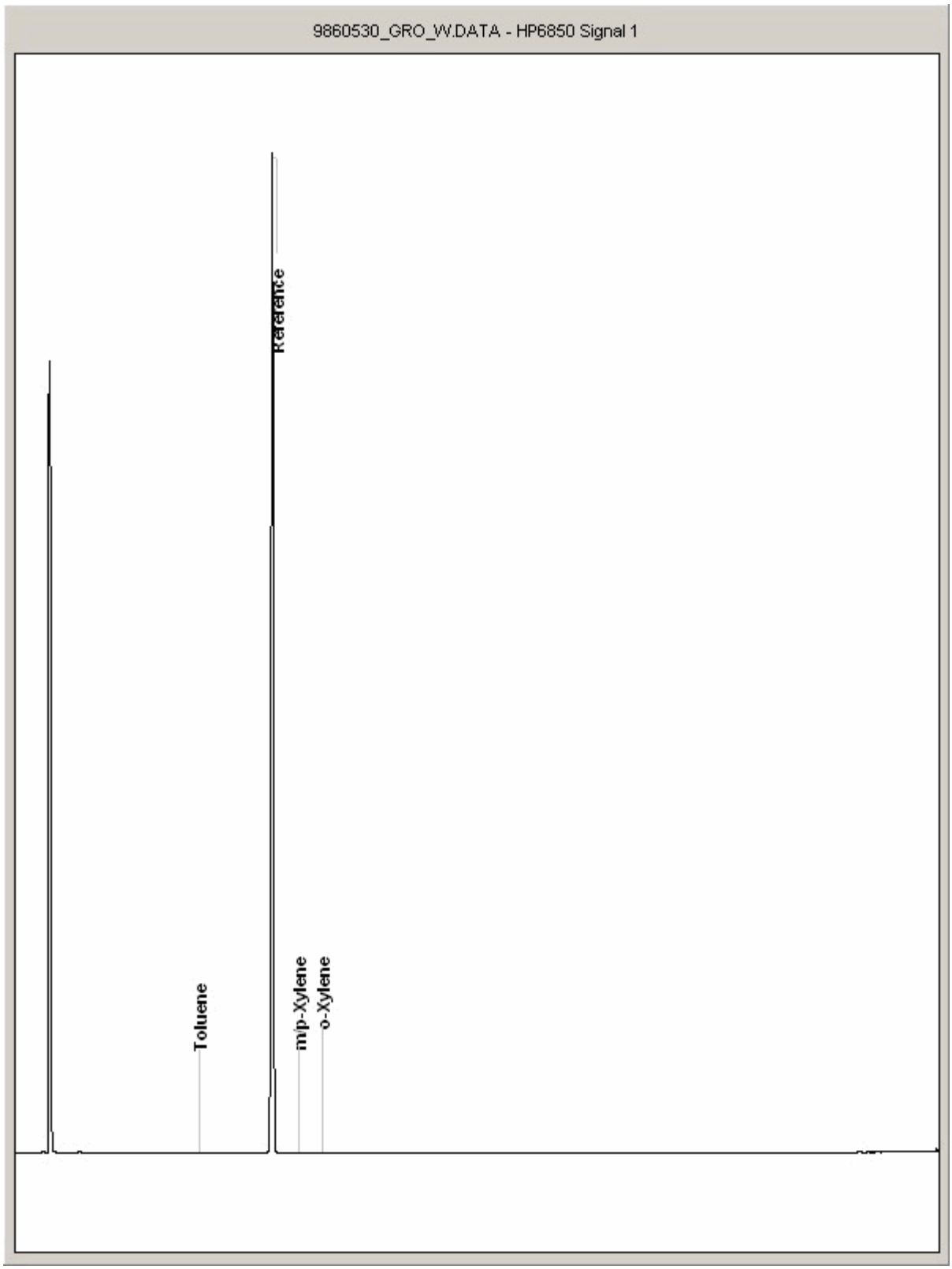
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9860530
Sample ID : BH34B

Depth : 0.00



CERTIFICATE OF ANALYSIS

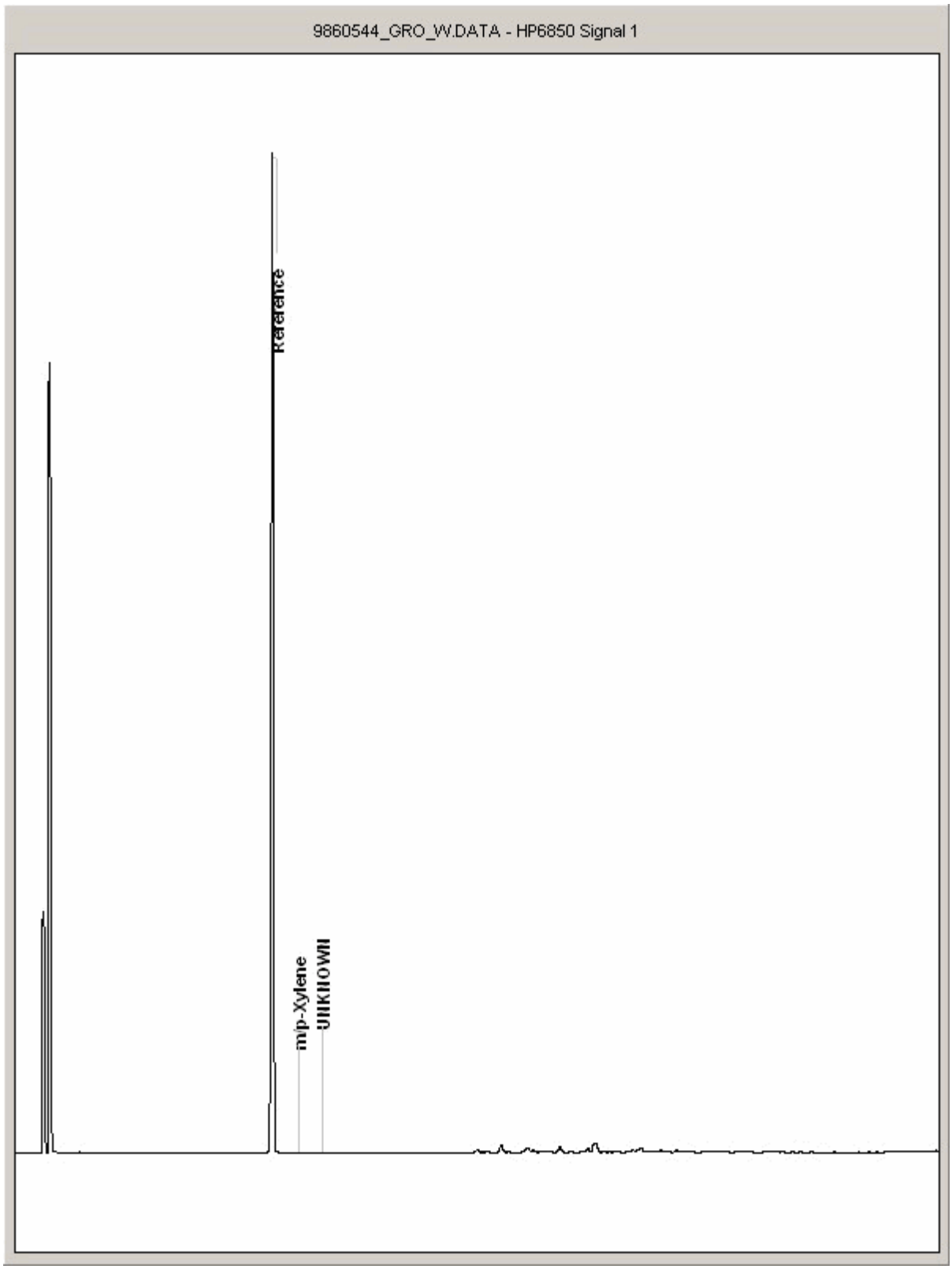
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9860544
Sample ID : BH43

Depth : 0.00



CERTIFICATE OF ANALYSIS

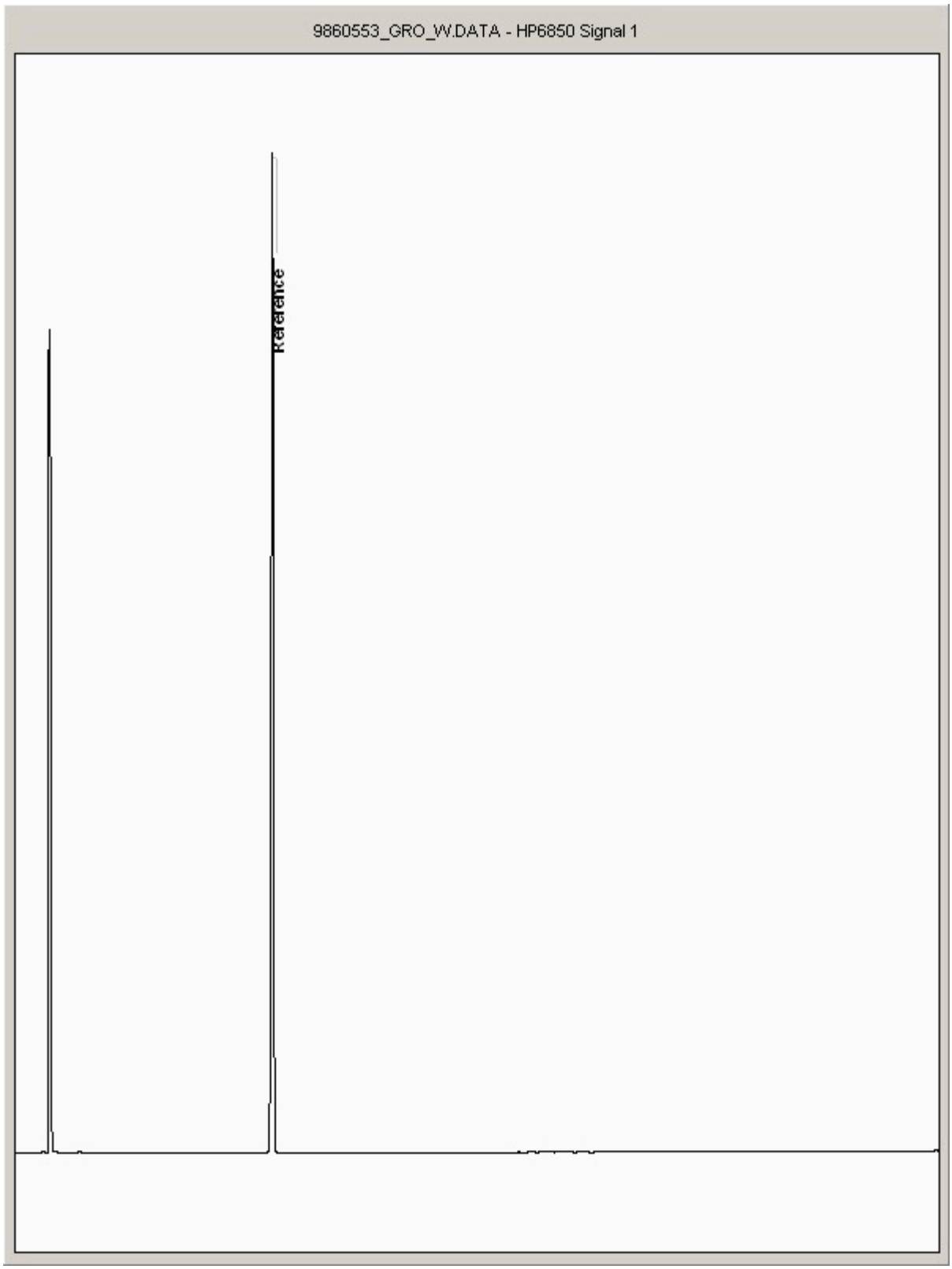
SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9860553
Sample ID : BH41A

Depth : 0.00



CERTIFICATE OF ANALYSIS

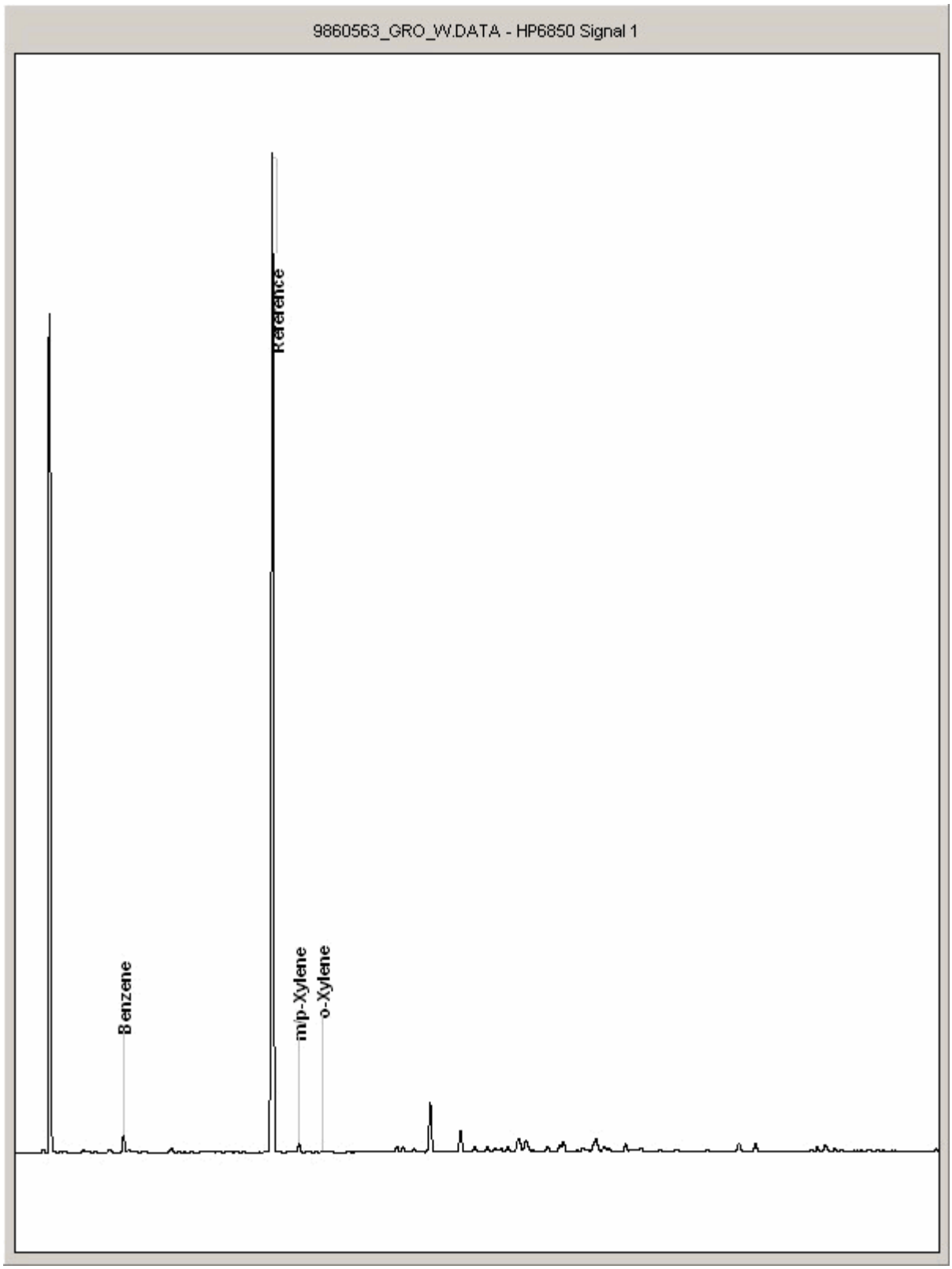
SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9860563
Sample ID : BH42A

Depth : 0.00



CERTIFICATE OF ANALYSIS

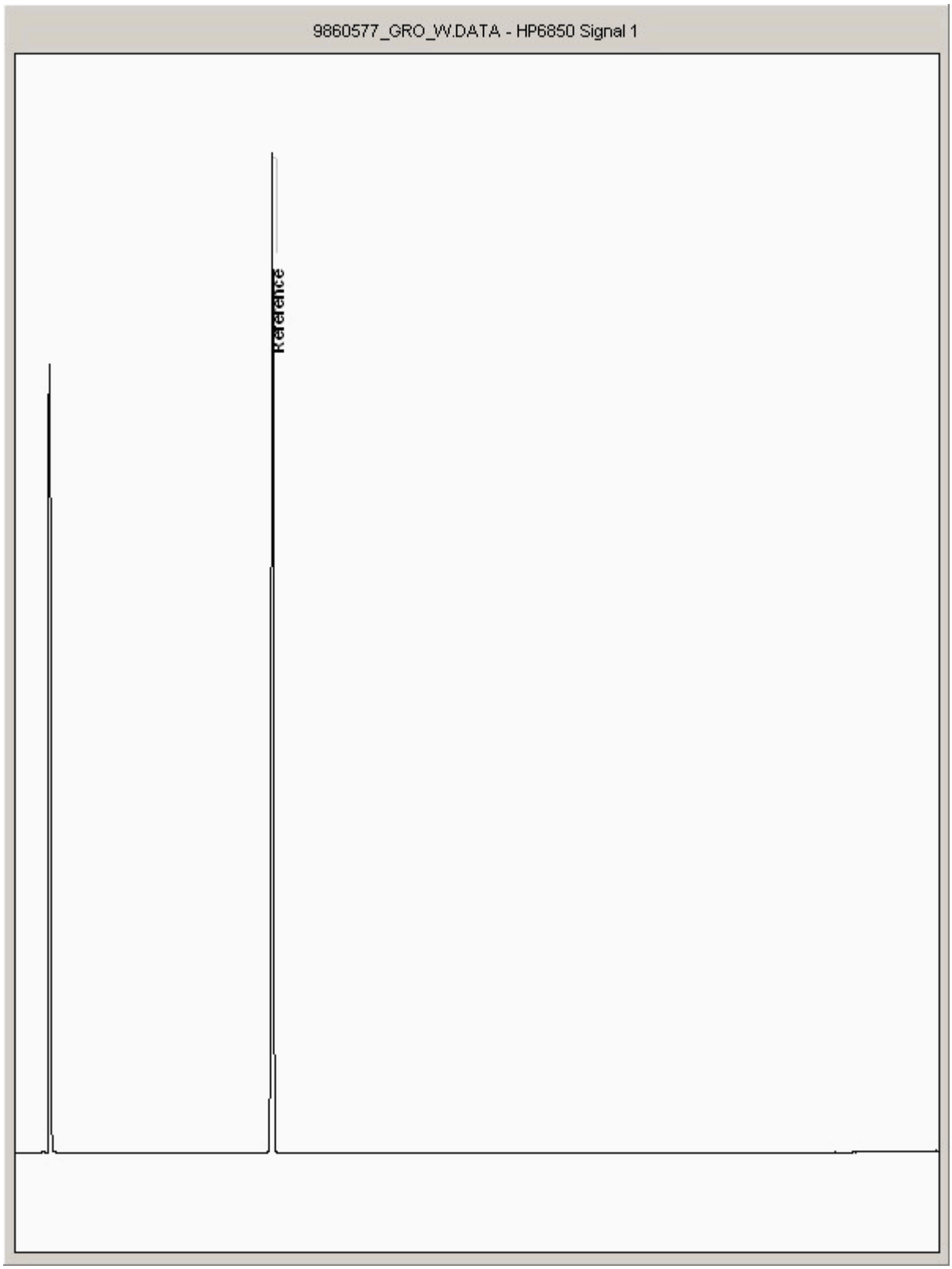
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9860577
Sample ID : BH99

Depth : 0.00



CERTIFICATE OF ANALYSIS

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GCFID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GCEZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140822-111	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	282551
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

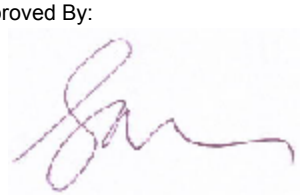
Date:	11 September 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	140903-82
Your Reference:	JER5575U
Location:	SHLNG
Report No:	283729

We received 19 samples on Wednesday September 03, 2014 and 10 of these samples were scheduled for analysis which was completed on Thursday September 11, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
9917996	BH06			01/09/2014
9918008	BH43			01/09/2014
9918006	BH44			01/09/2014
9917992	BH50			01/09/2014
9918014	BH99			01/09/2014
9918015	BH41a			02/09/2014
9918017	BH42a			02/09/2014
9918016	BH41a DUPLICATE			02/09/2014
9918019	BH42a DUPLICATE			02/09/2014
9918002	BH34B			01/09/2014
9918004	BH34B DUPLICATE			01/09/2014
9917997	BH06 DUPLICATE			01/09/2014
9918011	BH43 DUPLICATE			01/09/2014
9918007	BH44 DUPLICATE			01/09/2014
9917993	BH50 DUPLICATE			01/09/2014
9917994	MW01			01/09/2014
9917999	MW03			01/09/2014
9917995	MW01 DUPLICATE			01/09/2014
9918001	MW03 DUPLICATE			01/09/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			9917996	BH06			1l Glass bottle (ALE
			9918008	BH43			Vial (ALE297)
			9918006	BH44			1l Glass bottle (ALE
			9917992	BH50			Vial (ALE297)
			9918014	BH99			1l Glass bottle (ALE
			9918015	BH41a			Vial (ALE297)
			9918017	BH42a			1l Glass bottle (ALE
			9918002	BH34B			Vial (ALE297)
			9917994	MW01			1l Glass bottle (ALE
			9917999	MW03			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 10	X		X		X		X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10		X		X		X		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5			X				X		X		X					

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2014	01/09/2014	01/09/2014	01/09/2014	01/09/2014	02/09/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2014	03/09/2014	03/09/2014	03/09/2014	03/09/2014	03/09/2014
			SDG Ref	140903-82	140903-82	140903-82	140903-82	140903-82	140903-82
			Lab Sample No.(s)	9917996	9918008	9918006	9917992	9918014	9918015
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		113 #	1160 #	58.7 #	2580 #	409 #	7040 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		68.2	223	51.5	148	144	2830
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		44.9	935	<10	2430	265	4200

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34B	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	02/09/2014	01/09/2014	01/09/2014	01/09/2014		
			Sampled Time	.	.	.	.		
			Date Received	03/09/2014	03/09/2014	03/09/2014	03/09/2014		
			SDG Ref	140903-82	140903-82	140903-82	140903-82		
			Lab Sample No.(s)	9918017	9918002	9917994	9917999		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		38800 #	315 #	125 #	361 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		10400	103	117	172		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		28500	212	<10	189		

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2014	01/09/2014	01/09/2014	01/09/2014	01/09/2014	02/09/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	03/09/2014	03/09/2014	03/09/2014	03/09/2014	03/09/2014	03/09/2014
			SDG Ref	140903-82	140903-82	140903-82	140903-82	140903-82	140903-82
			Lab Sample No.(s)	9917996	9918008	9918006	9917992	9918014	9918015
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	44	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	45	<10	1200	<10	18
GRO >C5-C10	<10 µg/l	TM245		<10	48	<10	1250	<10	20

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34B	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	02/09/2014	01/09/2014	01/09/2014	01/09/2014		
			Sampled Time	.	.	.	.		
			Date Received	03/09/2014	03/09/2014	03/09/2014	03/09/2014		
			SDG Ref	140903-82	140903-82	140903-82	140903-82		
			Lab Sample No.(s)	9918017	9918002	9917994	9917999		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		17	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245		103	<10	<10	<10		
GRO >C8-C10	<10 µg/l	TM245		103	<10	<10	<10		
GRO >C5-C10	<10 µg/l	TM245		223	<10	<10	11		

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2014	01/09/2014	02/09/2014	02/09/2014	01/09/2014
			Sampled Time	.	.	.	.	.
			Date Received	03/09/2014	03/09/2014	03/09/2014	03/09/2014	03/09/2014
			SDG Ref	140903-82	140903-82	140903-82	140903-82	140903-82
			Lab Sample No.(s)	9918008	9918014	9918015	9918017	9918002
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	22.7 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<4 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/09/2014	01/09/2014	02/09/2014	02/09/2014	01/09/2014
			Sampled Time	.	.	.	.	.
			Date Received	03/09/2014	03/09/2014	03/09/2014	03/09/2014	03/09/2014
			SDG Ref	140903-82	140903-82	140903-82	140903-82	140903-82
			Lab Sample No.(s)	9918008	9918014	9918015	9918017	9918002
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.67 #	<2 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.28 #	<2 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<10 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	14 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	2.47 #	2.53 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	9917996	9918008	9918006	9917992	9918014	9918015	9918017	9918002	9917994	9917999
Customer Sample Ref.	BH06	BH43	BH44	BH50	BH99	BH41a	BH42a	BH34B	MW01	MW03
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	09-Sep-2014	08-Sep-2014	09-Sep-2014	09-Sep-2014	09-Sep-2014	09-Sep-2014	09-Sep-2014	09-Sep-2014	08-Sep-2014	09-Sep-2014
GRO by GC-FID (W)	09-Sep-2014	09-Sep-2014	08-Sep-2014	08-Sep-2014	09-Sep-2014	09-Sep-2014	08-Sep-2014	09-Sep-2014	09-Sep-2014	09-Sep-2014
SVOC MS (W) - Aqueous		11-Sep-2014			11-Sep-2014	11-Sep-2014	11-Sep-2014	11-Sep-2014		

CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

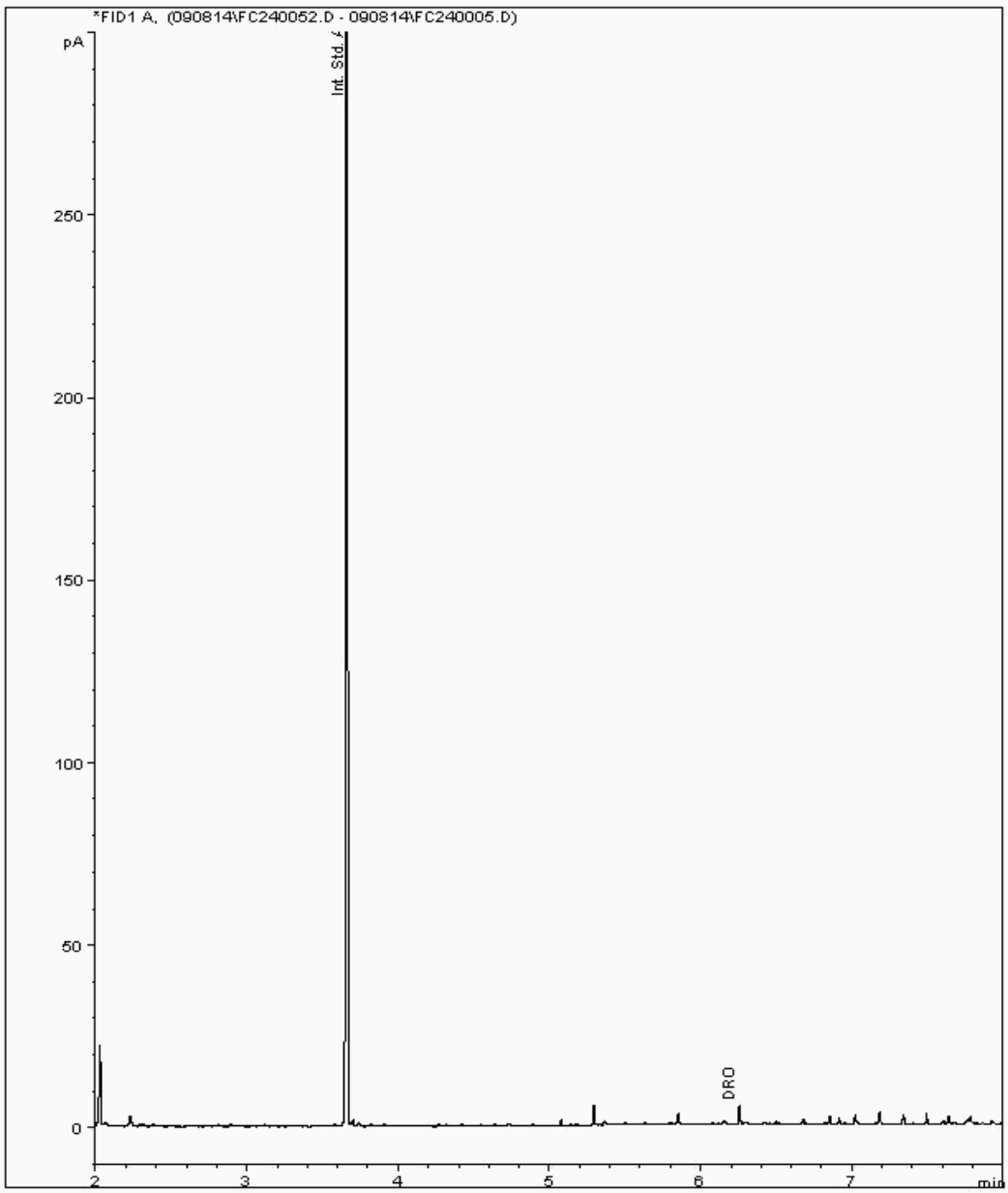
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922014
Sample ID : BH44

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428184-9922014
Date Acquired : 09/09/2014 11:30:20 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

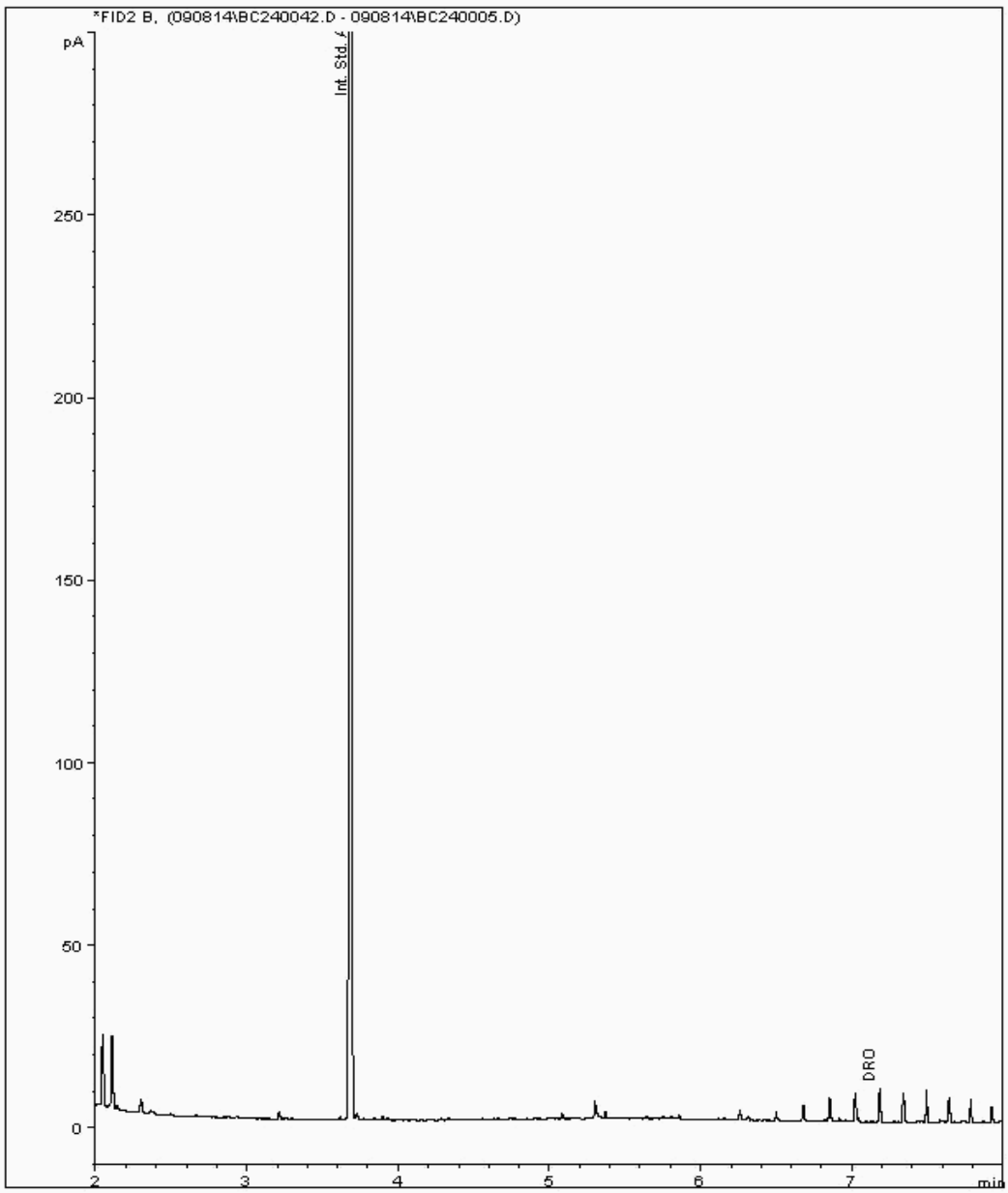
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922041
Sample ID : BH06

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428174-9922041
Date Acquired : 09/09/2014 07:47:42 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

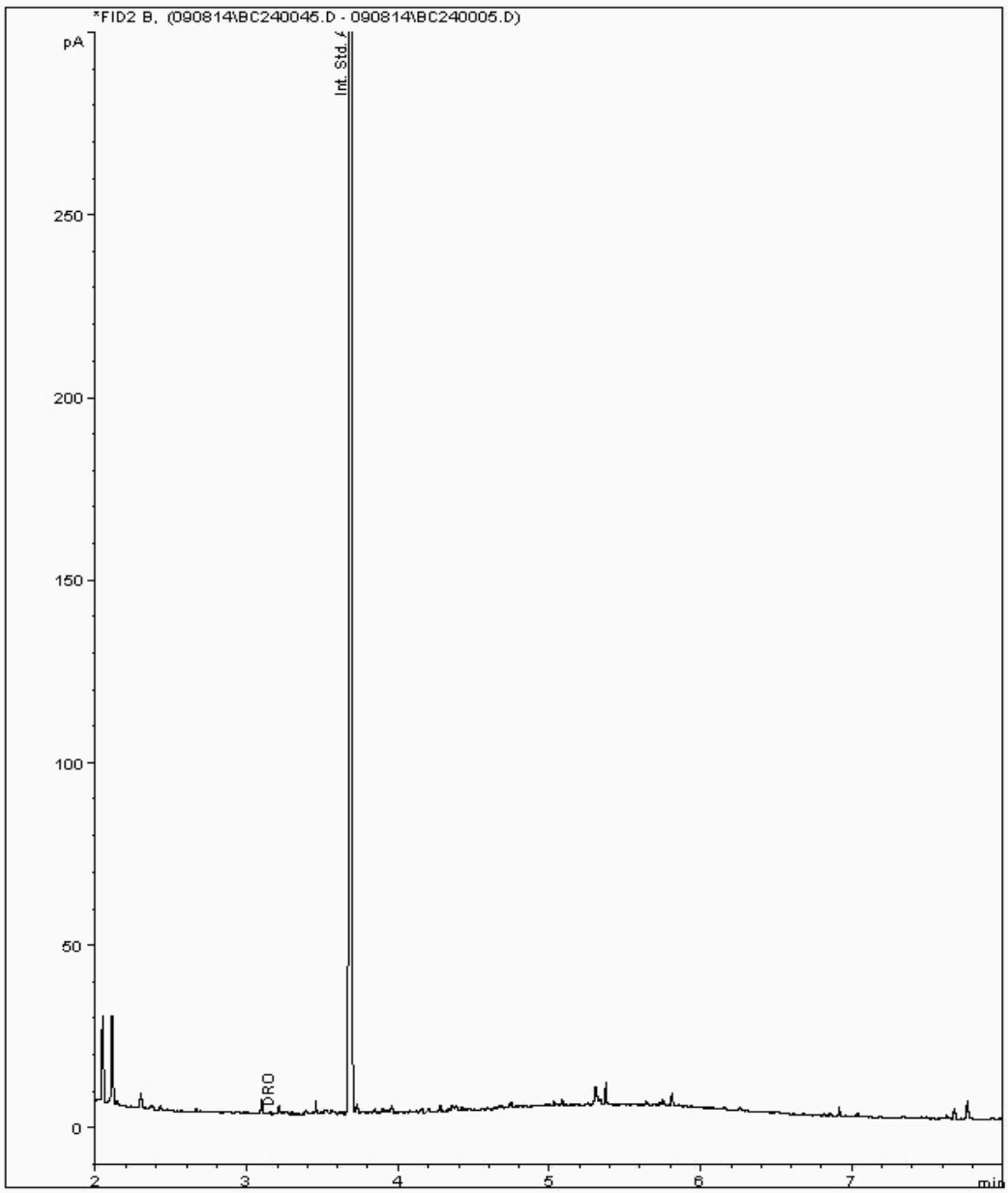
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922431
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428193-9922431
Date Acquired : 09/09/2014 08:54:14 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

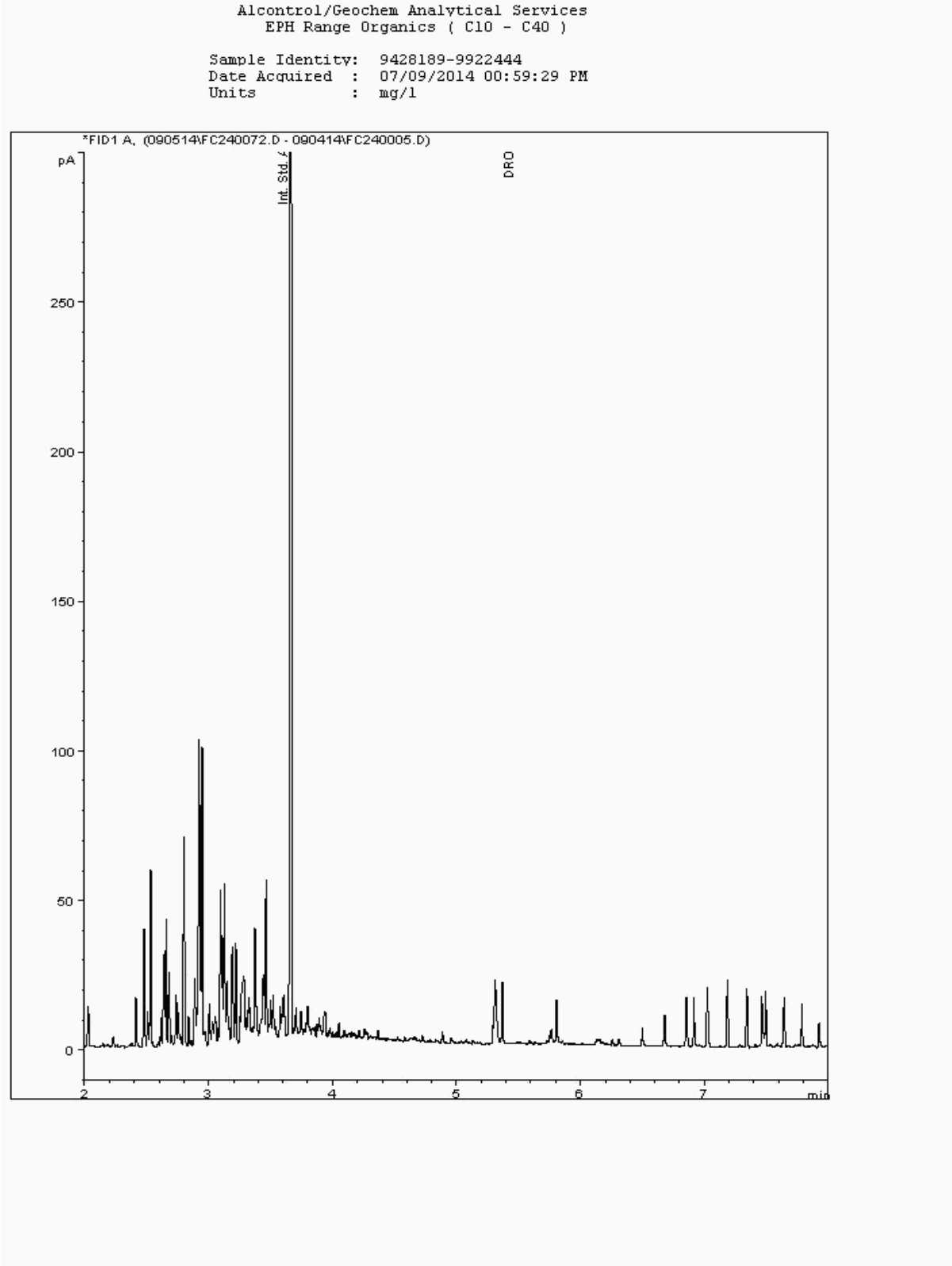
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922444
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

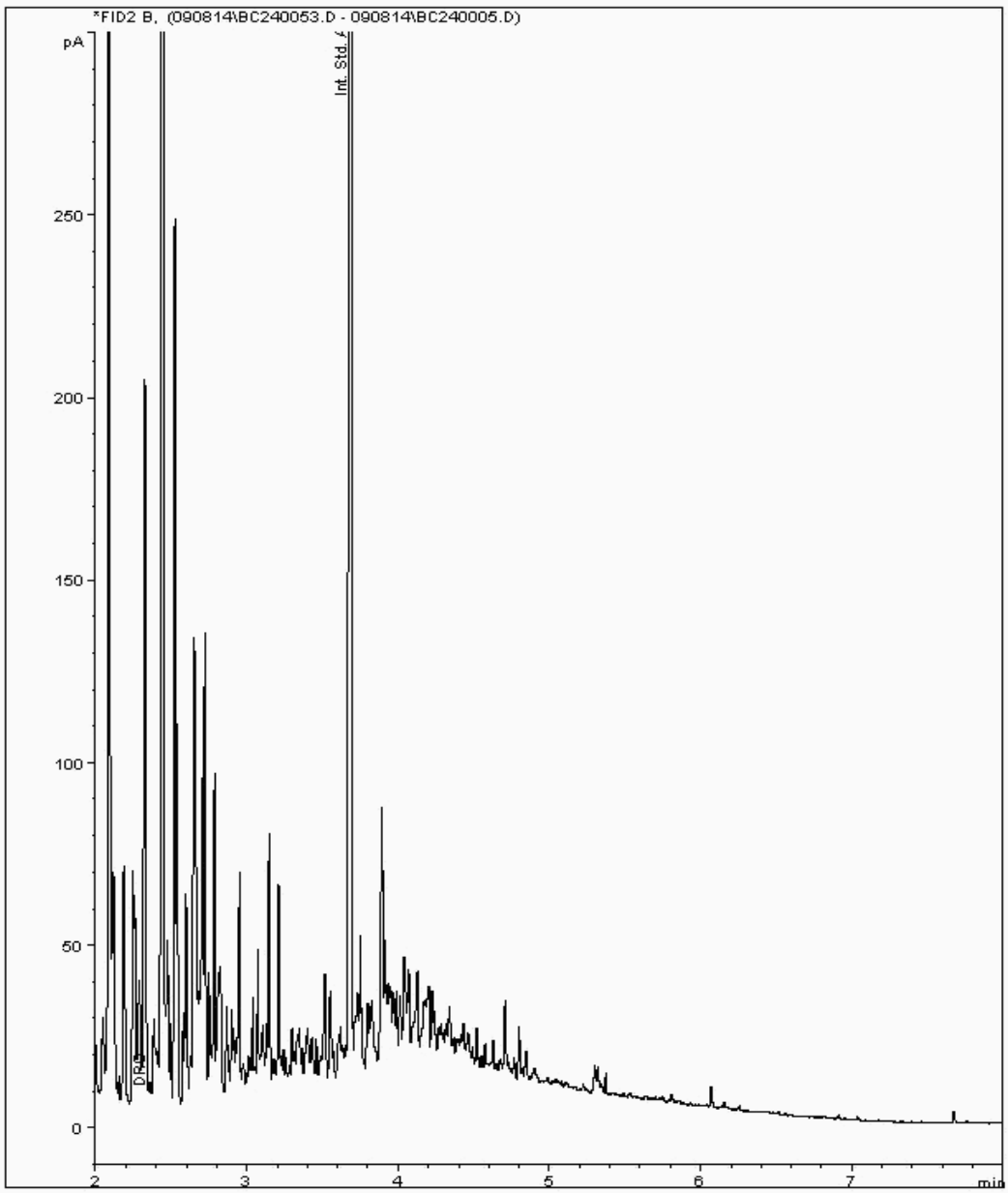
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922477
Sample ID : BH50

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428168-9922477
Date Acquired : 09/09/2014 11:52:37 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

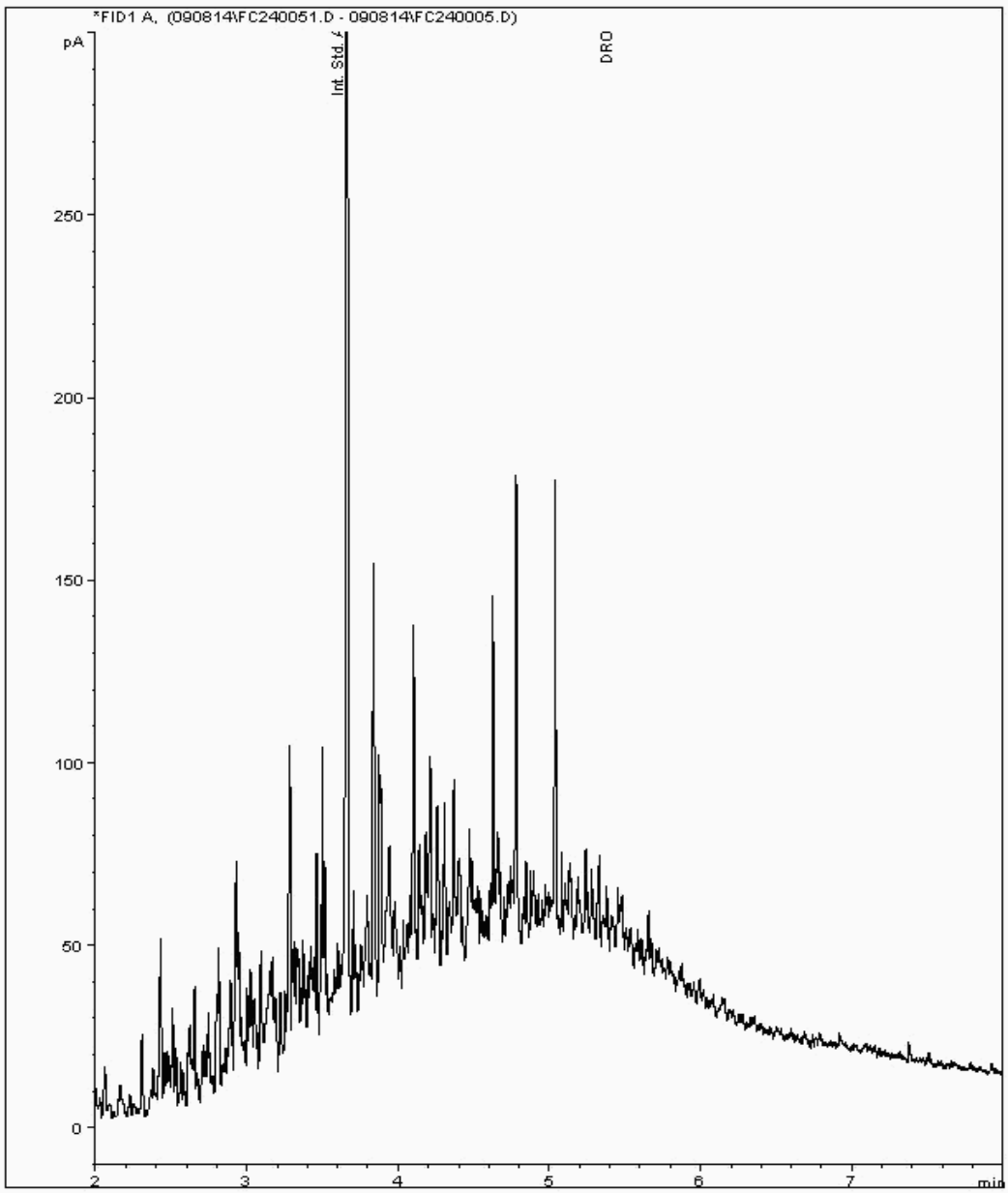
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 9922514 **Sample ID :** BH42a **Depth :**

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428201-9922514
Date Acquired : 09/09/2014 11:07:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

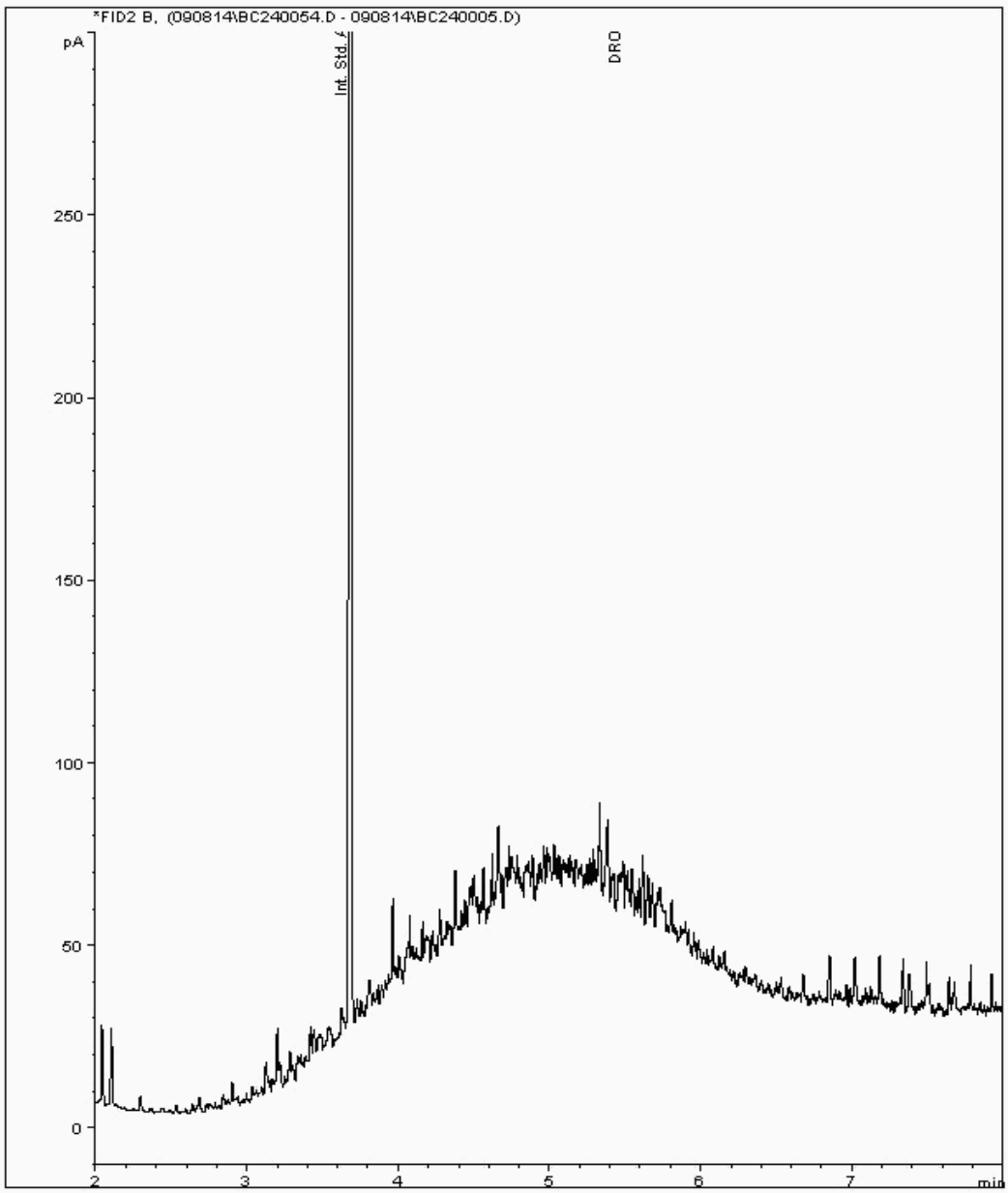
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922544
Sample ID : BH41a

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428197-9922544
Date Acquired : 09/09/2014 12:14:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

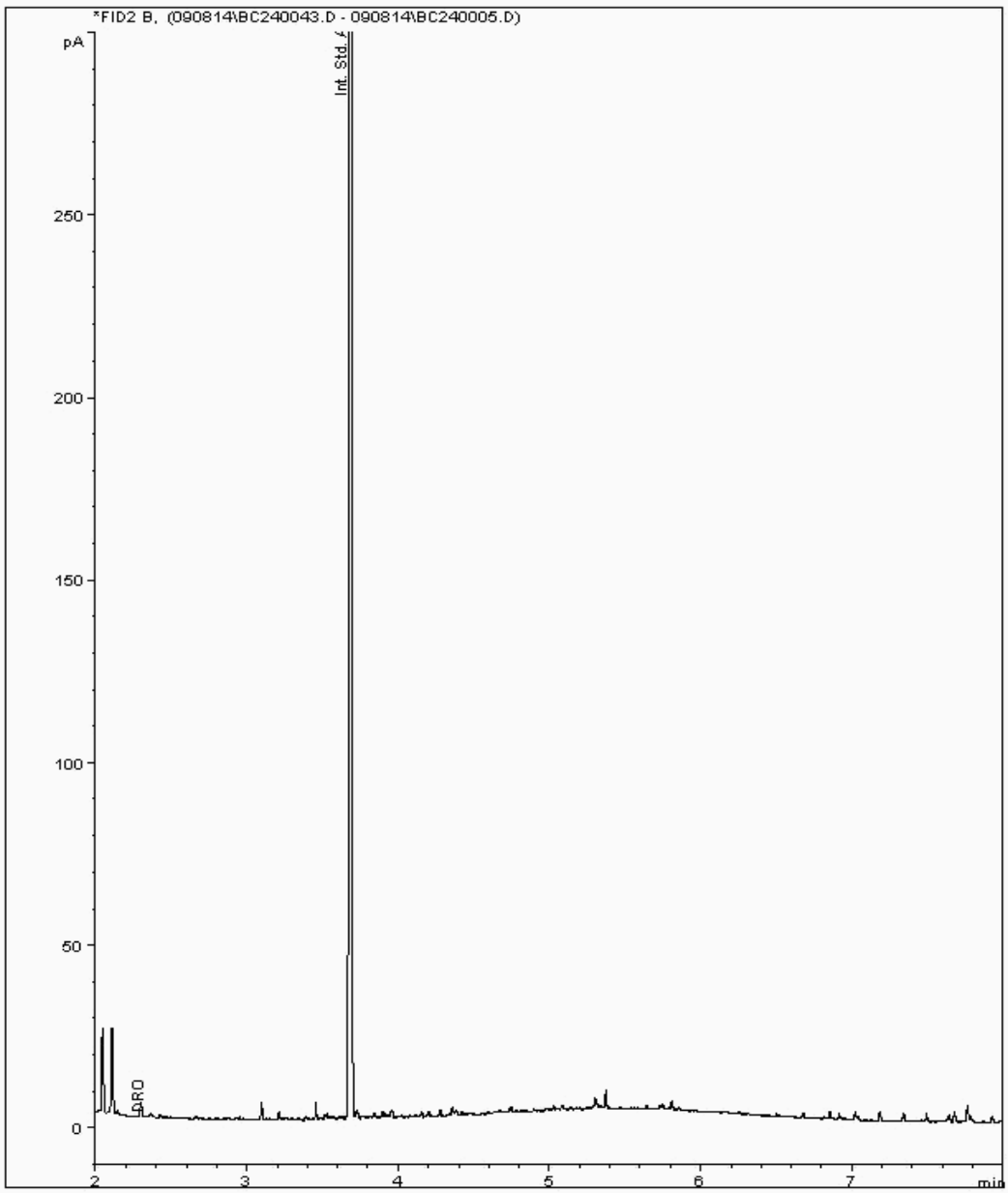
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922565
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428180-9922565
Date Acquired : 09/09/2014 08:09:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

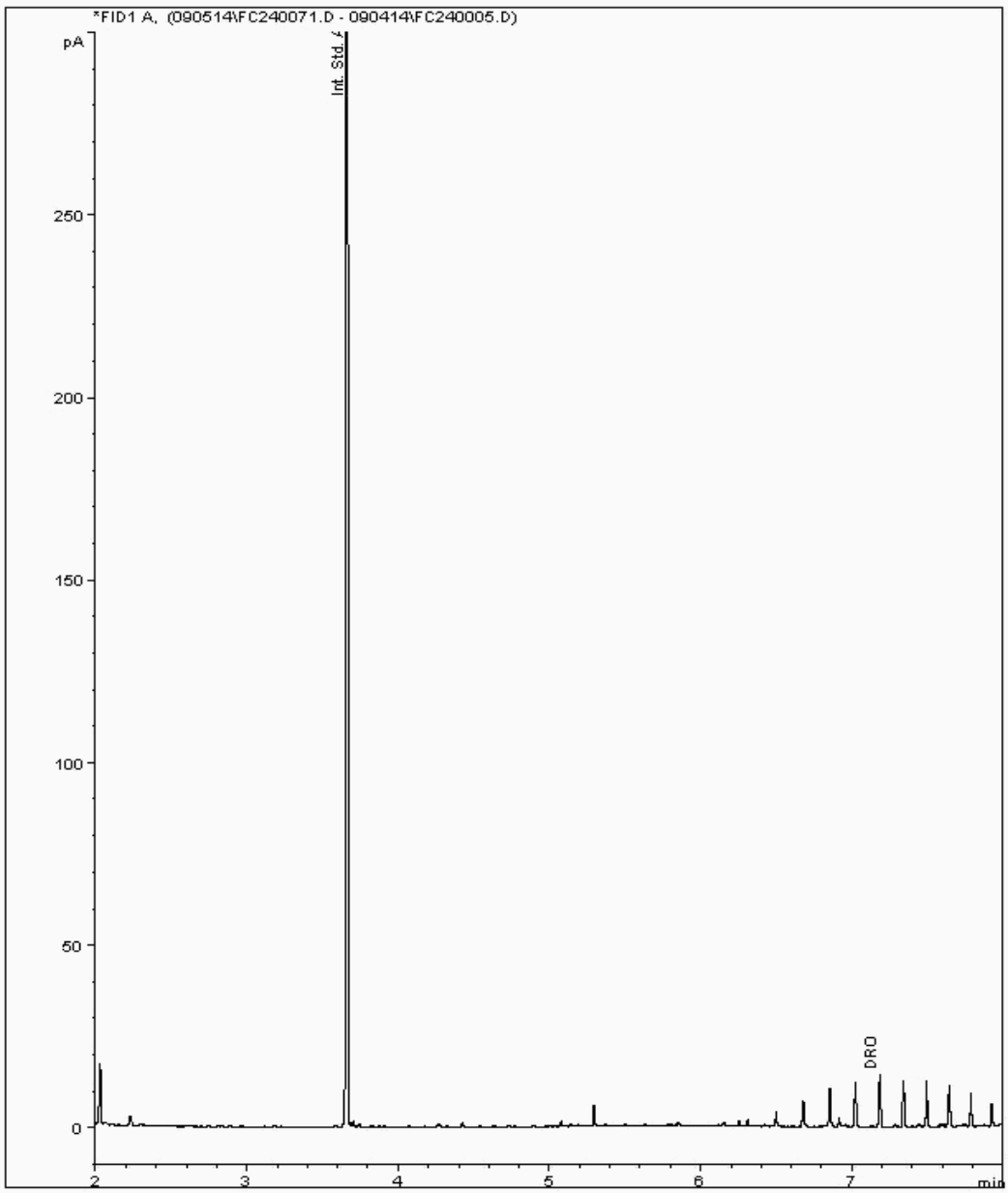
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922596
Sample ID : MW01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428171-9922596
Date Acquired : 07/09/2014 00:36:46 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

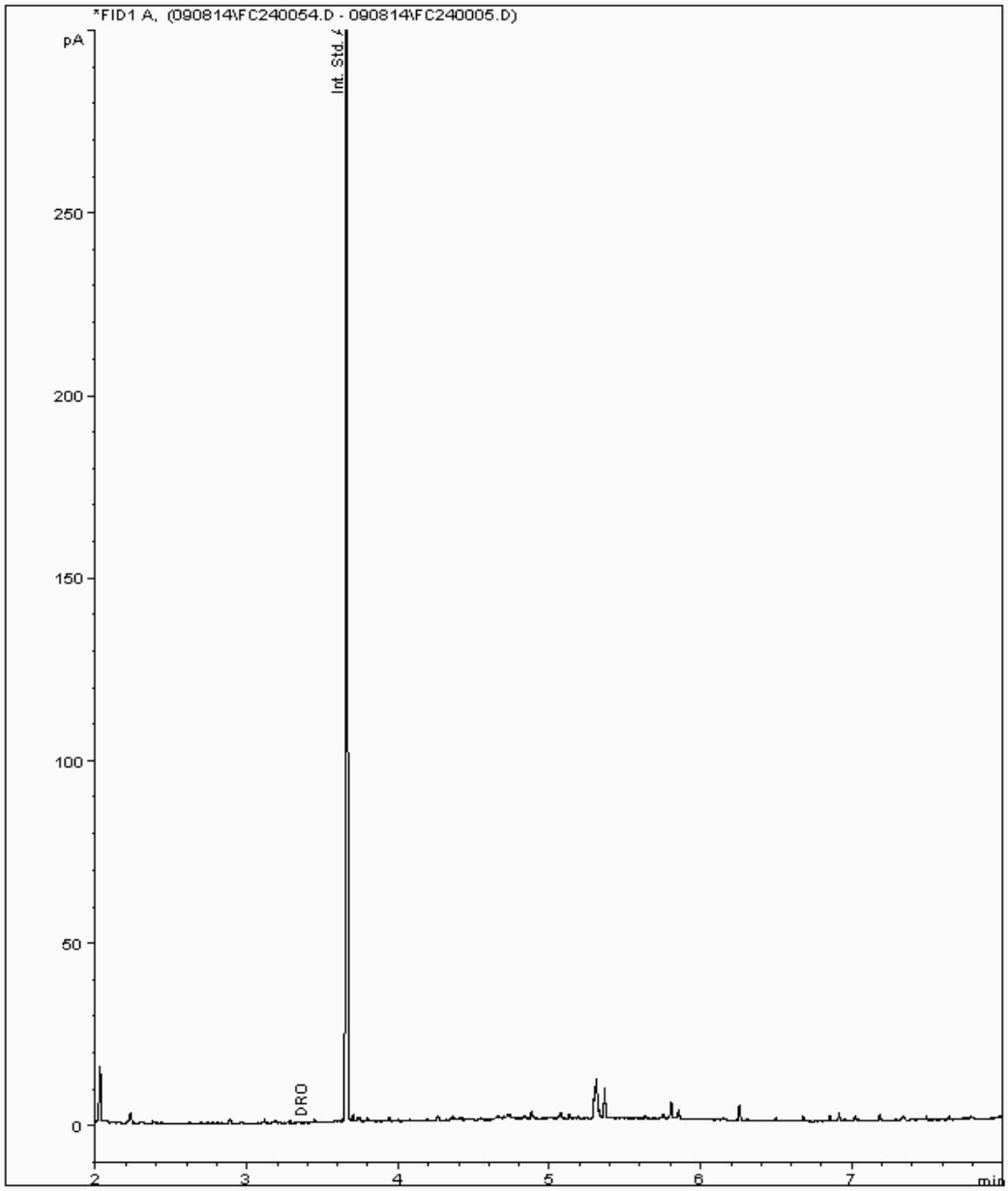
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 9922614
Sample ID : MW03

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9428177-9922614
Date Acquired : 09/09/2014 12:14:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

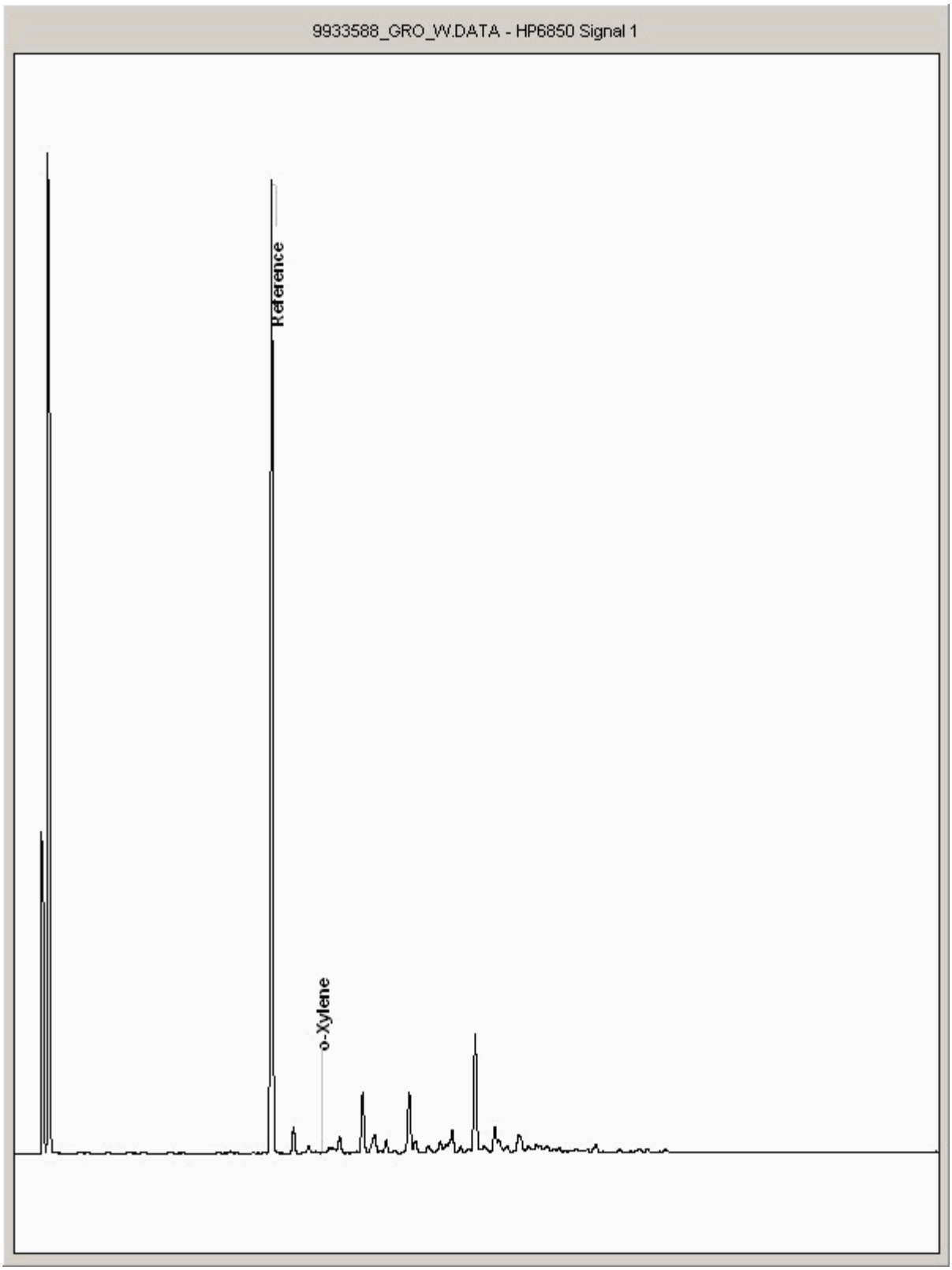
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9933588
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

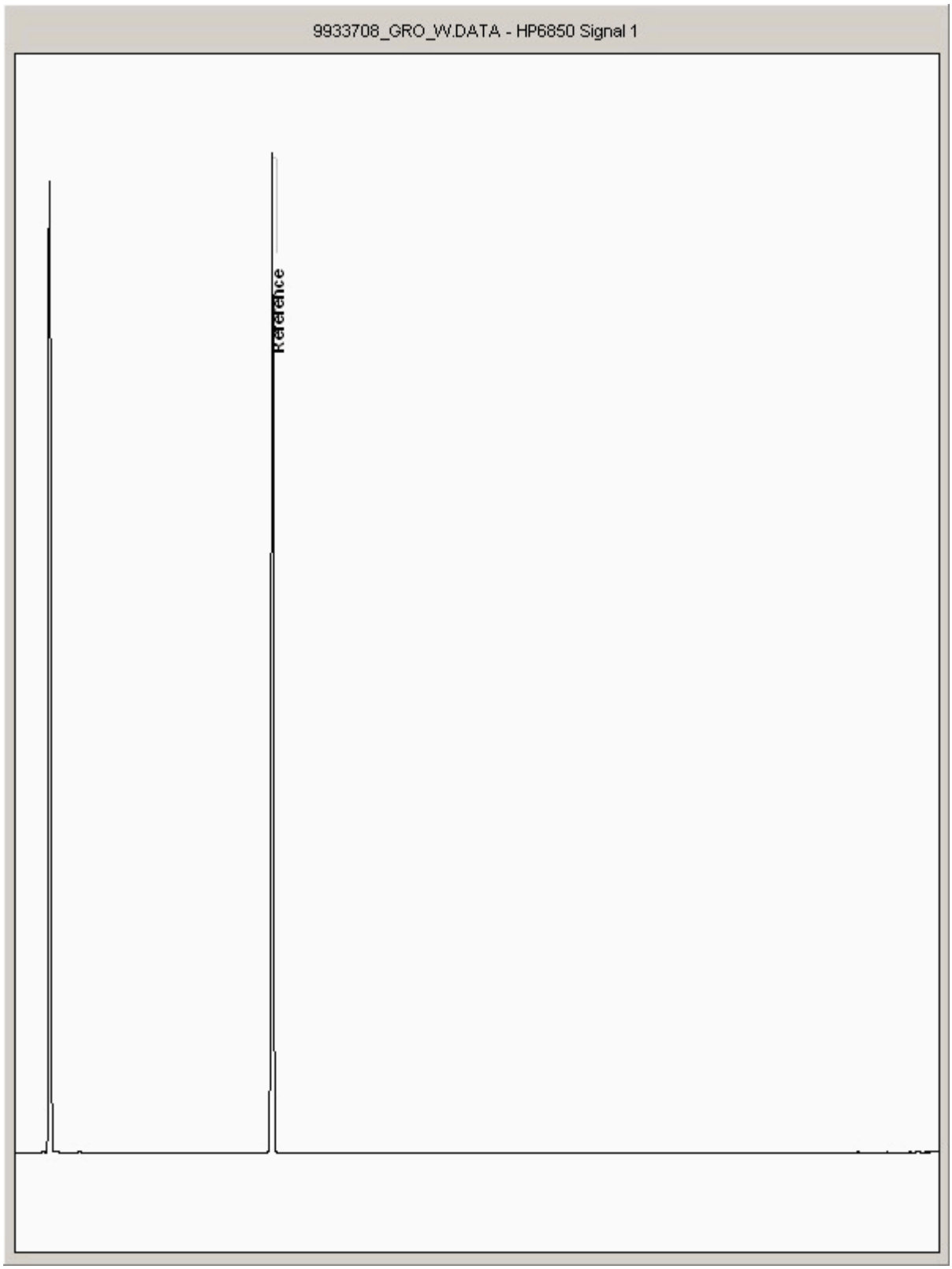
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9933708
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

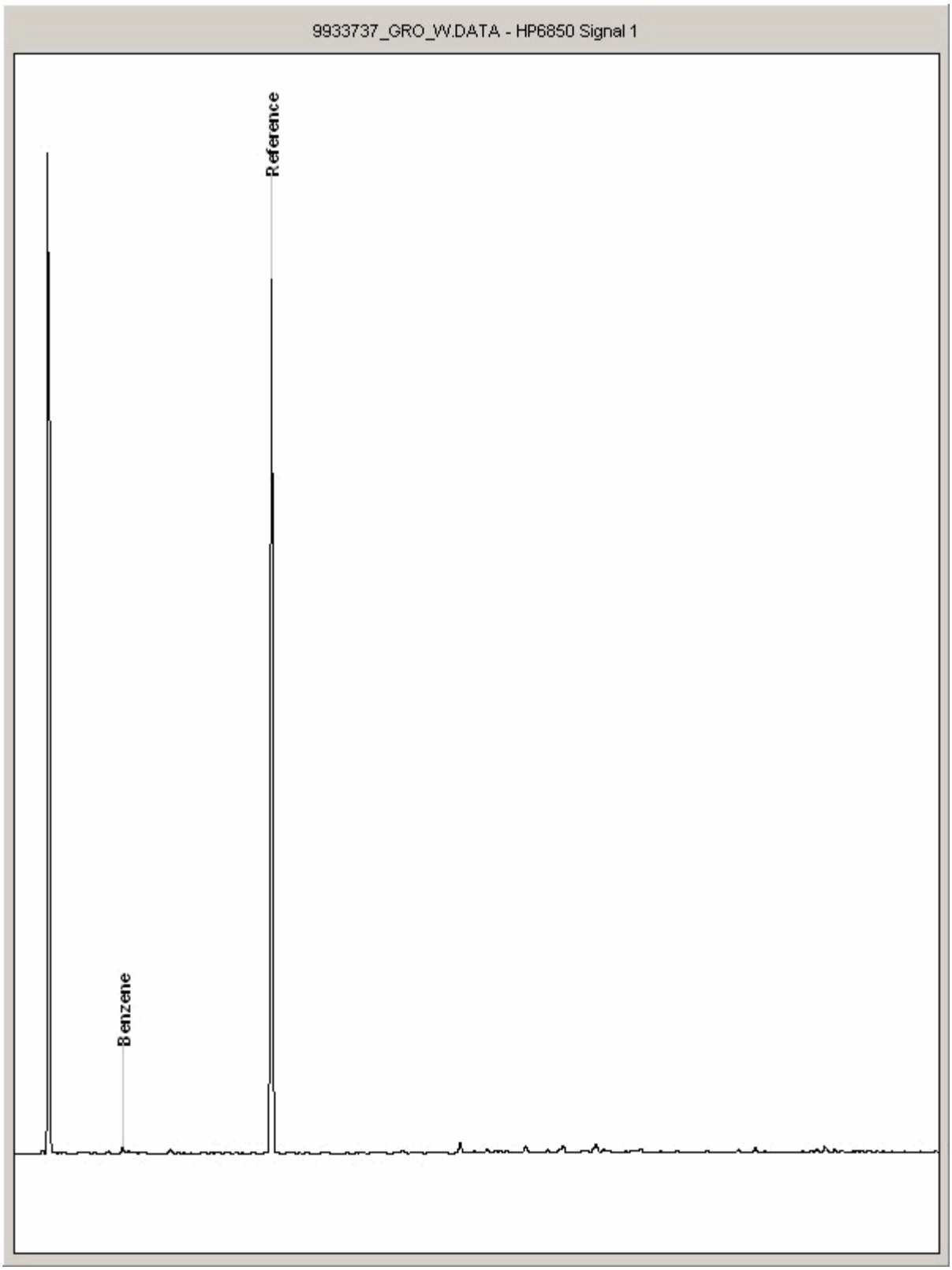
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9933737
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

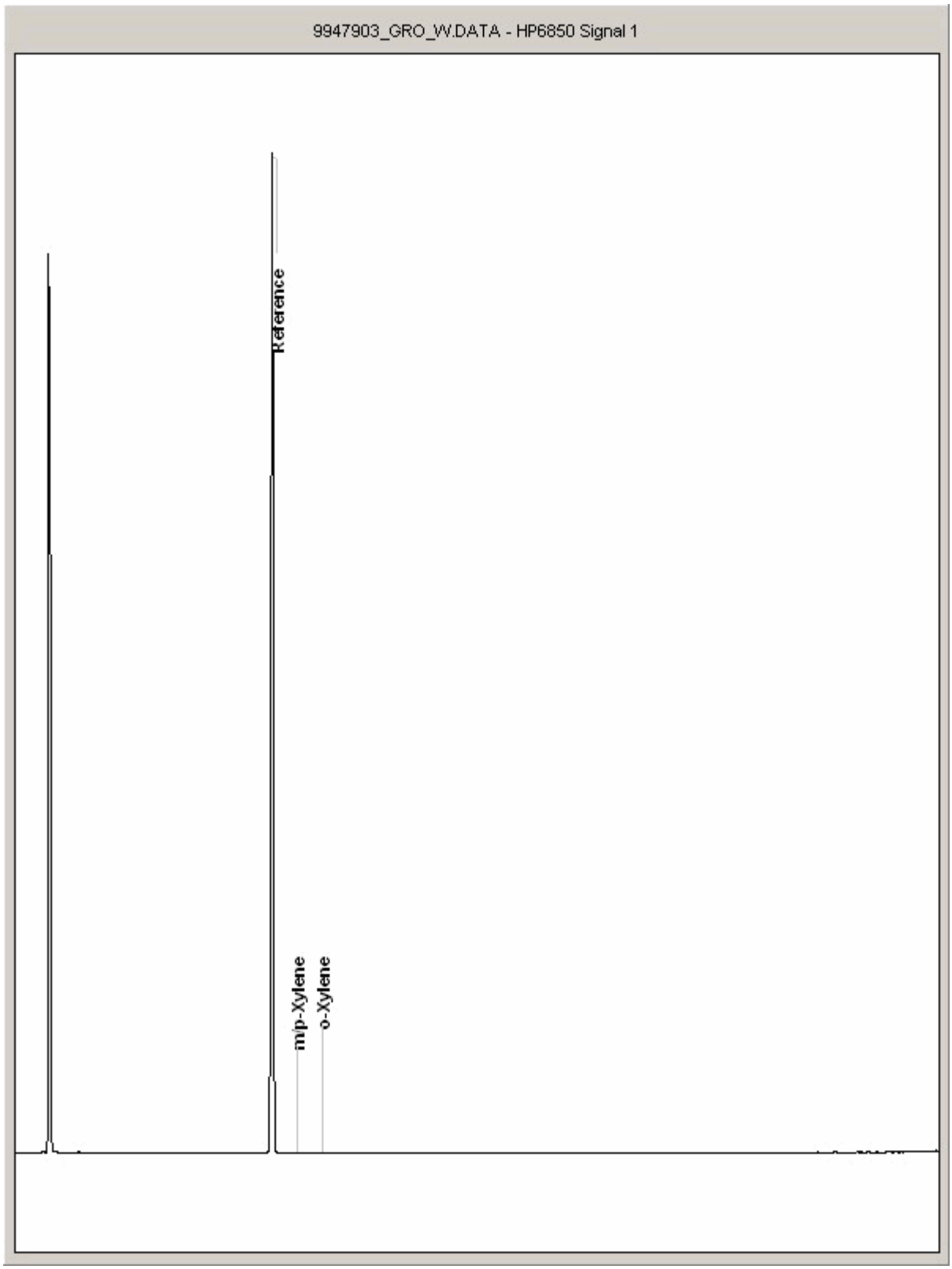
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9947903
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

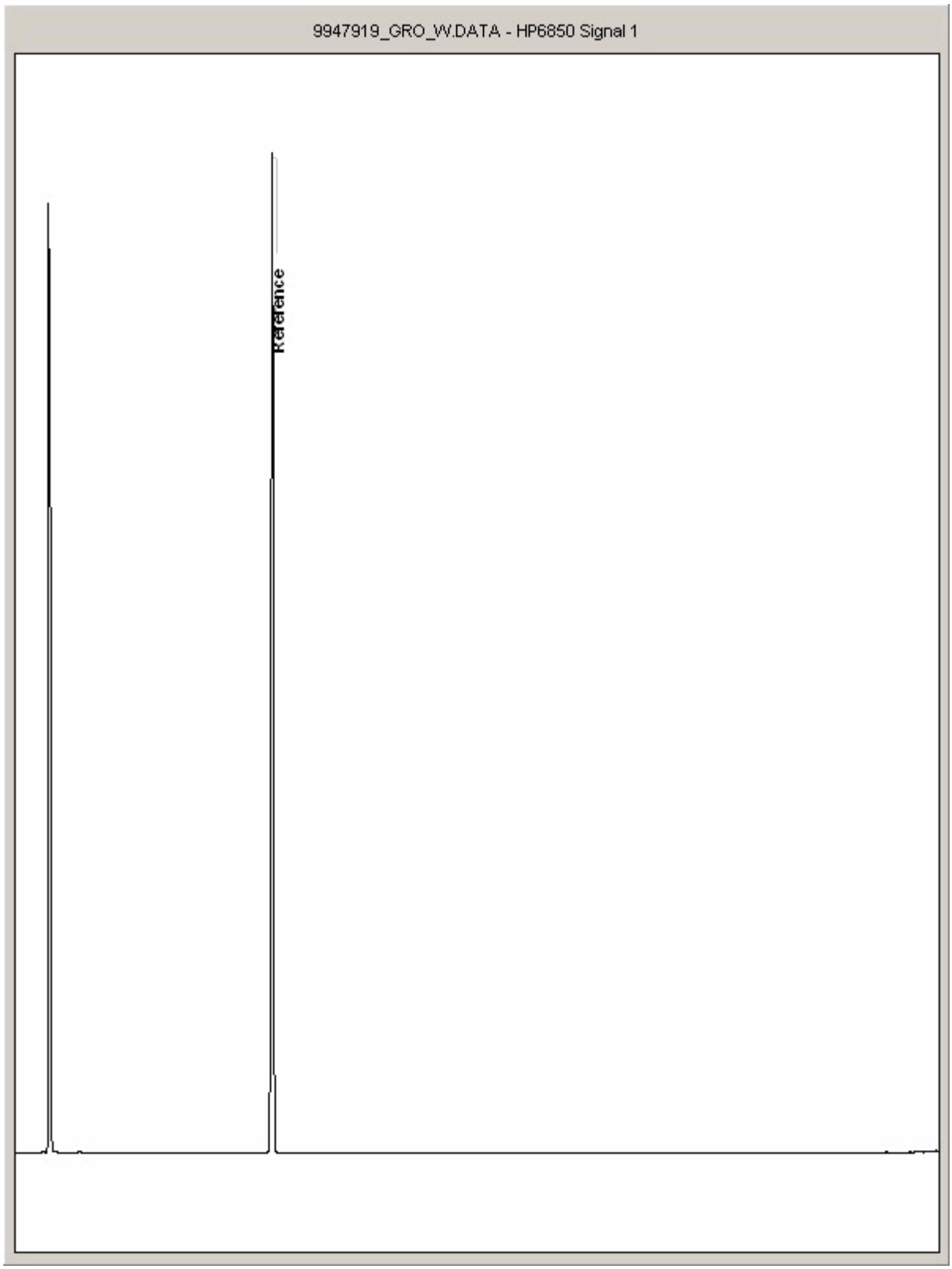
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9947919
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

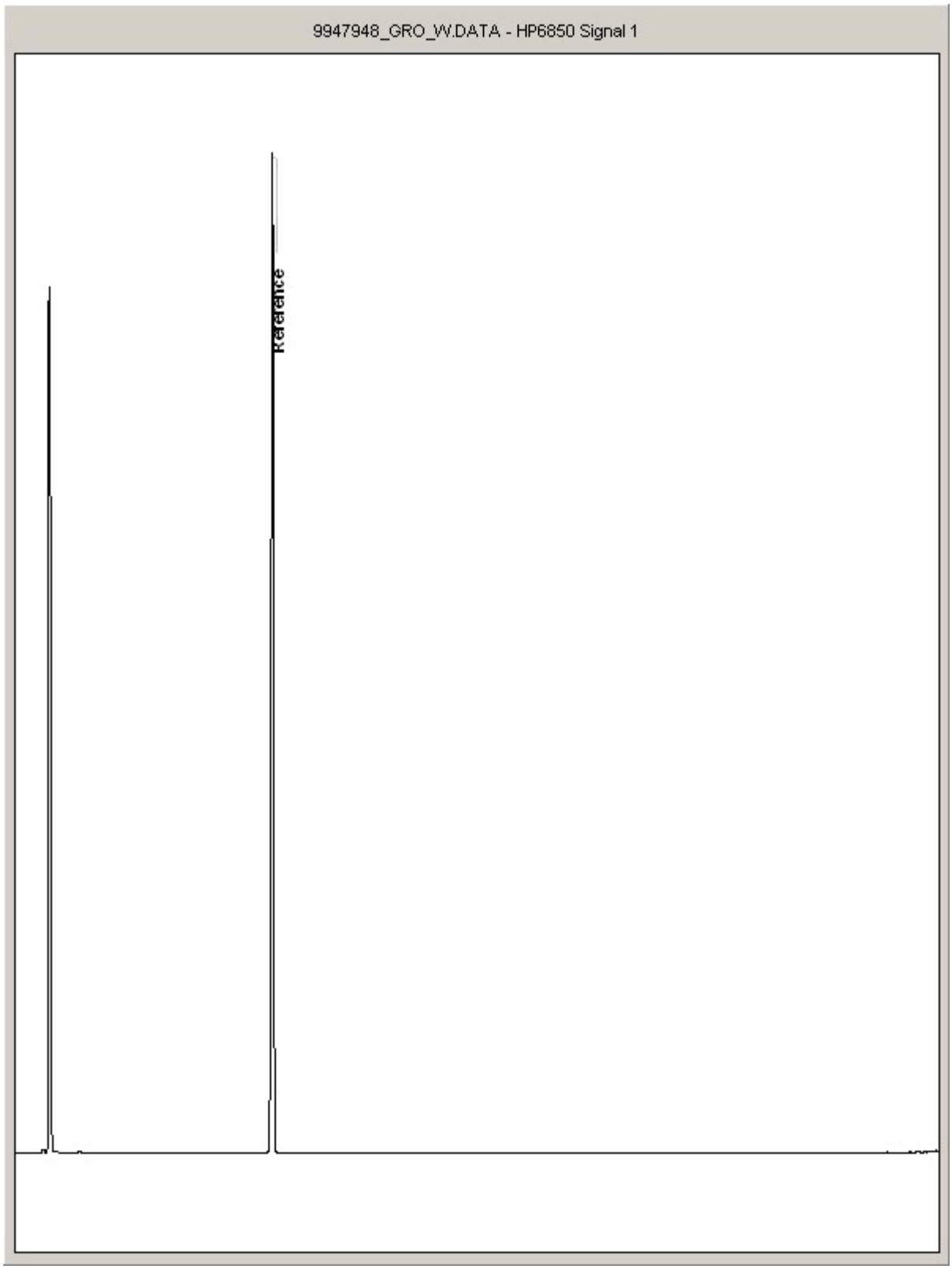
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9947948
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

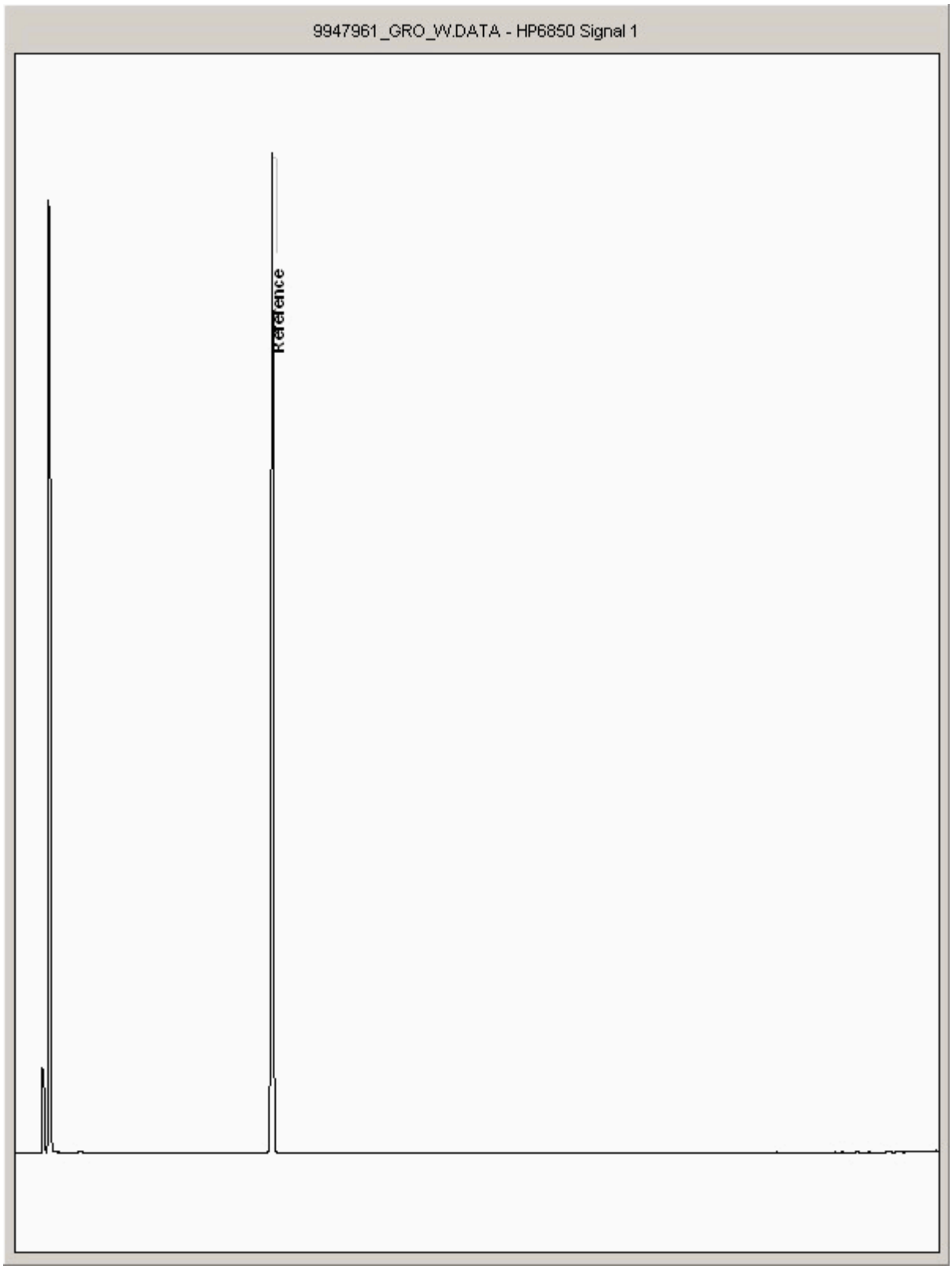
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9947961
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

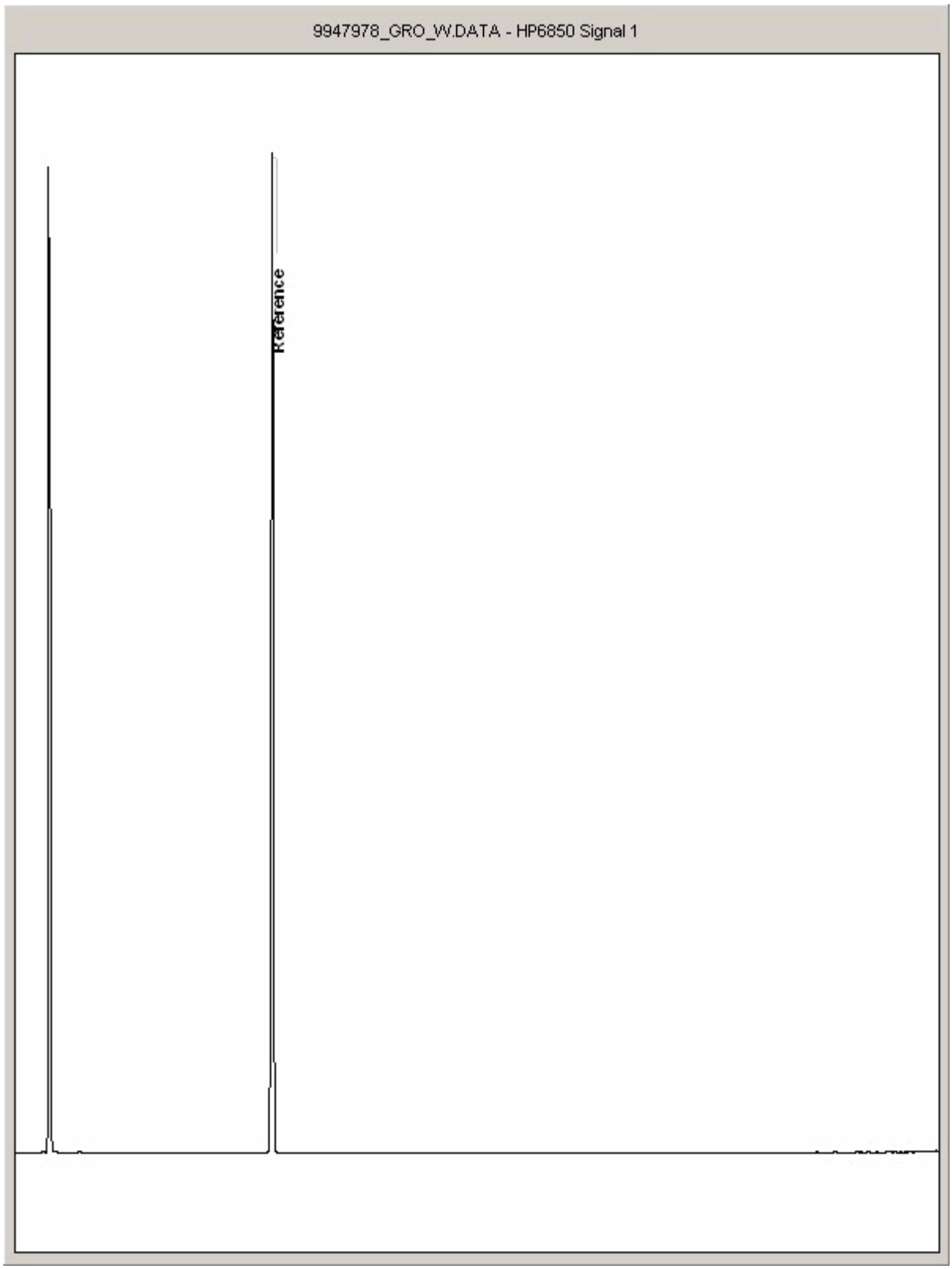
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9947978
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

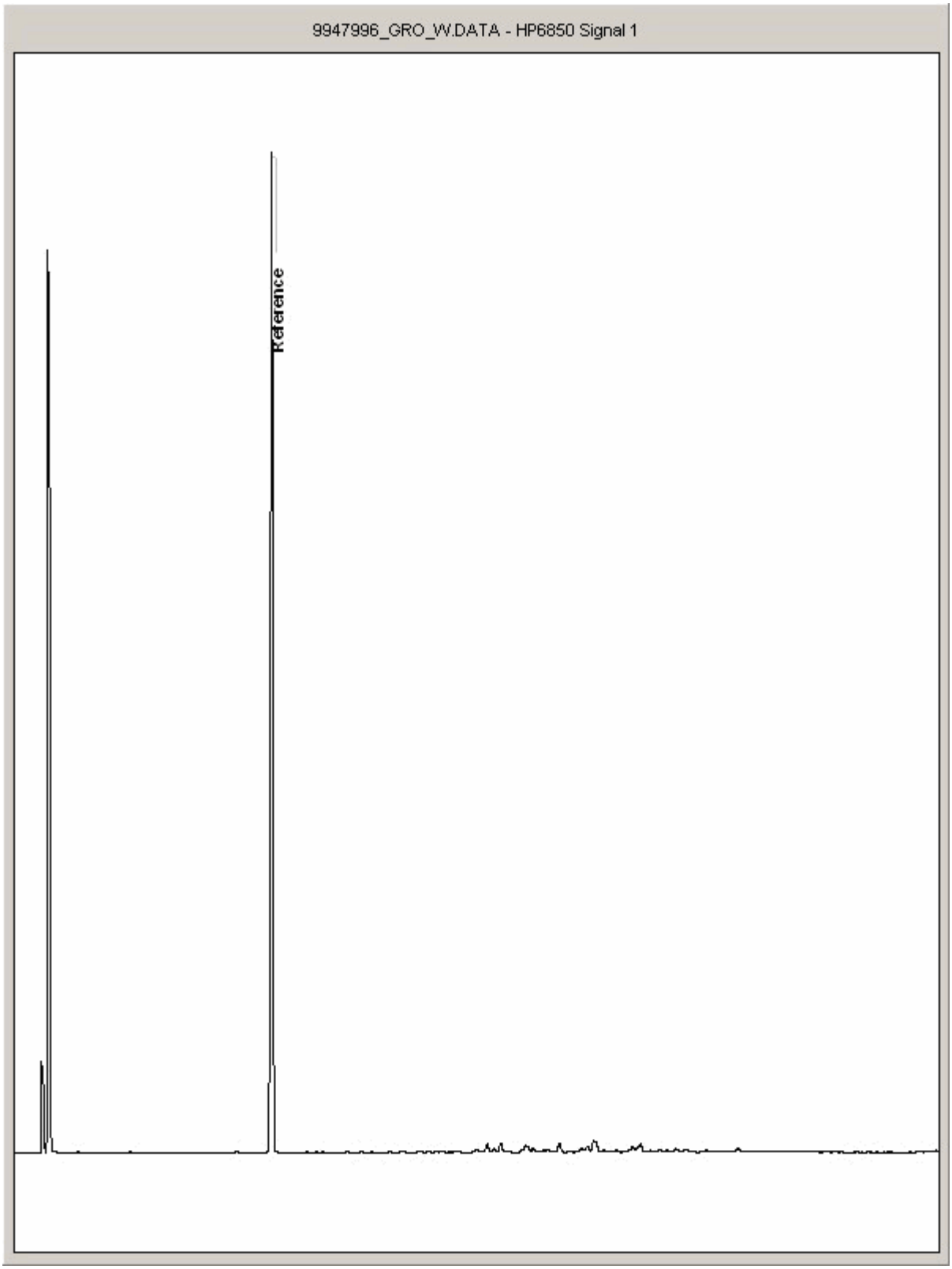
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9947996
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

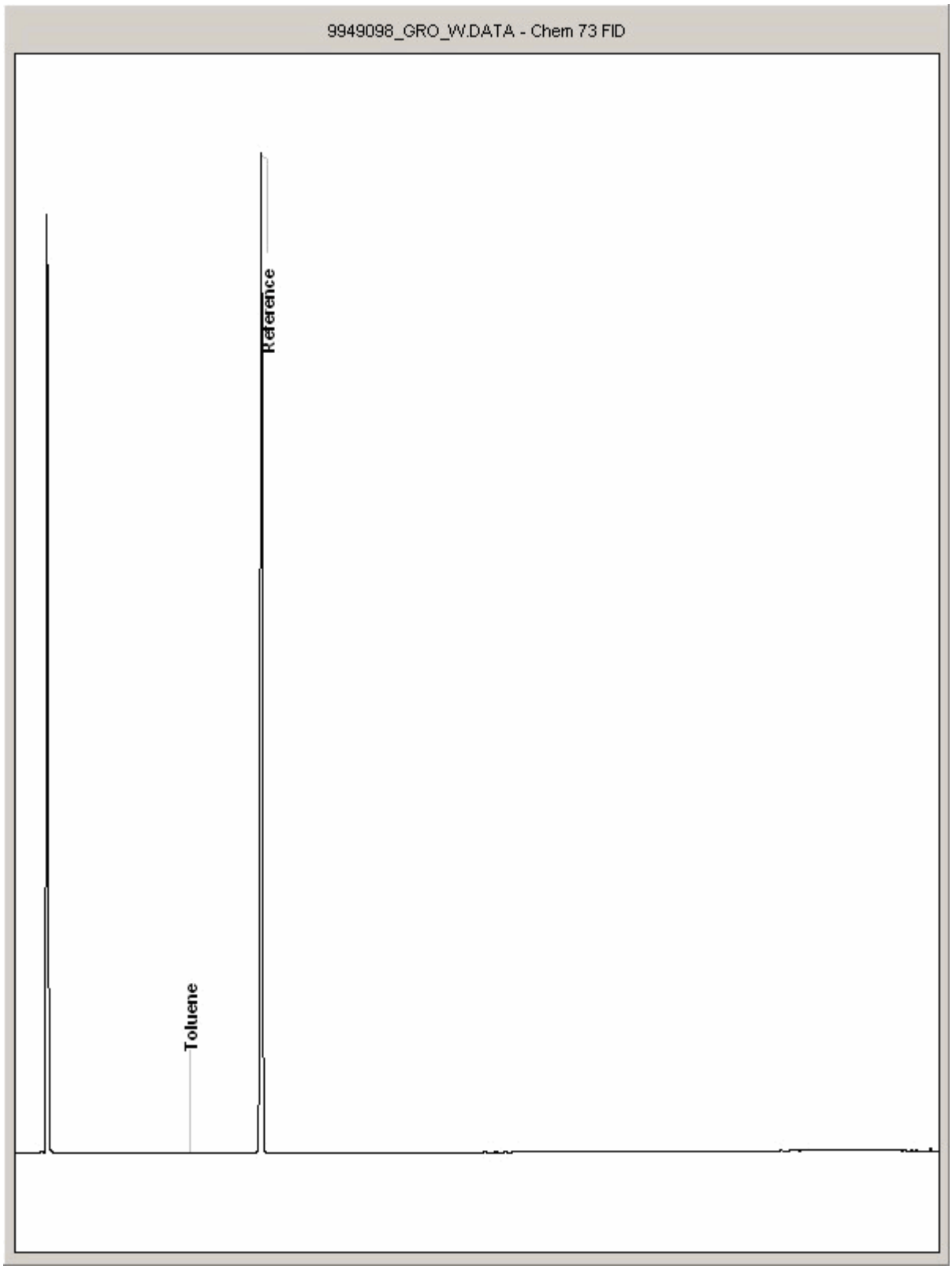
SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 9949098
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GCFID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GCFID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GCEZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	140903-82	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	283729
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

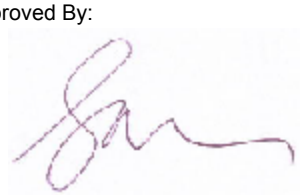
Date:	30 October 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	141016-113
Your Reference:	JER5575U
Location:	SHLNG
Report No:	289953

We received 9 samples on Thursday October 16, 2014 and 9 of these samples were scheduled for analysis which was completed on Thursday October 30, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10200938	BH43			14/10/2014
10200936	BH99			14/10/2014
10200940	BH41A			14/10/2014
10200942	BH42A			14/10/2014
10200939	BH41A DUPLICATE			14/10/2014
10200941	BH42A DUPLICATE			14/10/2014
10200937	BH34B			14/10/2014
10200935	BH34B DUPLICATE			14/10/2014
10200933	BH43 DUPLICATE			14/10/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			10200938	BH43			1l Glass bottle (ALE
			10200936	BH99			Vial (ALE297)
			10200940	BH41A			1l Glass bottle (ALE
			10200942	BH42A			Vial (ALE297)
			10200939	BH41A DUPLICATE			1l Glass bottle (ALE
			10200941	BH42A DUPLICATE			Vial (ALE297)
			10200937	BH34B			1l Glass bottle (ALE
			10200935	BH34B DUPLICATE			Vial (ALE297)
			10200933	BH43 DUPLICATE			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A DUPLICATE	BH42A DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014
			SDG Ref	141016-113	141016-113	141016-113	141016-113	141016-113	141016-113
			Lab Sample No.(s)	10200938	10200936	10200940	10200942	10200939	10200941
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		1040 #	213 #	4210 #	7830 #	690 #	5460 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		97.4	95.9	1520	1800	250	1250
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		942	117	2690	6040	441	4200

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B DUPLICATE	BH43 DUPLICATE			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	14/10/2014	14/10/2014	14/10/2014			
			Sampled Time	.	.	.			
			Date Received	16/10/2014	16/10/2014	16/10/2014			
			SDG Ref	141016-113	141016-113	141016-113			
			Lab Sample No.(s)	10200937	10200935	10200933			
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		187 #	942 #	806 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		93.1	409	75.4			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		93.9	533	730			

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A DUPLICATE	BH42A DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014
			SDG Ref	141016-113	141016-113	141016-113	141016-113	141016-113	141016-113
			Lab Sample No.(s)	10200938	10200936	10200940	10200942	10200939	10200941
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	32	<10	28
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	203	<10	187
GRO >C8-C10	<10 µg/l	TM245		14	<10	<10	378	<10	303
GRO >C5-C10	<10 µg/l	TM245		16	<10	<10	613	<10	518

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B DUPLICATE	BH43 DUPLICATE
			Depth (m)	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/10/2014	14/10/2014	14/10/2014
			Sampled Time	.	.	.
			Date Received	16/10/2014	16/10/2014	16/10/2014
			SDG Ref	141016-113	141016-113	141016-113
			Lab Sample No.(s)	10200937	10200935	10200933
			AGS Reference			
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	24
GRO >C5-C10	<10 µg/l	TM245		<10	<10	26

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A DUPLICATE	BH42A DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014
			SDG Ref	141016-113	141016-113	141016-113	141016-113	141016-113	141016-113
			Lab Sample No.(s)	10200938	10200936	10200940	10200942	10200939	10200941
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	120 #	<1 #	77.3 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<4 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH41A DUPLICATE	BH42A DUPLICATE
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014	14/10/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014	16/10/2014
			SDG Ref	141016-113	141016-113	141016-113	141016-113	141016-113	141016-113
			Lab Sample No.(s)	10200938	10200936	10200940	10200942	10200939	10200941
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<10 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	6.97 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	3.56	<1	4.22
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<5 #	<1 #	<5 #	35.4 #	<5 #	27.5 #
Isophorone (aq)	<1 µg/l	TM176		<5 #	<5 #	<5 #	<2 #	<5 #	<5 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	23.7 #	<1 #	13.1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.58 #	3.07 #	1.27 #	1.64 #

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B DUPLICATE	BH43 DUPLICATE			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	14/10/2014	14/10/2014	14/10/2014			
			Sampled Time	.	.	.			
			Date Received	16/10/2014	16/10/2014	16/10/2014			
			SDG Ref	141016-113	141016-113	141016-113			
			Lab Sample No.(s)	10200937	10200935	10200933			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1 ♦	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 ♦ #	<2 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH34B	BH34B DUPLICATE	BH43 DUPLICATE			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	14/10/2014	14/10/2014	14/10/2014			
			Sampled Time	.	.	.			
			Date Received	16/10/2014	16/10/2014	16/10/2014			
			SDG Ref	141016-113	141016-113	141016-113			
			Lab Sample No.(s)	10200937	10200935	10200933			
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 ♦ #	<5 #			
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Naphthalene (aq)	<1 µg/l	TM176		<5 #	<5 ♦ #	<1 #			
Isophorone (aq)	<1 µg/l	TM176		<5 #	<5 ♦ #	<5 #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10200938	10200936	10200933	10200940	10200942	10200939	10200941	10200937	10200935
Customer Sample Ref.	BH43	BH99	BH43 DUPLICATE	BH41A	BH42A	BH41A DUPLICATE	BH42A DUPLICATE	BH34B	BH34B DUPLICATE
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	28-Oct-2014	27-Oct-2014	28-Oct-2014	27-Oct-2014	28-Oct-2014	27-Oct-2014	28-Oct-2014	27-Oct-2014	27-Oct-2014
GRO by GC-FID (W)	30-Oct-2014	30-Oct-2014	30-Oct-2014	30-Oct-2014	30-Oct-2014	30-Oct-2014	30-Oct-2014	30-Oct-2014	30-Oct-2014
SVOC MS (W) - Aqueous	27-Oct-2014	28-Oct-2014	24-Oct-2014	29-Oct-2014	27-Oct-2014	27-Oct-2014	27-Oct-2014	27-Oct-2014	27-Oct-2014

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1093	QC 1001
EPH (DRO) (C10-C40)	TM172	**92.5** 58.60 : 104.65	**90.0** 59.47 : 106.15

GRO by GC-FID (W)

Component	Method Code	QC 1062
Benzene by GC	TM245	**93.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	**92.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**92.25** 77.50 : 122.50
MTBE GC-FID	TM245	**95.0** 77.50 : 122.50
o Xylene by GC	TM245	**93.5** 77.50 : 122.50
QC	TM245	**93.49** 68.49 : 116.95
Toluene by GC	TM245	**92.5** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1098	QC 1021	QC 1006	QC 1076	QC 1034
4-Bromophenylphenyleth er	TM176	**88.8** 69.68 : 114.83	**84.8** 69.68 : 114.83	**83.2** 69.68 : 114.83	**86.4** 69.68 : 114.83	**77.44** 69.68 : 114.83
Benzo(a)anthracene	TM176	**84.0** 63.76 : 117.52	**82.4** 63.76 : 117.52	**81.6** 63.76 : 117.52	**84.0** 63.76 : 117.52	**70.8** 63.76 : 117.52
Benzo(a)pyrene	TM176	**82.4** 58.84 : 109.06	**80.0** 58.84 : 109.06	**78.56** 58.84 : 109.06	**81.6** 58.84 : 109.06	**71.52** 58.84 : 109.06
Butylbenzyl phthalate	TM176	**73.04** 41.53 : 109.48	**71.12** 41.53 : 109.48	**76.24** 41.53 : 109.48	**90.4** 41.53 : 109.48	**51.68** 41.53 : 109.48
Hexachlorobutadiene	TM176	**76.8** 42.80 : 108.20	**74.4** 42.80 : 108.20	**74.64** 42.80 : 108.20	**67.92** 42.80 : 108.20	**66.56** 42.80 : 108.20
Naphthalene	TM176	**87.2** 69.71 : 117.68	**94.4** 69.71 : 117.68	**100.8** 69.71 : 117.68	**88.8** 69.71 : 117.68	**75.28** 69.71 : 117.68
Nitrobenzene	TM176	**79.36** 58.70 : 110.90	**90.4** 58.70 : 110.90	**80.8** 58.70 : 110.90	**96.0** 58.70 : 110.90	**70.88** 58.70 : 110.90
Phenol	TM176	**50.4** 30.25 : 79.75	**49.12** 30.25 : 79.75	**48.72** 30.25 : 79.75	**48.72** 30.25 : 79.75	**43.84** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

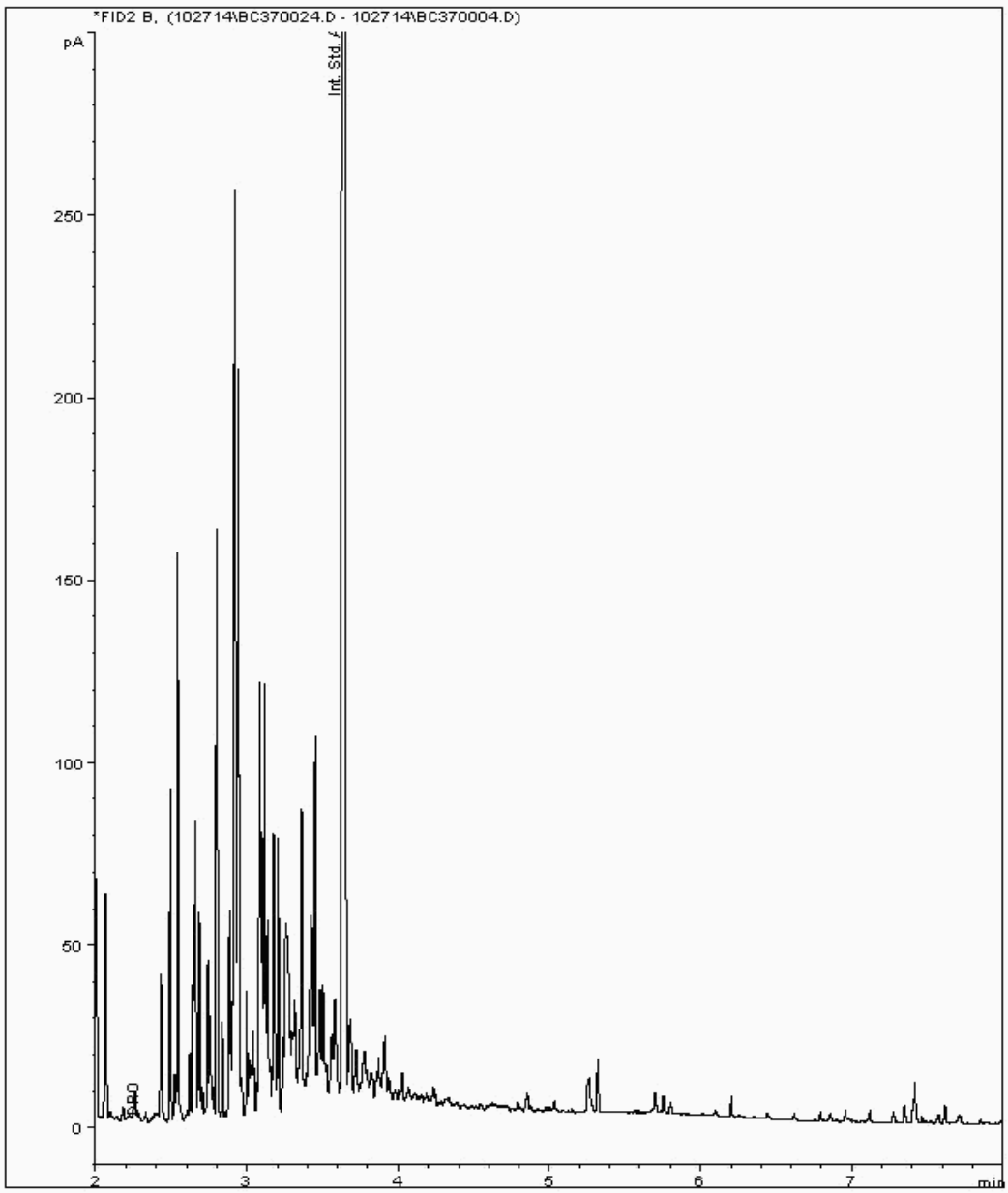
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10206316
Sample ID : BH43 DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705394-10206316
Date Acquired : 28/10/2014 01:52:15 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

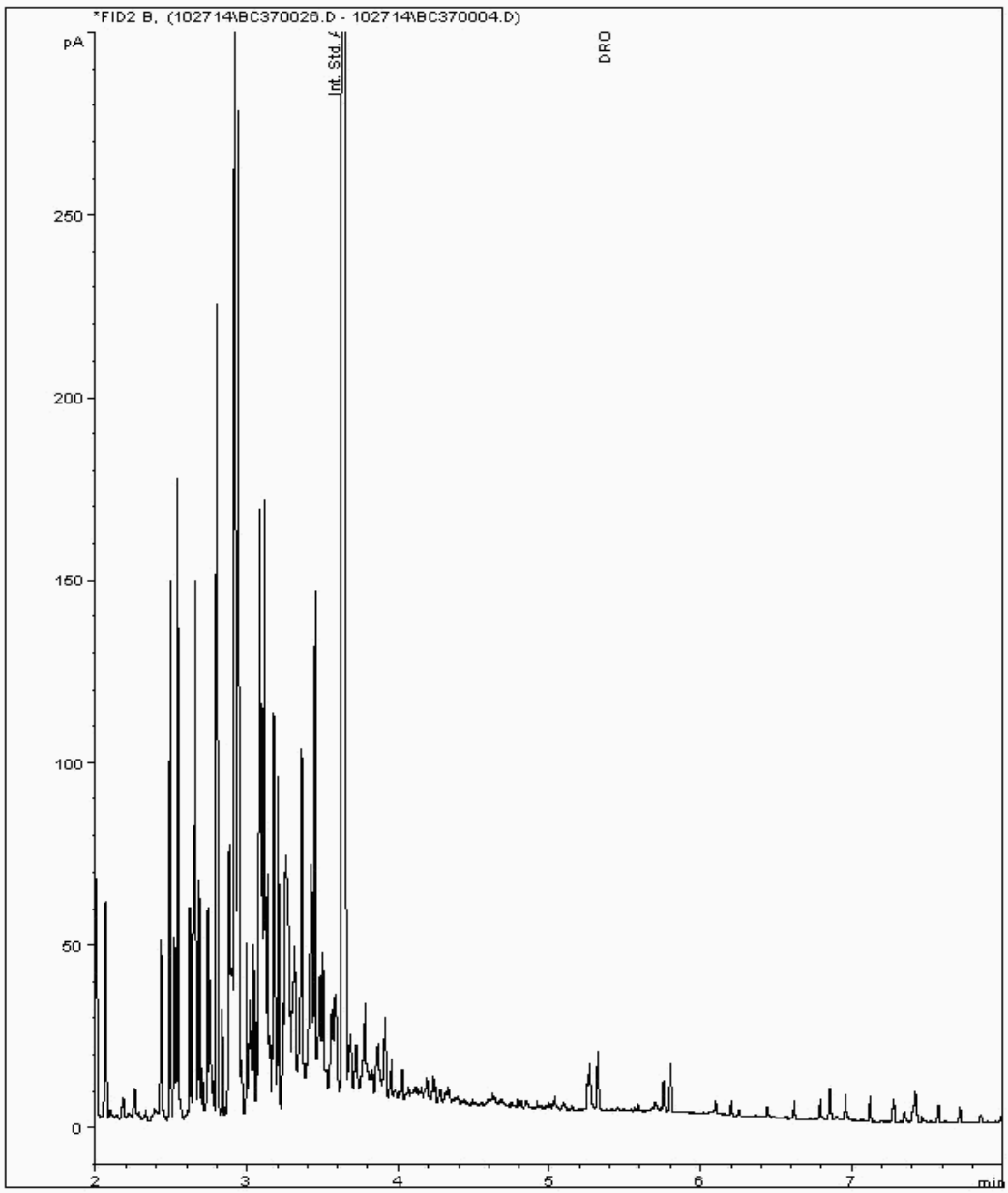
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10229032
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705434-10229032
Date Acquired : 28/10/2014 02:36:06 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

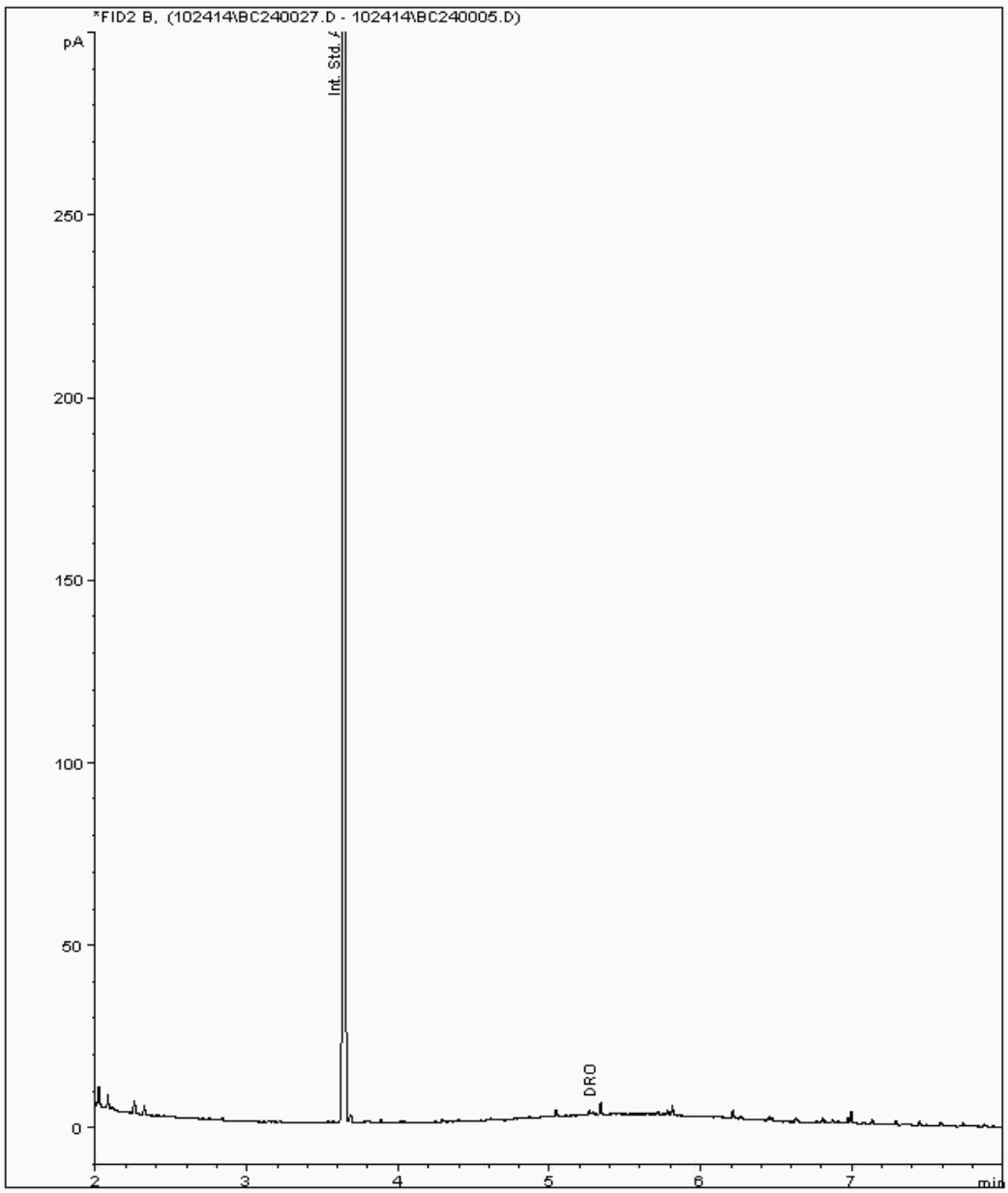
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10229089
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705414-10229089
Date Acquired : 25/10/2014 01:36:58 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

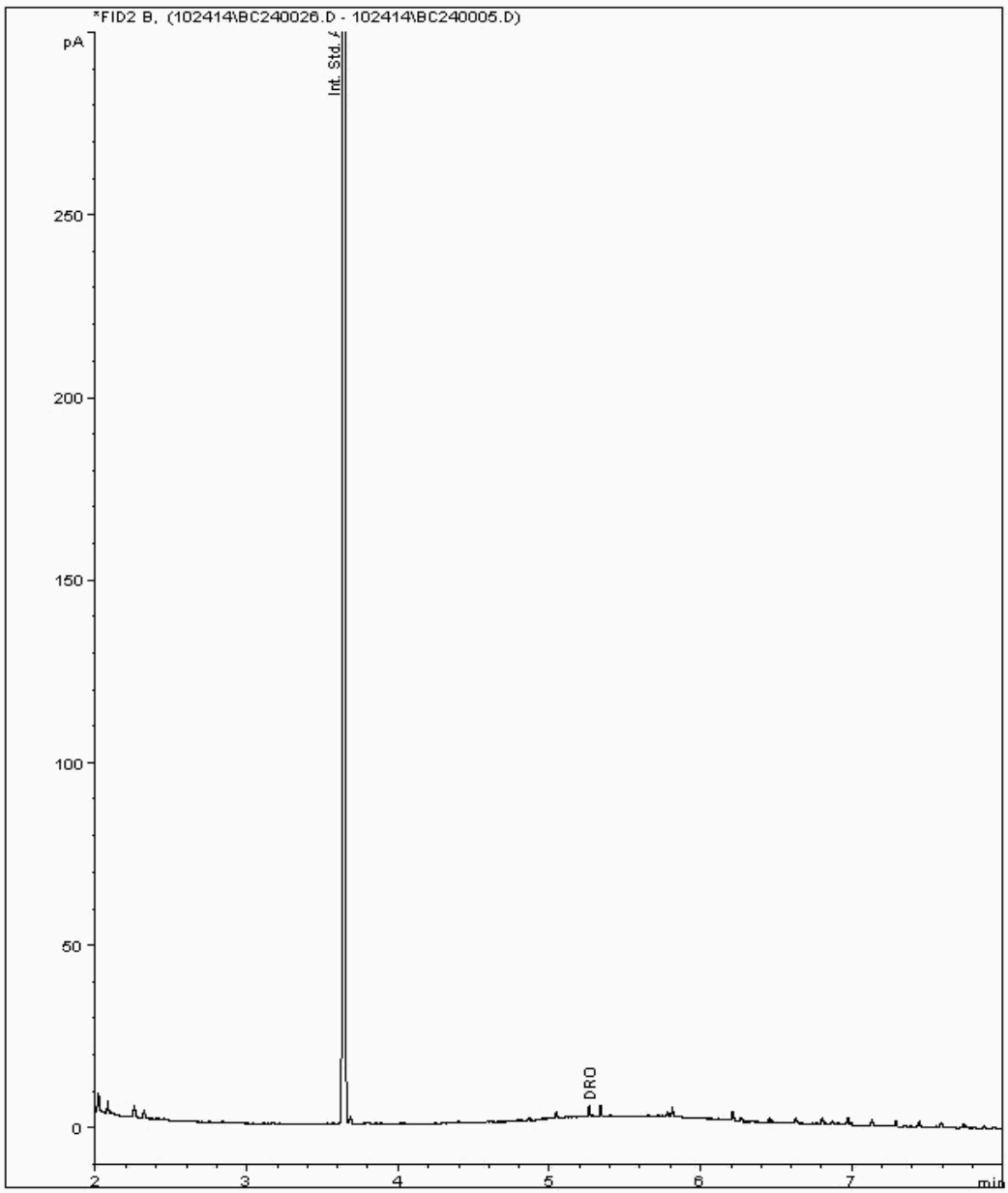
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10229130
Sample ID : BH34B DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705407-10229130
Date Acquired : 25/10/2014 01:15:06 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

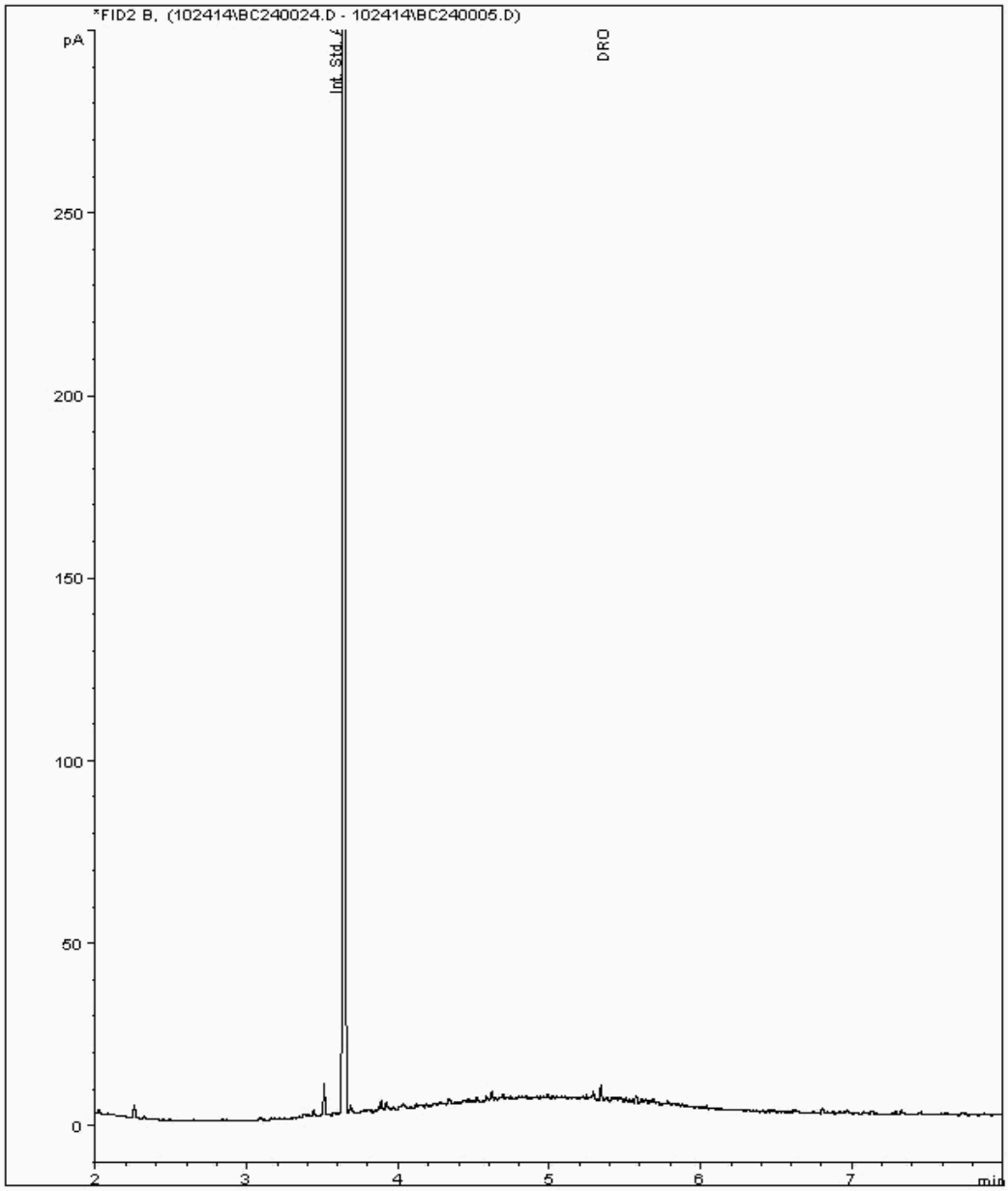
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10229180
Sample ID : BH41A DUPLICATE

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705447-10229180
Date Acquired : 25/10/2014 00:31:28 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

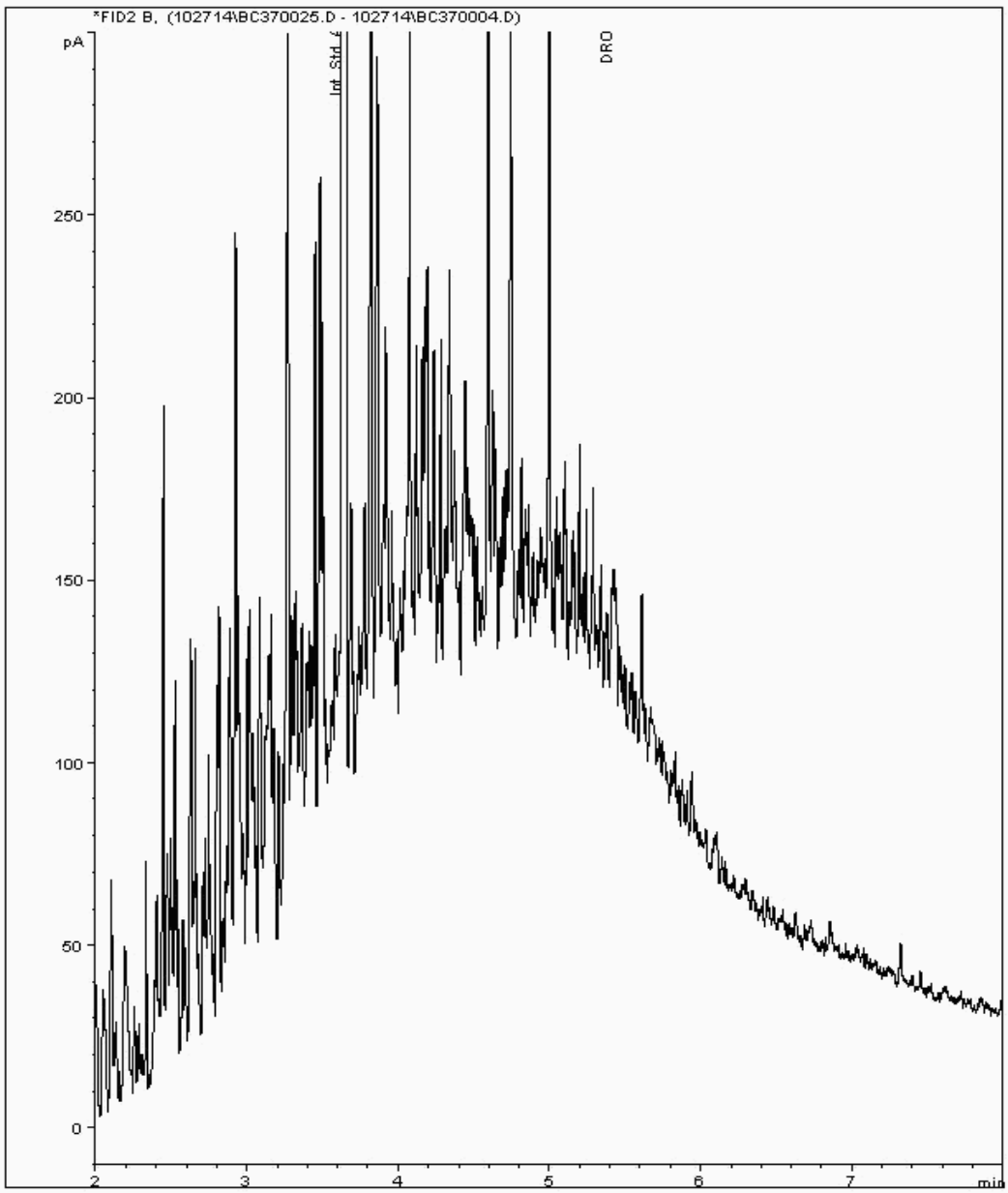
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10229209
Sample ID : BH42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705492-10229209
Date Acquired : 28/10/2014 02:14:06 PM
Units : mg/l

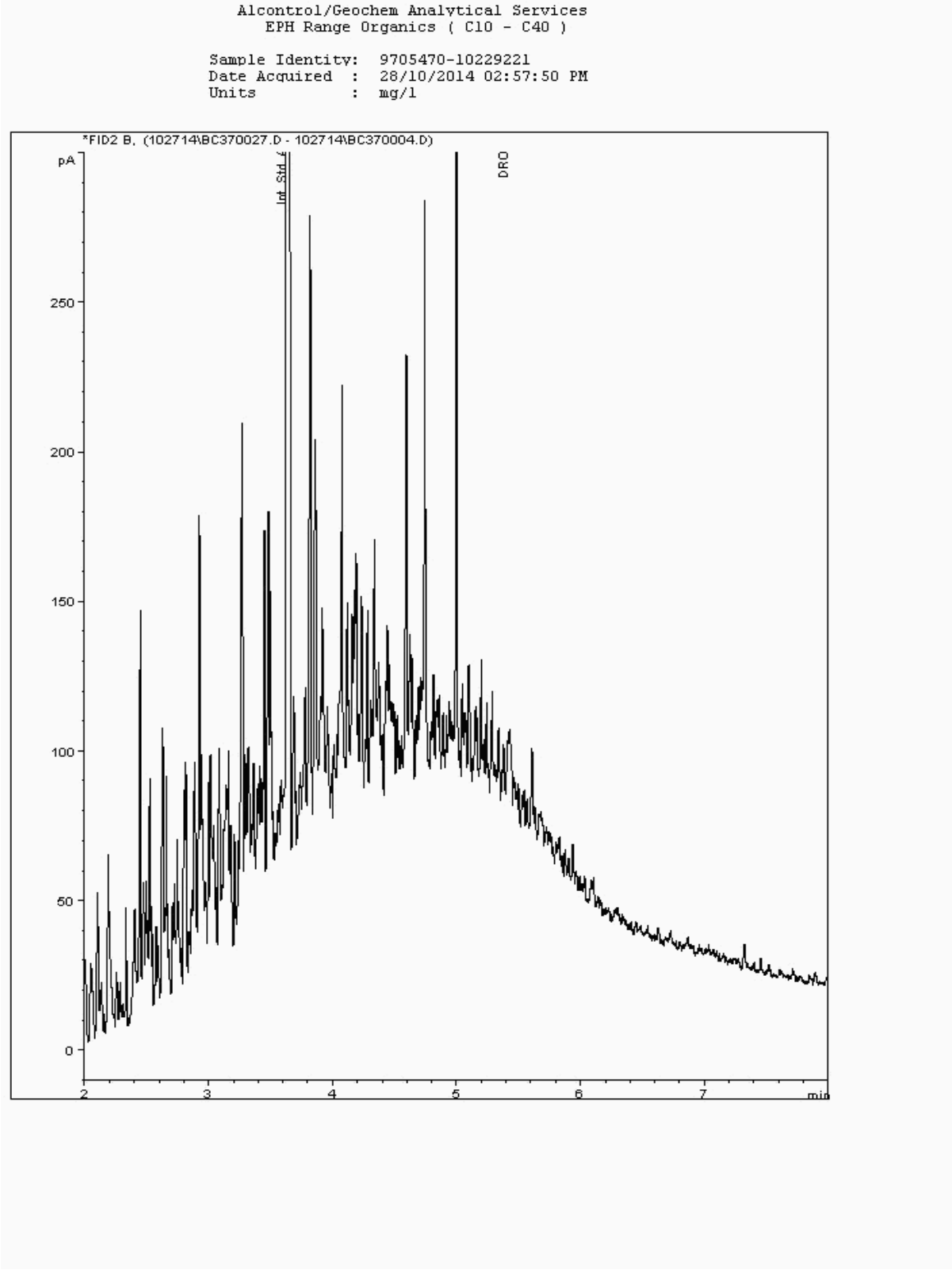


CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 10229221 **Sample ID :** BH42A DUPLICATE **Depth :**



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

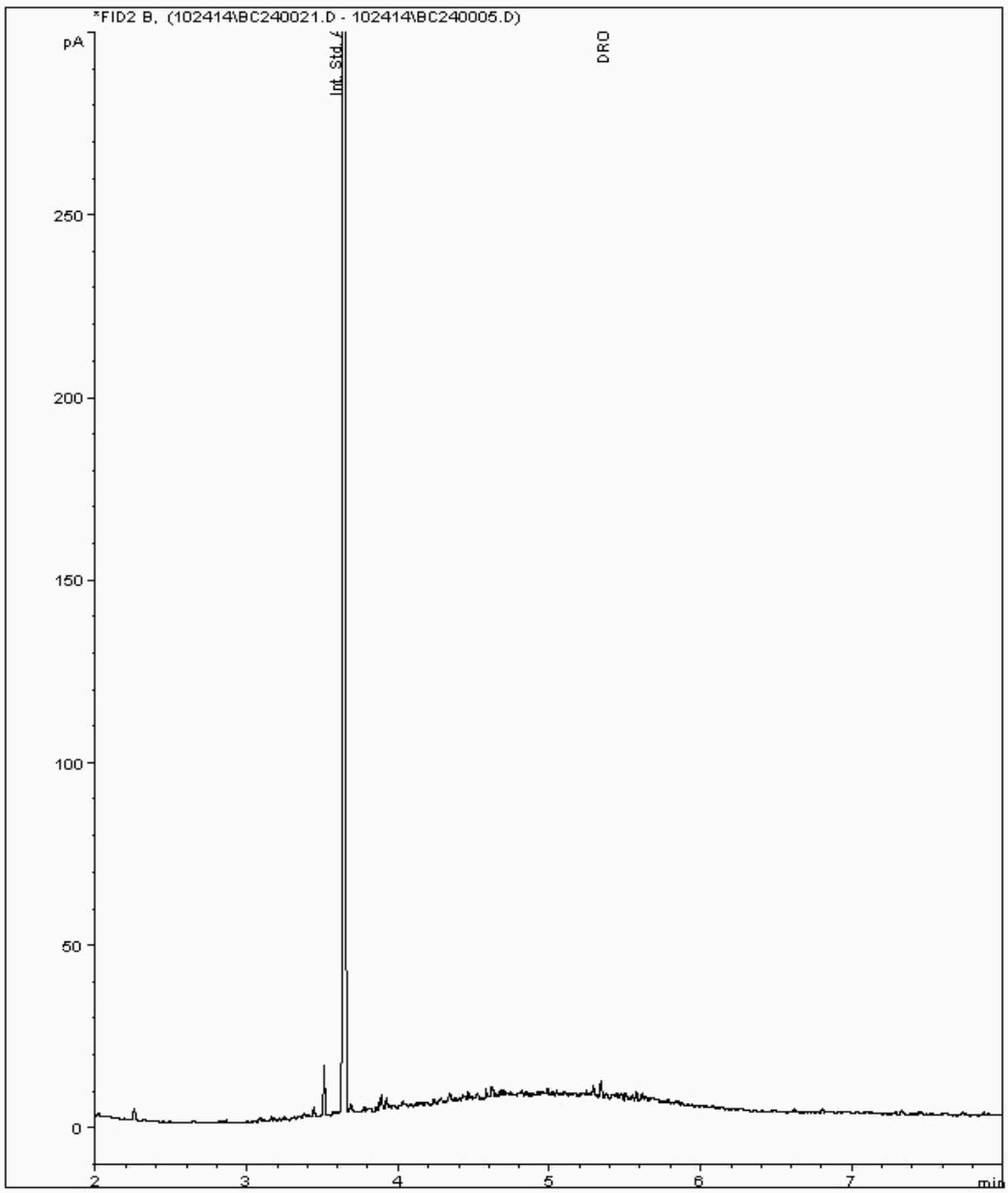
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10229243
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705455-10229243
Date Acquired : 24/10/2014 23:25:50 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

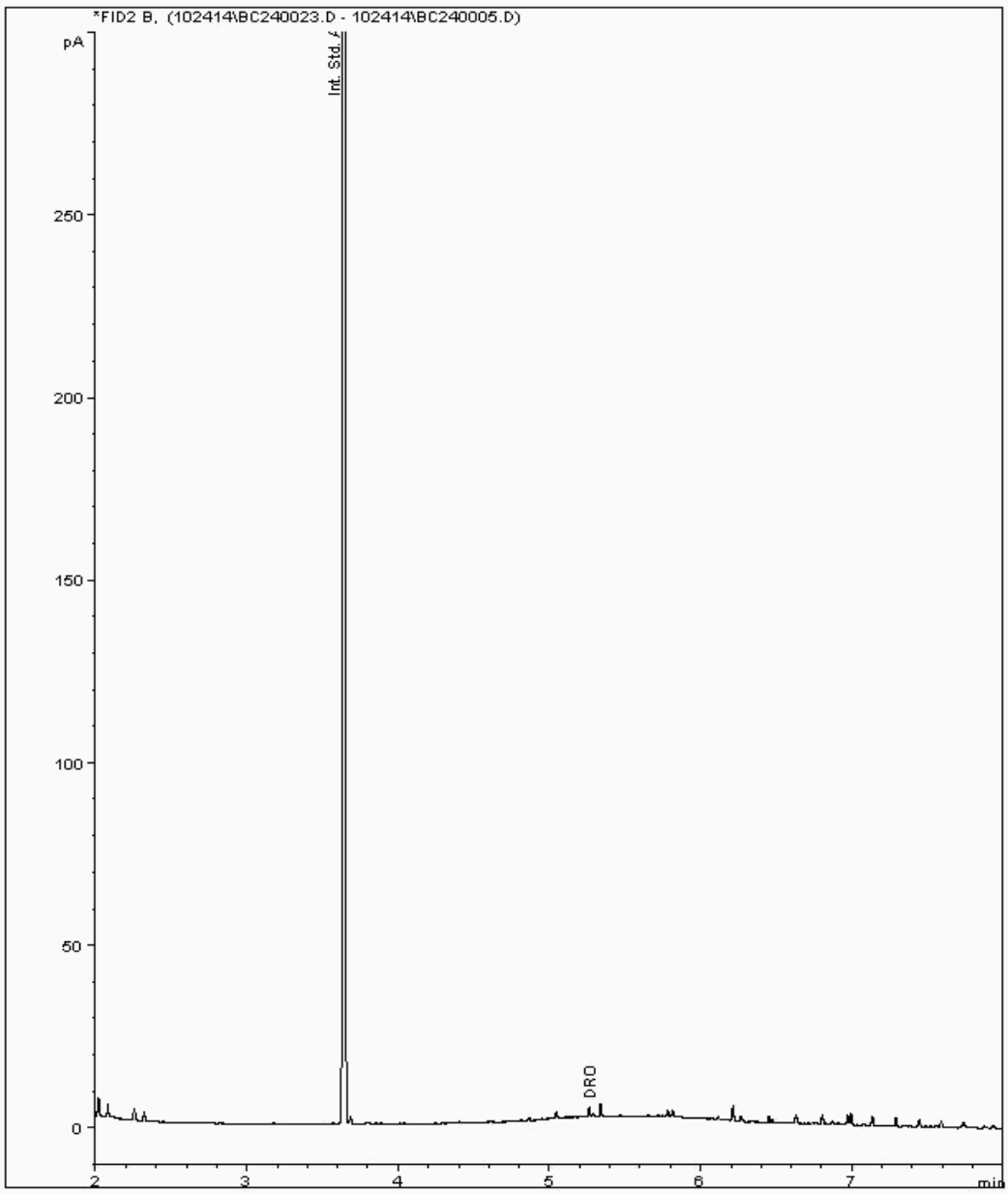
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10229256
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9705420-10229256
Date Acquired : 25/10/2014 00:09:33 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

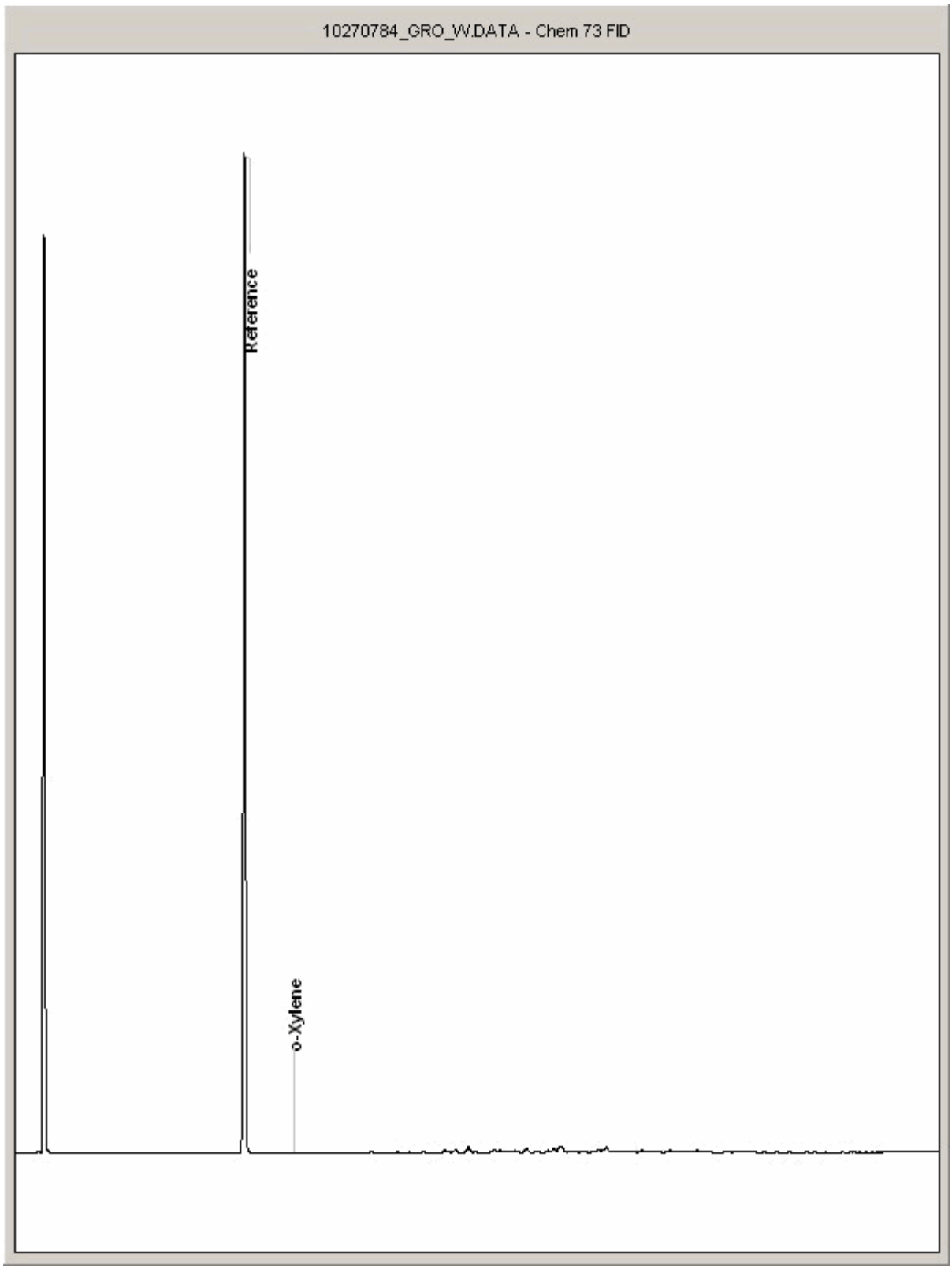
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270784
Sample ID : BH43 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

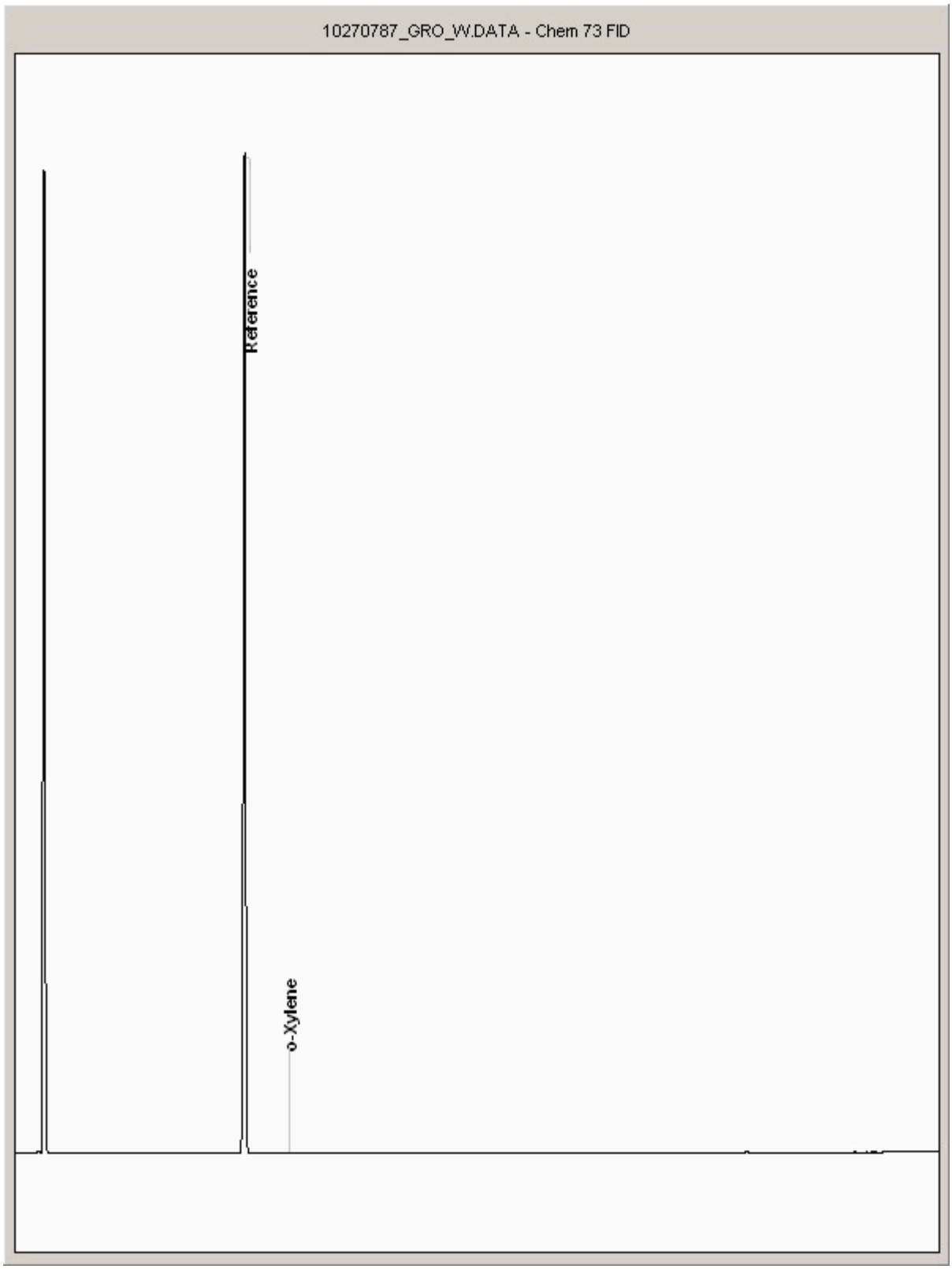
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270787
Sample ID : BH34B DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

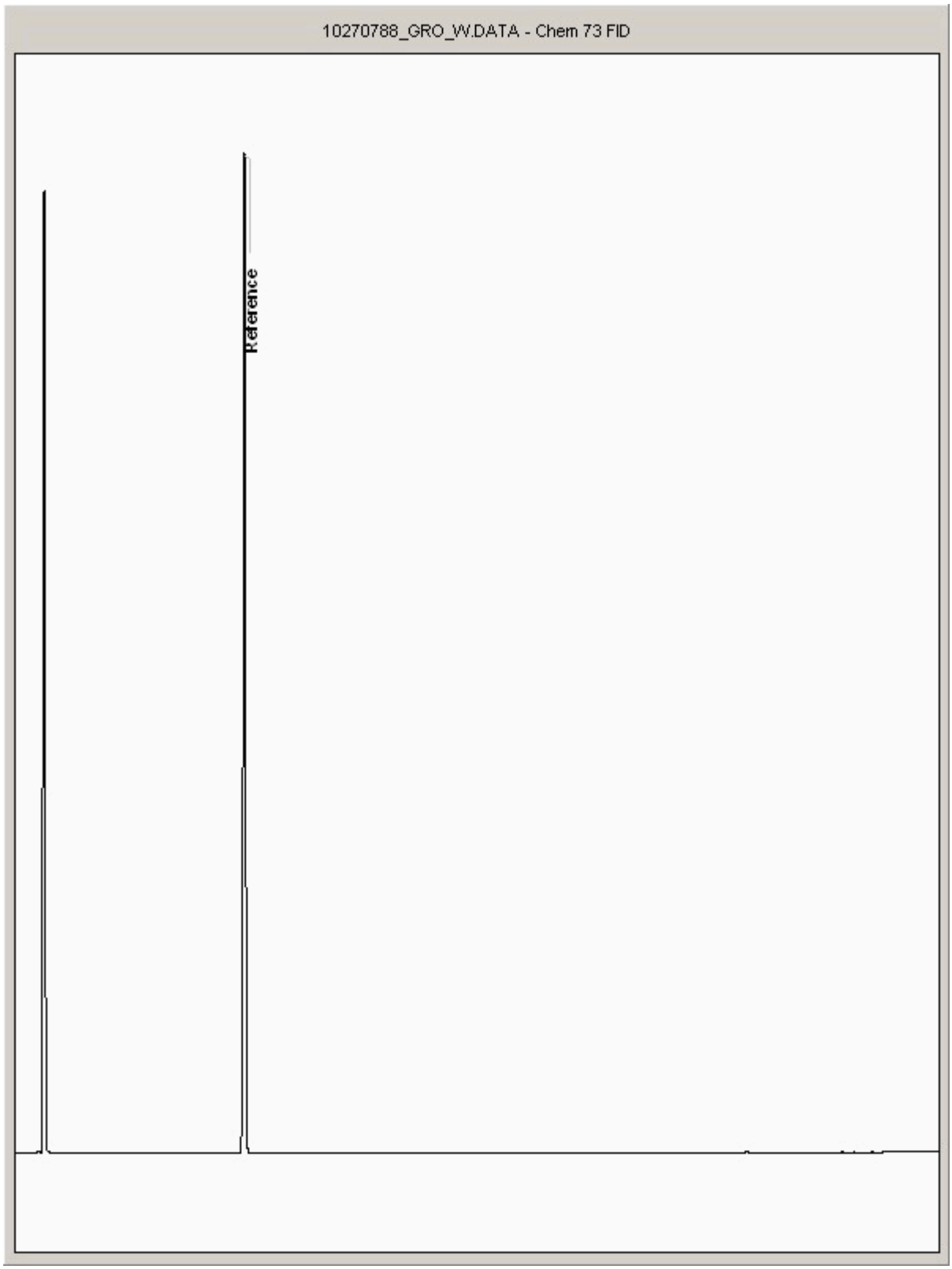
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270788
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

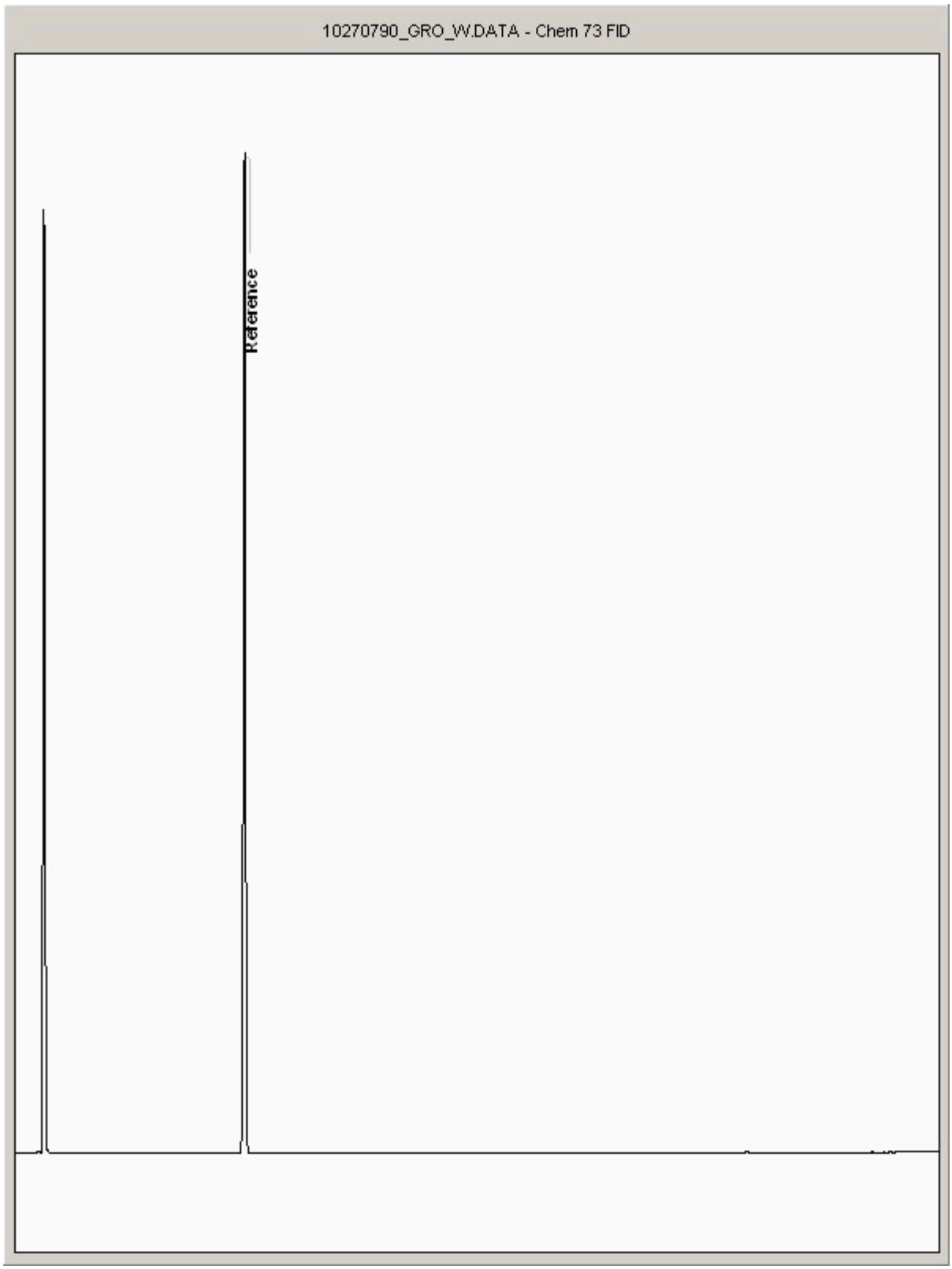
SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270790
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

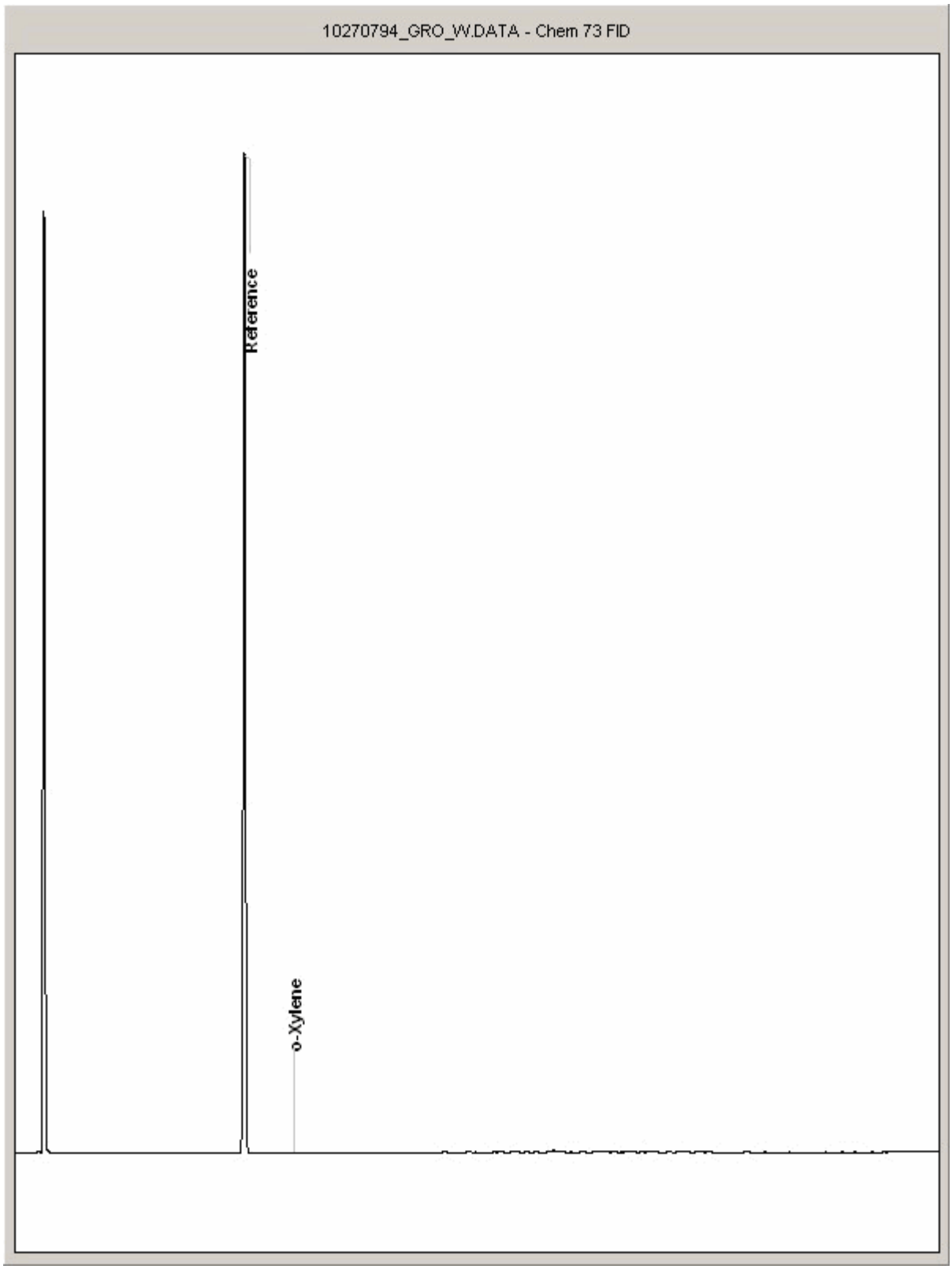
SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270794
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

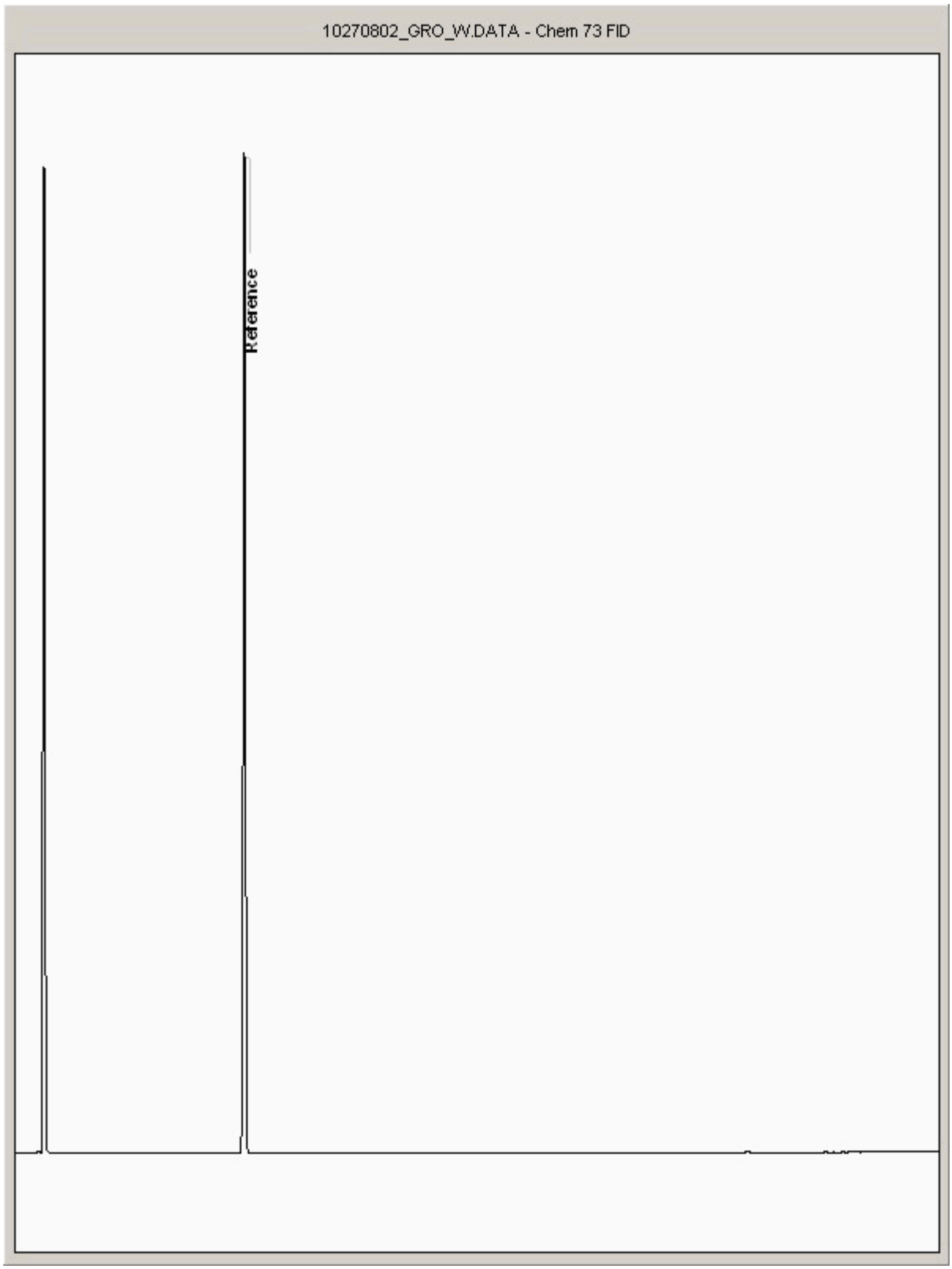
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270802
Sample ID : BH41A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

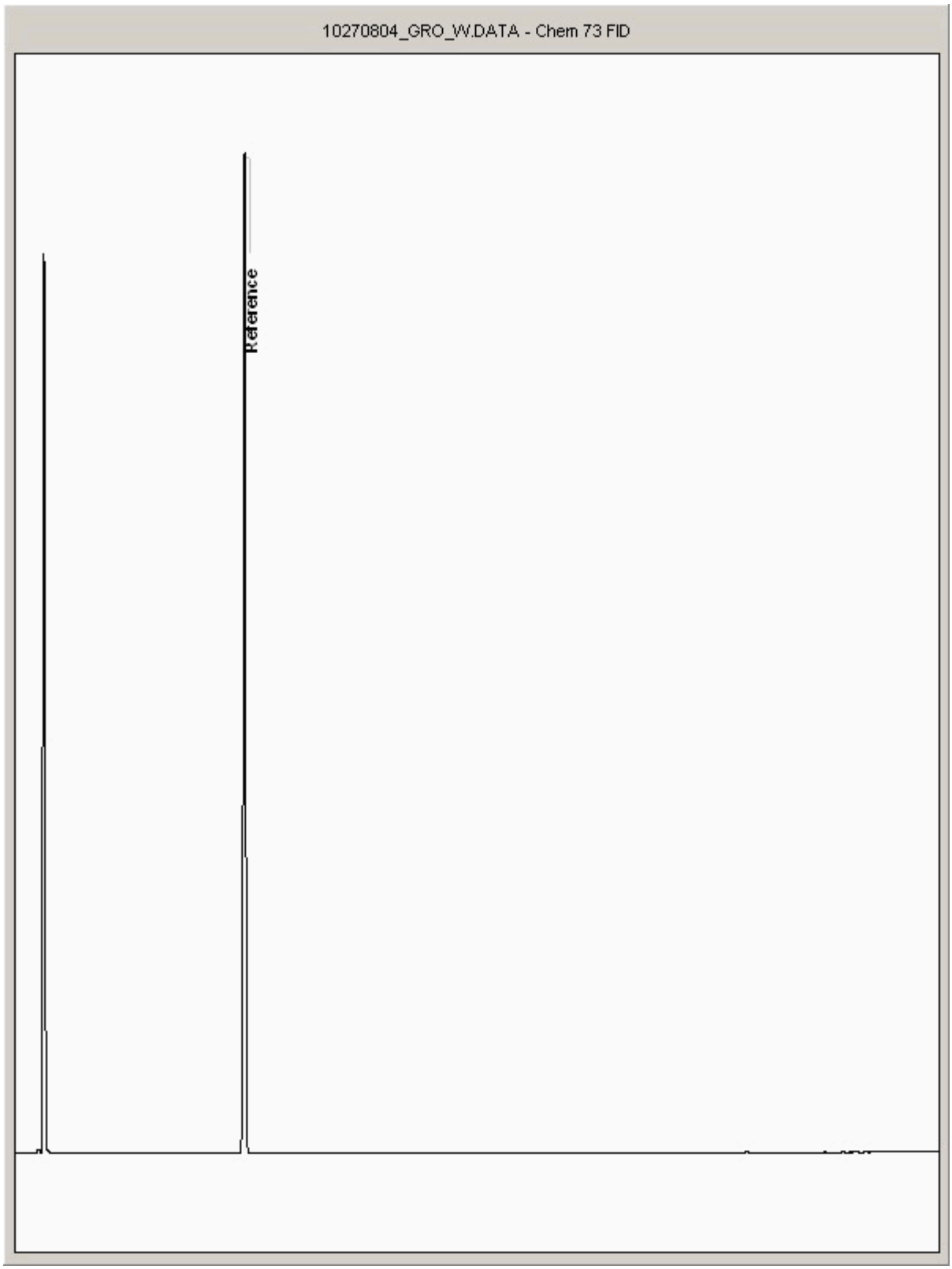
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270804
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

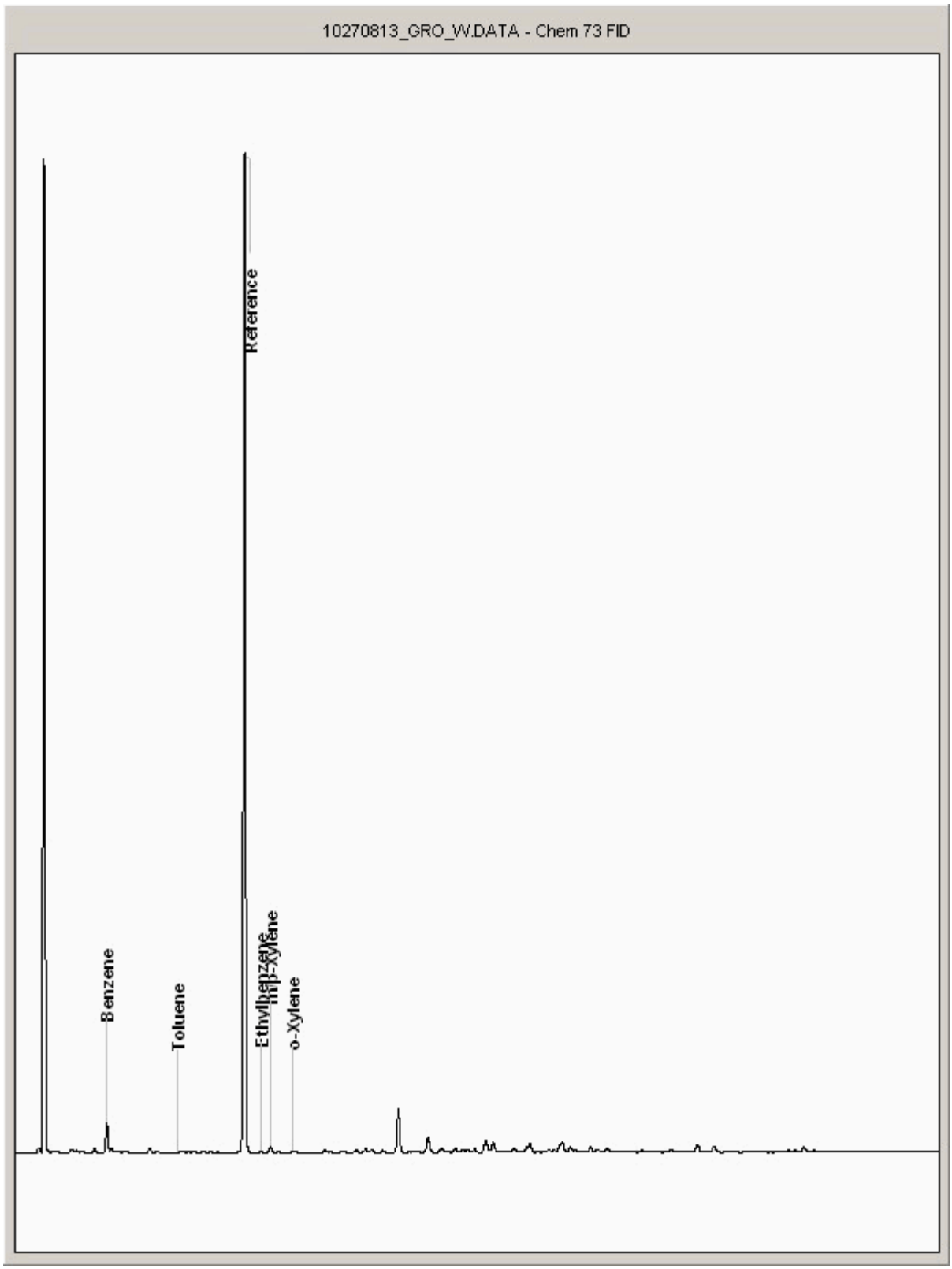
SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270813
Sample ID : BH42A DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

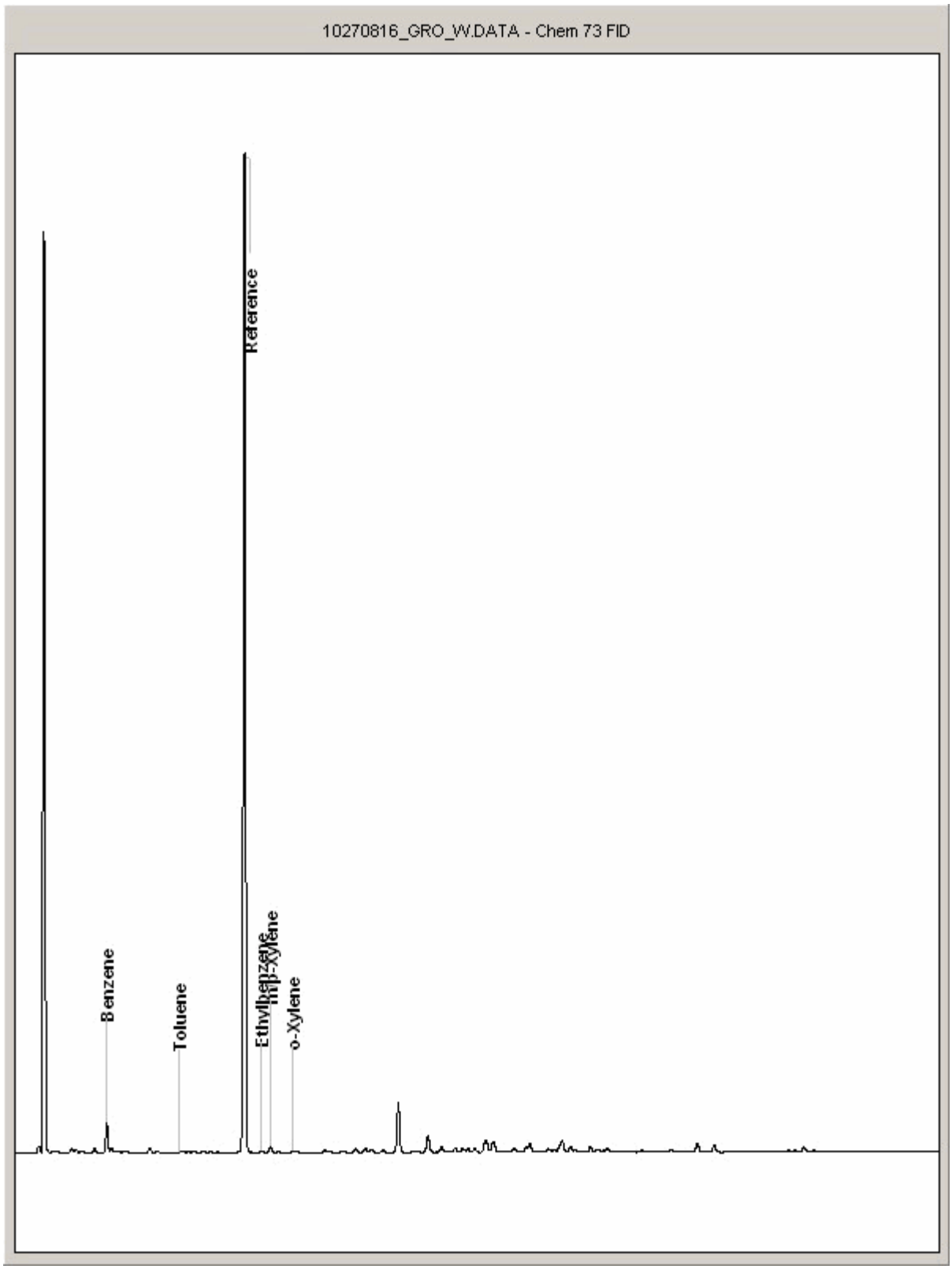
SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10270816
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	141016-113	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	289953
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

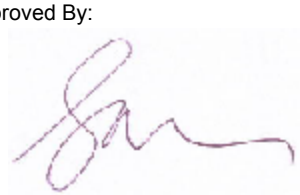
Date:	18 December 2014
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	141115-66
Your Reference:	JER5575U
Location:	SHLNG
Report No:	296432

We received 9 samples on Saturday November 15, 2014 and 5 of these samples were scheduled for analysis which was completed on Thursday December 18, 2014. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10389084	BH43			14/11/2014
10389090	BH99			14/11/2014
10389081	BH41A			14/11/2014
10389088	BH42A			14/11/2014
10389082	BH41A DUPLICATE			14/11/2014
10389089	BH42A DUPLICATE			14/11/2014
10389086	BH34B			14/11/2014
10389087	BH34B DUPLICATE			14/11/2014
10389085	BH43 DUPLICATE			14/11/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	10389084	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			10389090	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			10389081	BH41A			1l Glass bottle (ALE
							Vial (ALE297)
			10389088	BH42A			1l Glass bottle (ALE
							Vial (ALE297)
			10389086	BH34B			1l Glass bottle (ALE
							Vial (ALE297)
			X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5					
			X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5					
			X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/11/2014	14/11/2014	14/11/2014	14/11/2014	14/11/2014
			Sampled Time	.	.	.	.	.
			Date Received	15/11/2014	15/11/2014	15/11/2014	15/11/2014	15/11/2014
			SDG Ref	141115-66	141115-66	141115-66	141115-66	141115-66
			Lab Sample No.(s)	10389084	10389090	10389081	10389088	10389086
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		157 #	90000 #	2070 #	167000 #	86.1 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	23300	783	40800	57.9
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		157	66700	1290	126000	28.2

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/11/2014	14/11/2014	14/11/2014	14/11/2014	14/11/2014
			Sampled Time	.	.	.	.	.
			Date Received	15/11/2014	15/11/2014	15/11/2014	15/11/2014	15/11/2014
			SDG Ref	141115-66	141115-66	141115-66	141115-66	141115-66
			Lab Sample No.(s)	10389084	10389090	10389081	10389088	10389086
			AGS Reference					
GRO Surrogate % recovery**	%	TM245		94	101	95	97	99
GRO >C5-C6	<10 µg/l	TM245		<10	52	<10	48	<10
GRO >C6-C8	<10 µg/l	TM245		<10	306	<10	277	<10
GRO >C8-C10	<10 µg/l	TM245		20	482	45	522	<10
GRO >C5-C10	<10 µg/l	TM245		22	840	48	847	<10

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/11/2014	14/11/2014	14/11/2014	14/11/2014	14/11/2014
			Sampled Time	.	.	.	.	.
			Date Received	15/11/2014	15/11/2014	15/11/2014	15/11/2014	15/11/2014
			SDG Ref	141115-66	141115-66	141115-66	141115-66	141115-66
			Lab Sample No.(s)	10389084	10389090	10389081	10389088	10389086
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<20	<1	<2	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	2.22 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	218 #	<1 #	109 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<20	<1	<2	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<2	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<20 #	1.92 #	3.07 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<40 #	<2 #	<4 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	14/11/2014	14/11/2014	14/11/2014	14/11/2014	14/11/2014
			Sampled Time	.	.	.	.	.
			Date Received	15/11/2014	15/11/2014	15/11/2014	15/11/2014	15/11/2014
			SDG Ref	141115-66	141115-66	141115-66	141115-66	141115-66
			Lab Sample No.(s)	10389084	10389090	10389081	10389088	10389086
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<20 #	4.32 #	<2 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<20 #	5.18 #	<2 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<20 #	1.66 #	<2 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<20 #	2.97 #	<2 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<20 #	1.8 #	<2 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<20 #	2.1 #	<2 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<100 #	<5 #	<10 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<20 #	6.46 #	<2 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<20 #	1.12 #	7.41 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<20	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176		<1	<20	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<20 #	<1 #	<2 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	74.2 #	<1 #	56.1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<2 #	<20 #	<2 #	<4 #	<2 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<20	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	45.7 #	<1 #	13.5 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<20 #	1.89 #	<2 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<20 #	6.93 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10389084	10389090	10389081	10389088	10389086
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	18-Dec-2014	18-Dec-2014	18-Dec-2014	18-Dec-2014	18-Dec-2014
GRO by GC-FID (W)	24-Nov-2014	24-Nov-2014	24-Nov-2014	24-Nov-2014	24-Nov-2014
SVOC MS (W) - Aqueous	21-Nov-2014	25-Nov-2014	21-Nov-2014	21-Nov-2014	21-Nov-2014

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1034	QC 1042
EPH (DRO) (C10-C40)	TM172	**81.5** 58.60 : 104.65	**74.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1084
Benzene by GC	TM245	**103.0** 70.00 : 130.00
Ethylbenzene by GC	TM245	**104.0** 74.74 : 116.76
m & p Xylene by GC	TM245	**103.25** 73.06 : 114.58
MTBE GC-FID	TM245	**107.5** 70.00 : 130.00
o Xylene by GC	TM245	**108.0** 70.00 : 130.00
QC	TM245	**106.5** 70.00 : 130.00
Toluene by GC	TM245	**107.0** 70.00 : 130.00

SVOC MS (W) - Aqueous

Component	Method Code	QC 1075	QC 1028
4-Bromophenylphenyleth er	TM176	**96.8** 65.62 : 120.95	**108.8** 65.62 : 120.95
Benzo(a)anthracene	TM176	**98.4** 62.83 : 114.26	**110.4** 62.83 : 114.26
Benzo(a)pyrene	TM176	**84.8** 54.19 : 105.67	**94.4** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**92.0** 51.20 : 111.20	**100.0** 51.20 : 111.20
Hexachlorobutadiene	TM176	**83.2** 59.51 : 94.06	**84.8** 59.51 : 94.06
Naphthalene	TM176	**102.4** 69.48 : 118.94	**115.2** 69.48 : 118.94
Nitrobenzene	TM176	**92.8** 69.13 : 107.62	**107.2** 69.13 : 107.62
Phenol	TM176	**54.24** 30.92 : 74.19	**62.16** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

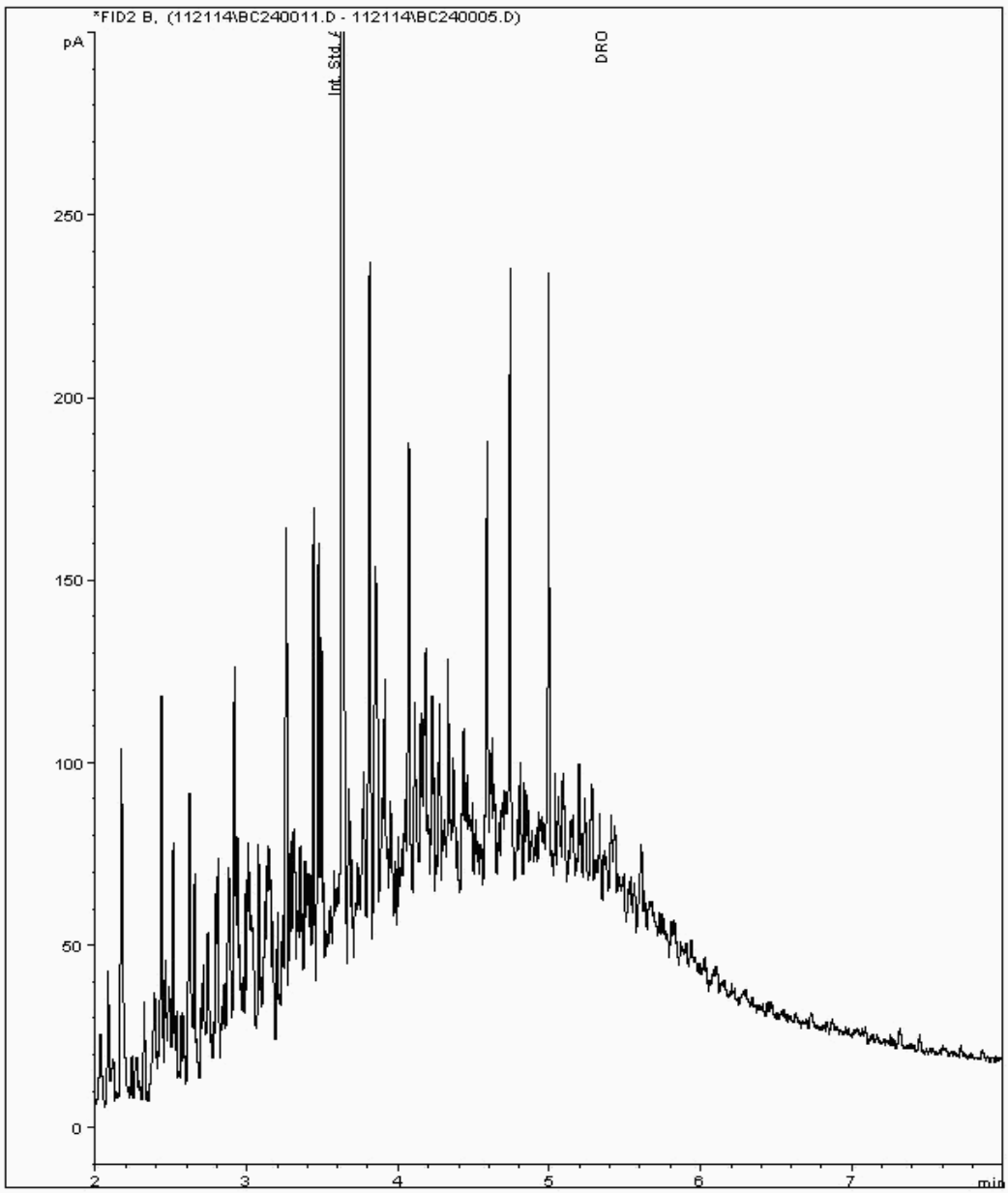
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10399363
Sample ID : BH42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9888909-10399363
Date Acquired : 21/11/2014 18:51:02 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

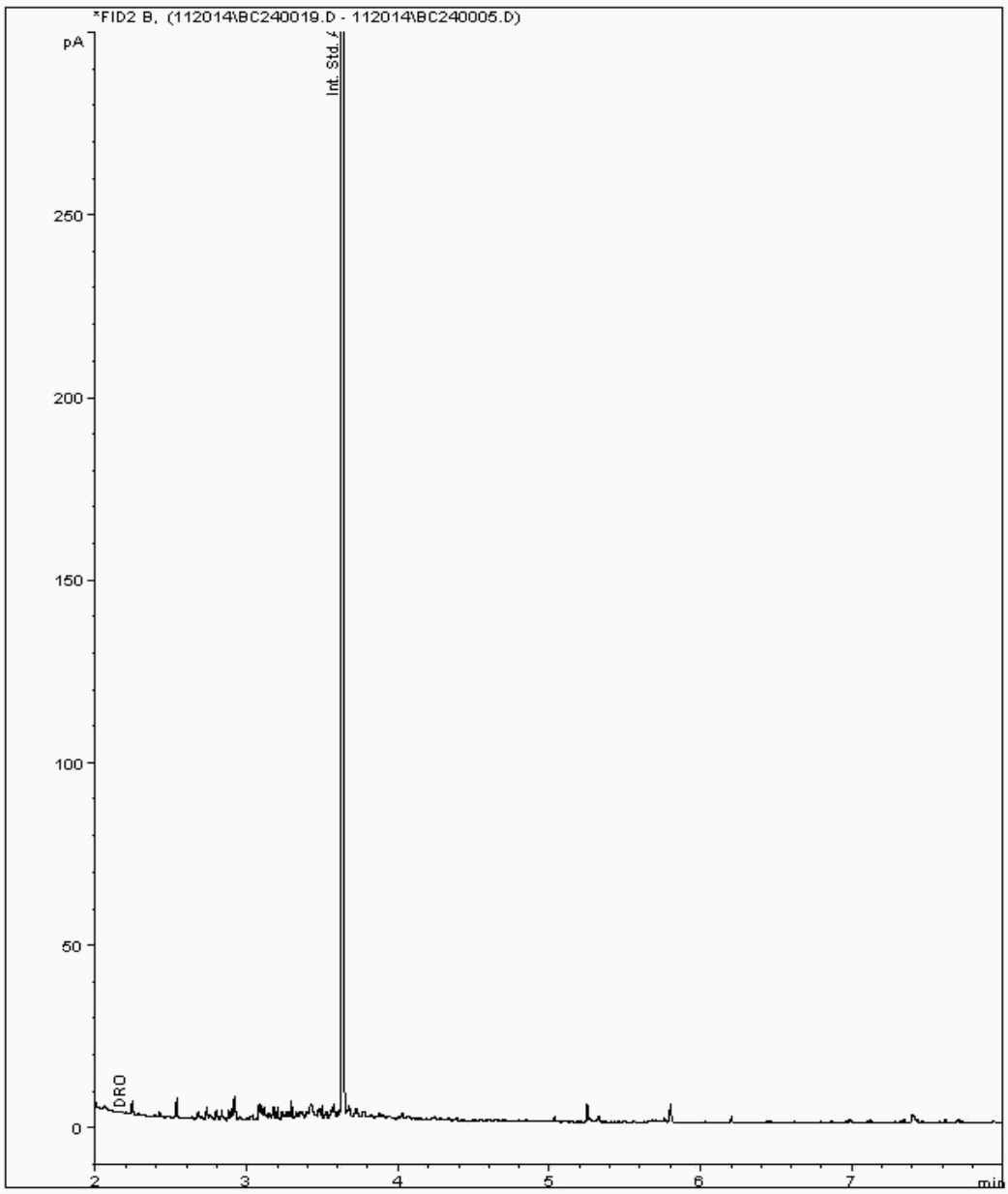
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10399598
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9888896-10399598
Date Acquired : 20/11/2014 20:52:26 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

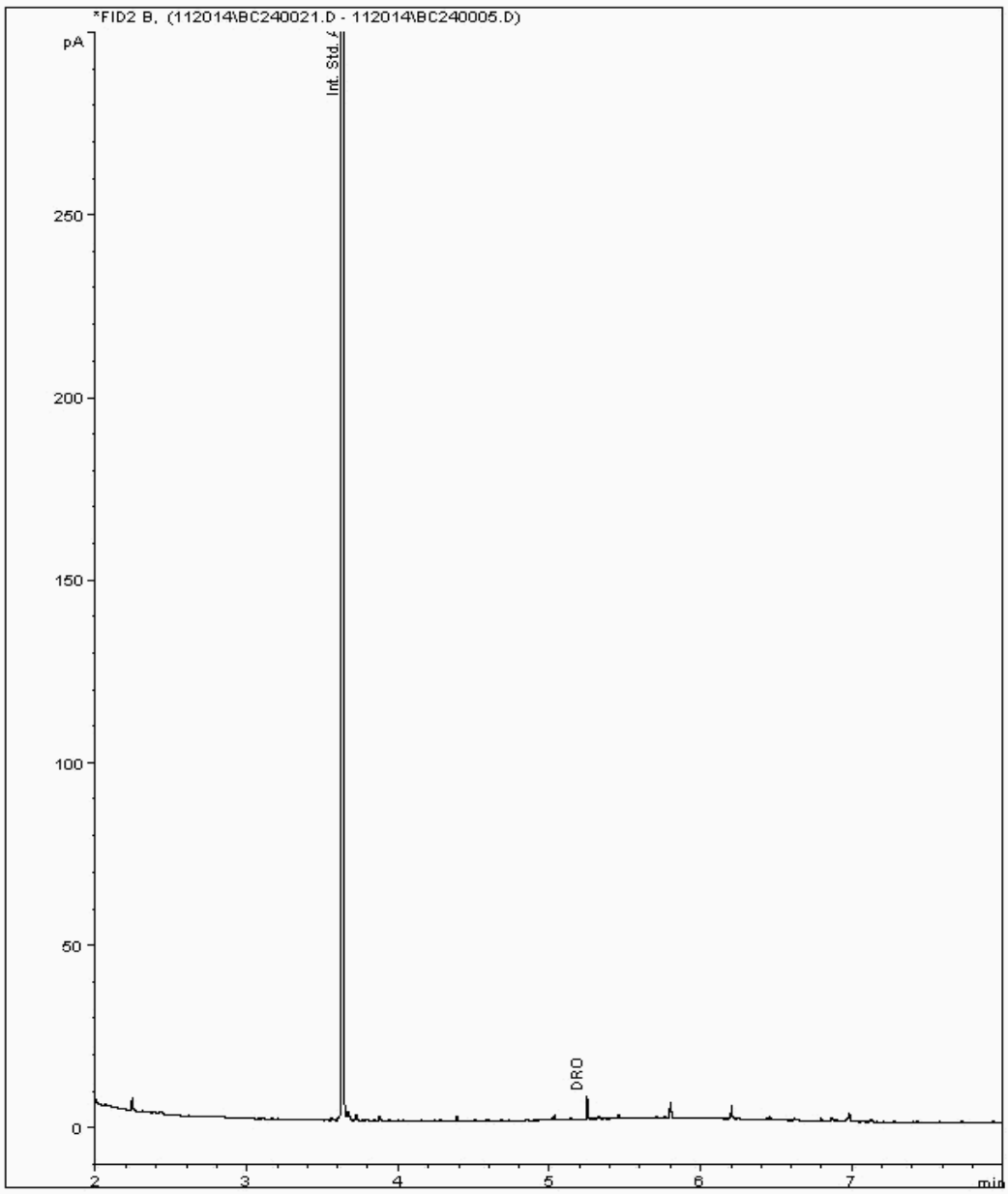
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10399617
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9888904-10399617
Date Acquired : 20/11/2014 21:35:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

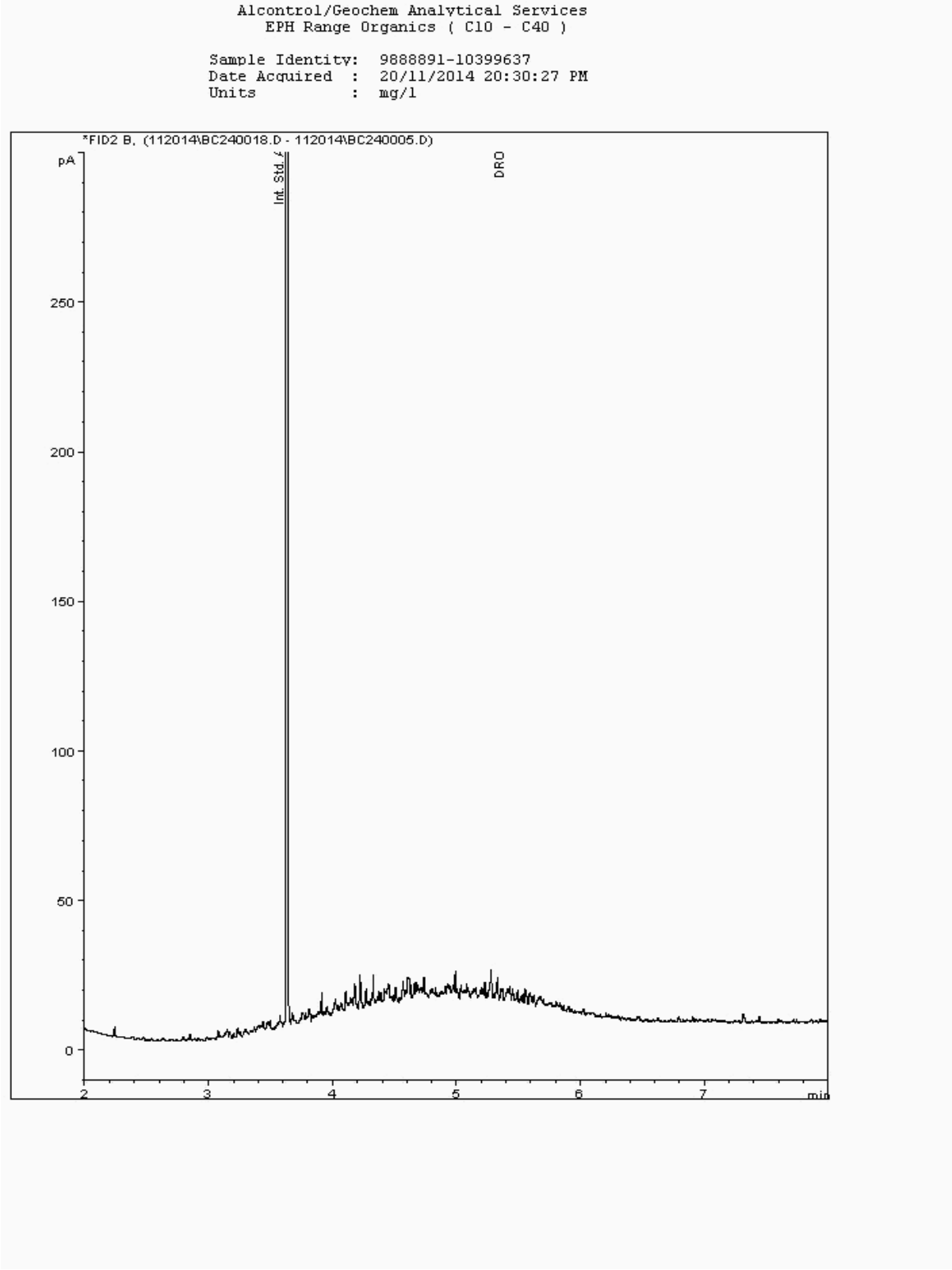
SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10399637
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

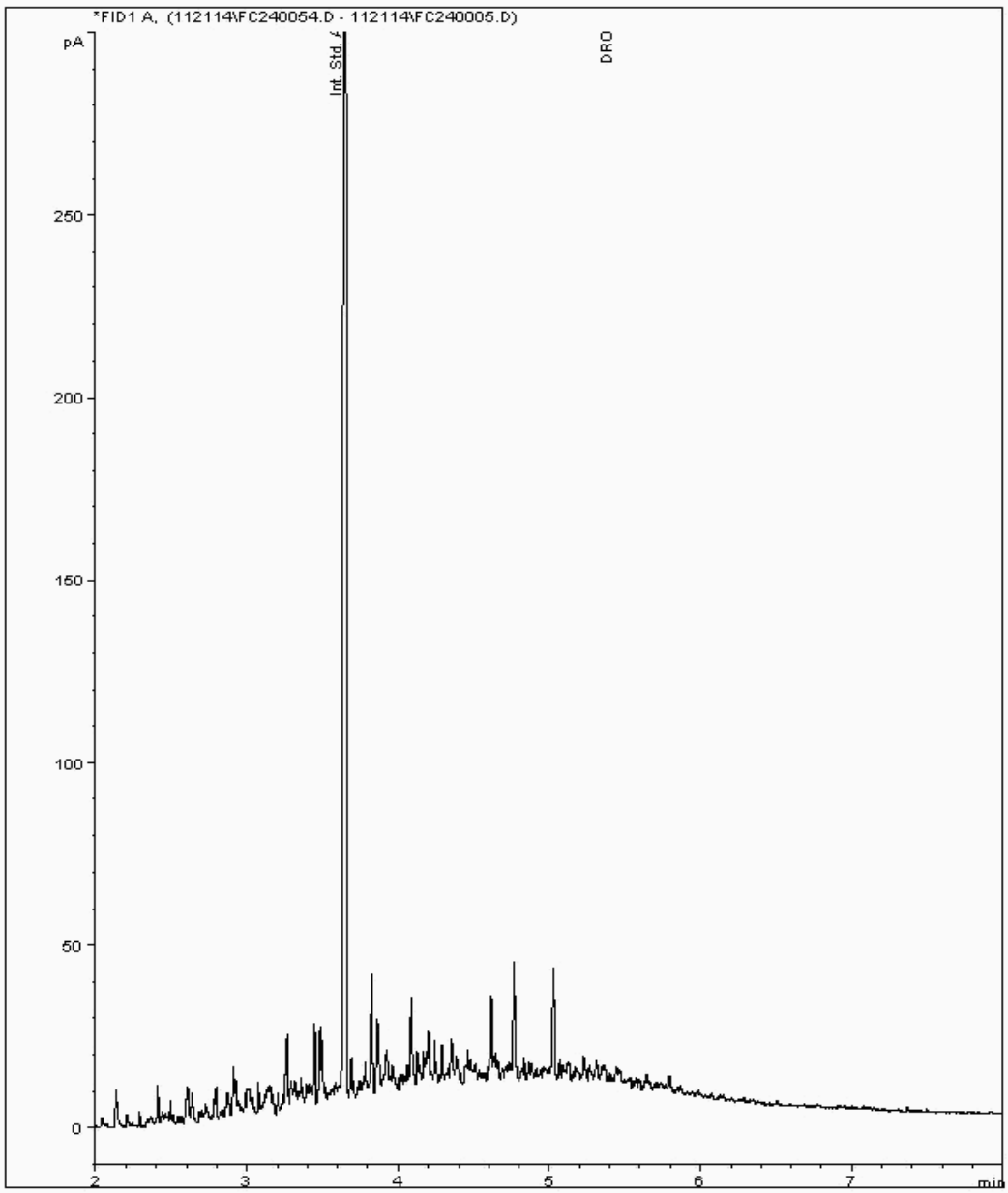
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10408913
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 9888914-10408913
Date Acquired : 24/11/2014 11:58:09 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

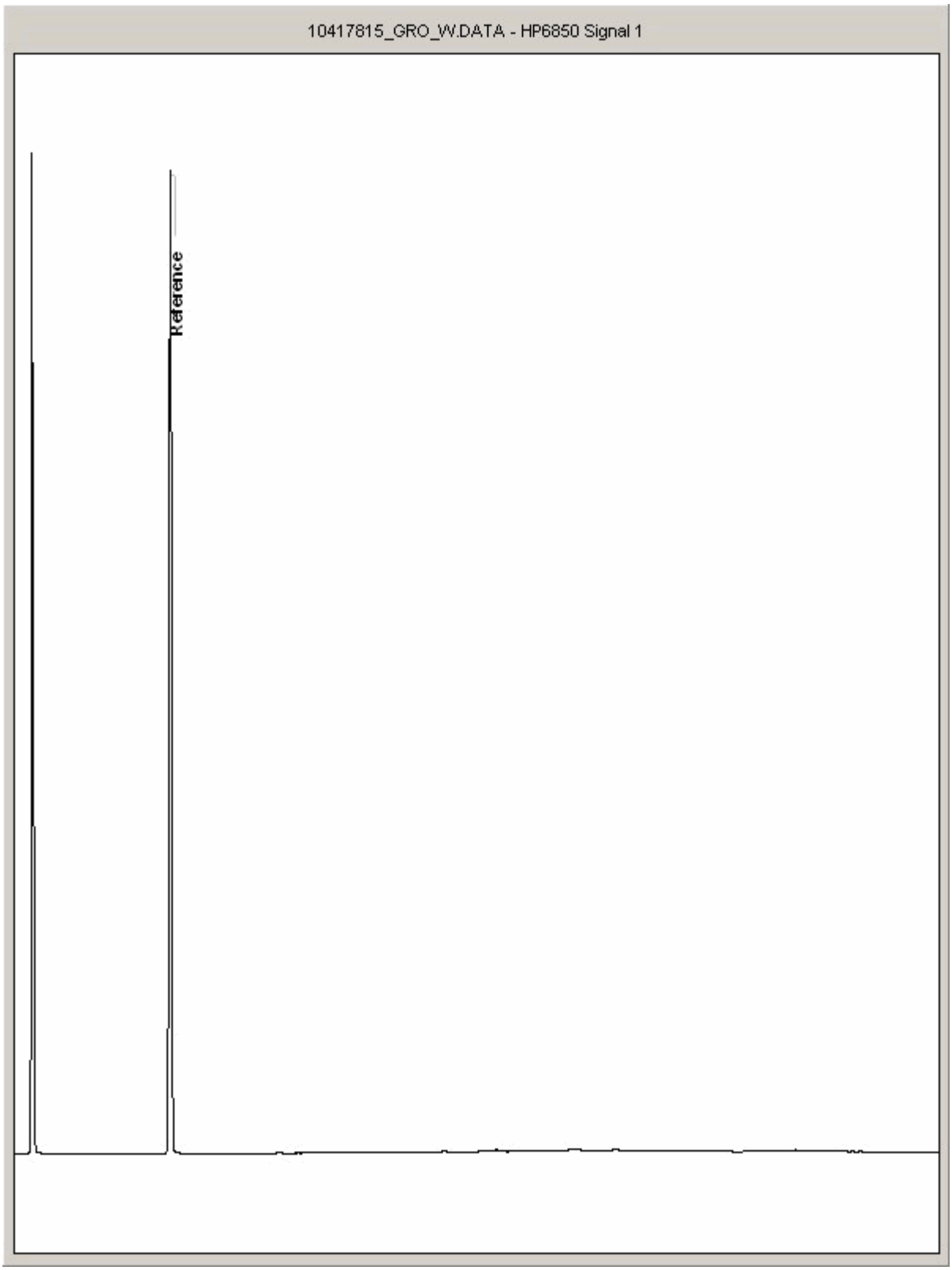
SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10417815
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

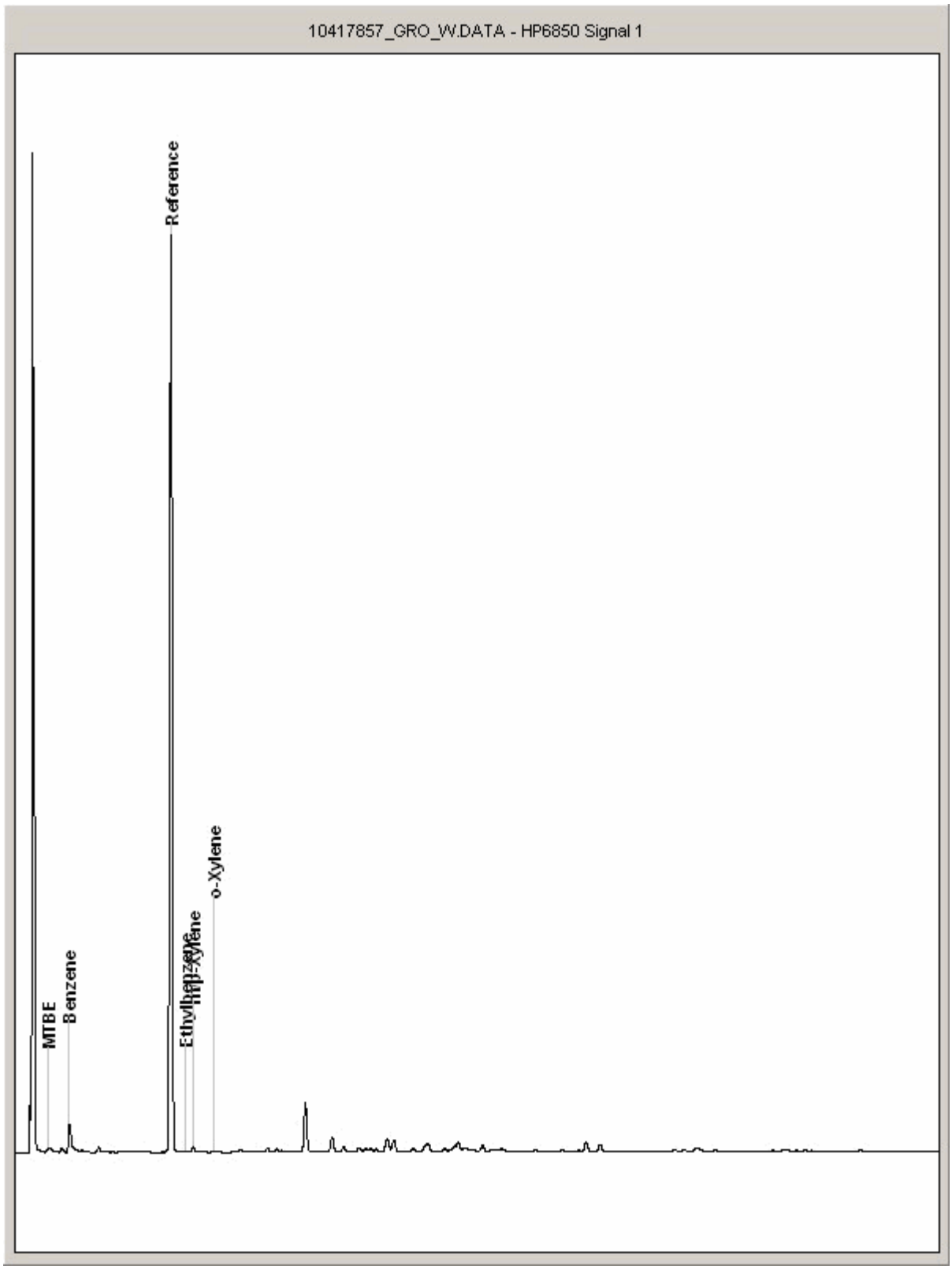
SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10417857
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

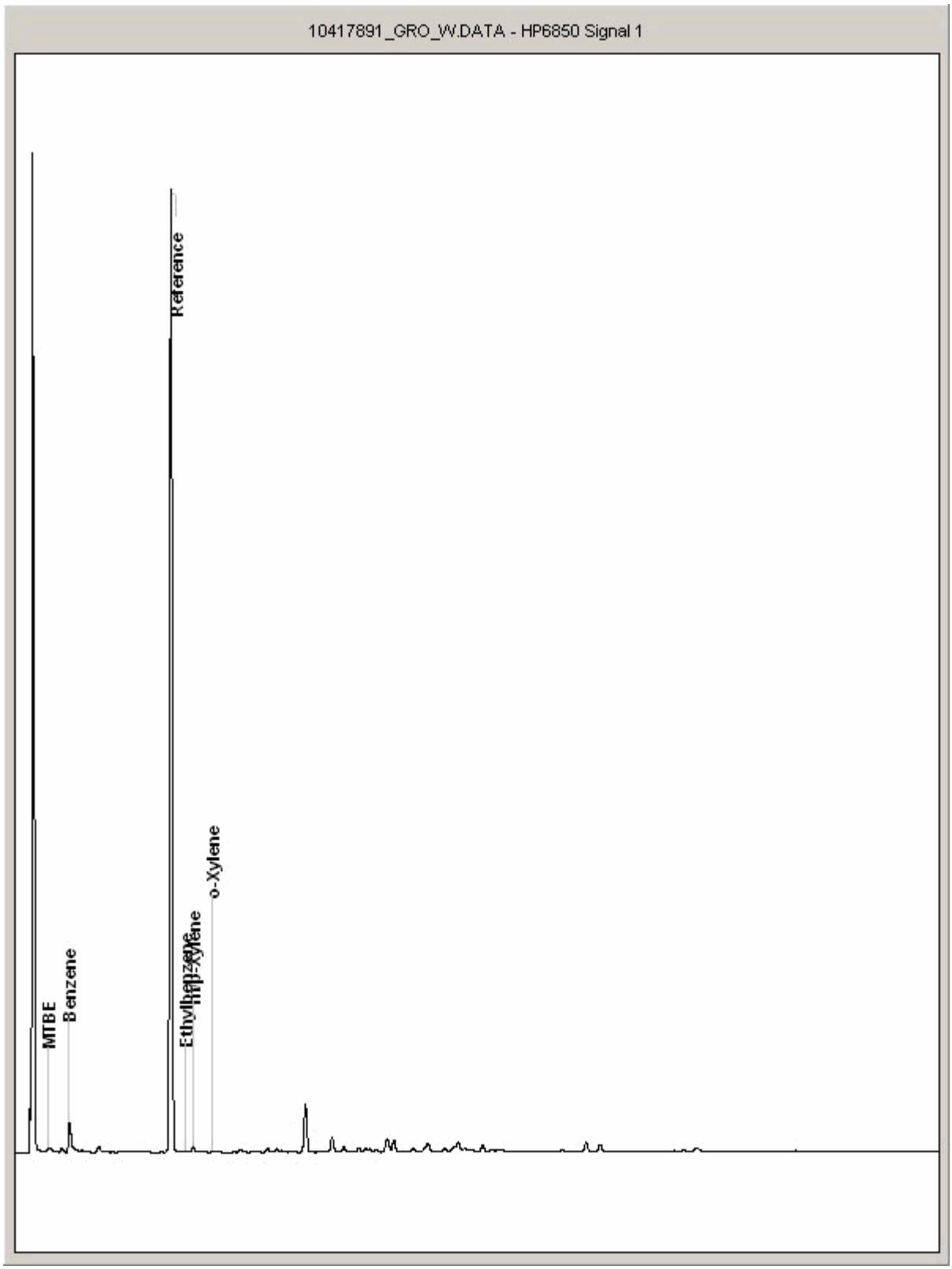
SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10417891
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

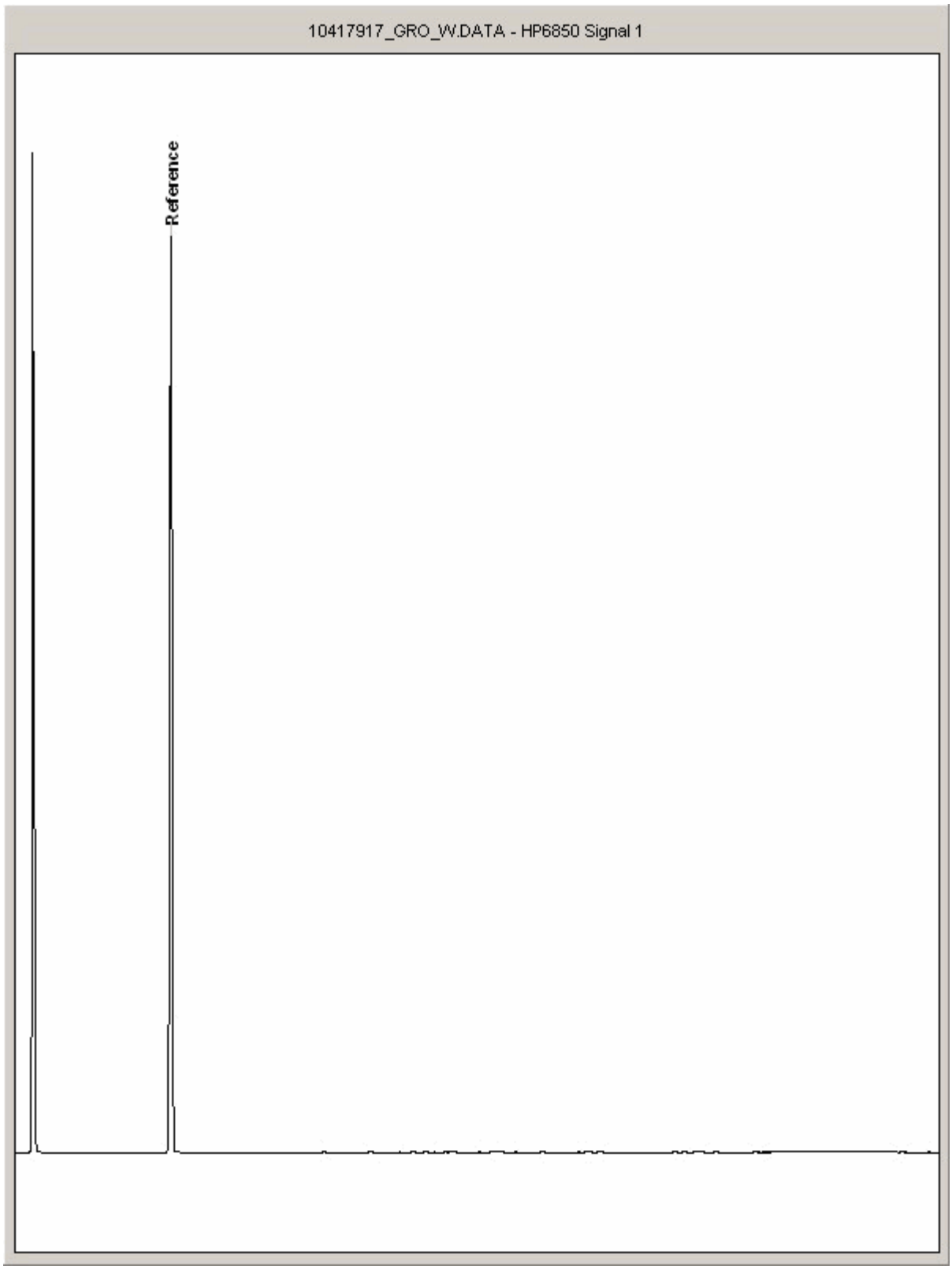
SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10417917
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

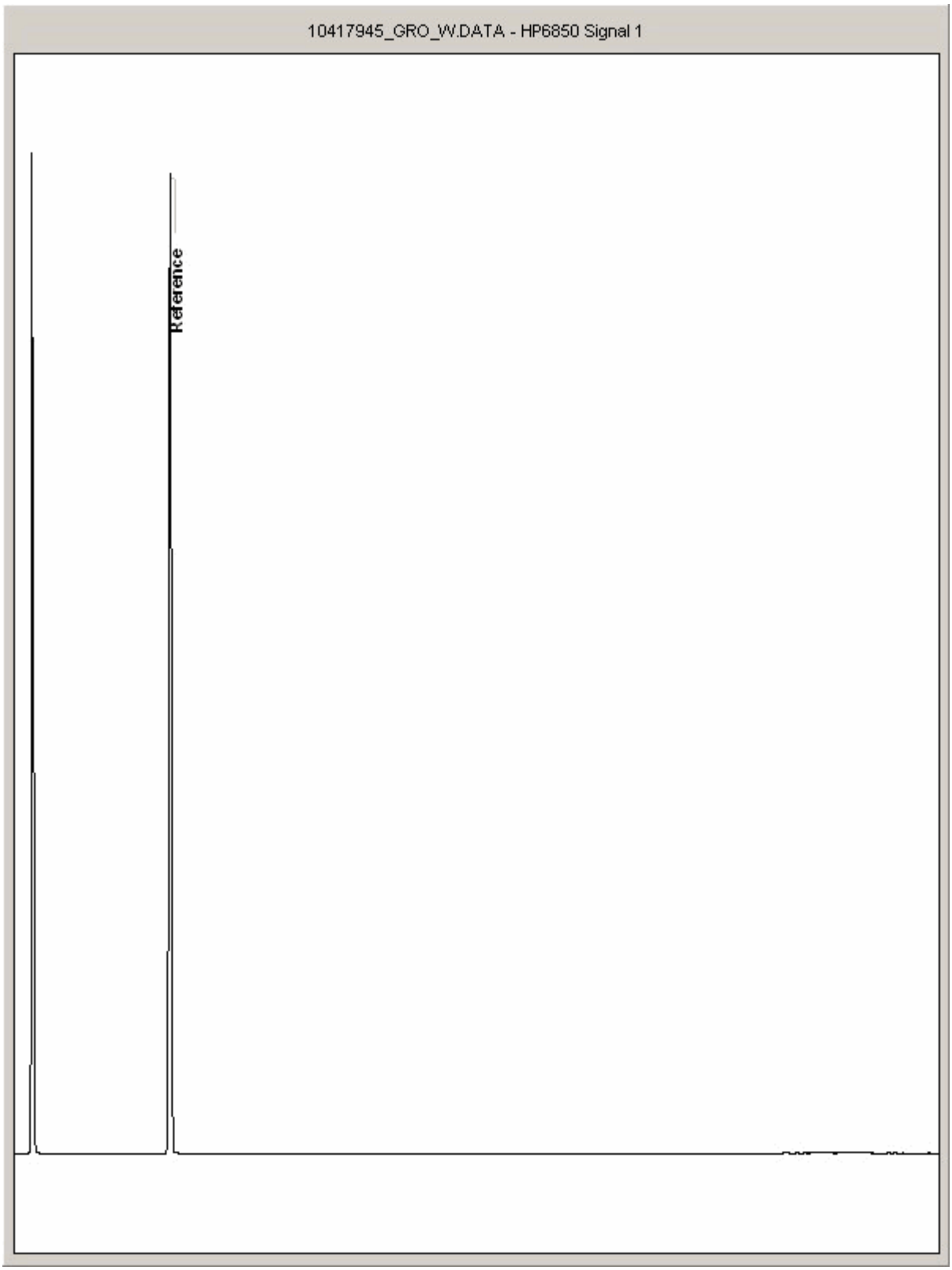
SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10417945
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	141115-66	**Location:**	SHLNG	**Order Number:**	141115-66
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	296432
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
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Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

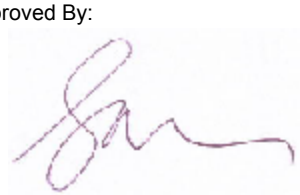
Date:	07 January 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	141218-1
Your Reference:	JER5575U
Location:	SHLNG
Report No:	297902

We received 33 samples on Wednesday December 17, 2014 and 17 of these samples were scheduled for analysis which was completed on Wednesday January 07, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10586084	BH01	EW6M-DEC14		16/12/2014
10586078	BH06	EW6M-DEC14		15/12/2014
10586086	BH18	EW6M-DEC14		16/12/2014
10586071	BH20	EW6M-DEC14		15/12/2014
10586068	BH22	EW6M-DEC14		15/12/2014
10586095	BH43	EW6M-DEC14		16/12/2014
10586093	BH44	EW6M-DEC14		16/12/2014
10586066	BH49	EW6M-DEC14		15/12/2014
10586101	BH99	EW6M-DEC14		16/12/2014
10586097	BH40A	EW6M-DEC14		16/12/2014
10586082	BH63A	EW6M-DEC14		15/12/2014
10586098	BH40A DUPLICATE	EW6M-DEC14		16/12/2014
10586083	BH63A DUPLICATE	EW6M-DEC14		15/12/2014
10586080	BH34B	EW6M-DEC14		15/12/2014
10586089	BH36B	EW6M-DEC14		16/12/2014
10586099	BH45B	EW6M-DEC14		16/12/2014
10586081	BH34B DUPLICATE	EW6M-DEC14		15/12/2014
10586090	BH36B DUPLICATE	EW6M-DEC14		16/12/2014
10586100	BH45B DUPLICATE	EW6M-DEC14		16/12/2014
10586085	BH01 DUPLICATE	EW6M-DEC14		16/12/2014
10586079	BH06 DUPLICATE	EW6M-DEC14		15/12/2014
10586088	BH18 DUPLICATE	EW6M-DEC14		16/12/2014
10586072	BH20 DUPLICATE	EW6M-DEC14		15/12/2014
10586069	BH22 DUPLICATE	EW6M-DEC14		15/12/2014
10586096	BH43 DUPLICATE	EW6M-DEC14		16/12/2014
10586094	BH44 DUPLICATE	EW6M-DEC14		16/12/2014
10586067	BH49 DUPLICATE	EW6M-DEC14		15/12/2014
10586076	BHG2B	EW6M-DEC14		15/12/2014
10586077	BHG2B DUPLICATE	EW6M-DEC14		15/12/2014
10586073	MW01	EW6M-DEC14		15/12/2014
10586091	MW03	EW6M-DEC14		16/12/2014
10586075	MW01 DUPLICATE	EW6M-DEC14		15/12/2014
10586092	MW03 DUPLICATE	EW6M-DEC14		16/12/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 17	10586084	BH01	EW6M-DEC 14		1l Glass bottle (ALE
			10586078	BH06	EW6M-DEC 14		Vial (ALE297)
			10586086	BH18	EW6M-DEC 14		1l Glass bottle (ALE
			10586071	BH20	EW6M-DEC 14		Vial (ALE297)
			10586068	BH22	EW6M-DEC 14		1l Glass bottle (ALE
			10586095	BH43	EW6M-DEC 14		Vial (ALE297)
			10586093	BH44	EW6M-DEC 14		1l Glass bottle (ALE
			10586066	BH49	EW6M-DEC 14		Vial (ALE297)
			10586101	BH99	EW6M-DEC 14		1l Glass bottle (ALE
			10586097	BH40A	EW6M-DEC 14		Vial (ALE297)
			10586082	BH63A	EW6M-DEC 14		1l Glass bottle (ALE
			10586080	BH34B	EW6M-DEC 14		Vial (ALE297)
			10586089	BH36B	EW6M-DEC 14		1l Glass bottle (ALE
			10586099	BH45B	EW6M-DEC 14		Vial (ALE297)
			10586076	BHG2B	EW6M-DEC 14		1l Glass bottle (ALE
			10586073	MW01	EW6M-DEC 14		Vial (ALE297)
			10586091	MW03	EW6M-DEC 14		Vial (ALE297)
GRO by GC-FID (W)	All	NDPs: 0 Tests: 17					
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2					

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH01	BH06	BH18	BH20	BH22	BH43
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	15/12/2014	16/12/2014	15/12/2014	15/12/2014	16/12/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1	141218-1	141218-1	141218-1	141218-1
			Lab Sample No.(s)	10586084	10586078	10586086	10586071	10586068	10586095
			AGS Reference	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		83 #	88.7 #	410 #	198 #	<46 ♦ #	214 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		82.9	39.2	47.7	198	<10 ♦	27
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	49.5	363	<10	<10 ♦	187

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH44	BH49	BH99	BH40A	BH63A	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	15/12/2014	16/12/2014	16/12/2014	15/12/2014	15/12/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1	141218-1	141218-1	141218-1	141218-1
			Lab Sample No.(s)	10586093	10586066	10586101	10586097	10586082	10586080
			AGS Reference	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	159 #	457 #	<46 #	130 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	44.3	26.5	46	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10	115	430	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH36B	BH45B	BHG2B	MW01	MW03
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	16/12/2014	15/12/2014	15/12/2014	16/12/2014
			Sampled Time	.	.	.	.	.
			Date Received	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1	141218-1	141218-1	141218-1
			Lab Sample No.(s)	10586089	10586099	10586076	10586073	10586091
			AGS Reference	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		203 #	78.3 #	<46 #	<46 ♦ #	118 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	31.1	<10	<10 ♦	30.1
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		203	47.1	<10	<10 ♦	88

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH01	BH06	BH18	BH20	BH22	BH43
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	15/12/2014	16/12/2014	15/12/2014	15/12/2014	16/12/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1	141218-1	141218-1	141218-1	141218-1
			Lab Sample No.(s)	10586084	10586078	10586086	10586071	10586068	10586095
			AGS Reference	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
GRO >C5-C6	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C6-C8	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C8-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C5-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH44	BH49	BH99	BH40A	BH63A	BH34B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	15/12/2014	16/12/2014	16/12/2014	15/12/2014	15/12/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1	141218-1	141218-1	141218-1	141218-1
			Lab Sample No.(s)	10586093	10586066	10586101	10586097	10586082	10586080
			AGS Reference	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
GRO >C5-C6	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C6-C8	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C8-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C5-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH36B	BH45B	BHG2B	MW01	MW03
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	16/12/2014	15/12/2014	15/12/2014	16/12/2014
			Sampled Time	.	.	.	.	.
			Date Received	17/12/2014	17/12/2014	17/12/2014	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1	141218-1	141218-1	141218-1
			Lab Sample No.(s)	10586089	10586099	10586076	10586073	10586091
			AGS Reference	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
GRO >C5-C6	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C6-C8	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C8-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C5-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH34B
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	15/12/2014
			Sampled Time	.	.
			Date Received	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1
			Lab Sample No.(s)	10586095	10586080
			AGS Reference	EW6M-DEC14	EW6M-DEC14
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH34B
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	15/12/2014
			Sampled Time	.	.
			Date Received	17/12/2014	17/12/2014
			SDG Ref	141218-1	141218-1
			Lab Sample No.(s)	10586095	10586080
			AGS Reference	EW6M-DEC14	EW6M-DEC14
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10586084	10586078	10586086	10586071	10586068	10586095	10586093	10586066	10586101	10586097
Customer Sample Ref.	BH01	BH06	BH18	BH20	BH22	BH43	BH44	BH49	BH99	BH40A
AGS Ref.	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	02-Jan-2015	02-Jan-2015	05-Jan-2015	02-Jan-2015	02-Jan-2015	05-Jan-2015	02-Jan-2015	02-Jan-2015	05-Jan-2015	02-Jan-2015
GRO by GC-FID (W)	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	07-Jan-2015	06-Jan-2015	07-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015
SVOC MS (W) - Aqueous						06-Jan-2015				

Lab Sample No(s)	10586082	10586080	10586089	10586099	10586076	10586073	10586091
Customer Sample Ref.	BH63A	BH34B	BH36B	BH45B	BHG2B	MW01	MW03
AGS Ref.	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14	EW6M-DEC14
Depth							
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	05-Jan-2015	05-Jan-2015	05-Jan-2015	02-Jan-2015	02-Jan-2015	02-Jan-2015	05-Jan-2015
GRO by GC-FID (W)	07-Jan-2015	06-Jan-2015	06-Jan-2015	07-Jan-2015	06-Jan-2015	07-Jan-2015	06-Jan-2015
SVOC MS (W) - Aqueous		06-Jan-2015					

CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1064	QC 1074	QC 1027
EPH (DRO) (C10-C40)	TM172	**87.0** 56.50 : 116.50	**91.5** 58.60 : 104.65	**98.5** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1047	QC 1059	QC 1075
Benzene by GC	TM245	**114.5** 79.13 : 118.84	**104.5** 77.50 : 122.50	**104.0** 80.84 : 115.93
Ethylbenzene by GC	TM245	**109.0** 79.54 : 115.99	**102.5** 77.50 : 122.50	**102.5** 79.81 : 116.18
m & p Xylene by GC	TM245	**106.25** 78.44 : 116.32	**100.75** 77.50 : 122.50	**100.25** 79.42 : 117.01
MTBE GC-FID	TM245	**114.0** 81.43 : 120.09	**104.0** 77.50 : 122.50	**106.0** 80.59 : 117.01
o Xylene by GC	TM245	**108.5** 76.85 : 120.29	**102.0** 77.50 : 122.50	**102.5** 79.72 : 114.71
QC	TM245	**108.34** 69.85 : 125.92	**105.71** 68.49 : 116.95	**99.96** 65.79 : 111.68
Toluene by GC	TM245	**112.0** 81.66 : 114.03	**102.5** 77.50 : 122.50	**103.5** 80.35 : 115.51

SVOC MS (W) - Aqueous

Component	Method Code	QC 1031
4-Bromophenylphenyleth er	TM176	**113.6** 55.04 : 128.00
Benzo(a)anthracene	TM176	**108.0** 52.64 : 123.68
Benzo(a)pyrene	TM176	**90.4** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**88.8** 41.53 : 109.48
Hexachlorobutadiene	TM176	**85.6** 42.80 : 108.20
Naphthalene	TM176	**113.6** 47.20 : 116.80
Nitrobenzene	TM176	**101.6** 58.70 : 110.90
Phenol	TM176	**57.92** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

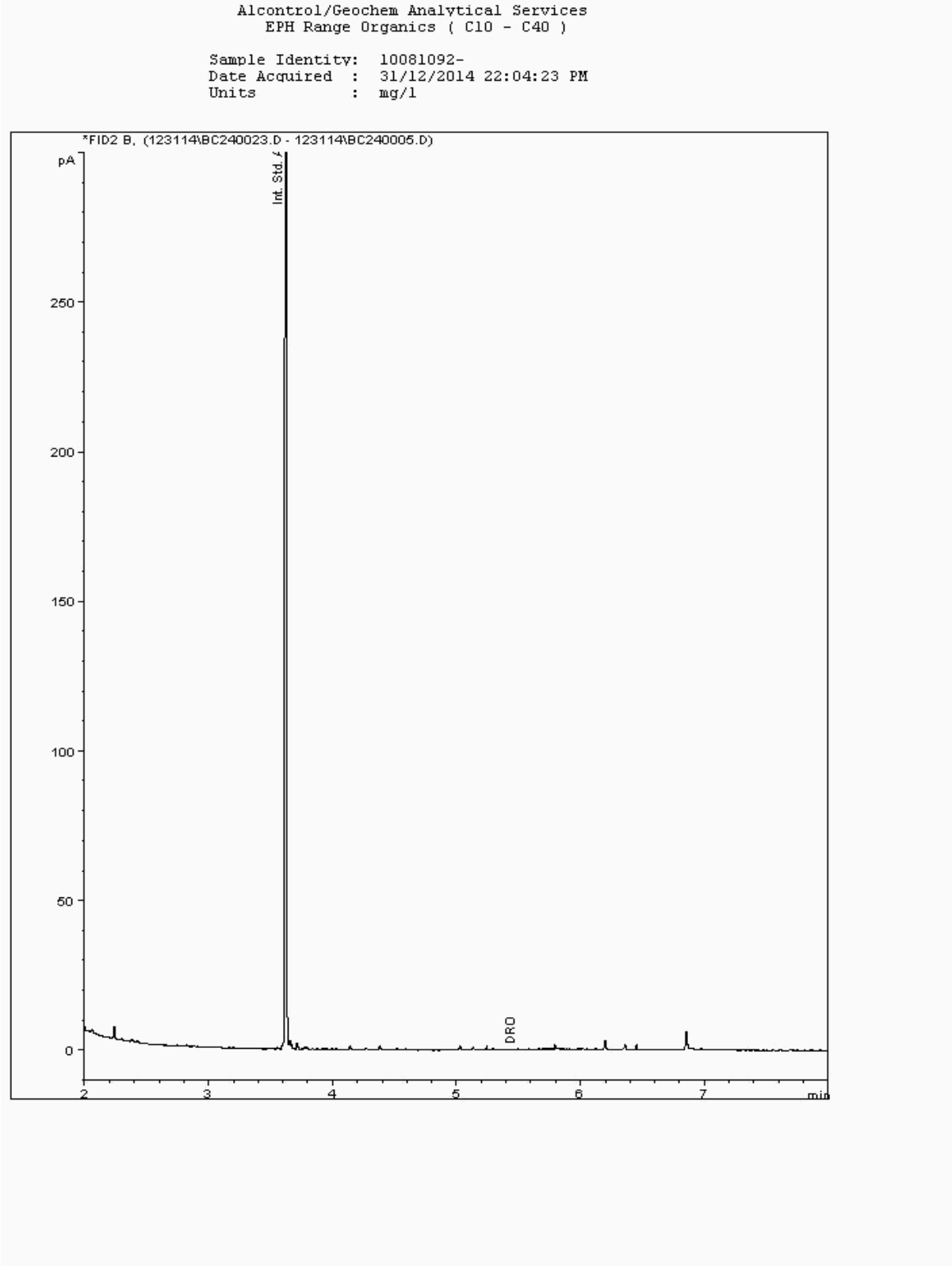
SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10617940
Sample ID : BH49

Depth :



CERTIFICATE OF ANALYSIS

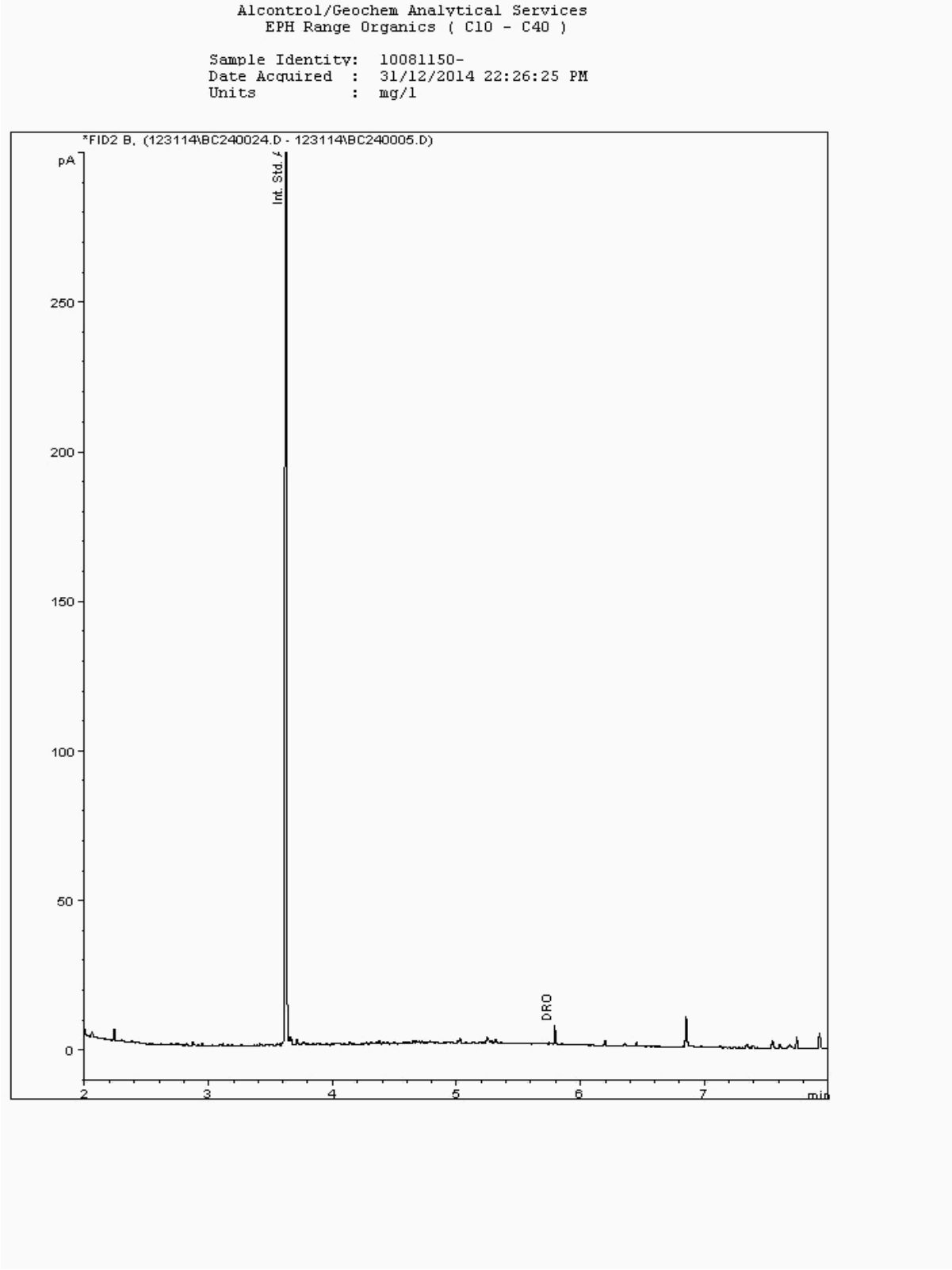
SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10617961
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

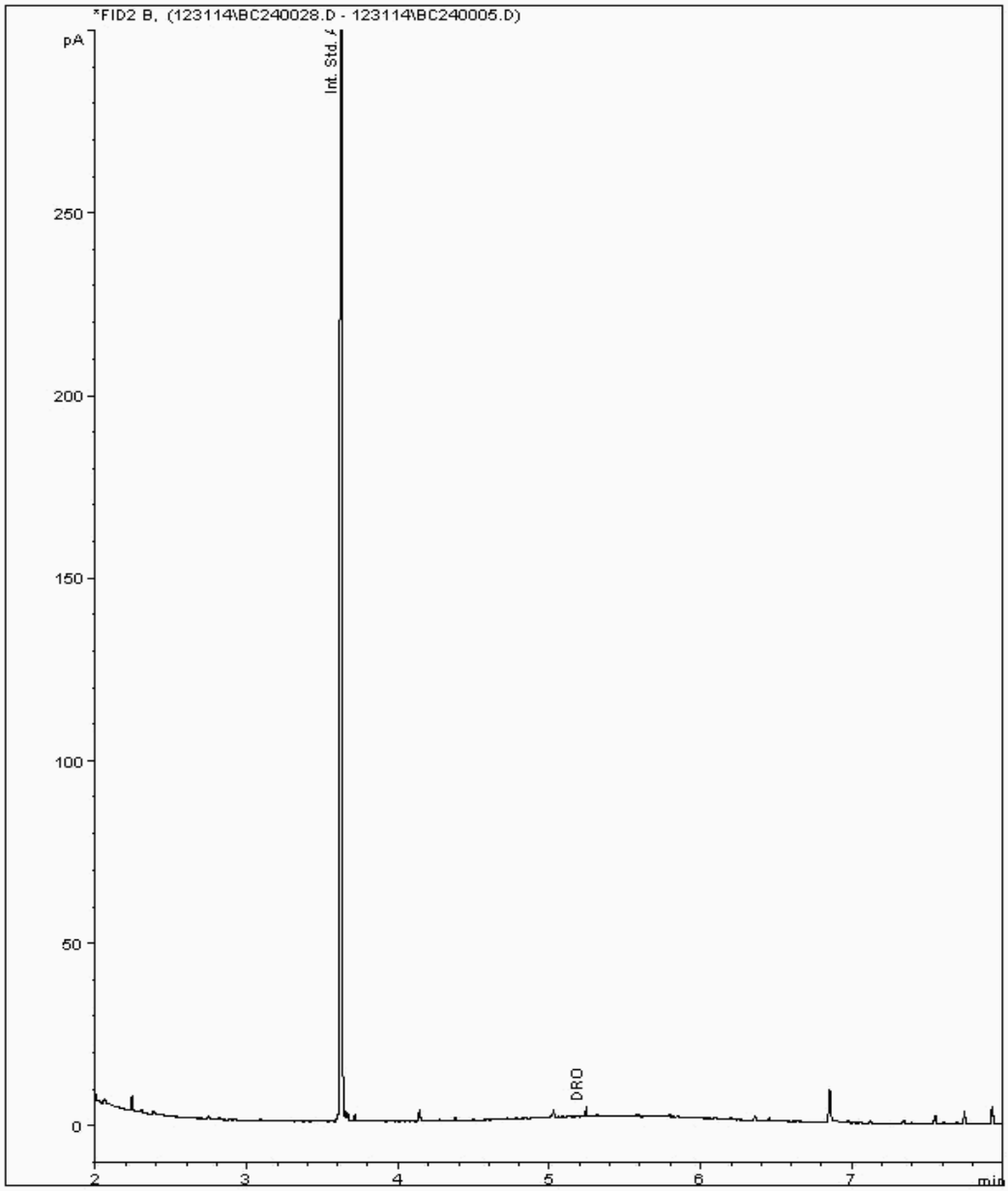
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10617974
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081131-
Date Acquired : 31/12/2014 23:55:07 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

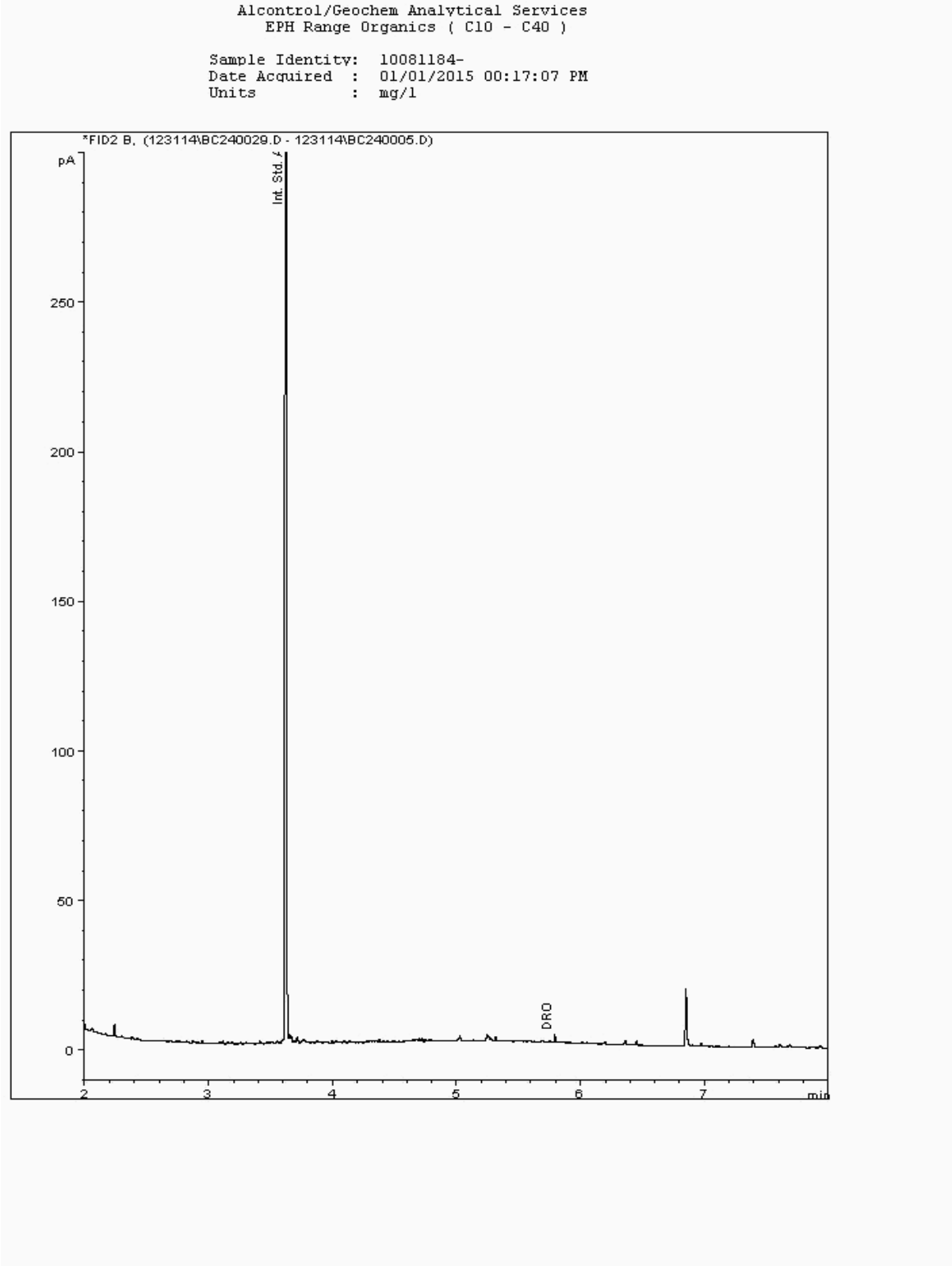
SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10617983
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

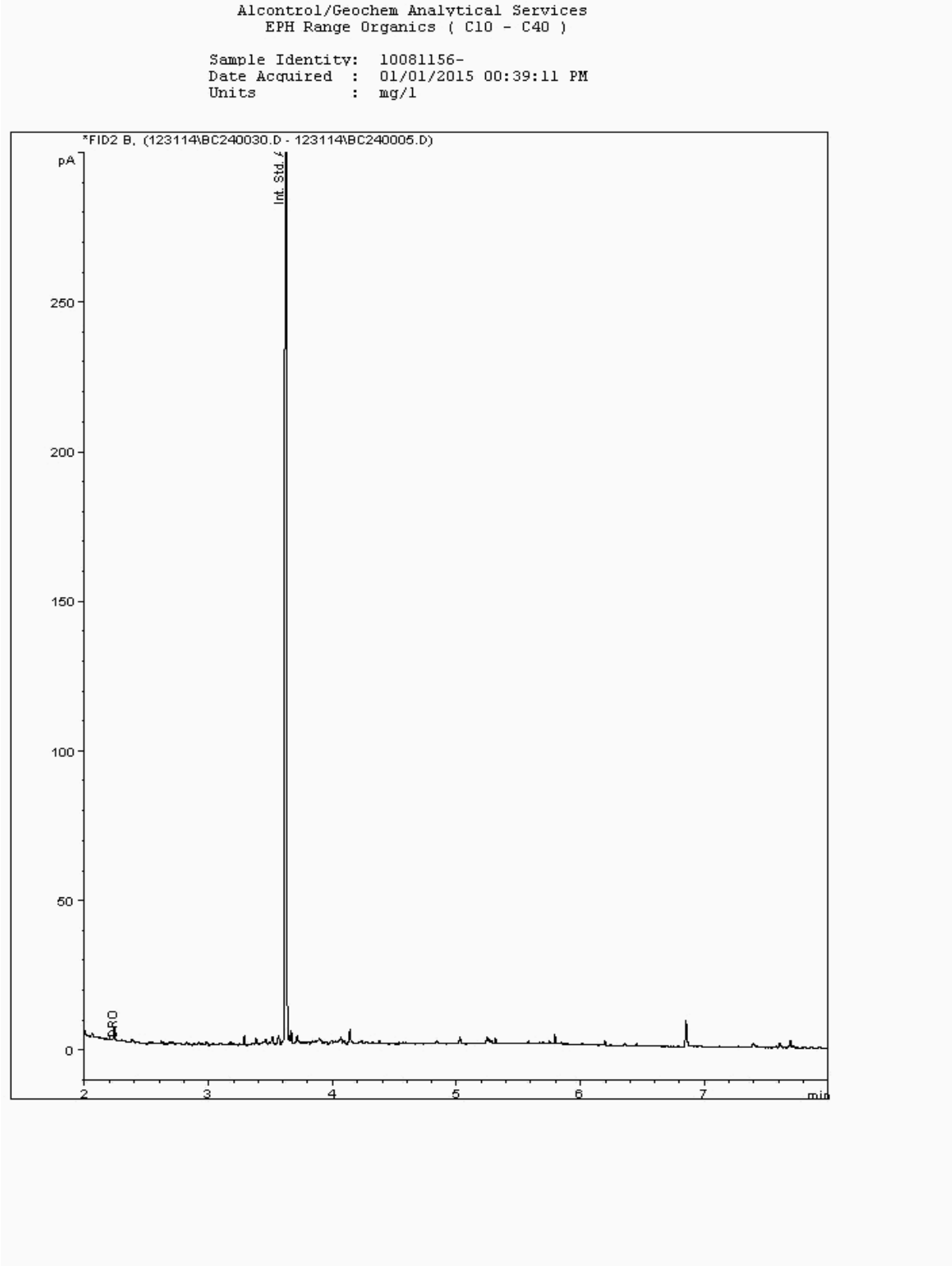
SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10618061
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

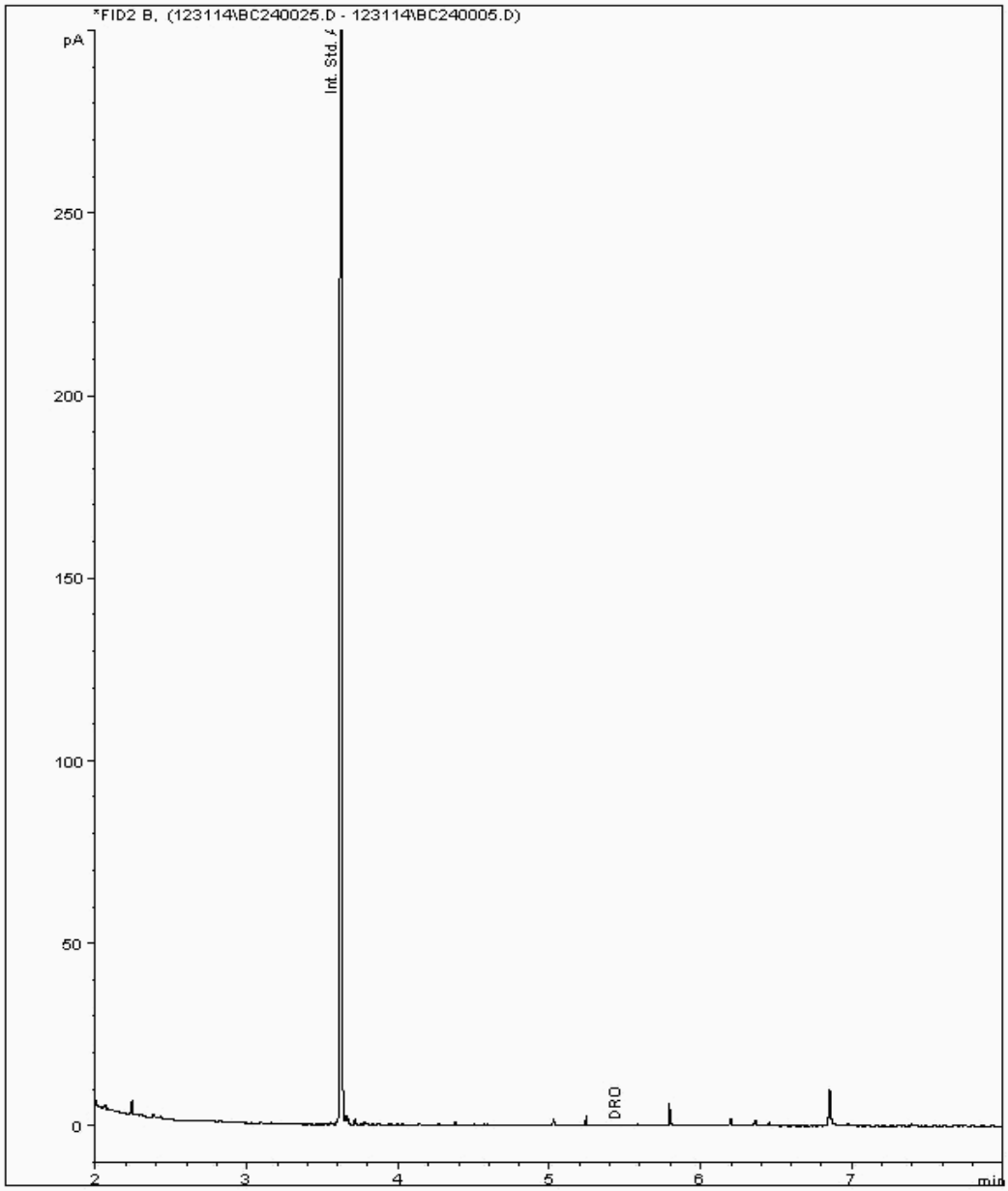
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10618732
Sample ID : BH63A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081138-
Date Acquired : 31/12/2014 22:48:46 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

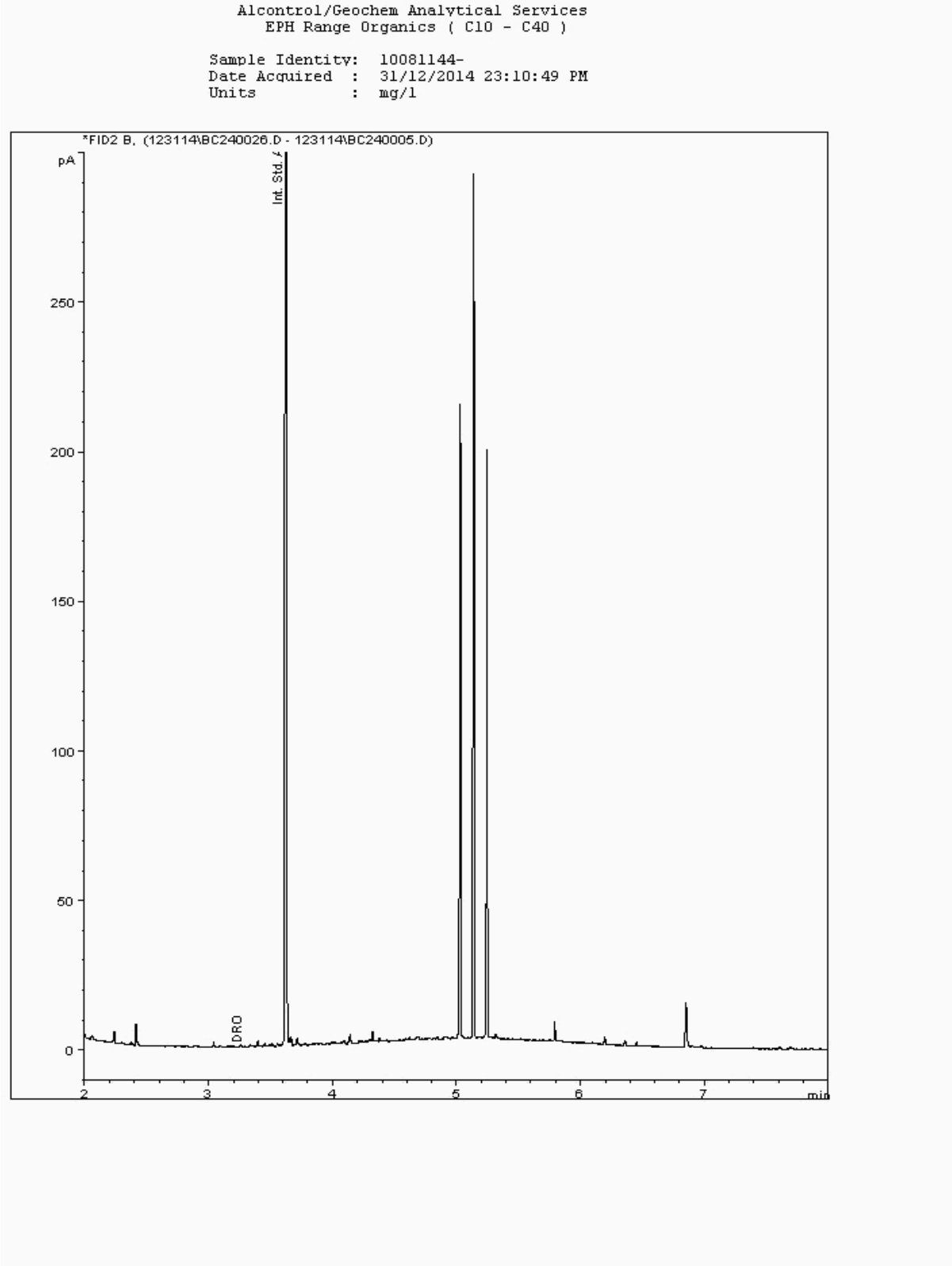
SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10618738
Sample ID : BH18

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

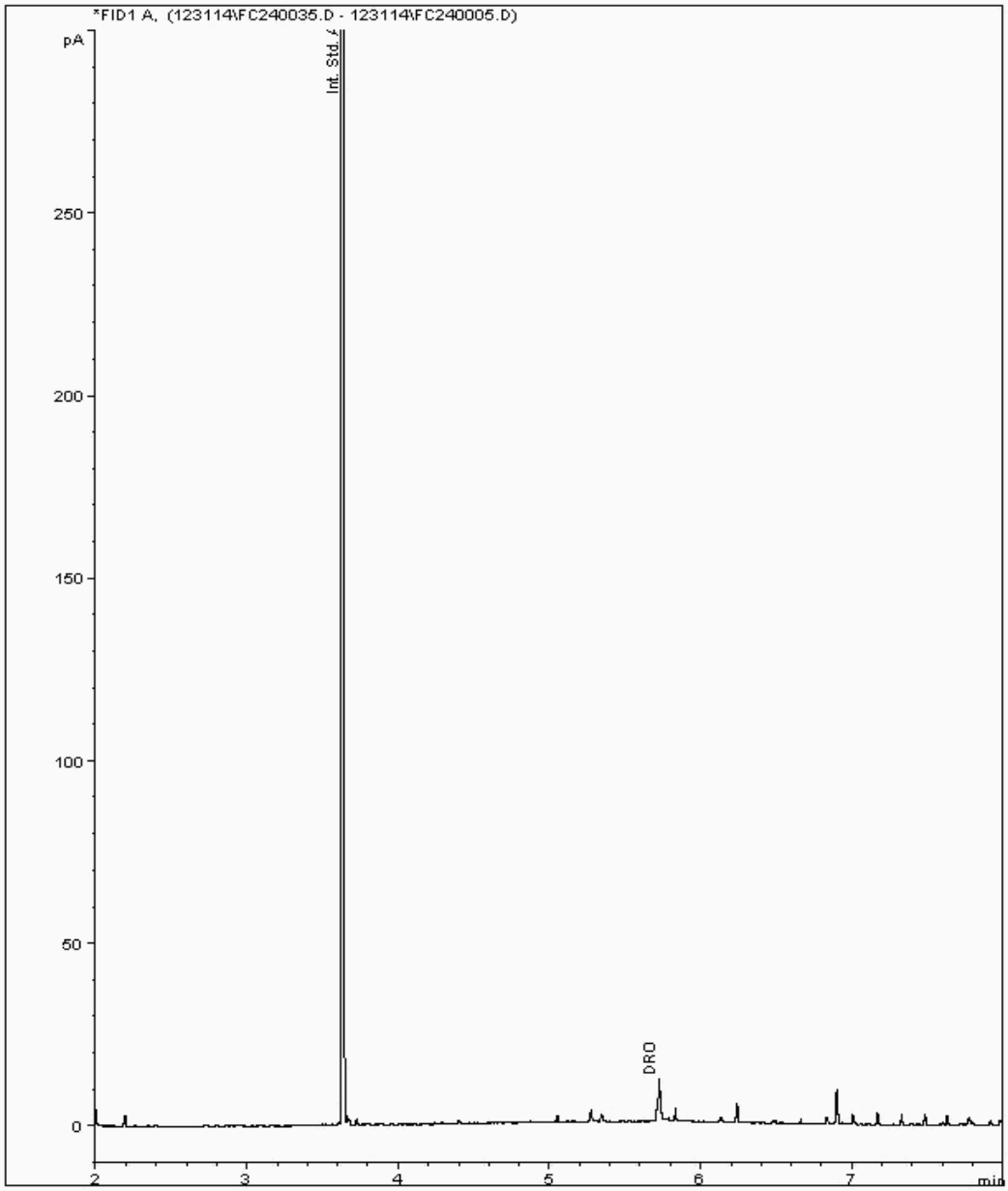
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10618754
Sample ID : BH06

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081127-
Date Acquired : 01/01/2015 02:30:09 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

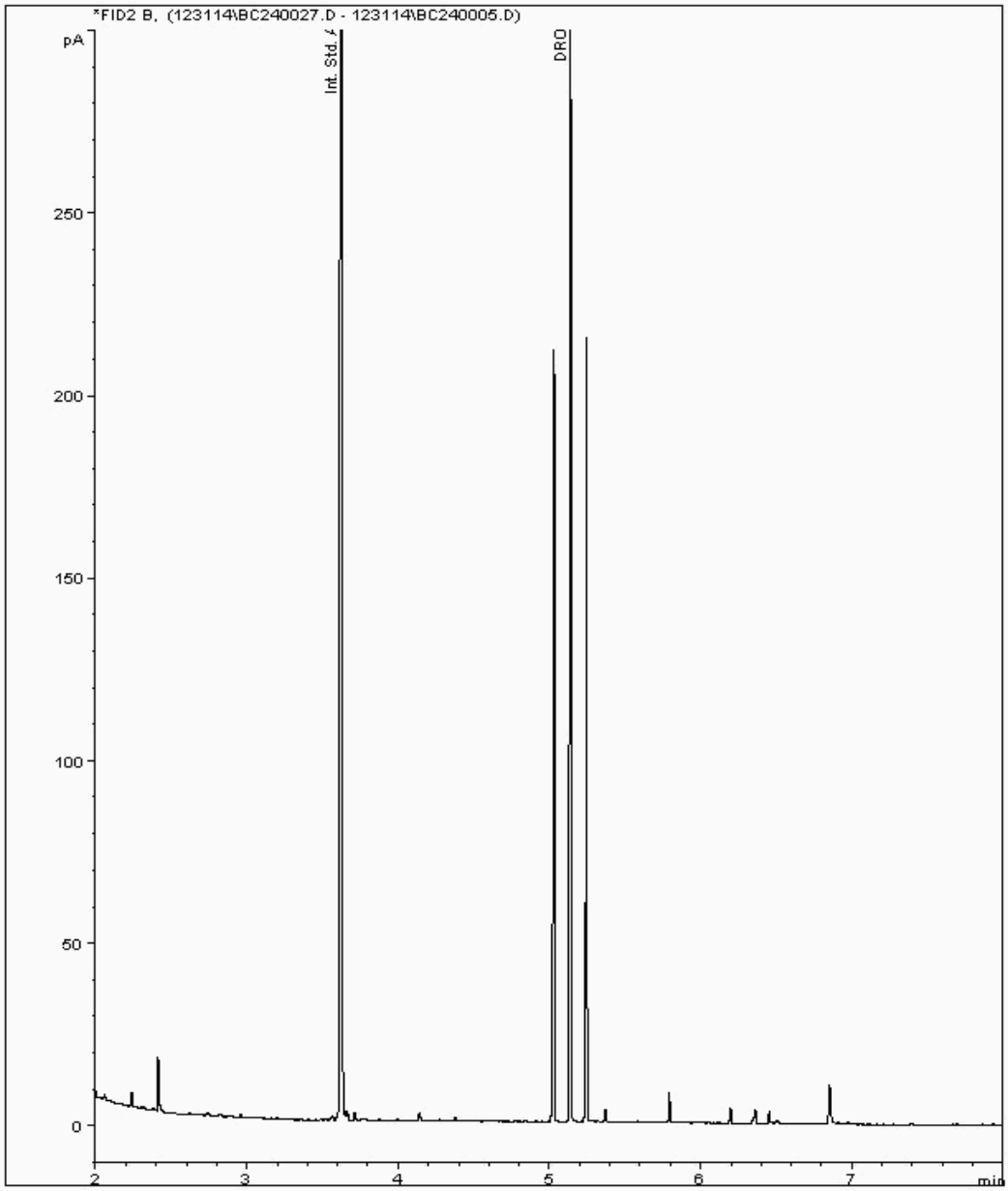
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10618770
Sample ID : BH36B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081147-
Date Acquired : 31/12/2014 23:32:50 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

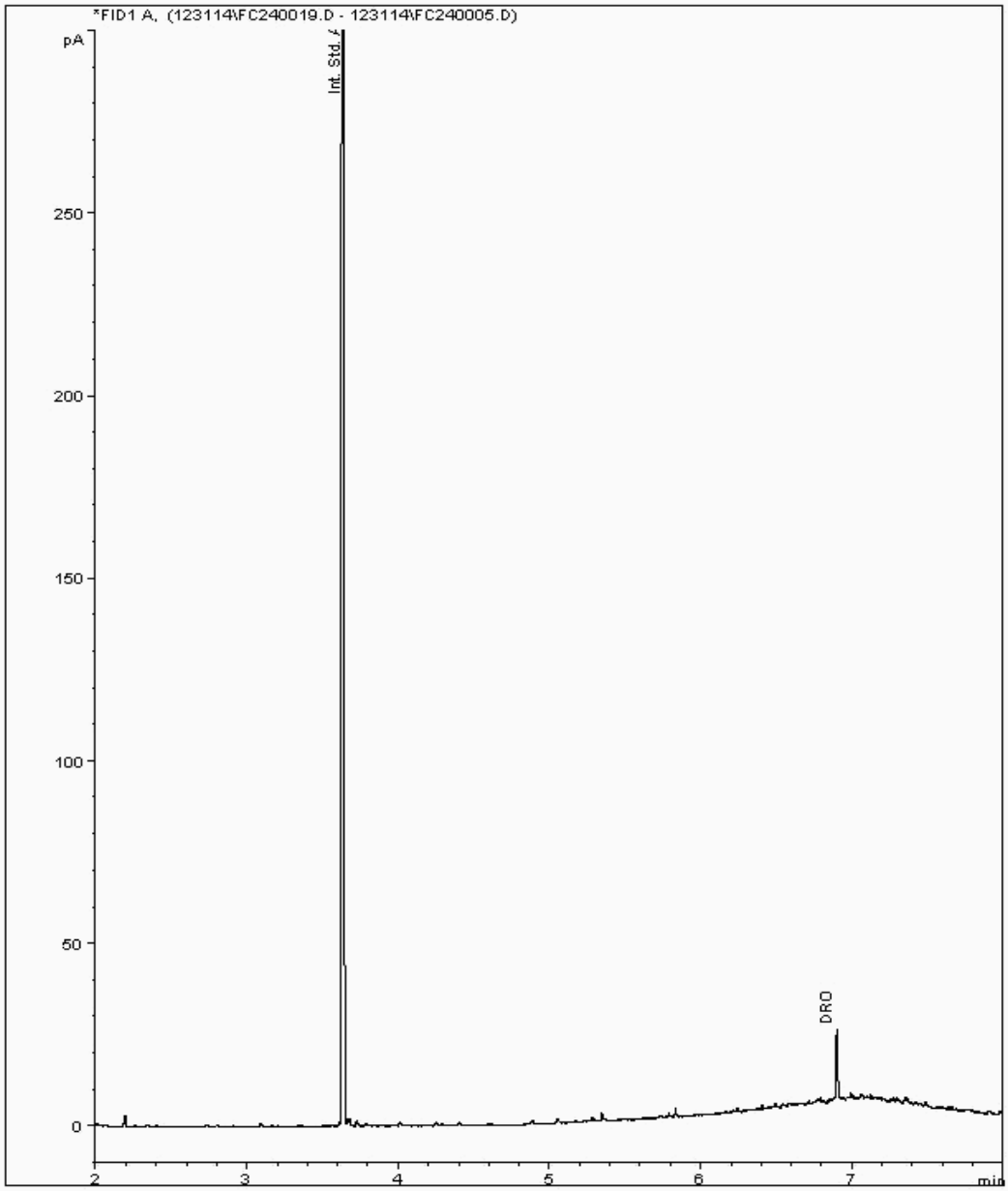
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10622551
Sample ID : BH40A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081163-
Date Acquired : 31/12/2014 20:36:07 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10622552
Sample ID : BH45B

Depth :

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                    Alcontrol/Geochem Analytical Services
                       EPH Range Organics ( C10 - C40 )

                  Sample Identity:  10081180-
                  Date Acquired  :  01/01/2015 02:52:19 PM
                  Units          :  mg/l


================================================================
Error 40991 occurred in Command CopyObj in macro FRPT_P_AllSignals
at line 582 in file C:\HPCHEM\CORE\FRPT.MCX:
Fatal System Error: Check system resources or address customer service.
================================================================
                           *** End of Report ***
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CERTIFICATE OF ANALYSIS

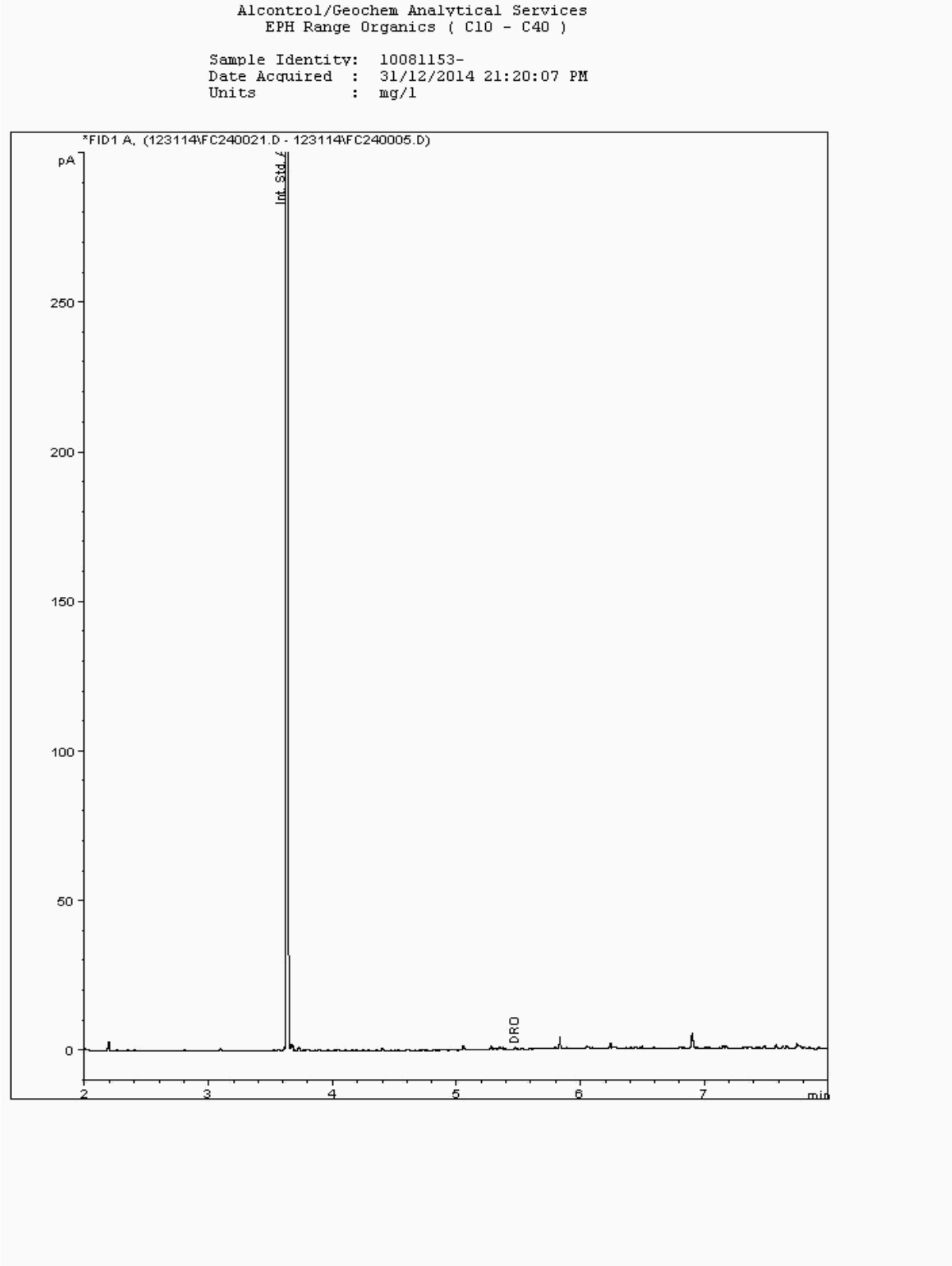
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10622553
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

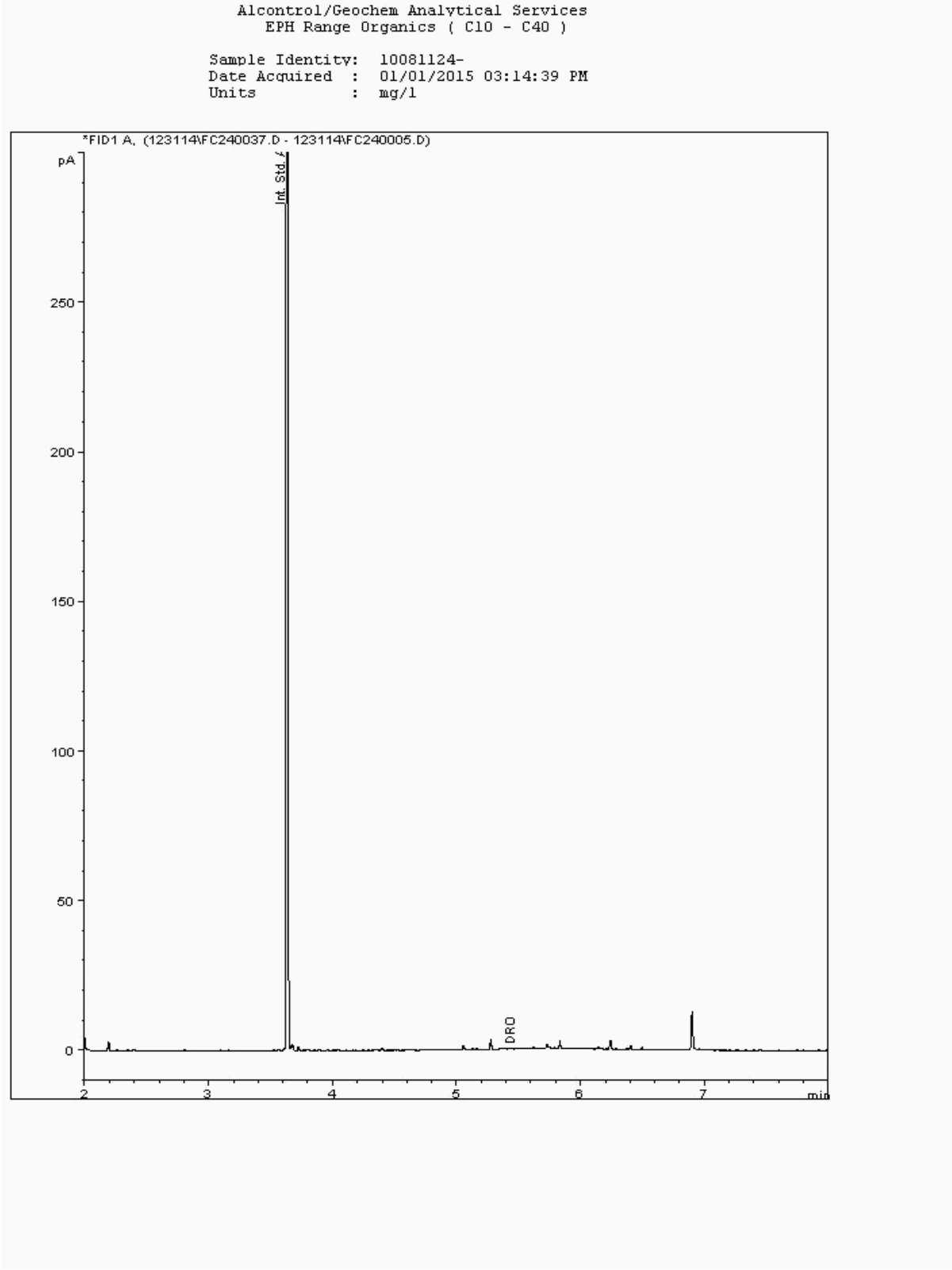
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10623134
Sample ID : BHG2B

Depth :



CERTIFICATE OF ANALYSIS

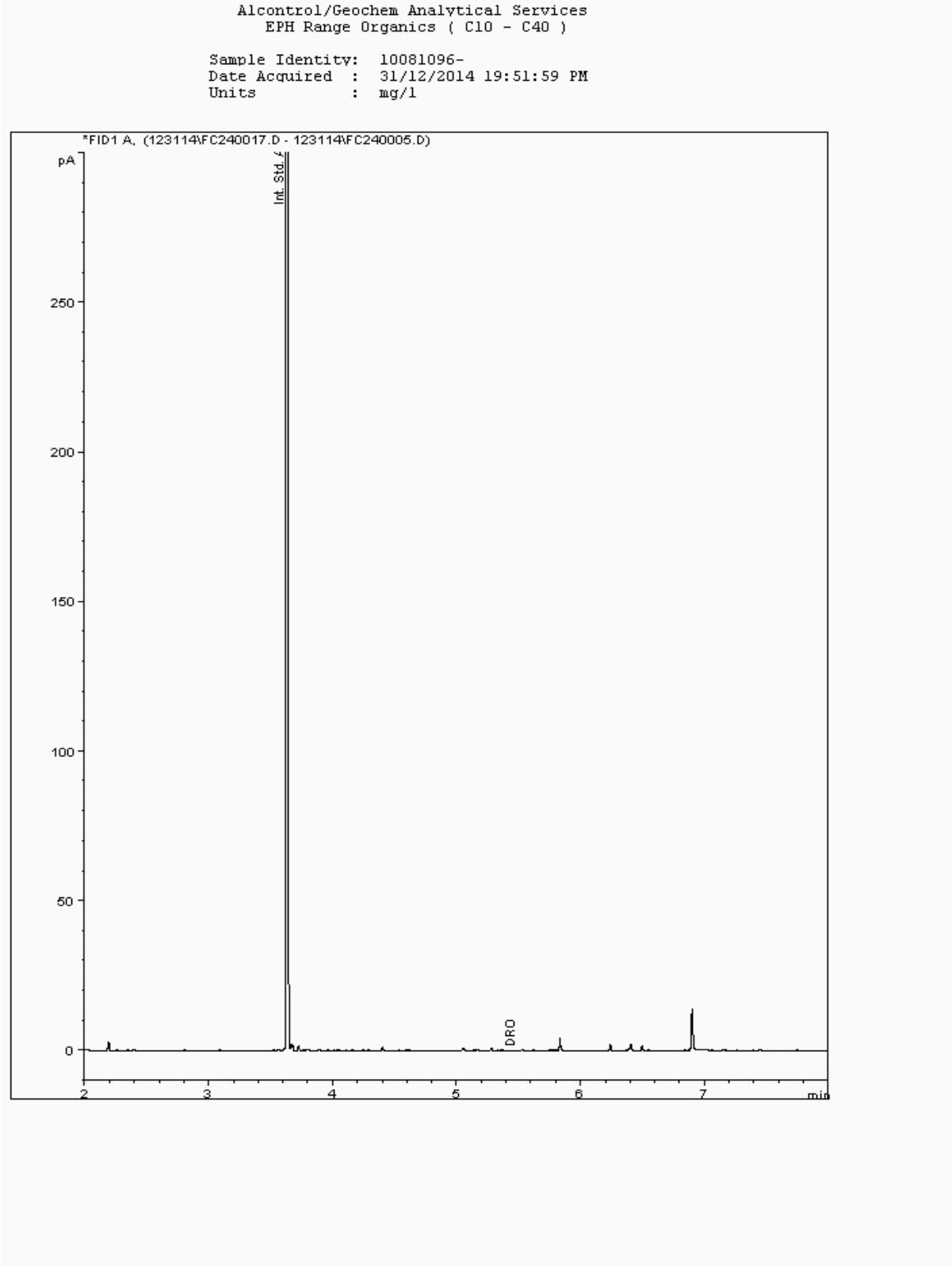
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10623139
Sample ID : BH22

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

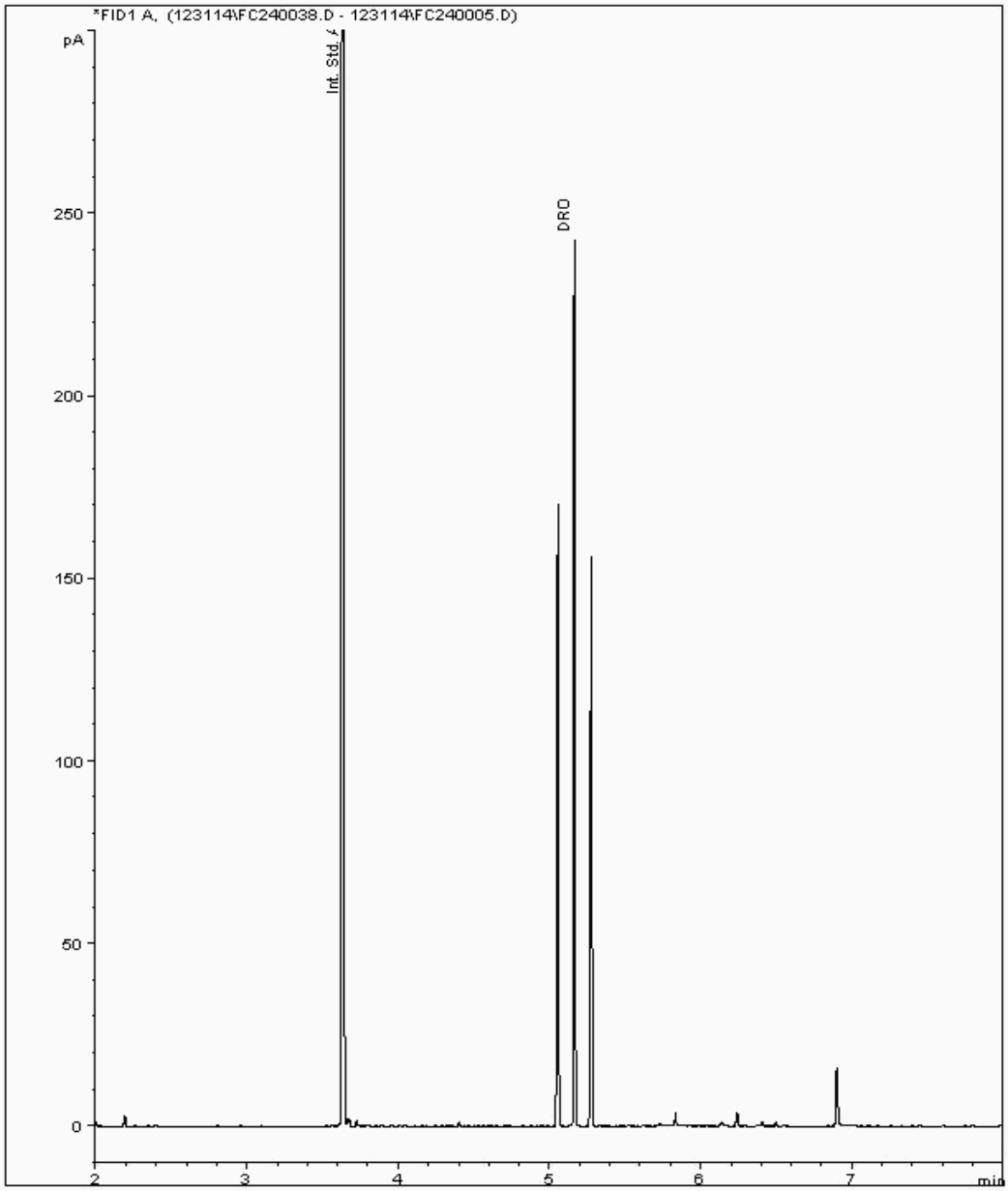
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10623142
Sample ID : BH20

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081099-
Date Acquired : 01/01/2015 03:36:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

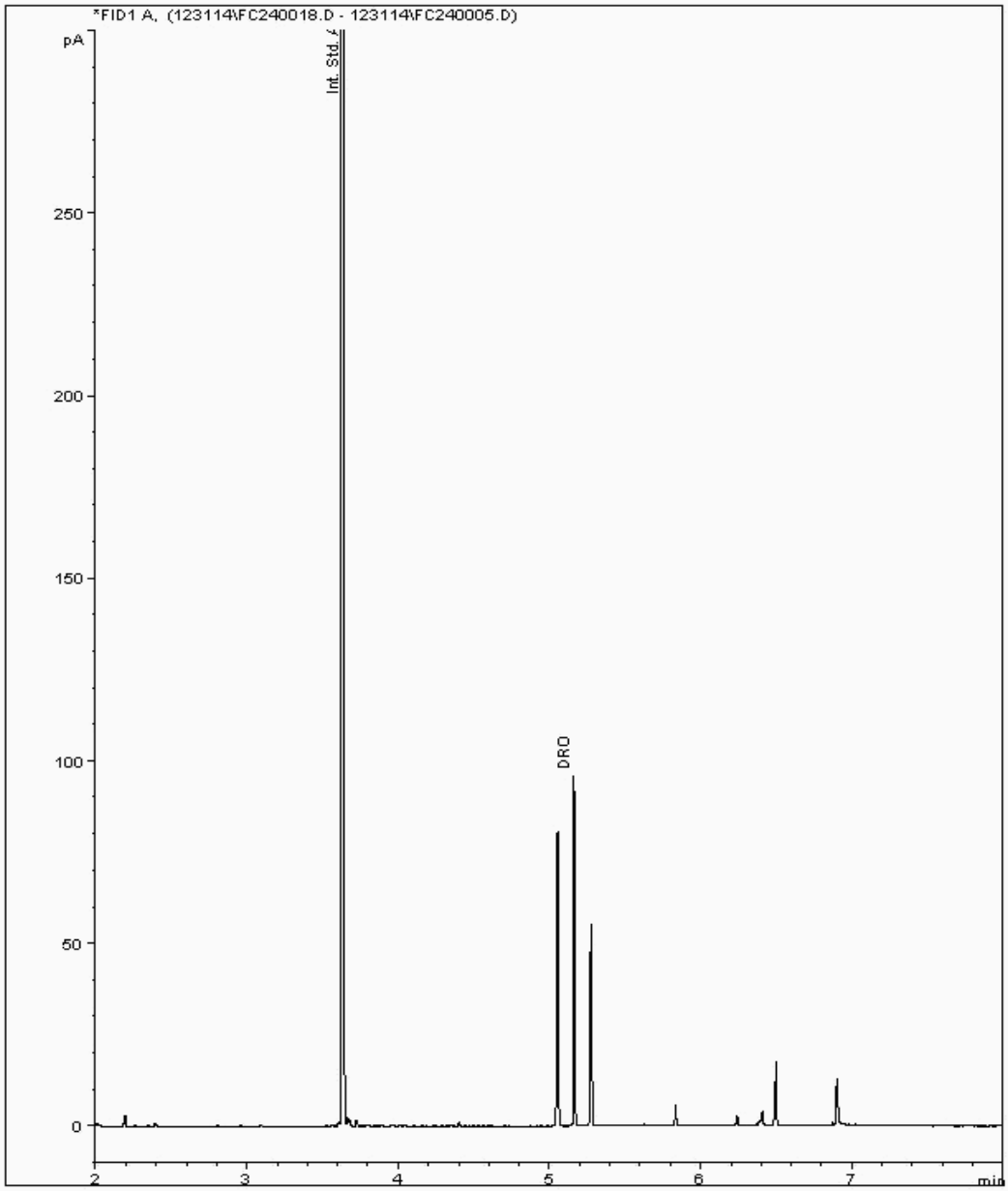
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10623146
Sample ID : BH01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081141-
Date Acquired : 31/12/2014 20:13:57 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

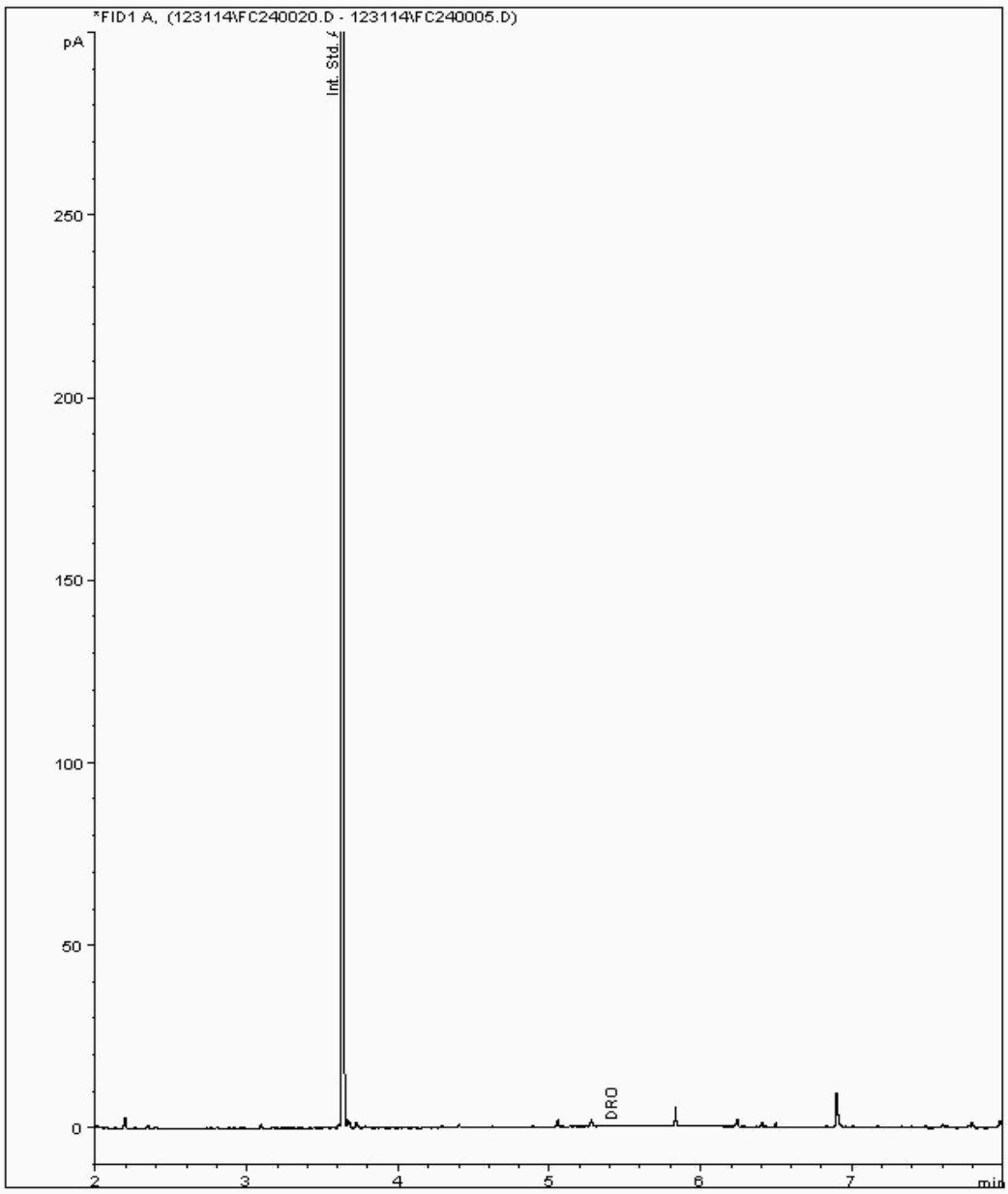
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10623156
Sample ID : MW01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10081121-
Date Acquired : 31/12/2014 20:58:09 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

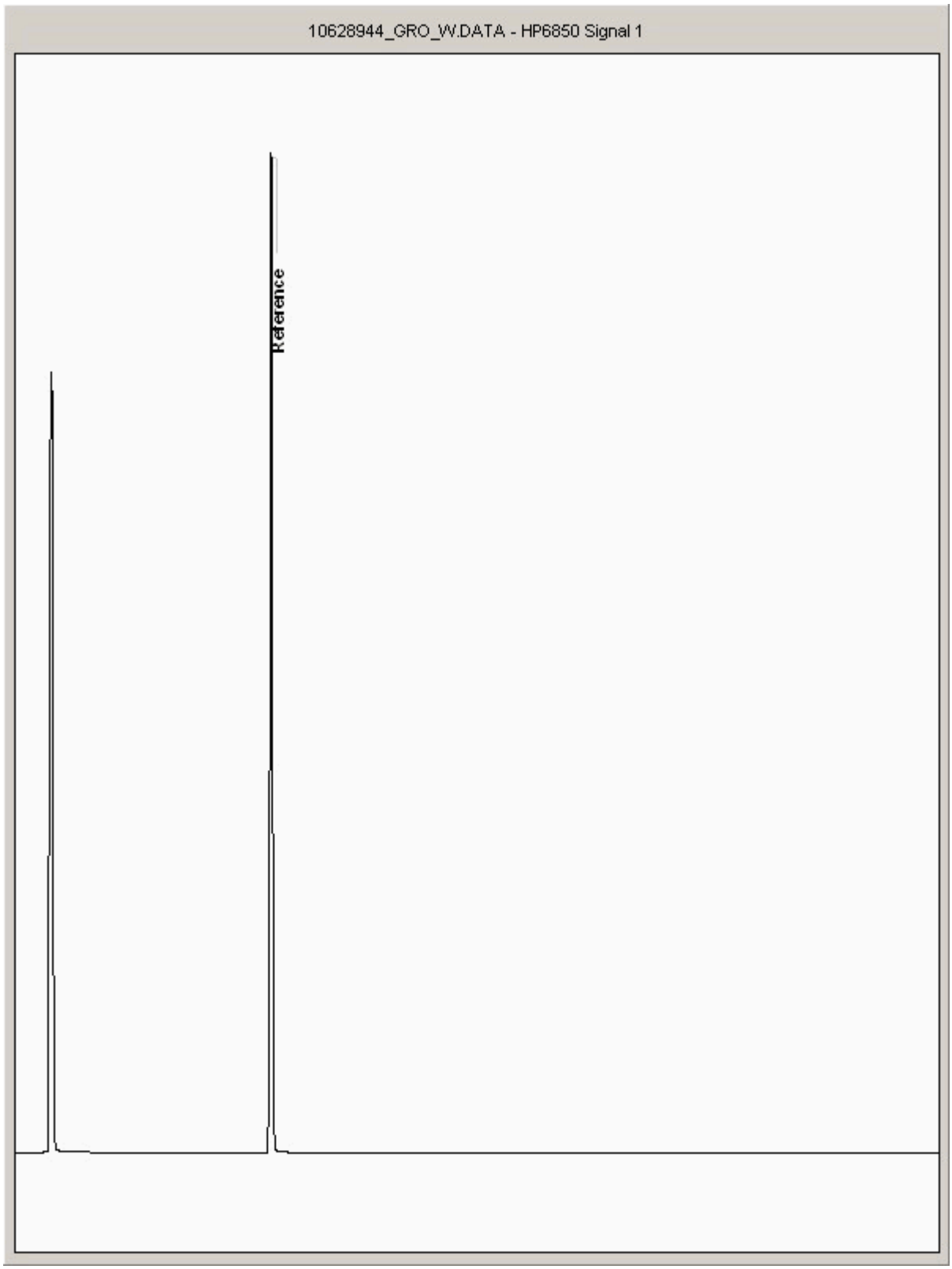
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10628944
Sample ID : BH45B

Depth :



CERTIFICATE OF ANALYSIS

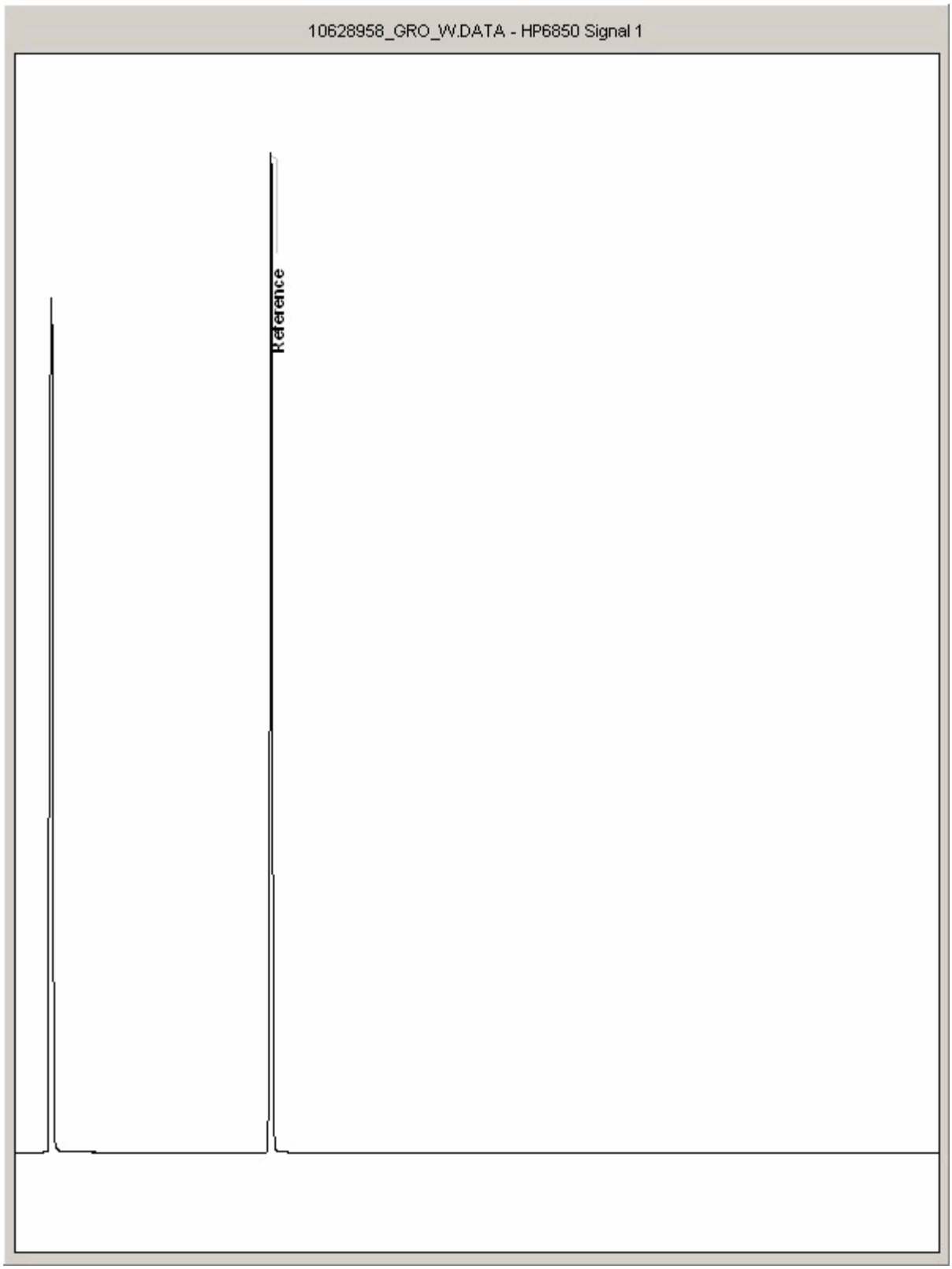
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10628958
Sample ID : BH63A

Depth :



CERTIFICATE OF ANALYSIS

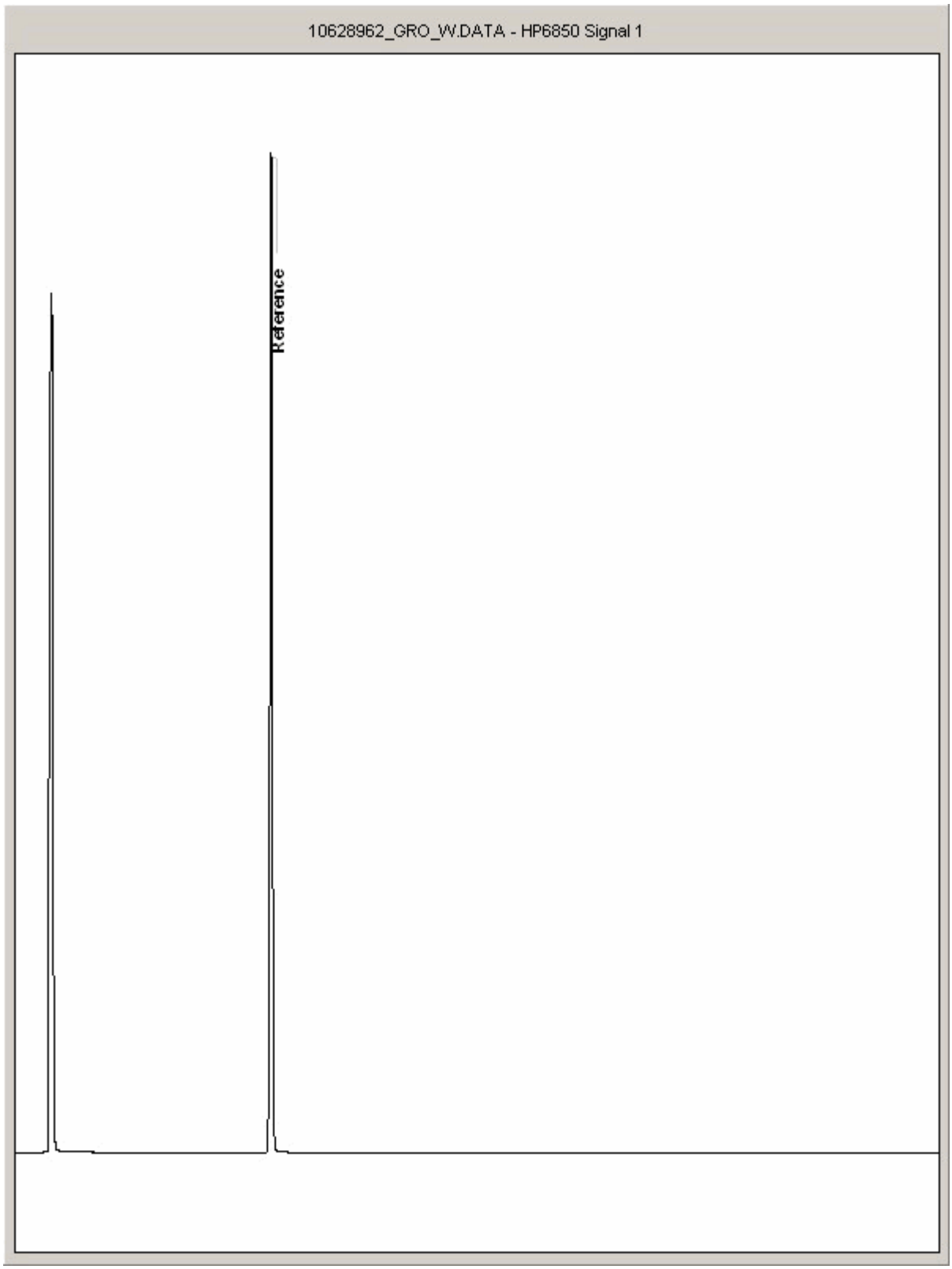
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10628962
Sample ID : BH22

Depth :



CERTIFICATE OF ANALYSIS

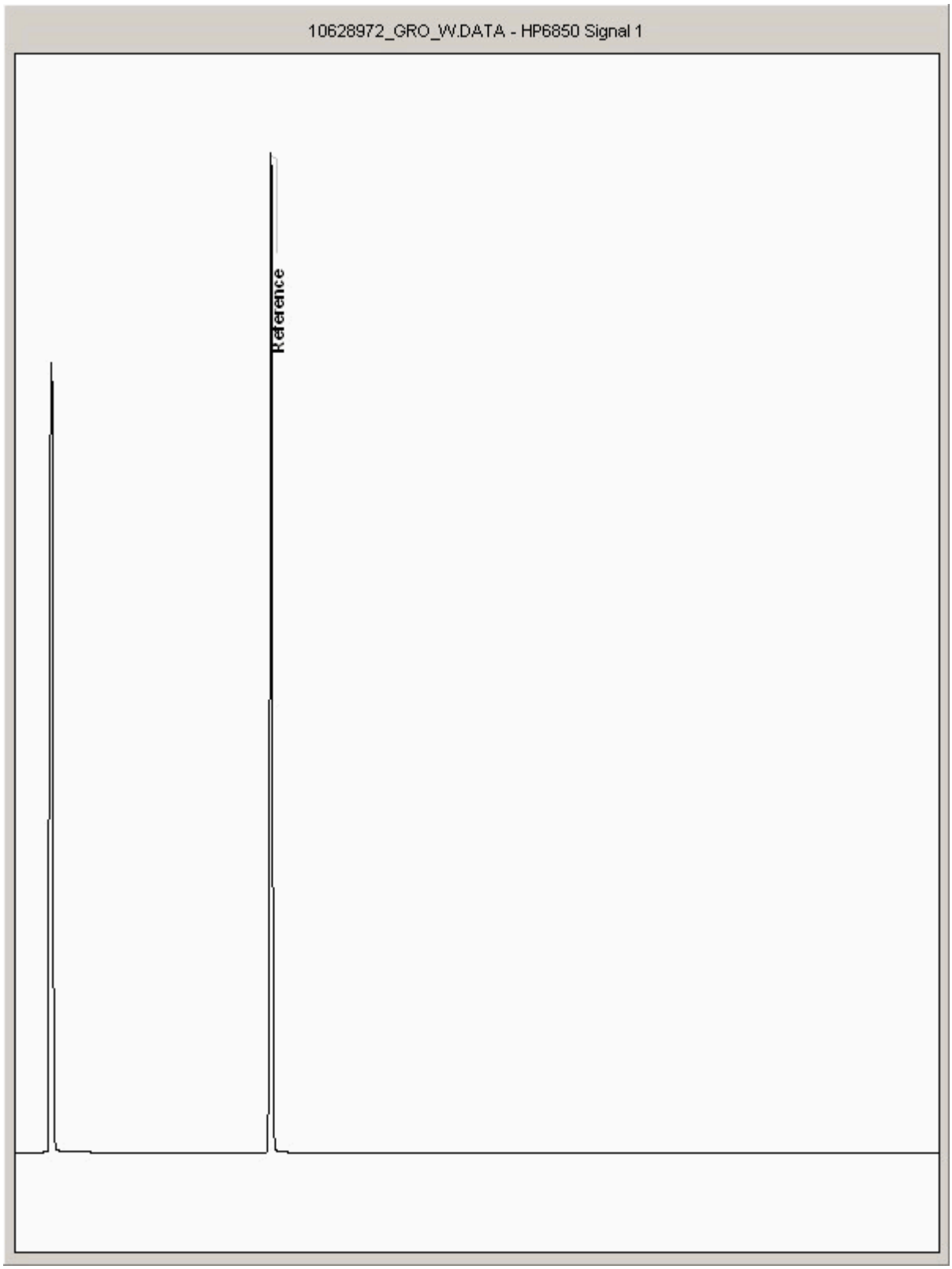
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10628972
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

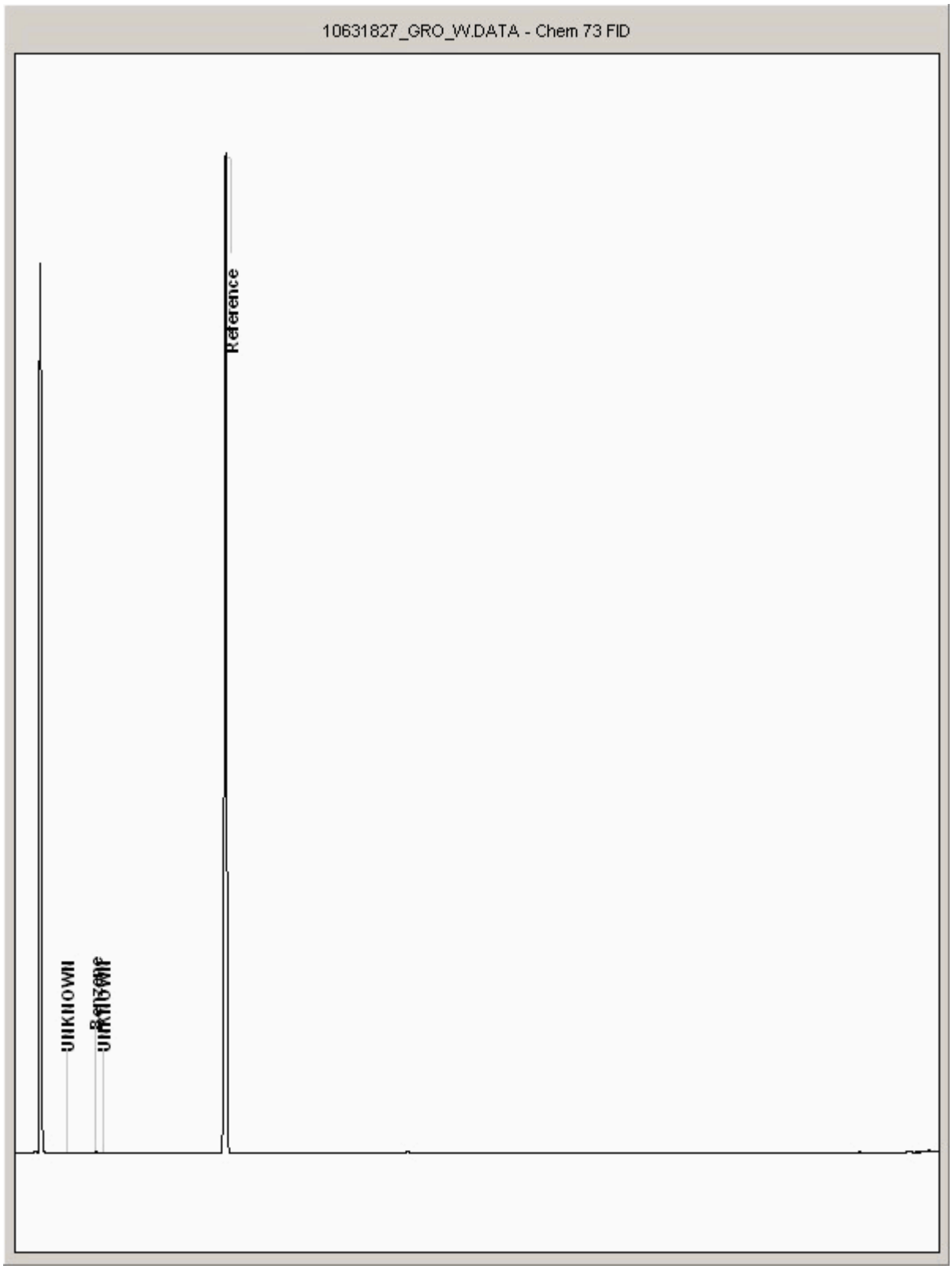
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631827
Sample ID : BH36B

Depth :



CERTIFICATE OF ANALYSIS

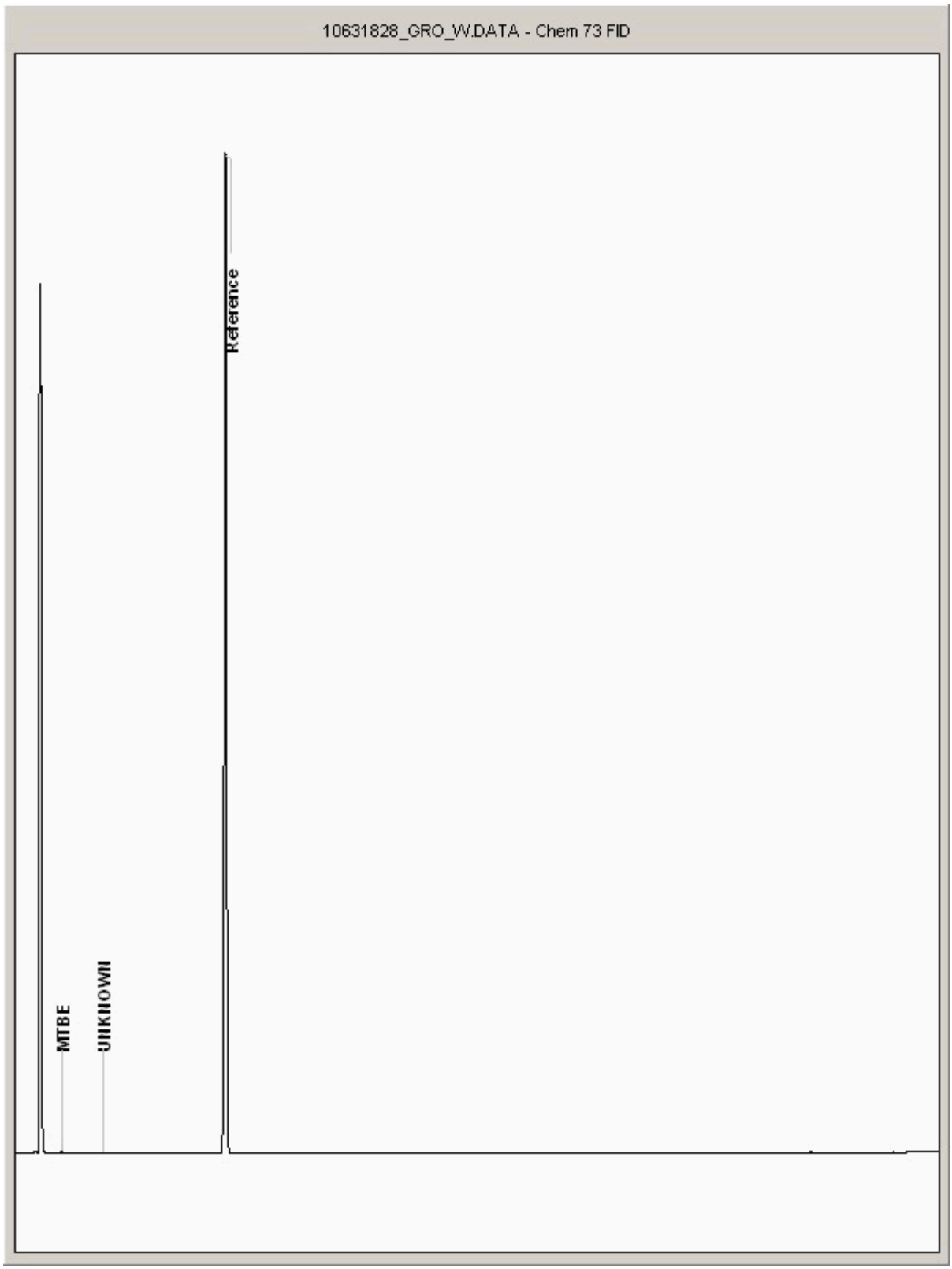
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631828
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

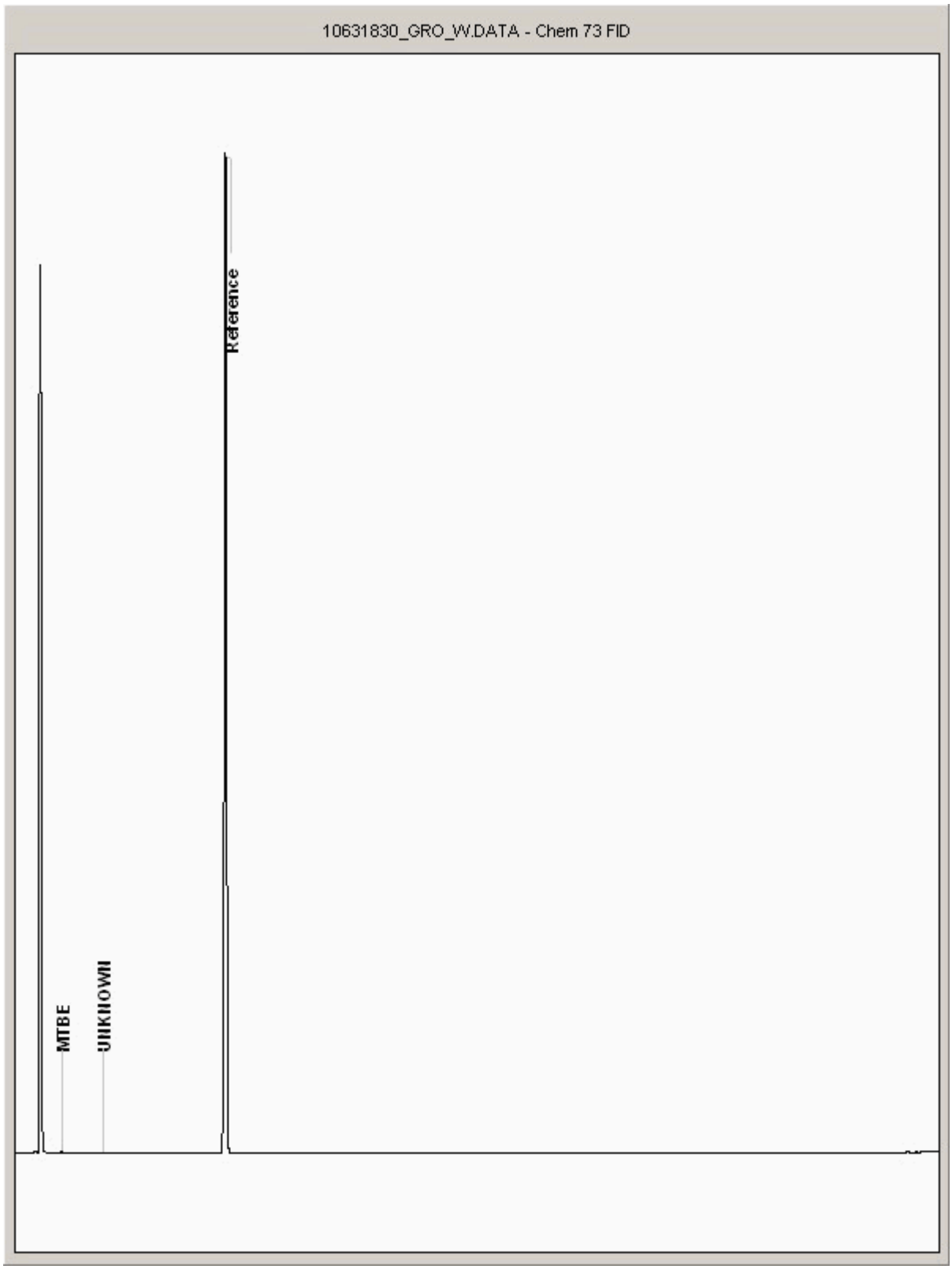
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631830
Sample ID : BHG2B

Depth :



CERTIFICATE OF ANALYSIS

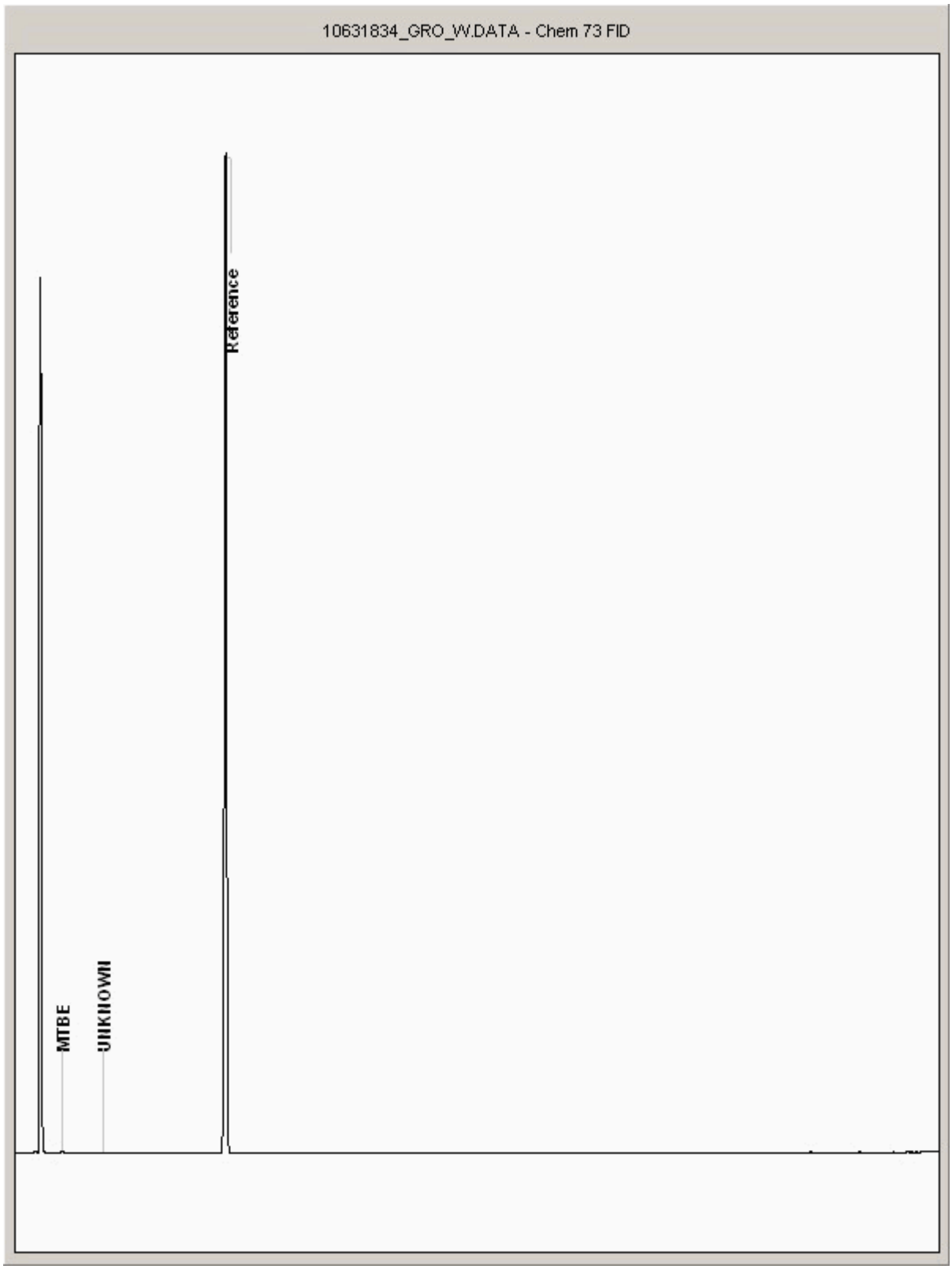
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631834
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

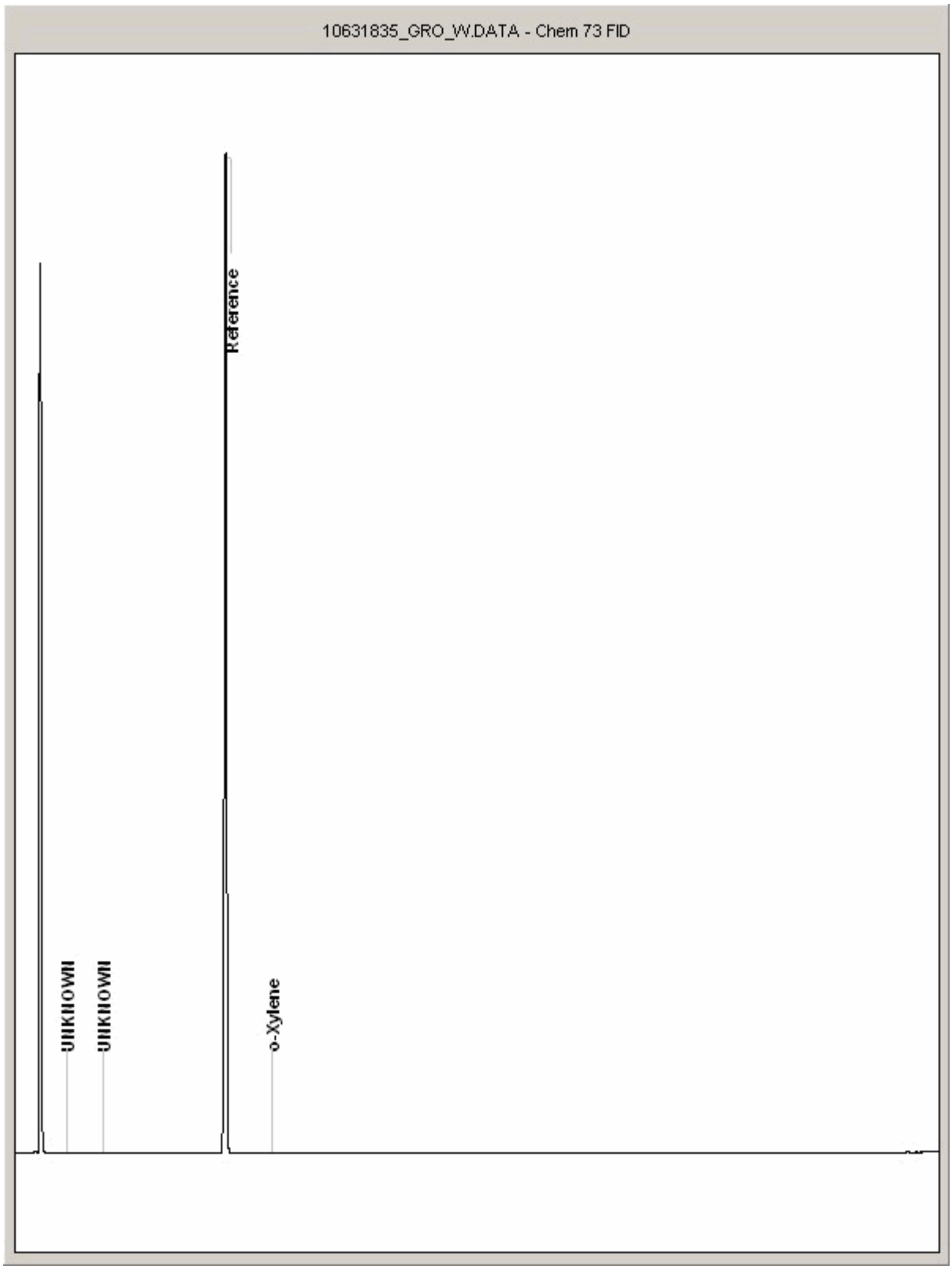
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631835
Sample ID : BH01

Depth :



CERTIFICATE OF ANALYSIS

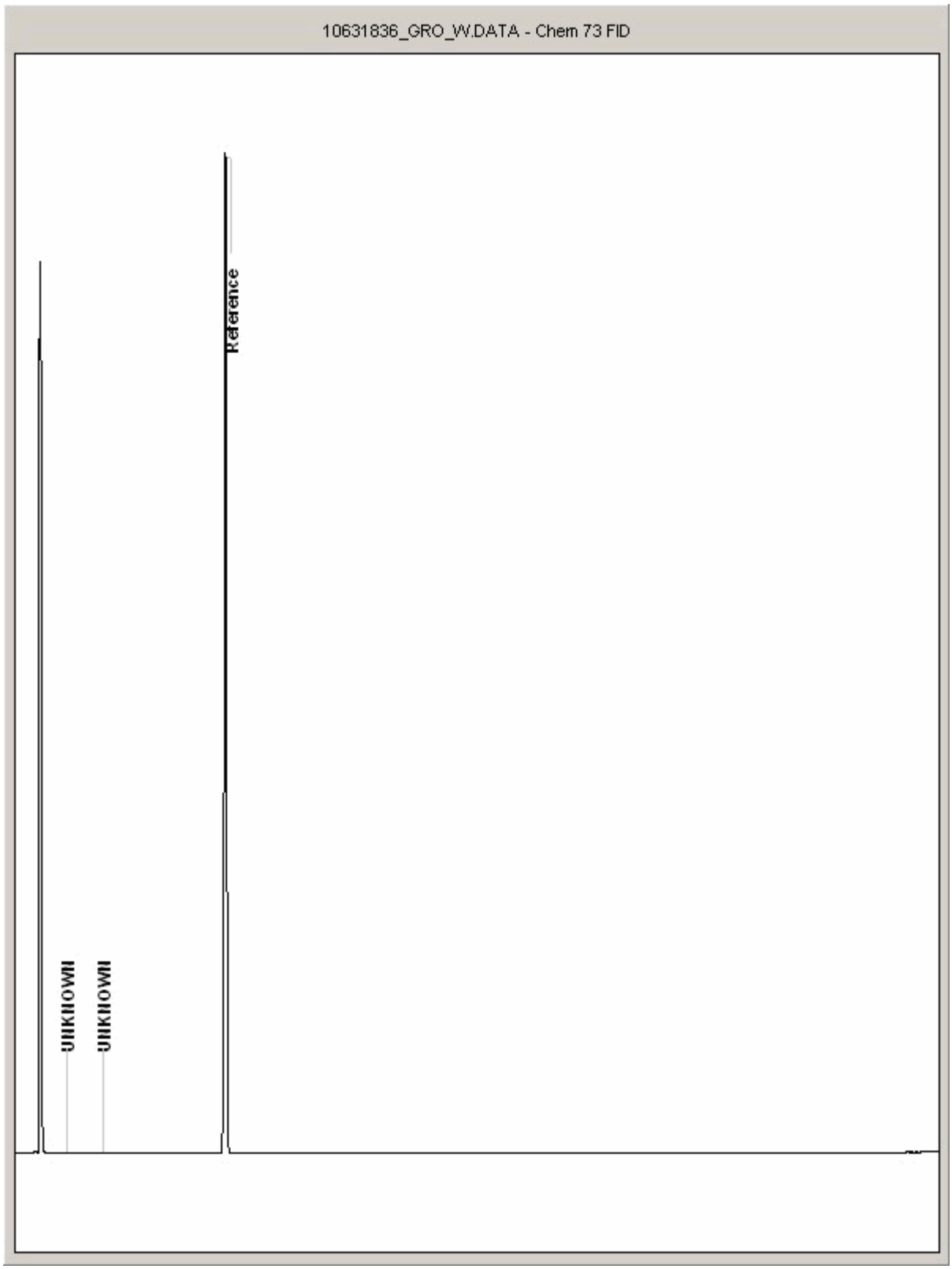
SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631836
Sample ID : BH40A

Depth :



CERTIFICATE OF ANALYSIS

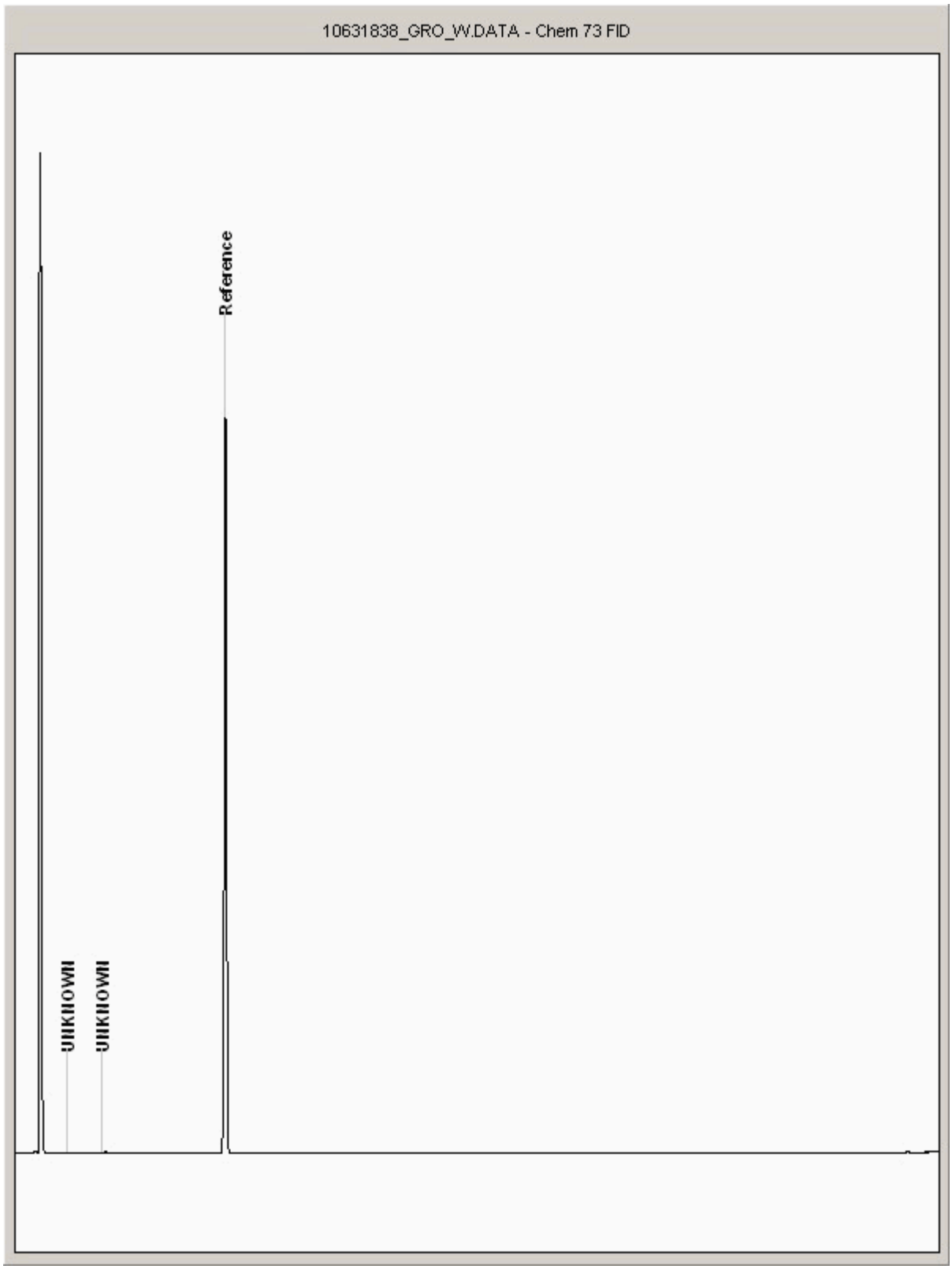
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631838
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

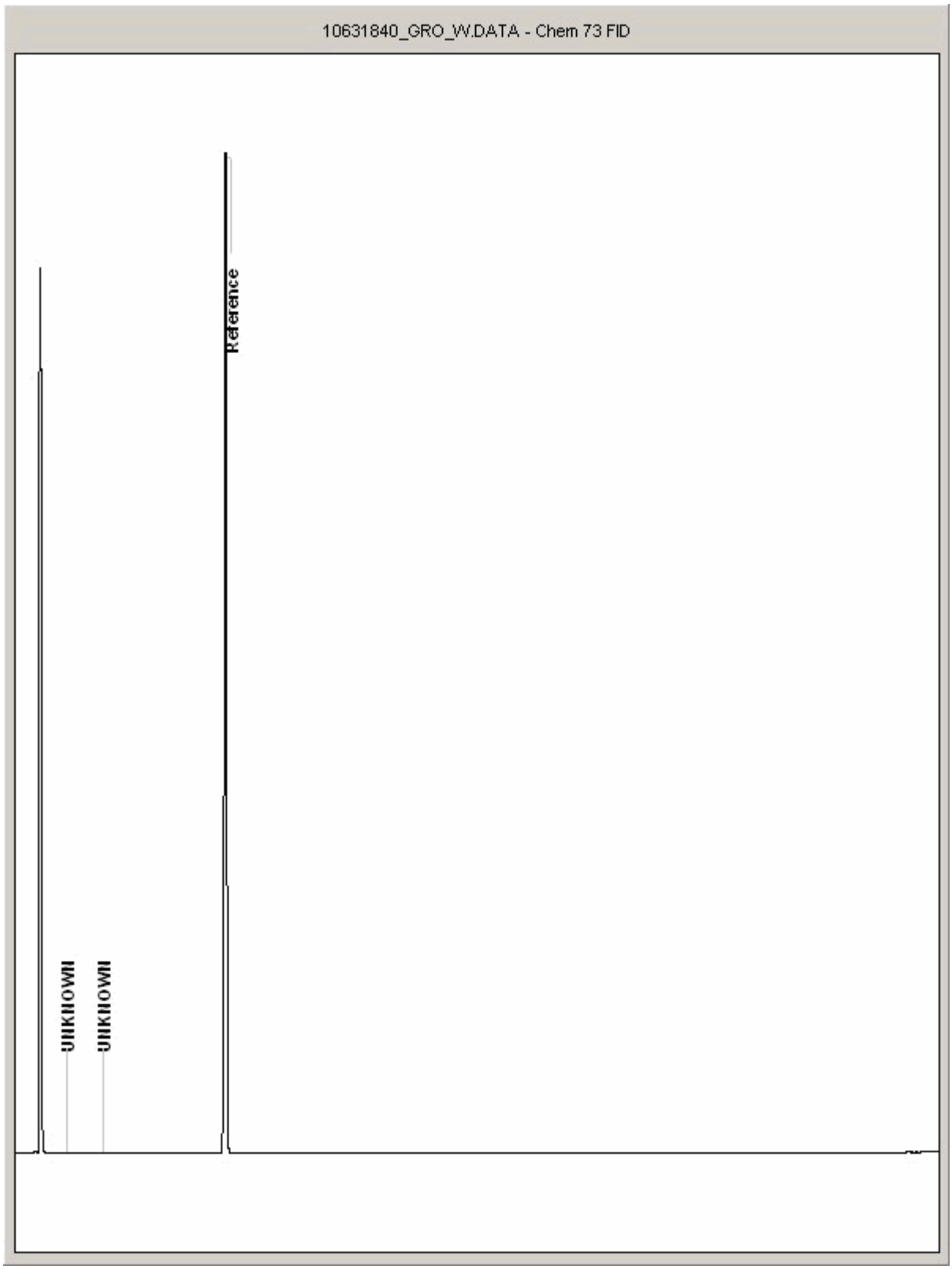
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631840
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

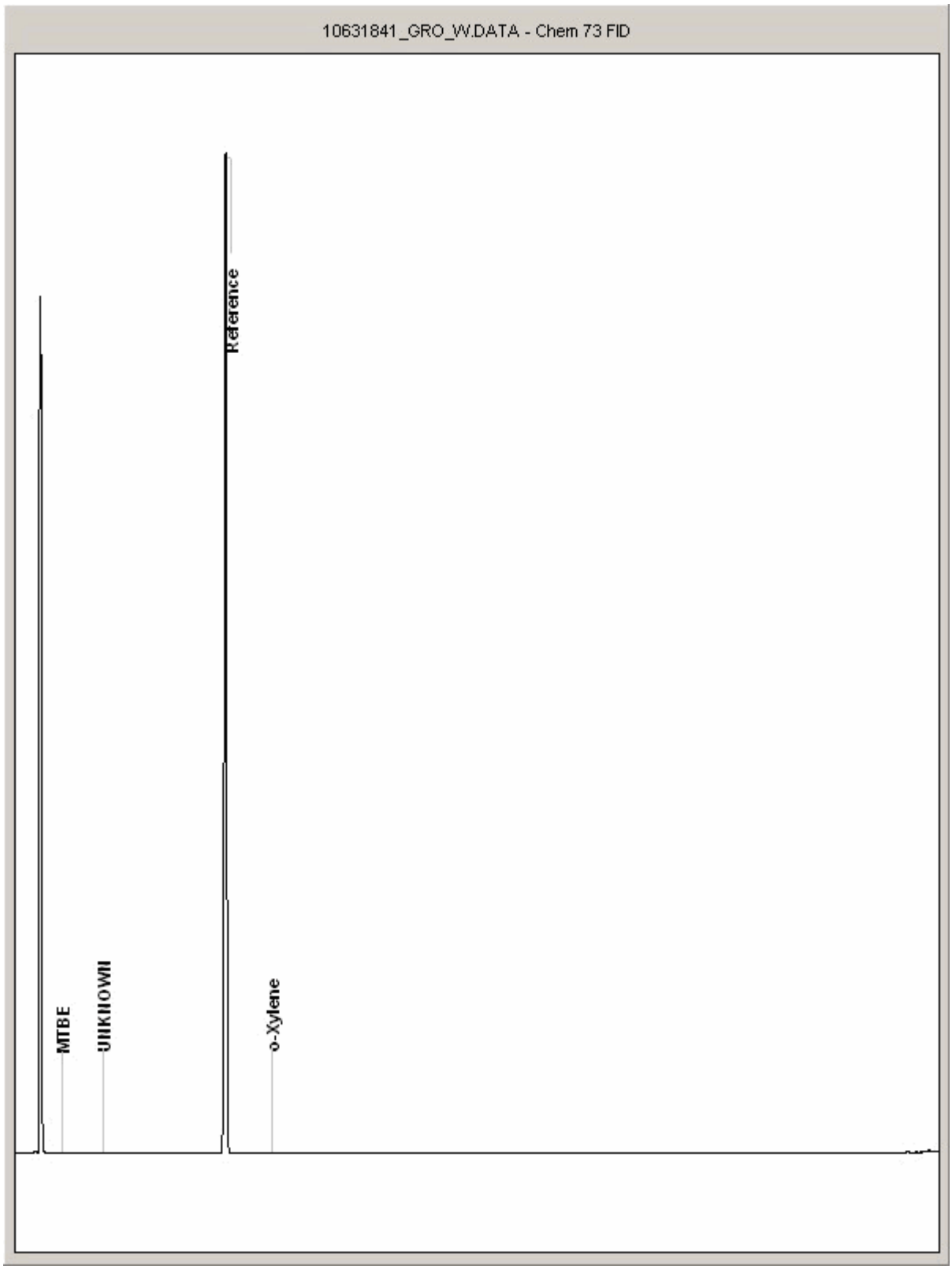
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631841
Sample ID : BH18

Depth :



CERTIFICATE OF ANALYSIS

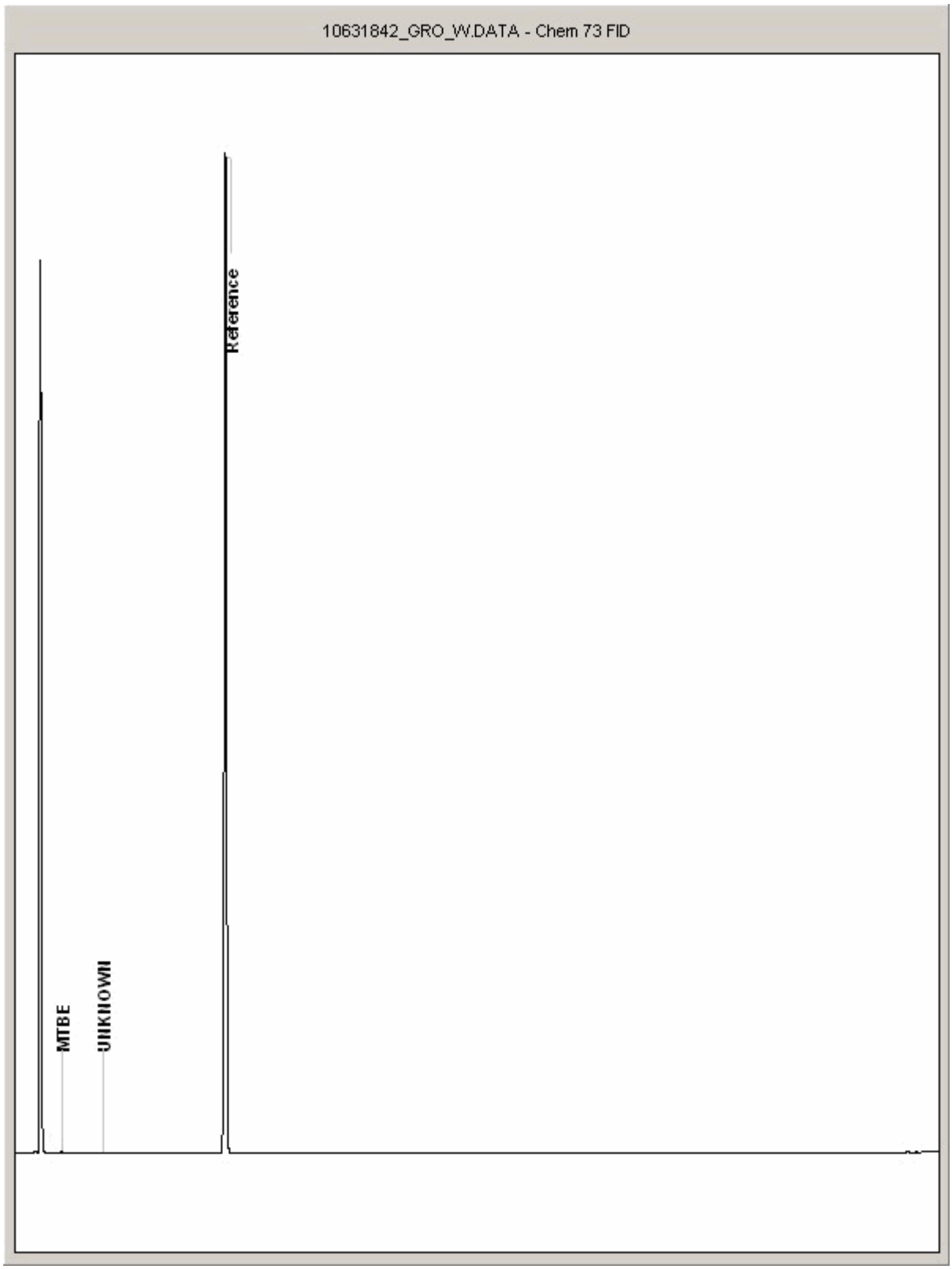
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631842
Sample ID : BH49

Depth :



CERTIFICATE OF ANALYSIS

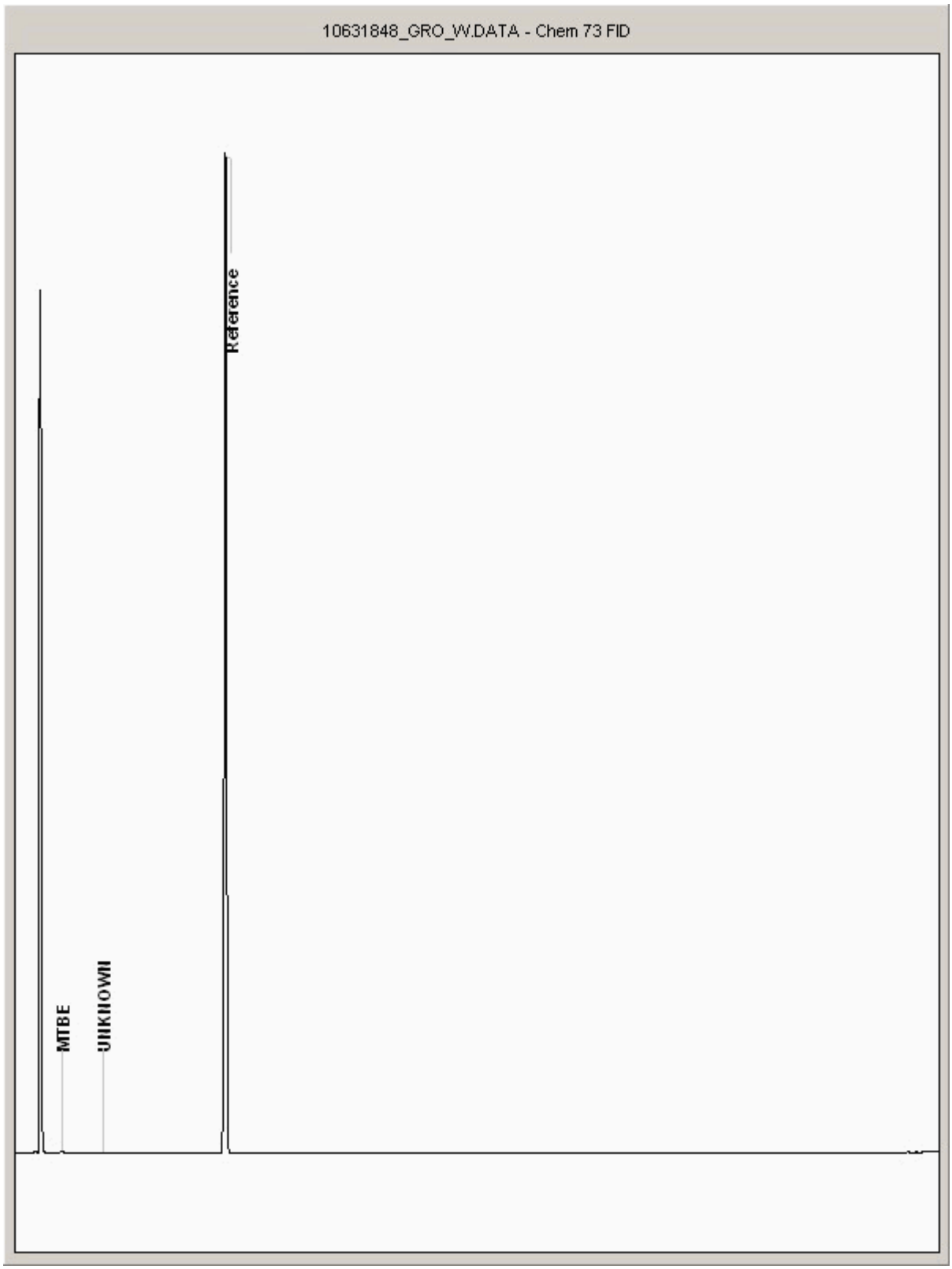
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631848
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

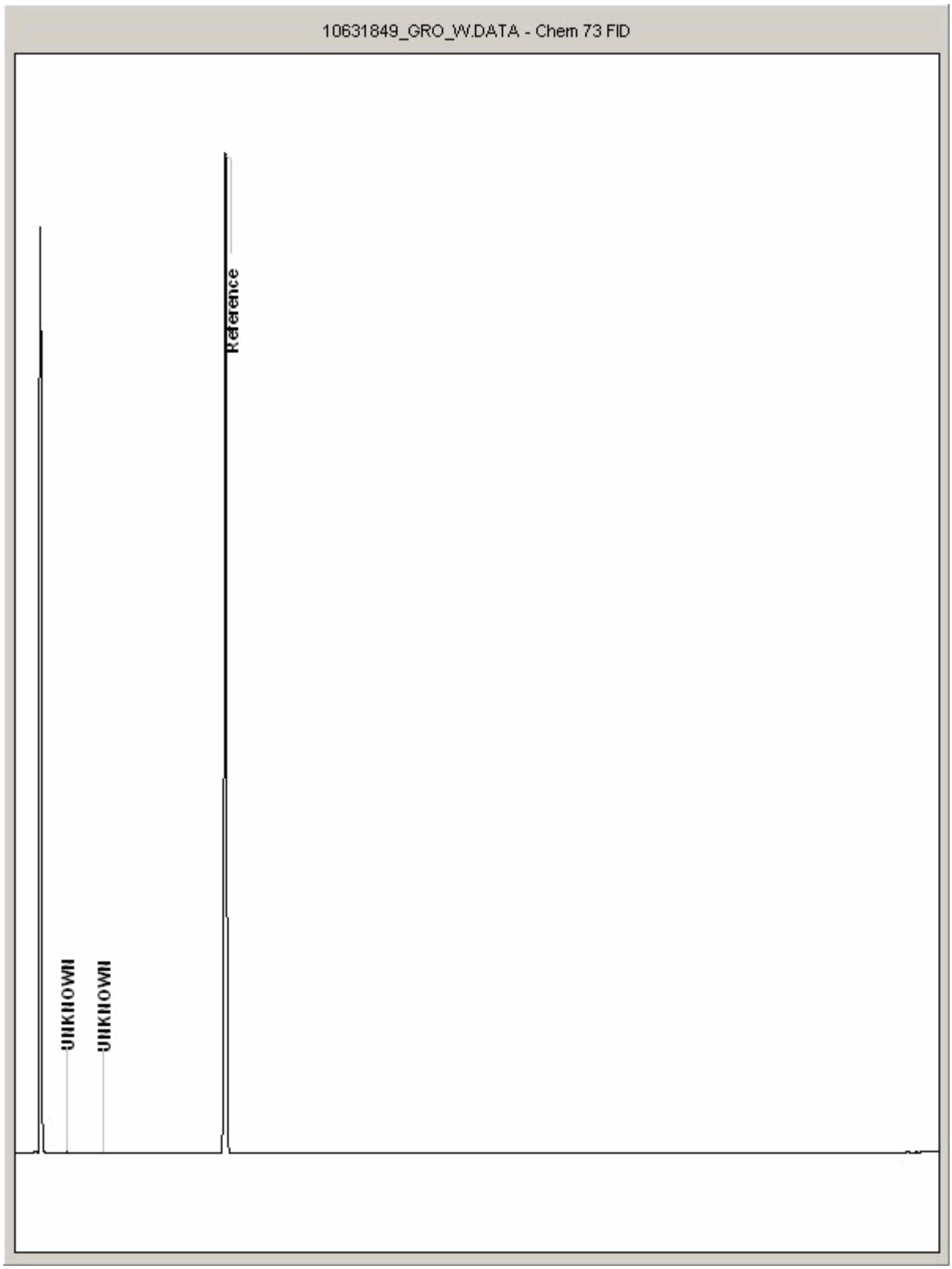
SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631849
Sample ID : BH20

Depth :



CERTIFICATE OF ANALYSIS

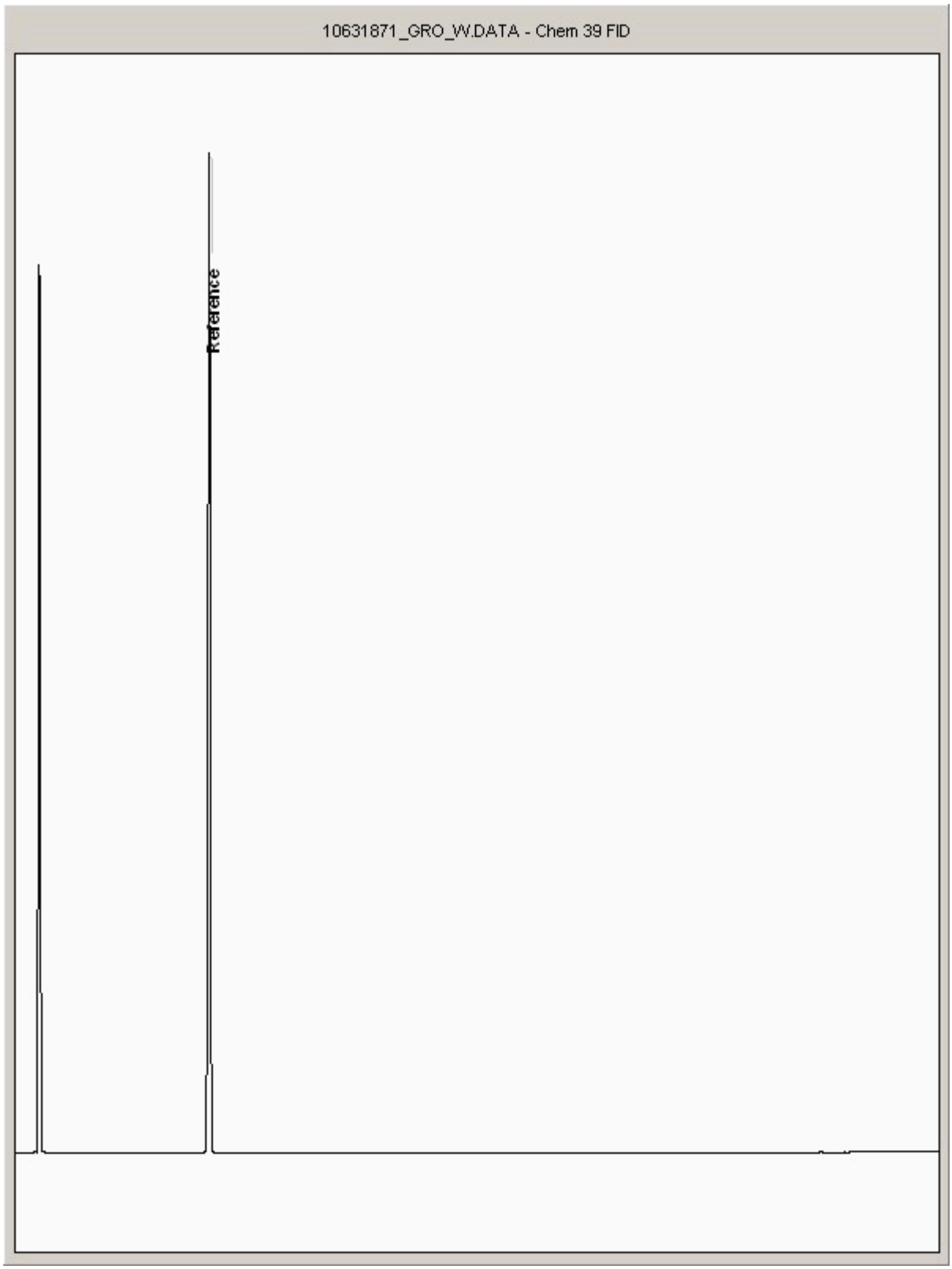
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10631871
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	141218-1	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297902
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

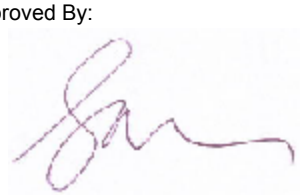
Date:	07 January 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	141218-60
Your Reference:	JER5575U
Location:	SHLNG
Report No:	297960

We received 16 samples on Thursday December 18, 2014 and 8 of these samples were scheduled for analysis which was completed on Wednesday January 07, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10589620	BH26			17/12/2014
10589622	BH53			17/12/2014
10589611	BH55			16/12/2014
10589608	BH59			16/12/2014
10589618	BH27A			17/12/2014
10589609	BH30A			16/12/2014
10589614	BH41A			16/12/2014
10589616	BH42A			16/12/2014
10589619	BH27A Duplicate			17/12/2014
10589613	BH30A Duplicate			16/12/2014
10589615	BH41A Duplicate			16/12/2014
10589617	BH42A Duplicate			16/12/2014
10589621	BH26 Duplicate			17/12/2014
10589624	BH53 Duplicate			17/12/2014
10589612	BH55 Duplicate			16/12/2014
10589610	BH59 Duplicate			16/12/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			10589620	BH26			1l Glass bottle (ALE
			10589622	BH53			Vial (ALE297)
			10589611	BH55			1l Glass bottle (ALE
			10589608	BH59			Vial (ALE297)
			10589618	BH27A			1l Glass bottle (ALE
			10589609	BH30A			Vial (ALE297)
			10589614	BH41A			1l Glass bottle (ALE
			10589616	BH42A			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 8		X	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2											X		X	

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH26	BH53	BH55	BH59	BH27A	BH30A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/12/2014	17/12/2014	16/12/2014	16/12/2014	17/12/2014	16/12/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	18/12/2014	18/12/2014	18/12/2014	18/12/2014	18/12/2014	18/12/2014
			SDG Ref	141218-60	141218-60	141218-60	141218-60	141218-60	141218-60
			Lab Sample No.(s)	10589620	10589622	10589611	10589608	10589618	10589609
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	142 #	<46 #	<46 #	<46 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10	<10	<10	<10	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	142	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/12/2014	16/12/2014
			Sampled Time	.	.
			Date Received	18/12/2014	18/12/2014
			SDG Ref	141218-60	141218-60
			Lab Sample No.(s)	10589614	10589616
			AGS Reference		
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		1780 #	8630 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		723	1830
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		1060	6820

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH26	BH53	BH55	BH59	BH27A	BH30A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	17/12/2014	17/12/2014	16/12/2014	16/12/2014	17/12/2014	16/12/2014
			Sampled Time	.	.	.	.	.	.
			Date Received	18/12/2014	18/12/2014	18/12/2014	18/12/2014	18/12/2014	18/12/2014
			SDG Ref	141218-60	141218-60	141218-60	141218-60	141218-60	141218-60
			Lab Sample No.(s)	10589620	10589622	10589611	10589608	10589618	10589609
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C6-C8	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C8-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦
GRO >C5-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦	<10 ♦

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	16/12/2014	16/12/2014				
			Sampled Time	.	.				
			Date Received	18/12/2014	18/12/2014				
			SDG Ref	141218-60	141218-60				
			Lab Sample No.(s)	10589614	10589616				
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10 ♦	21 ♦				
GRO >C6-C8	<10 µg/l	TM245		<10 ♦	96 ♦				
GRO >C8-C10	<10 µg/l	TM245		<10 ♦	192 ♦				
GRO >C5-C10	<10 µg/l	TM245		13 ♦	309 ♦				

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A			
			Depth (m)	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	16/12/2014	16/12/2014			
			Sampled Time	.	.			
			Date Received	18/12/2014	18/12/2014			
			SDG Ref	141218-60	141218-60			
			Lab Sample No.(s)	10589614	10589616			
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	4.03 #			
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #			
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #			
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #			
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #			
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #			

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	16/12/2014	16/12/2014				
			Sampled Time	.	.				
			Date Received	18/12/2014	18/12/2014				
			SDG Ref	141218-60	141218-60				
			Lab Sample No.(s)	10589614	10589616				
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #				
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #				
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #				
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #				
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #				
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #				
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1				
Phenol (aq)	<1 µg/l	TM176		<1	<1				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #				
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1				
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	4.01 #				
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #				

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10589620	10589622	10589611	10589608	10589618	10589609	10589614	10589616
Customer Sample Ref.	BH26	BH53	BH55	BH59	BH27A	BH30A	BH41A	BH42A
AGS Ref.								
Depth								
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	02-Jan-2015	05-Jan-2015	31-Dec-2014	02-Jan-2015	31-Dec-2014	05-Jan-2015	05-Jan-2015	05-Jan-2015
GRO by GC-FID (W)	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015	06-Jan-2015
SVOC MS (W) - Aqueous							07-Jan-2015	07-Jan-2015

CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1023	QC 1074
EPH (DRO) (C10-C40)	TM172	**96.5** 58.60 : 104.65	**91.5** 58.60 : 104.65

GRO by GC-FID (W)

Component	Method Code	QC 1023
Benzene by GC	TM245	**110.5** 79.13 : 118.84
Ethylbenzene by GC	TM245	**105.5** 79.54 : 115.99
m & p Xylene by GC	TM245	**103.25** 78.44 : 116.32
MTBE GC-FID	TM245	**110.5** 81.43 : 120.09
o Xylene by GC	TM245	**105.0** 76.85 : 120.29
QC	TM245	**111.29** 69.85 : 125.92
Toluene by GC	TM245	**108.5** 81.66 : 114.03

SVOC MS (W) - Aqueous

Component	Method Code	QC 1031
4-Bromophenylphenyleth er	TM176	**113.6** 55.04 : 128.00
Benzo(a)anthracene	TM176	**108.0** 52.64 : 123.68
Benzo(a)pyrene	TM176	**90.4** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**88.8** 41.53 : 109.48
Hexachlorobutadiene	TM176	**85.6** 42.80 : 108.20
Naphthalene	TM176	**113.6** 47.20 : 116.80
Nitrobenzene	TM176	**101.6** 58.70 : 110.90
Phenol	TM176	**57.92** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

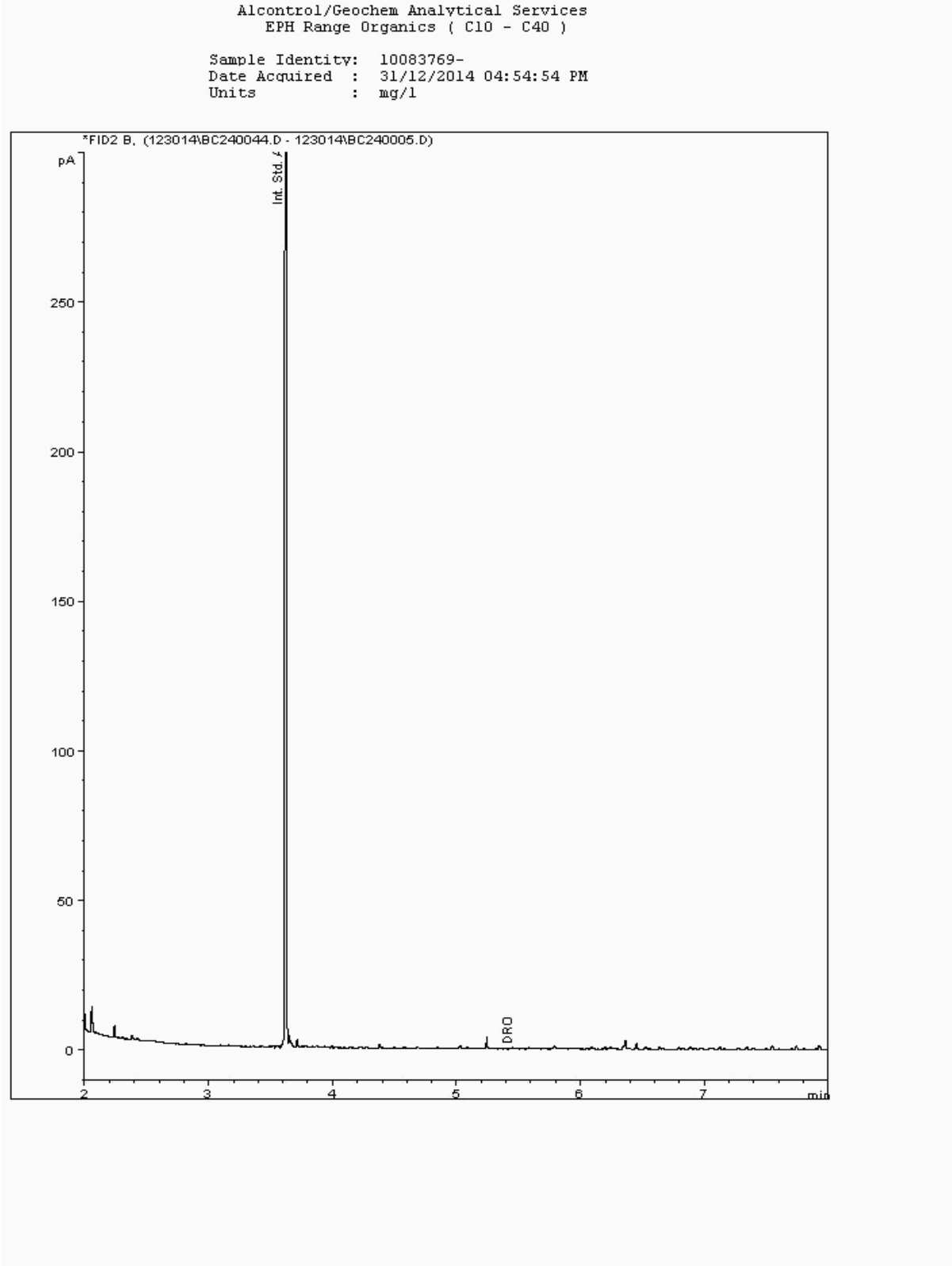
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10594525
Sample ID : BH55

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

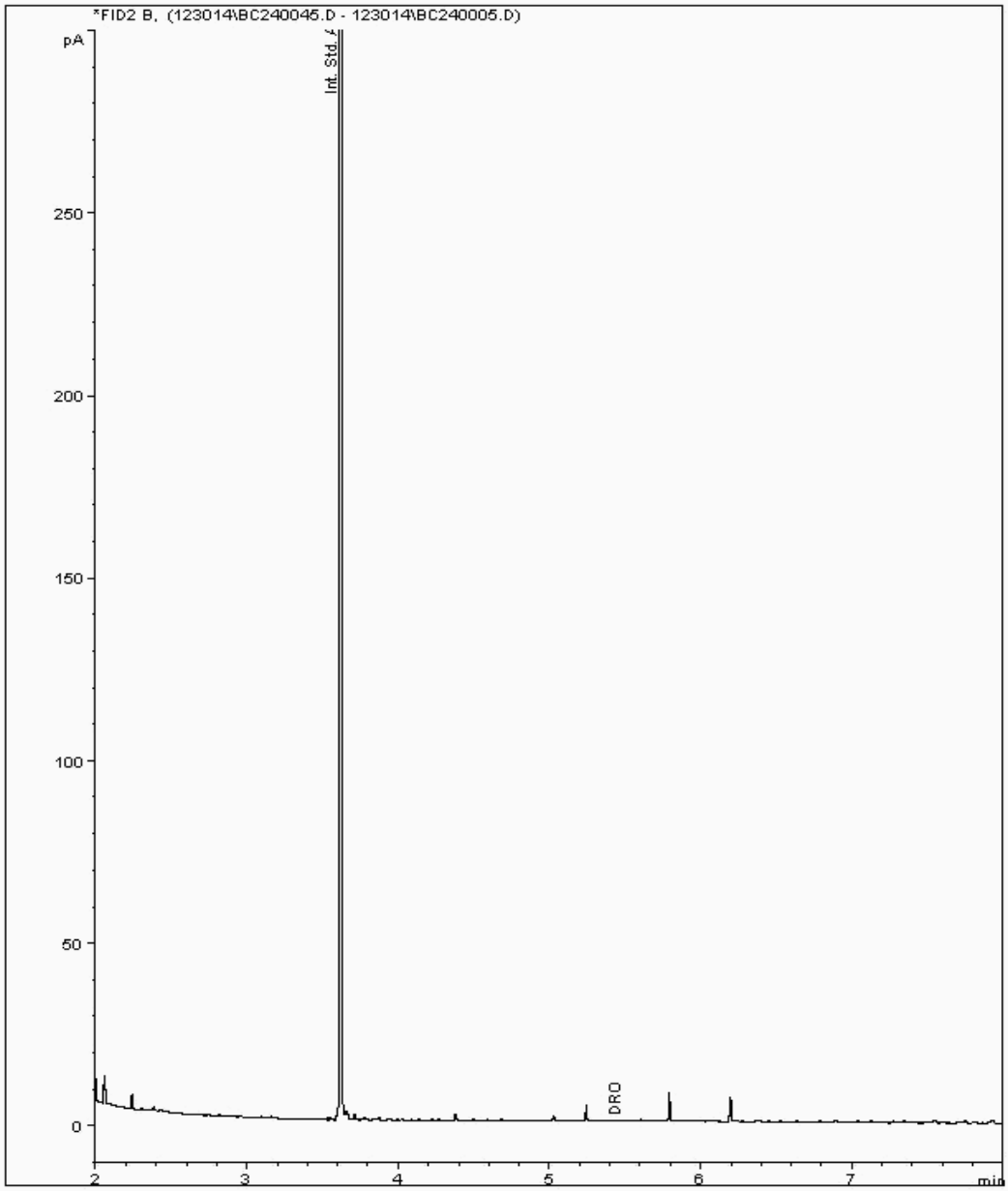
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10594535
Sample ID : BH27A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10083780-
Date Acquired : 31/12/2014 05:16:29 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

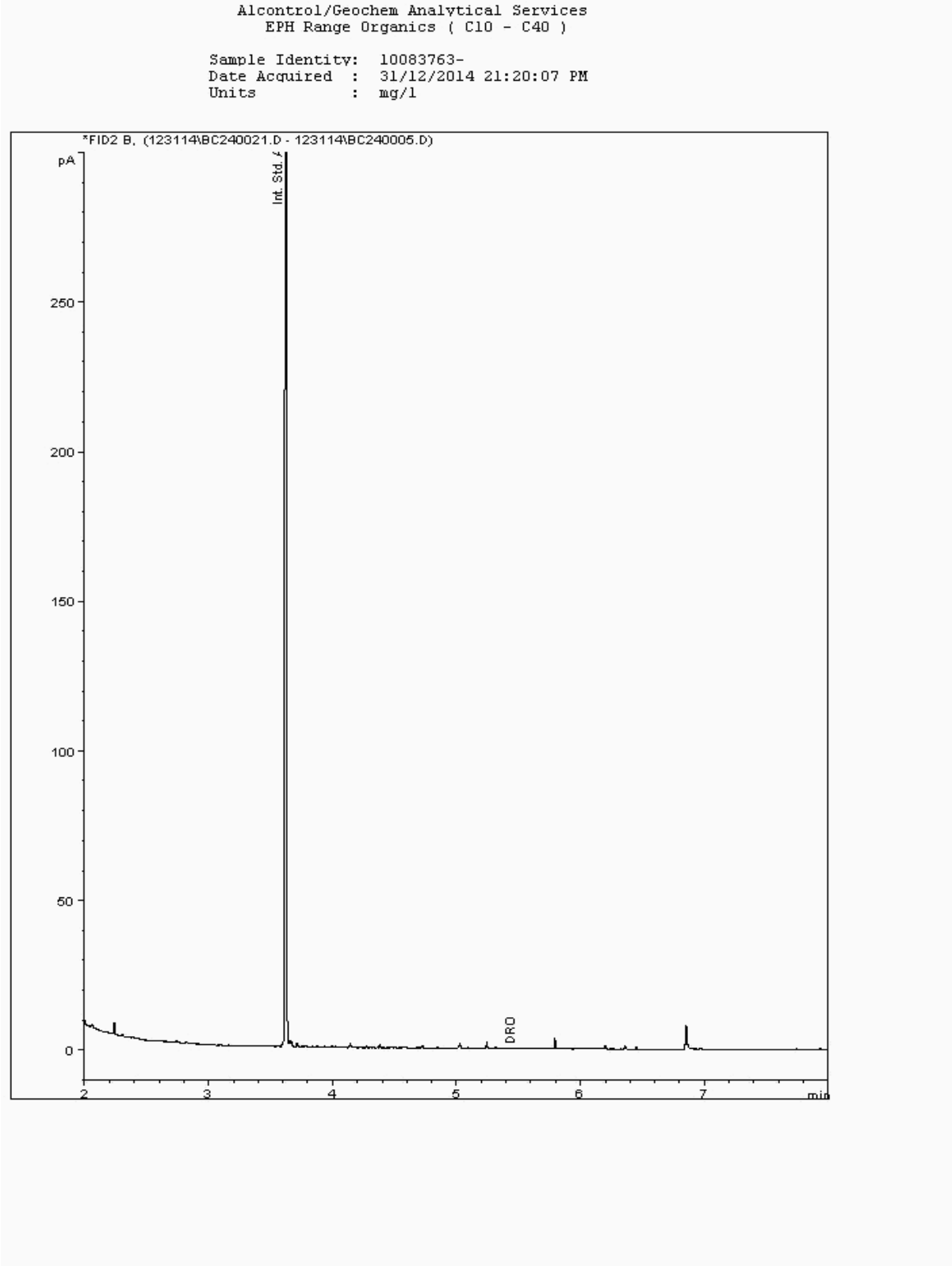
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10594538
Sample ID : BH30A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

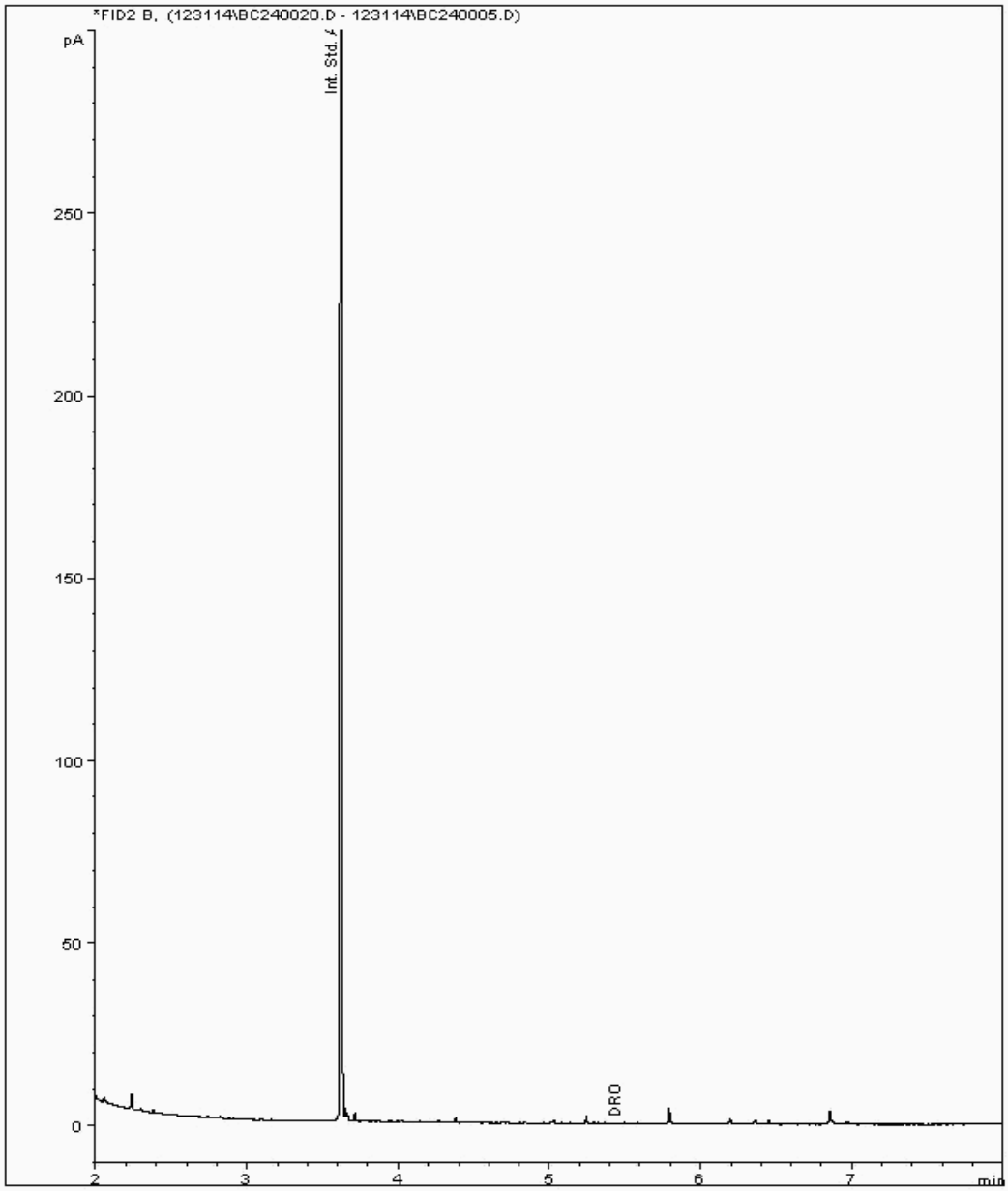
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10594543
Sample ID : BH59

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10083760-
Date Acquired : 31/12/2014 20:58:09 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

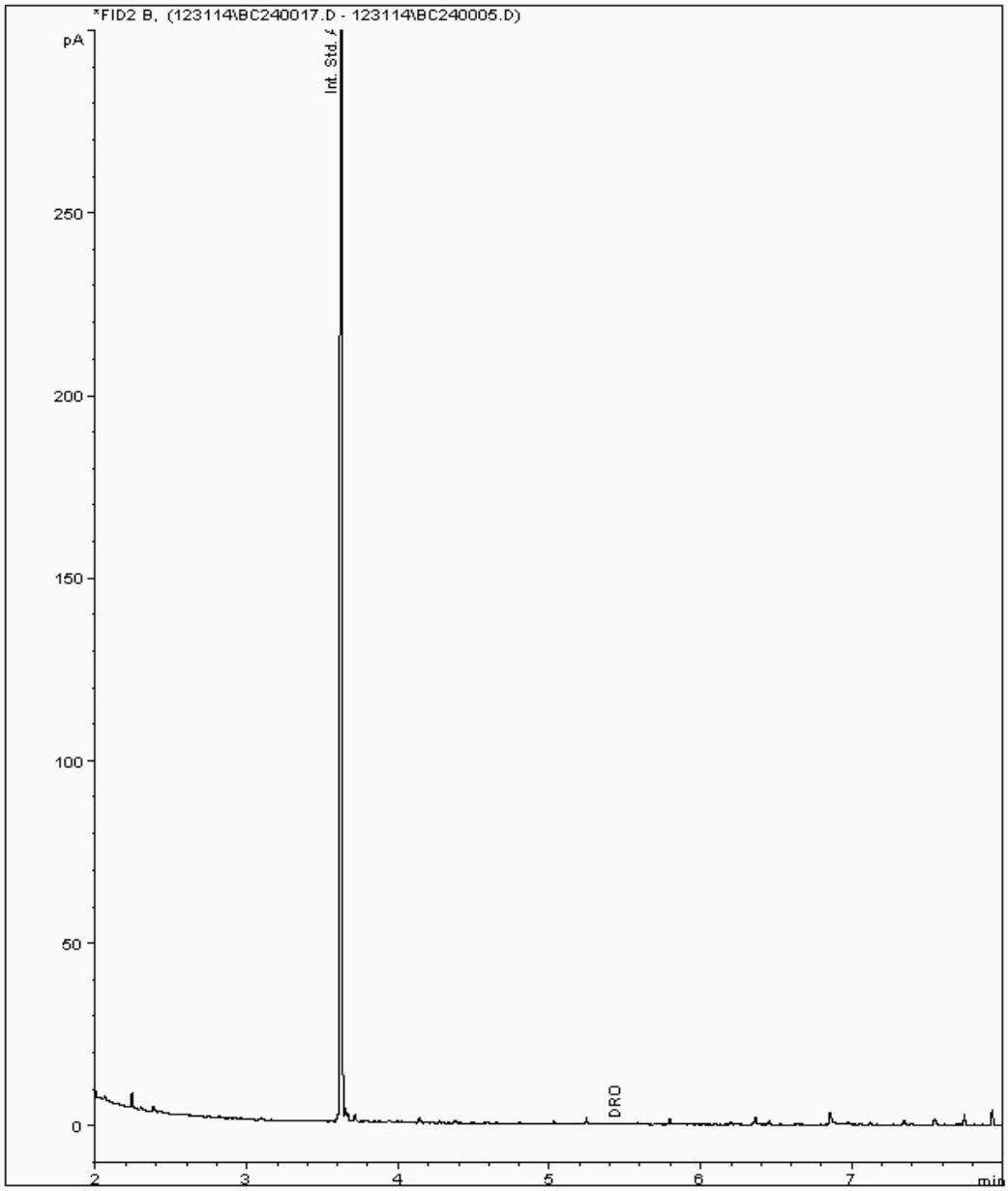
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10594550
Sample ID : BH26

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10083783-
Date Acquired : 31/12/2014 19:51:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

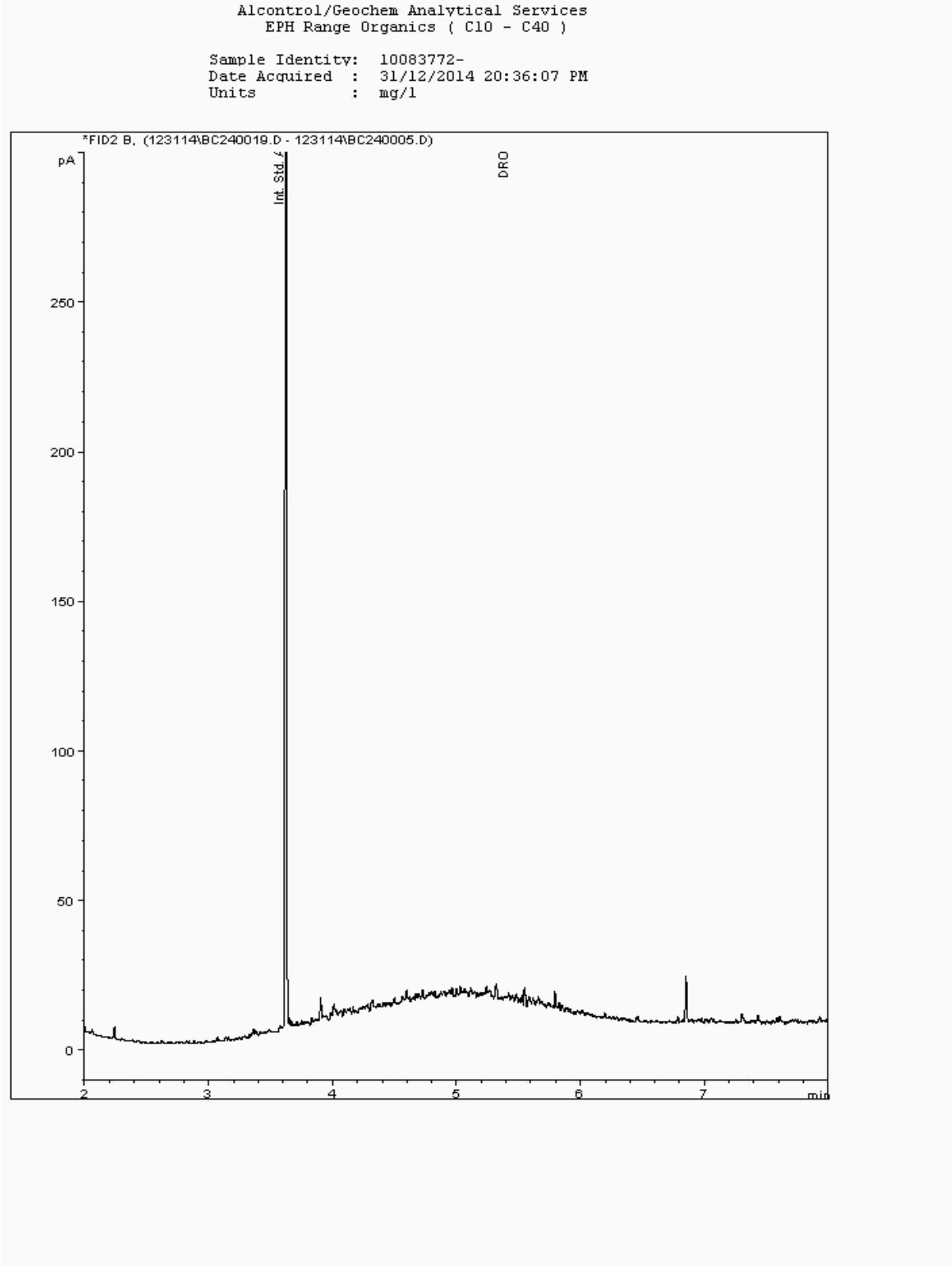
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10595195
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

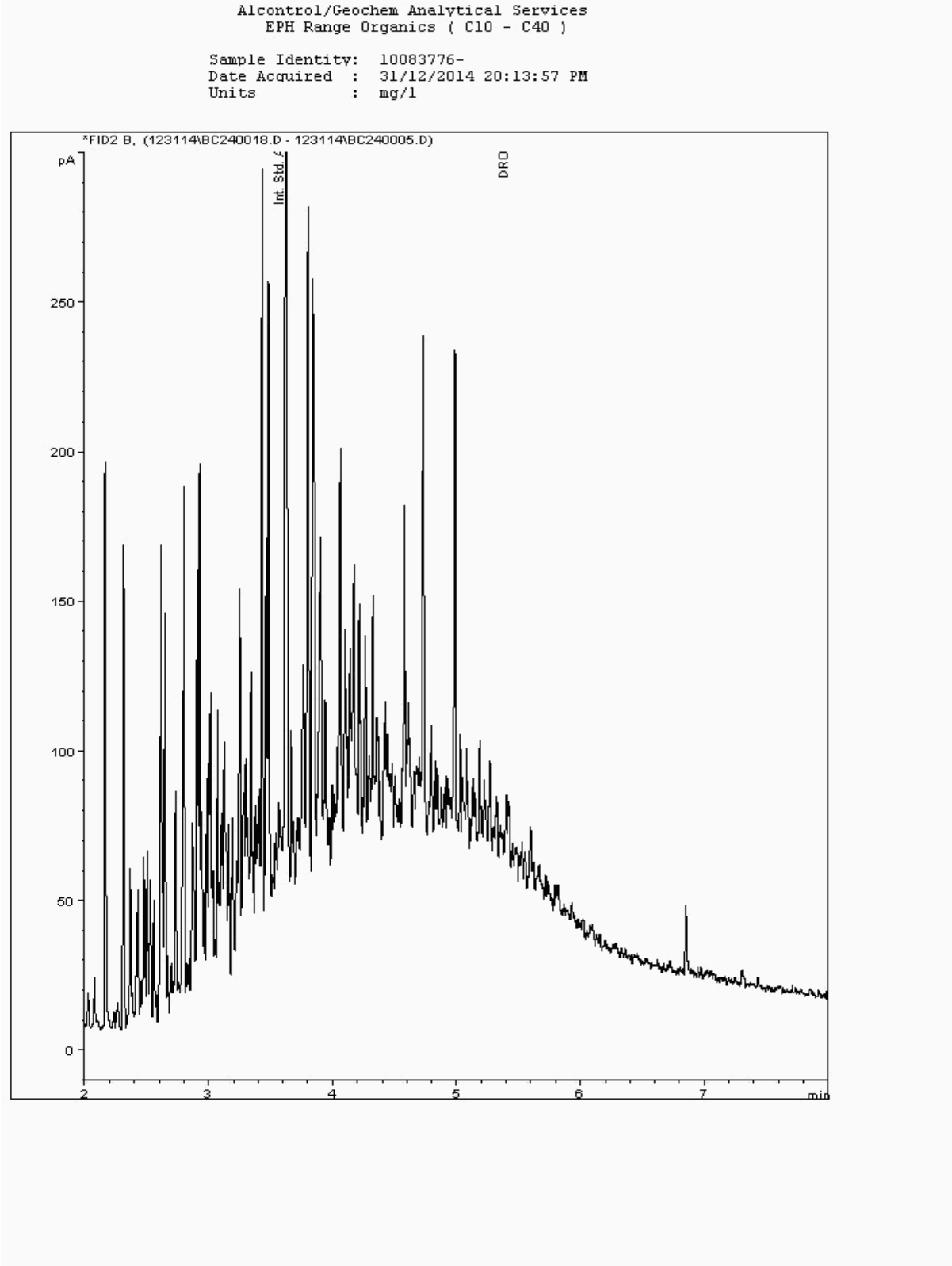
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10595202
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

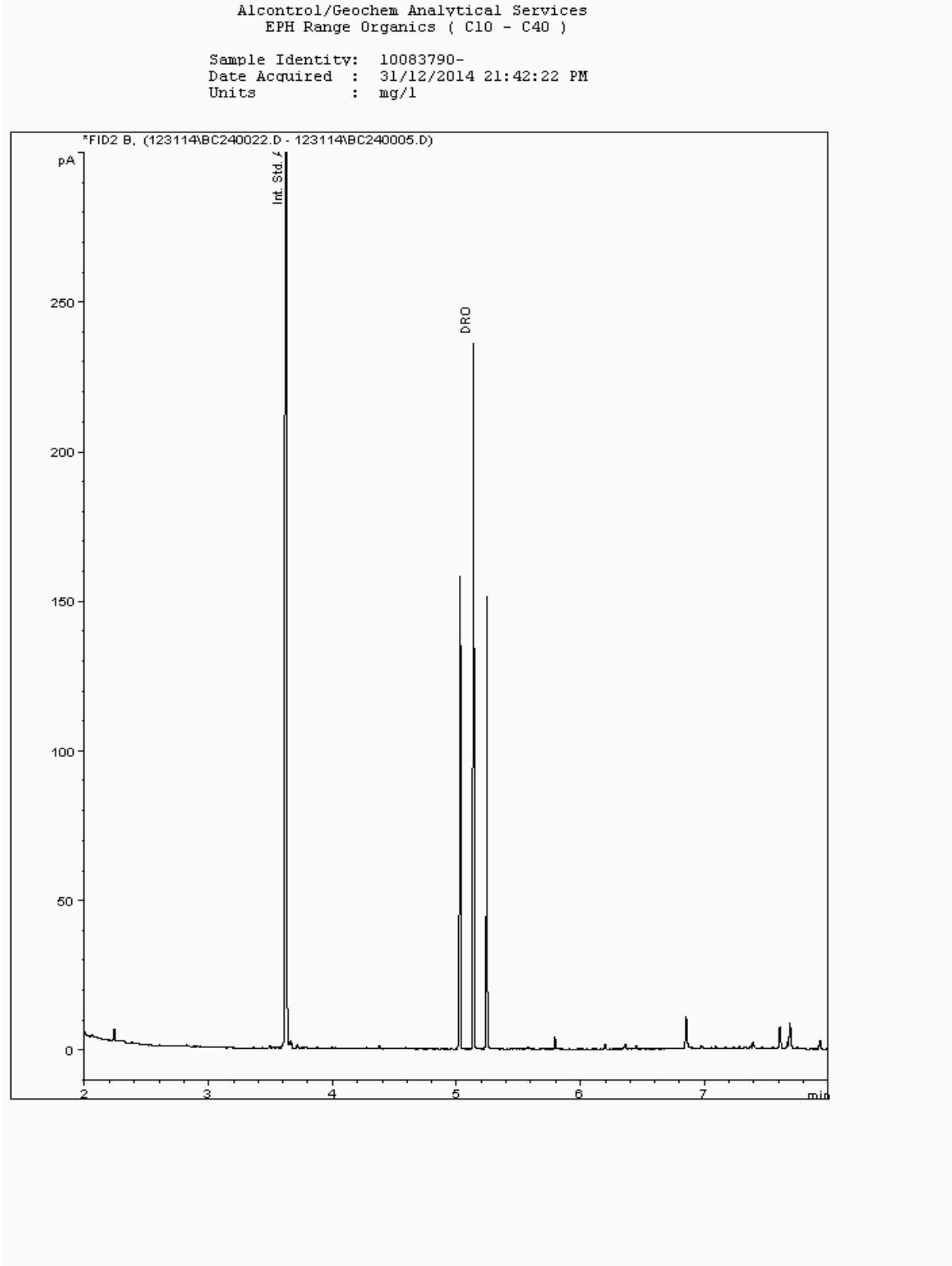
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10595214
Sample ID : BH53

Depth :



CERTIFICATE OF ANALYSIS

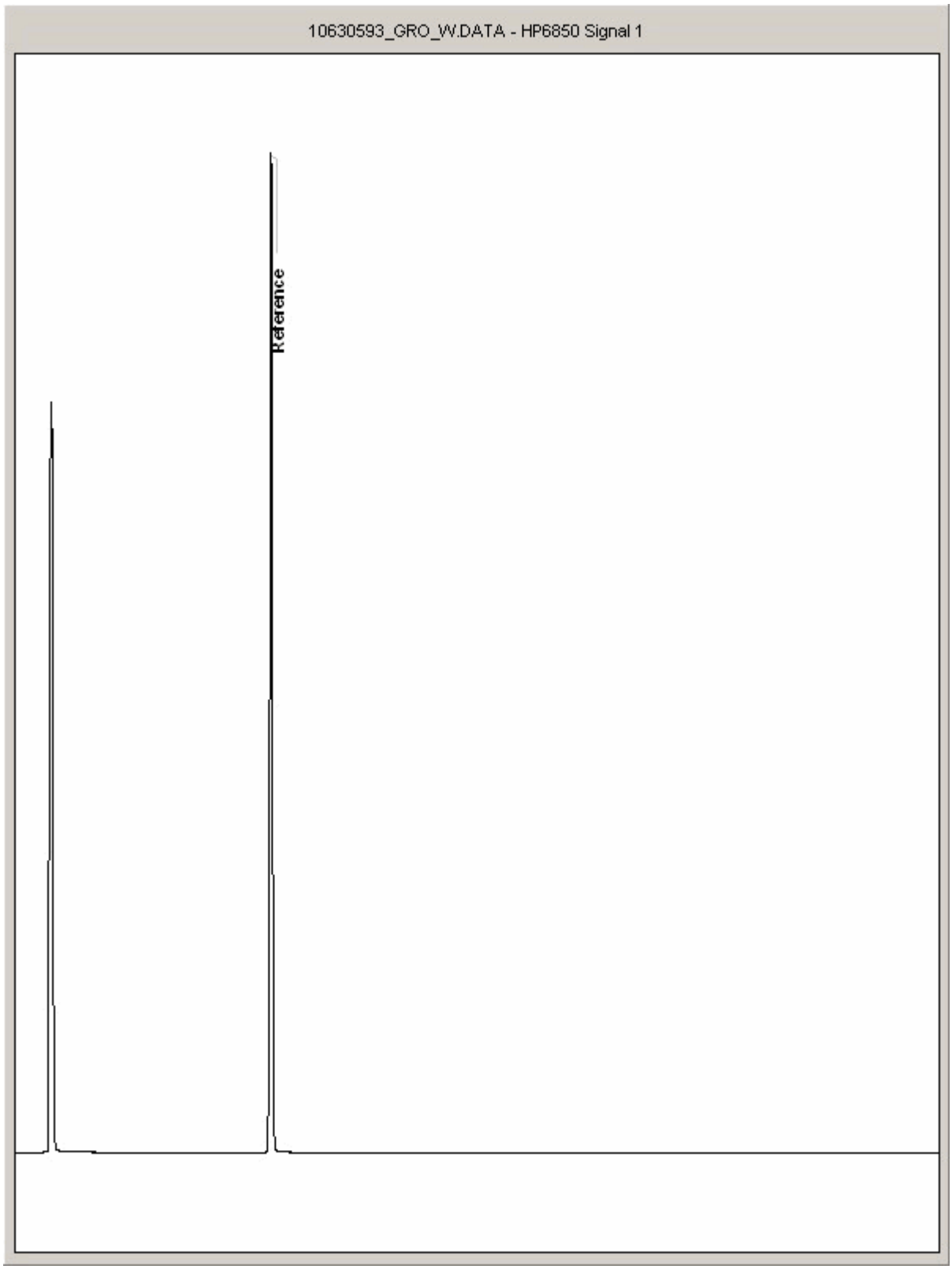
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630593
Sample ID : BH30A

Depth :



CERTIFICATE OF ANALYSIS

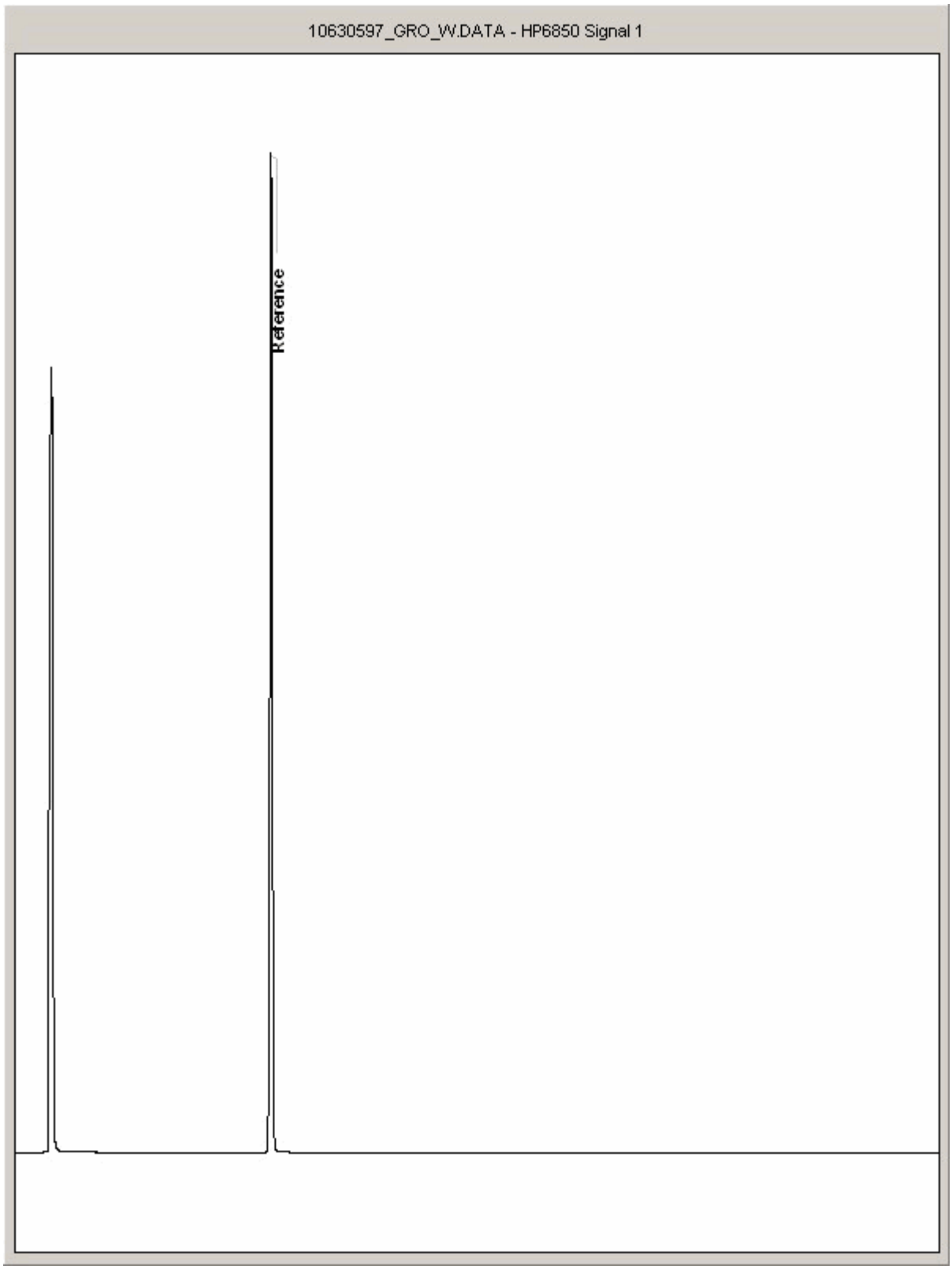
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630597
Sample ID : BH55

Depth :



CERTIFICATE OF ANALYSIS

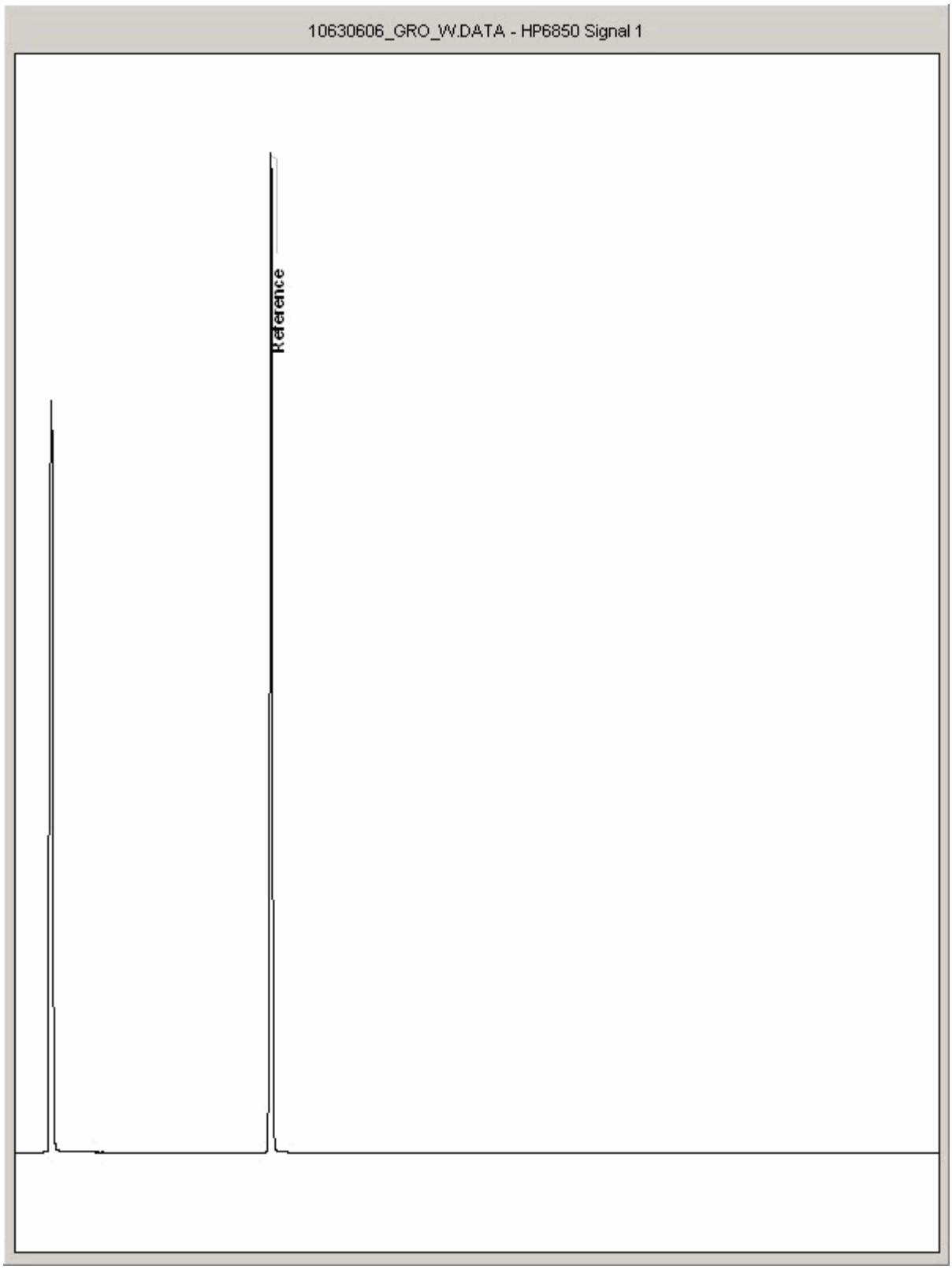
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630606
Sample ID : BH27A

Depth :



CERTIFICATE OF ANALYSIS

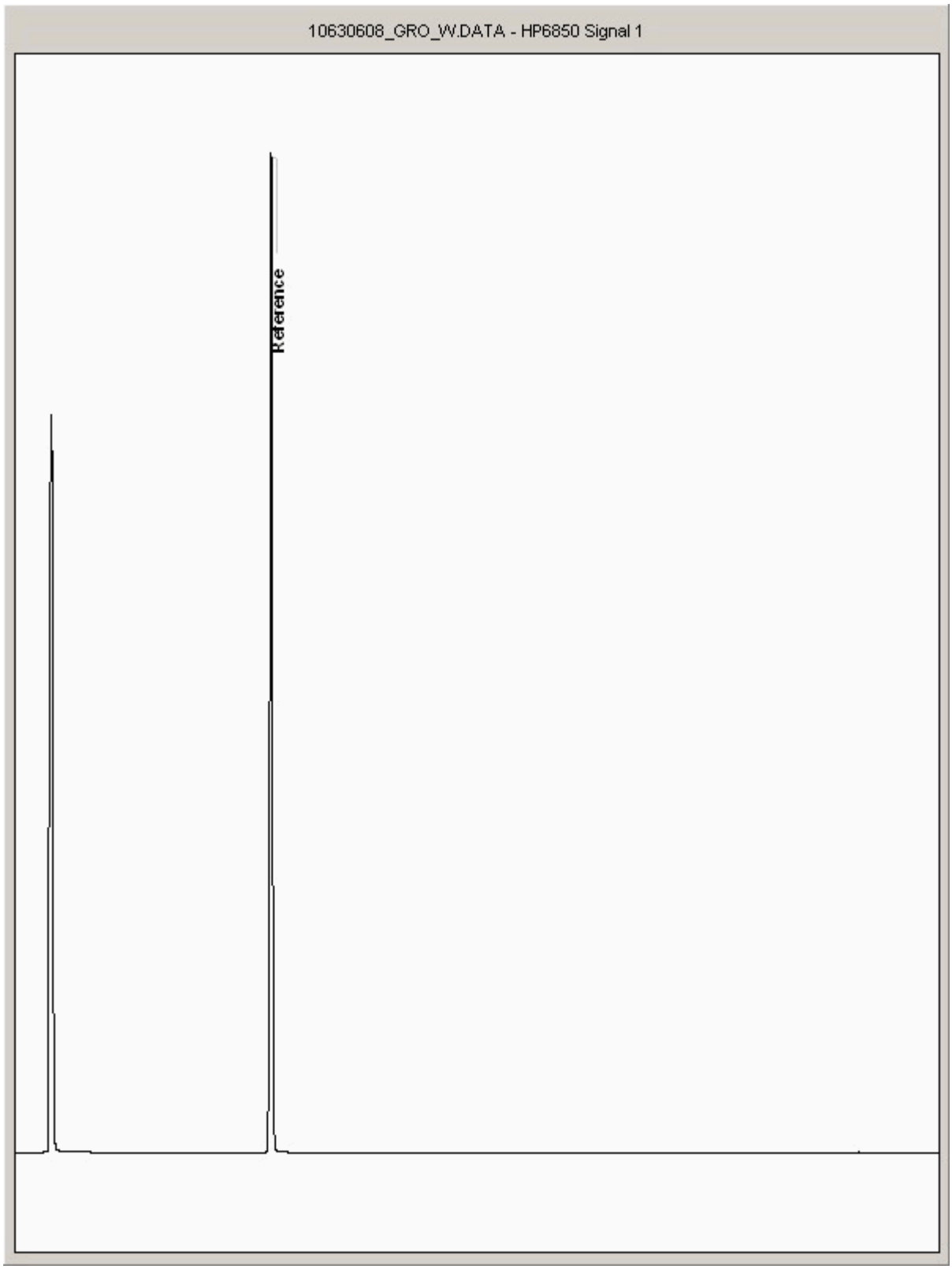
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630608
Sample ID : BH59

Depth :



CERTIFICATE OF ANALYSIS

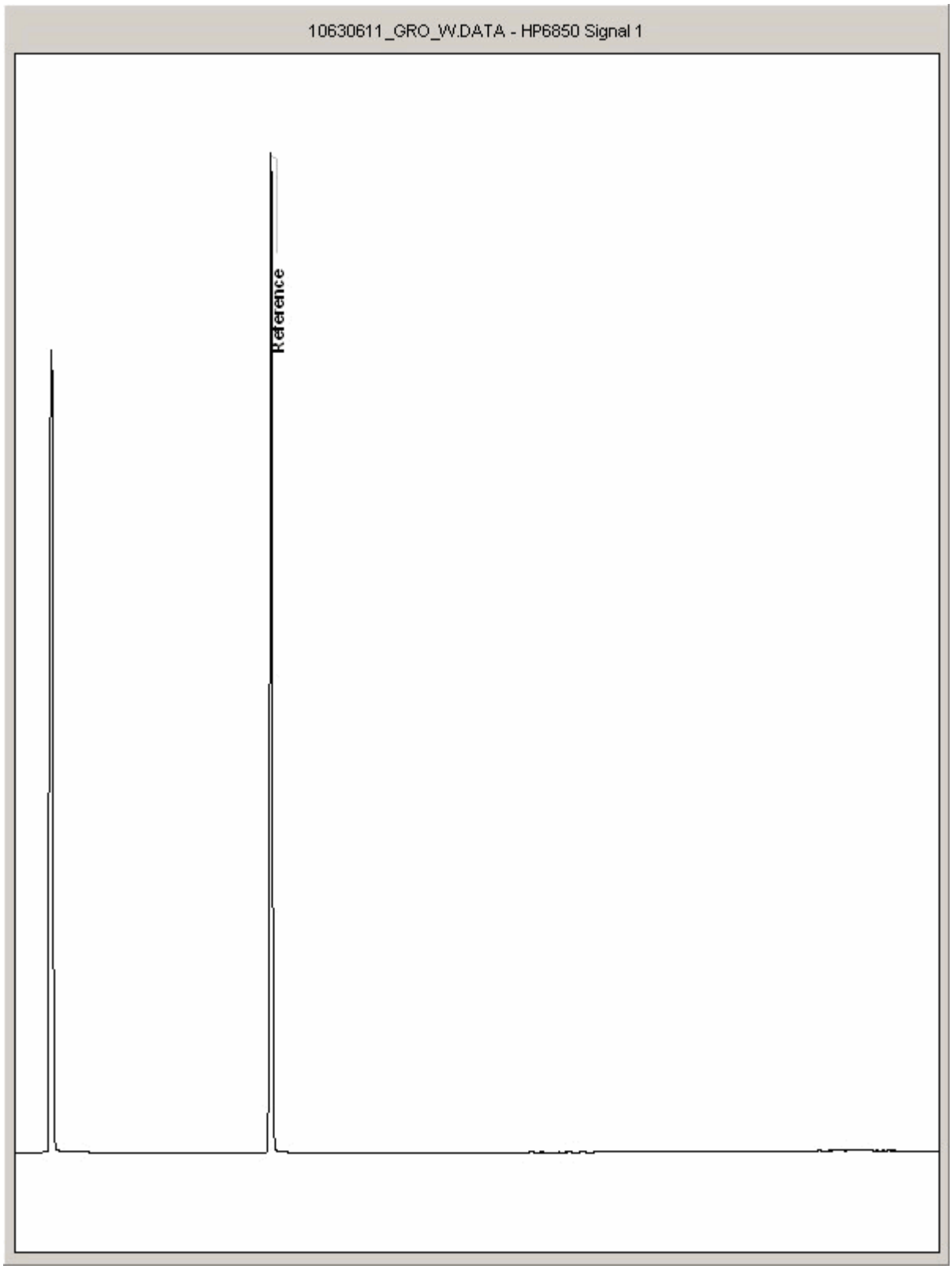
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630611
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

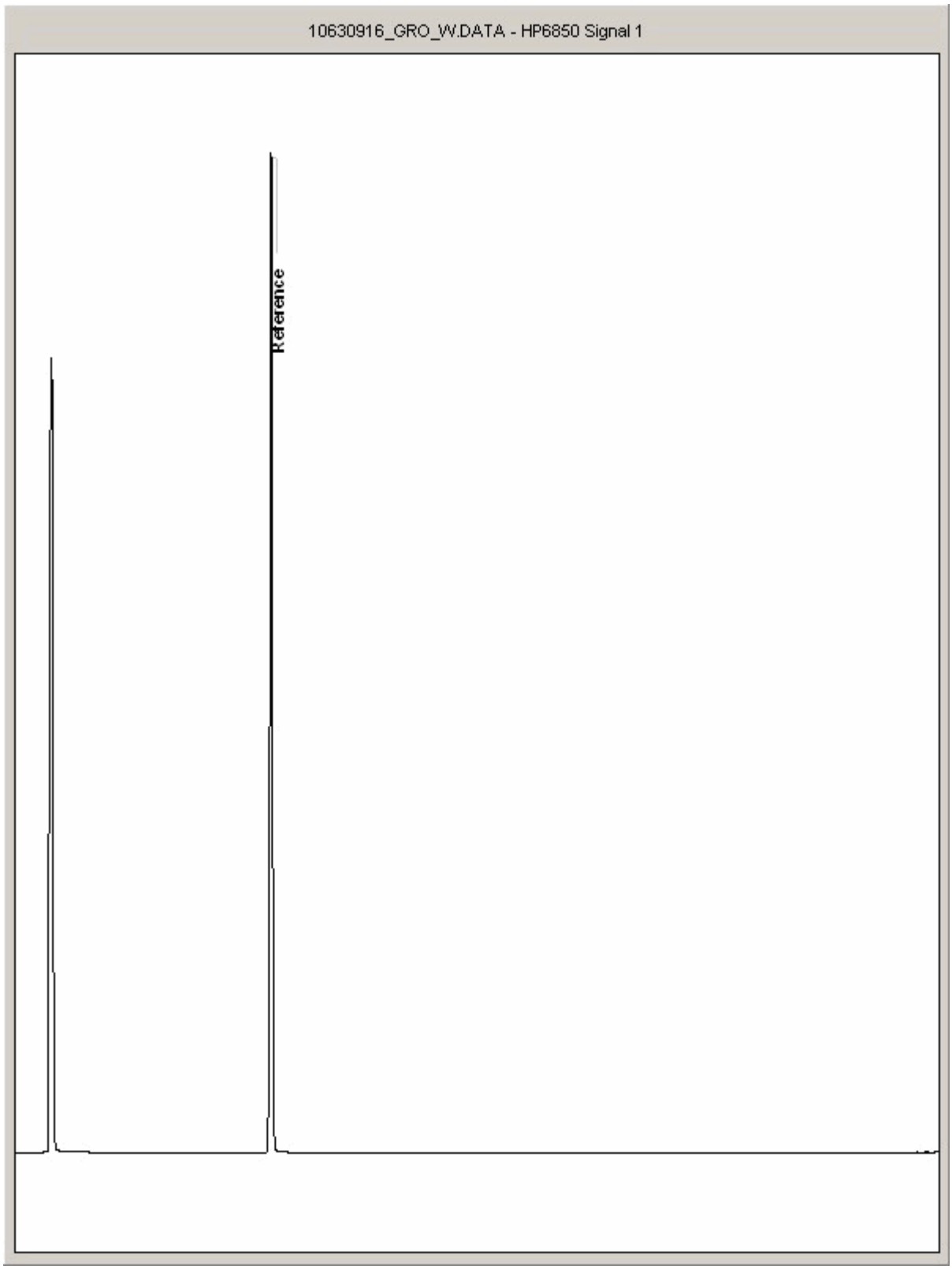
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630916
Sample ID : BH26

Depth :



CERTIFICATE OF ANALYSIS

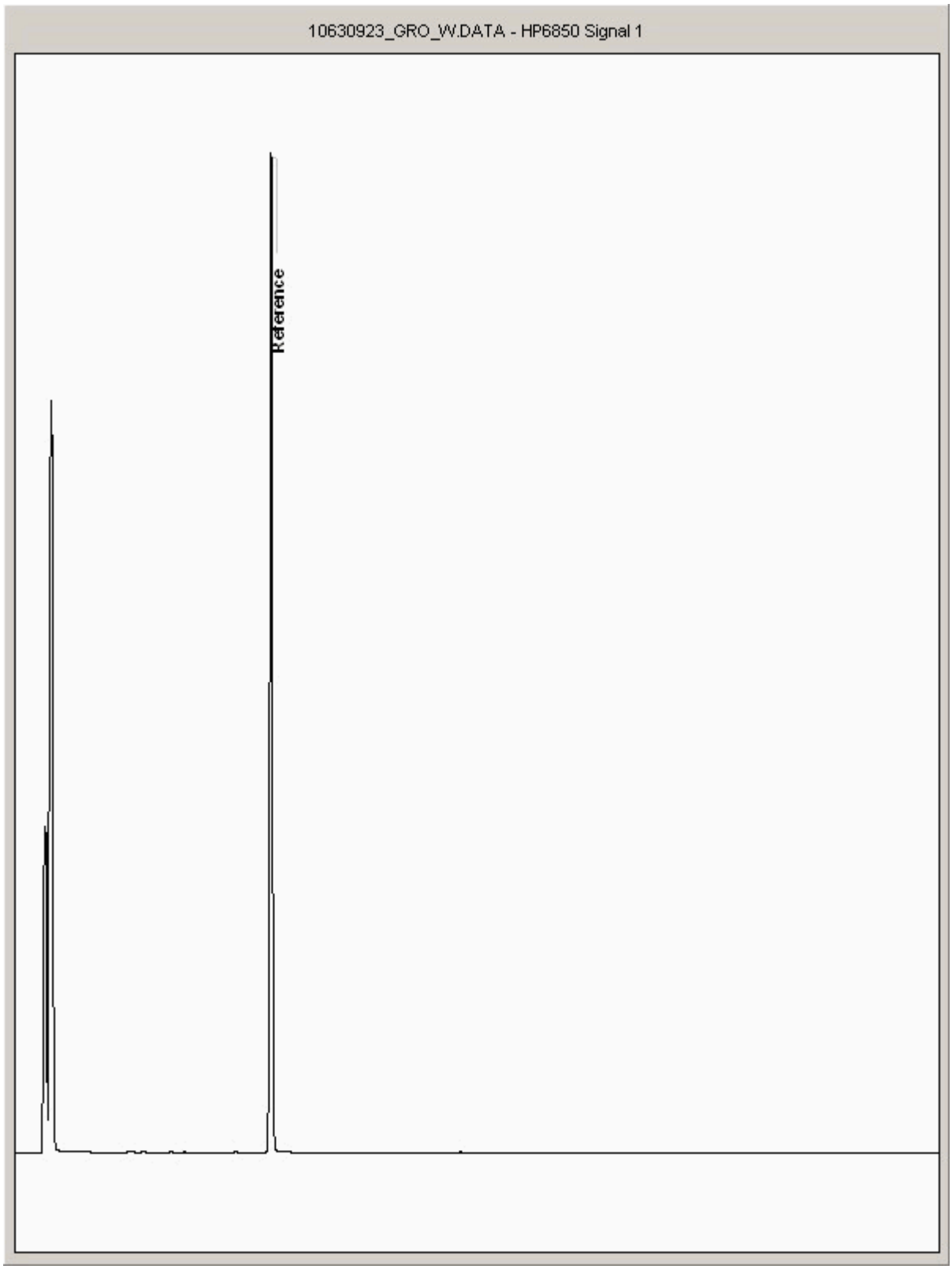
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630923
Sample ID : BH53

Depth :



CERTIFICATE OF ANALYSIS

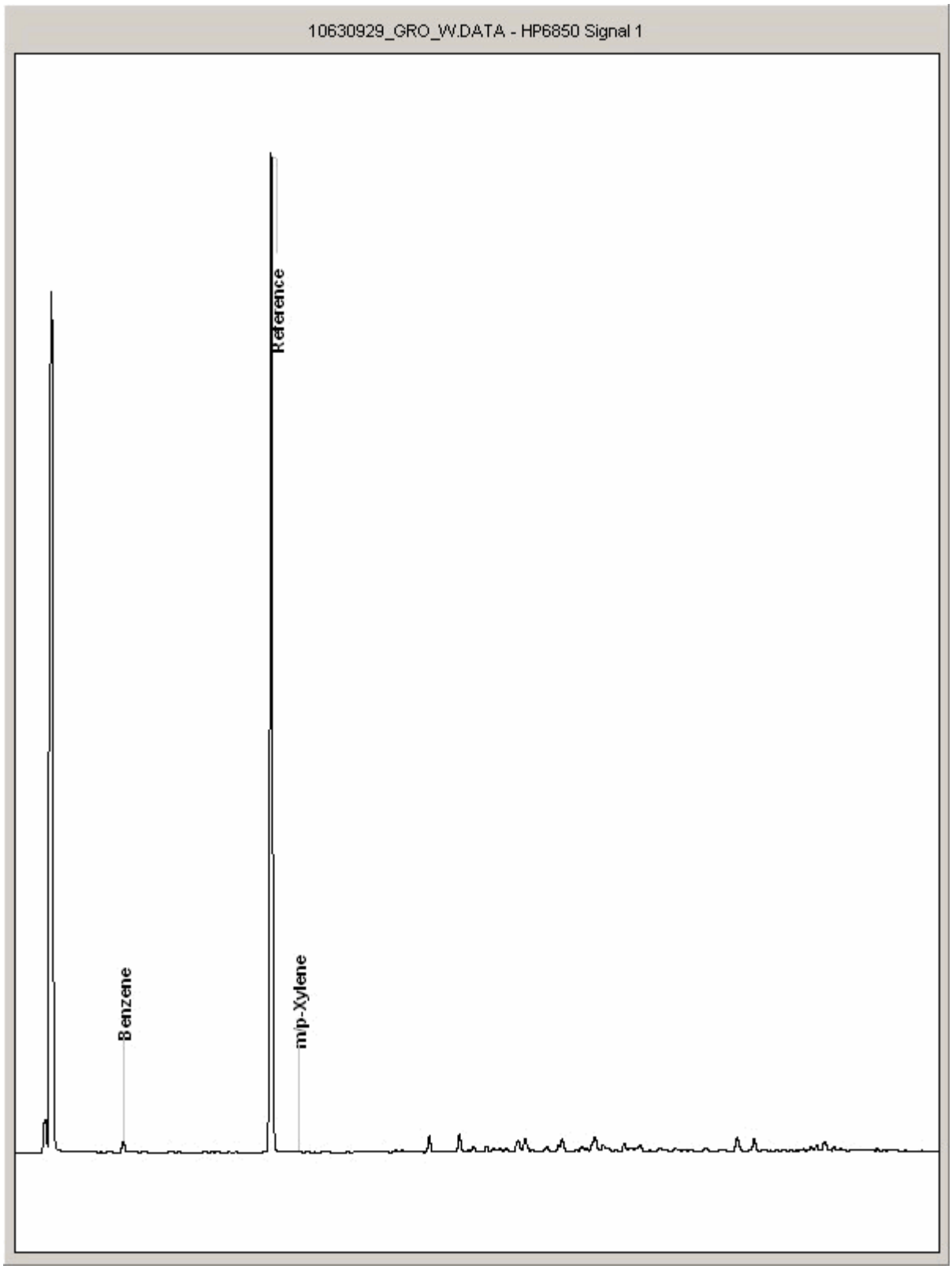
SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10630929
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	141218-60	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297960
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

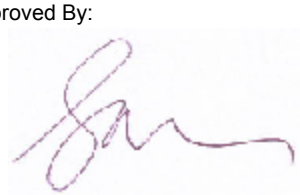
Date:	08 January 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	141219-139
Your Reference:	JER5575U
Location:	SHLNG
Report No:	298077

We received 8 samples on Friday December 19, 2014 and 4 of these samples were scheduled for analysis which was completed on Thursday January 08, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10600488	BH19			17/12/2014
10600494	BH65			17/12/2014
10600490	BH47A			18/12/2014
10600492	BH61A			18/12/2014
10600491	BH47A DUPLICATE			18/12/2014
10600493	BH61A DUPLICATE			18/12/2014
10600489	BH19 DUPLICATE			17/12/2014
10600495	BH65 DUPLICATE			17/12/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			10600488	BH19			1l Glass bottle (ALE
			10600494	BH65			Vial (ALE297)
			10600490	BH47A			1l Glass bottle (ALE
			10600492	BH61A			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4	X		X		X
				X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 4		X		X	
			X		X		X

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH19	BH65	BH47A	BH61A		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	17/12/2014	17/12/2014	18/12/2014	18/12/2014		
			Sampled Time	.	.	.	.		
			Date Received	19/12/2014	19/12/2014	19/12/2014	19/12/2014		
			SDG Ref	141219-139	141219-139	141219-139	141219-139		
			Lab Sample No.(s)	10600488	10600494	10600490	10600492		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		178 ♦ #	123 ♦ #	376 ♦ #	1810 ♦ #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		56.6 ♦	106 ♦	104 ♦	351 ♦		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		121 ♦	16.6 ♦	272 ♦	1460 ♦		

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH19	BH65	BH47A	BH61A		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	17/12/2014	17/12/2014	18/12/2014	18/12/2014		
			Sampled Time	.	.	.	.		
			Date Received	19/12/2014	19/12/2014	19/12/2014	19/12/2014		
			SDG Ref	141219-139	141219-139	141219-139	141219-139		
			Lab Sample No.(s)	10600488	10600494	10600490	10600492		
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		85 ♦	75 ♦	78 ♦	78 ♦		
GRO >C5-C6	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	17 ♦		
GRO >C6-C8	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	400 ♦		
GRO >C8-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	205 ♦		
GRO >C5-C10	<10 µg/l	TM245		<10 ♦	<10 ♦	<10 ♦	622 ♦		

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10600488	10600494	10600490	10600492
Customer Sample Ref.	BH19	BH65	BH47A	BH61A
AGS Ref.				
Depth				
Type	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015
GRO by GC-FID (W)	08-Jan-2015	08-Jan-2015	08-Jan-2015	08-Jan-2015

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1028
EPH (DRO) (C10-C40)	TM172	**88.0** 58.60 : 104.65

GRO by GC-FID (W)

Component	Method Code	QC 1015
Benzene by GC	TM245	**106.0** 79.13 : 118.84
Ethylbenzene by GC	TM245	**106.0** 79.54 : 115.99
m & p Xylene by GC	TM245	**105.25** 78.44 : 116.32
MTBE GC-FID	TM245	**107.0** 81.43 : 120.09
o Xylene by GC	TM245	**105.0** 76.85 : 120.29
QC	TM245	**97.9** 69.85 : 125.92
Toluene by GC	TM245	**106.5** 81.66 : 114.03

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

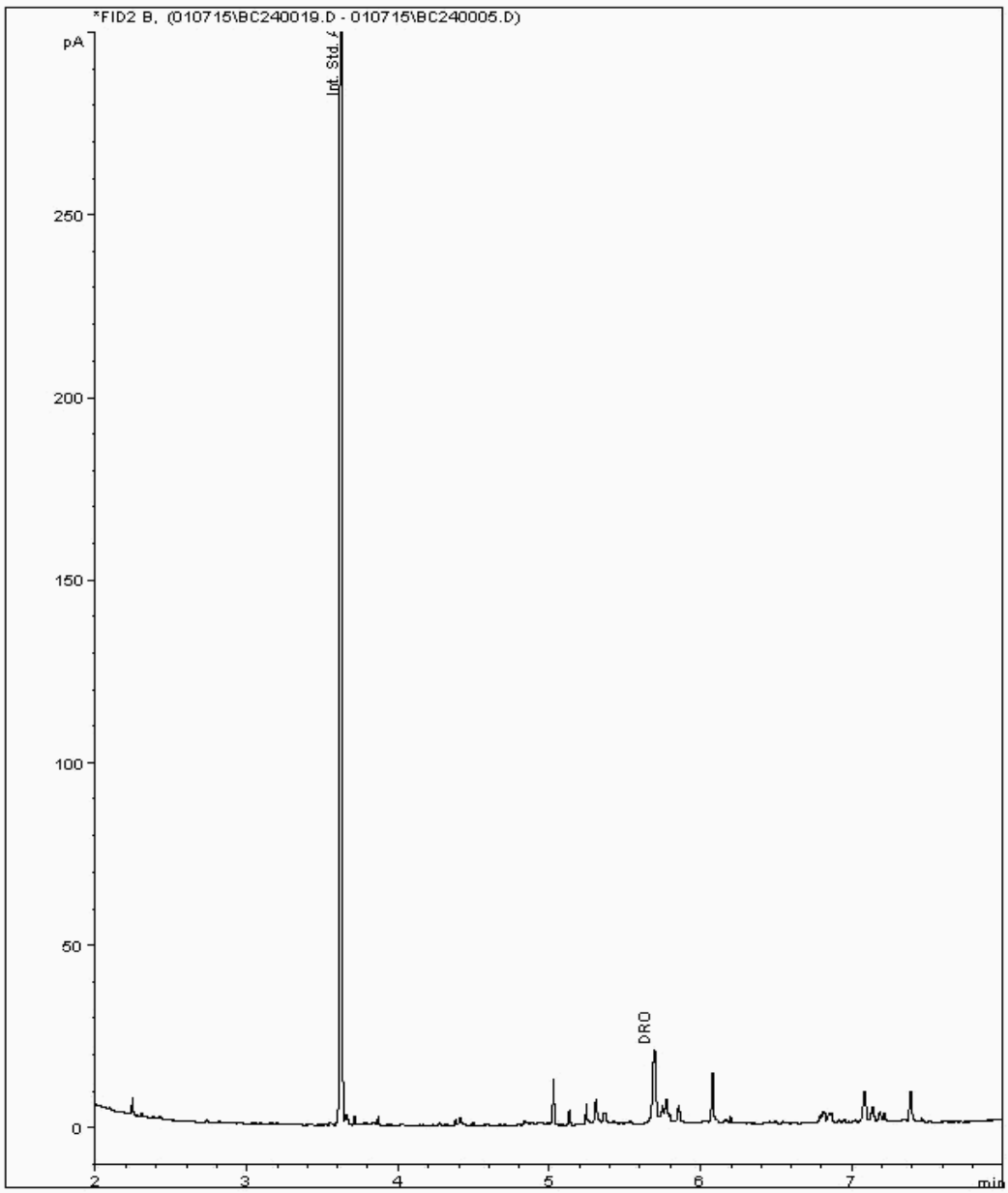
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10636311
Sample ID : BH65

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10093843-
Date Acquired : 07/01/2015 18:04:00 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

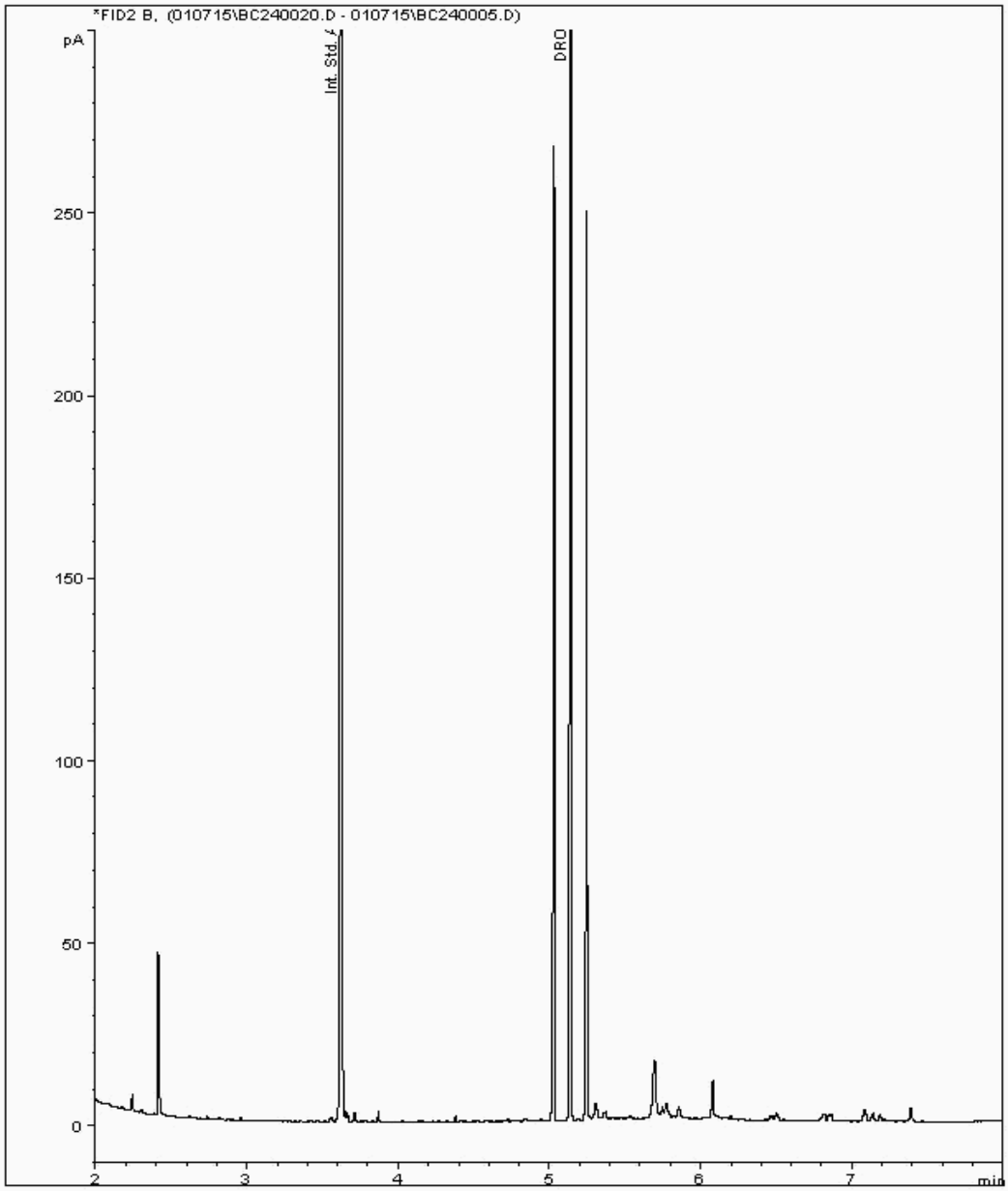
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10636327
Sample ID : BH47A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10093836-
Date Acquired : 07/01/2015 18:25:54 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

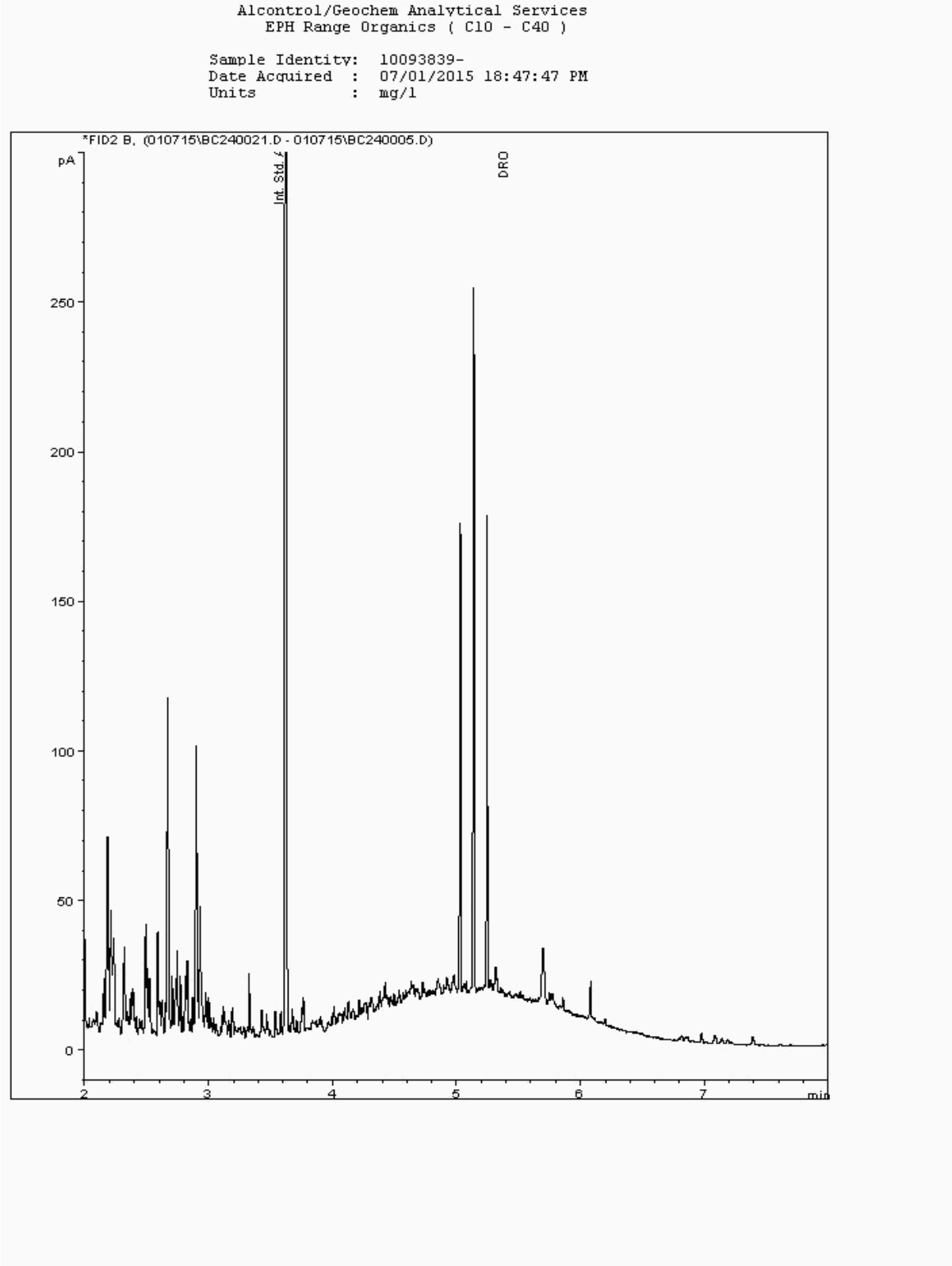
SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10636352
Sample ID : BH61A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

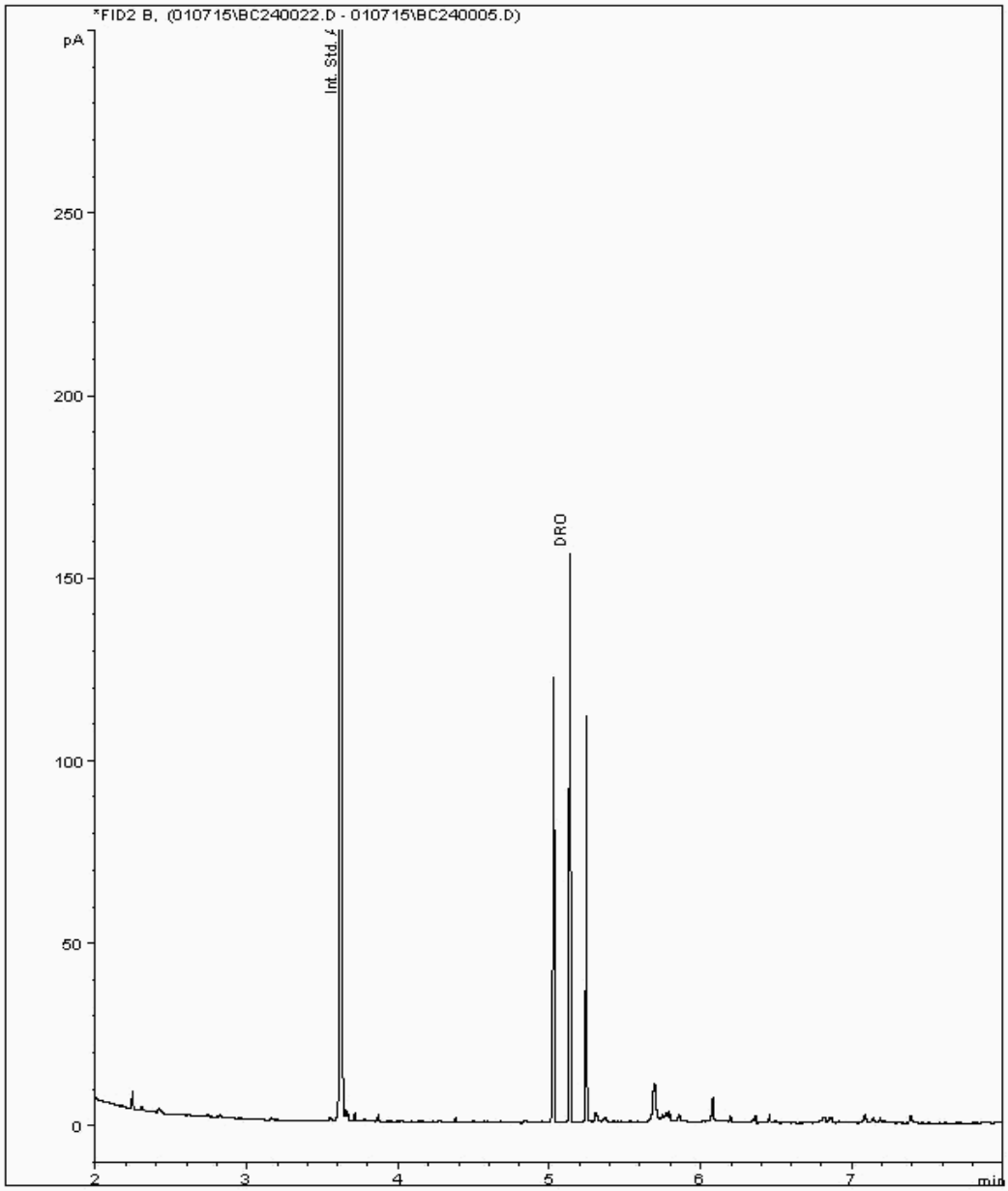
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10636361
Sample ID : BH19

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10093819-
Date Acquired : 07/01/2015 19:09:53 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

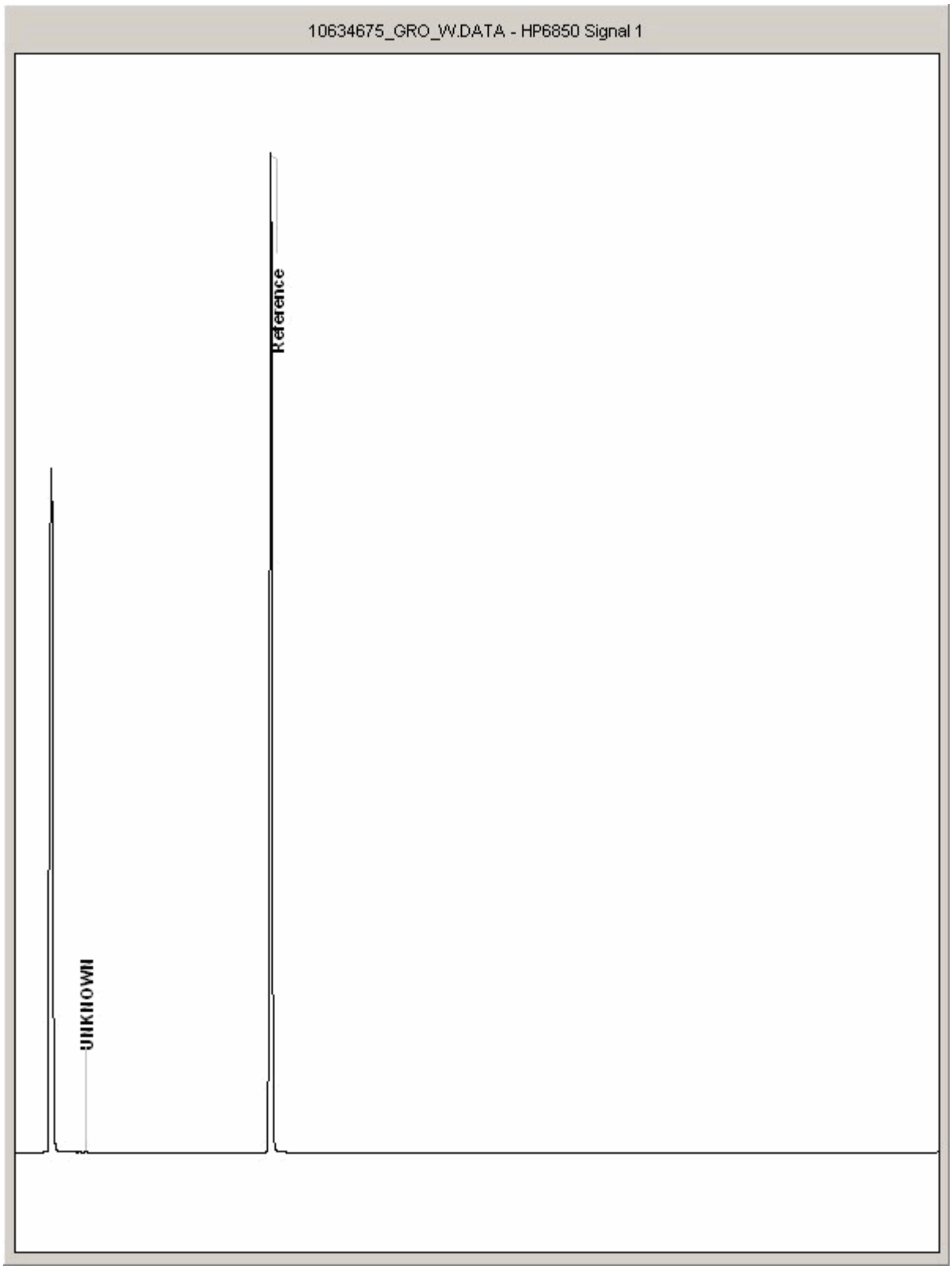
SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10634675
Sample ID : BH19

Depth :



CERTIFICATE OF ANALYSIS

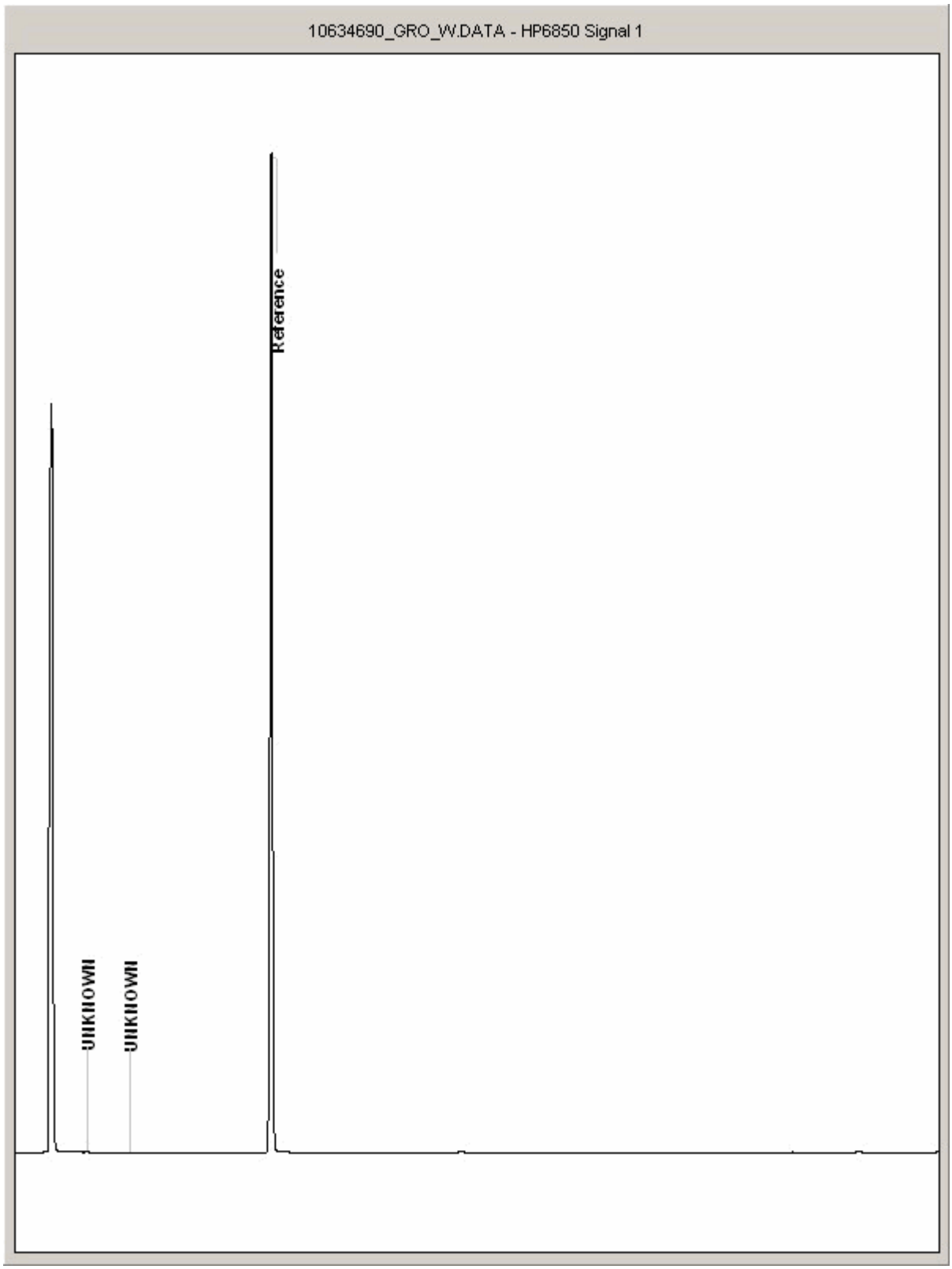
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10634690
Sample ID : BH47A

Depth :



CERTIFICATE OF ANALYSIS

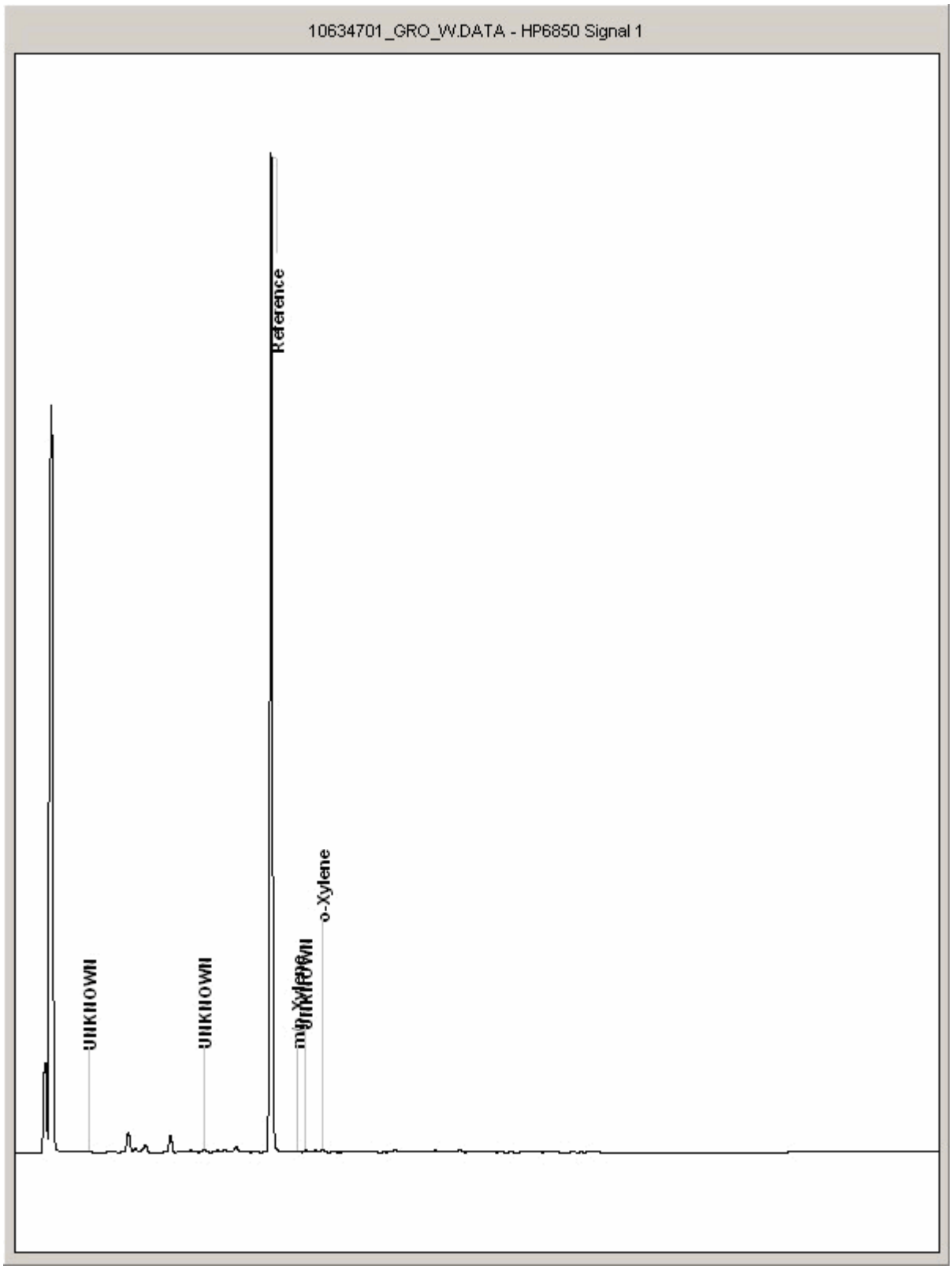
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10634701
Sample ID : BH61A

Depth :



CERTIFICATE OF ANALYSIS

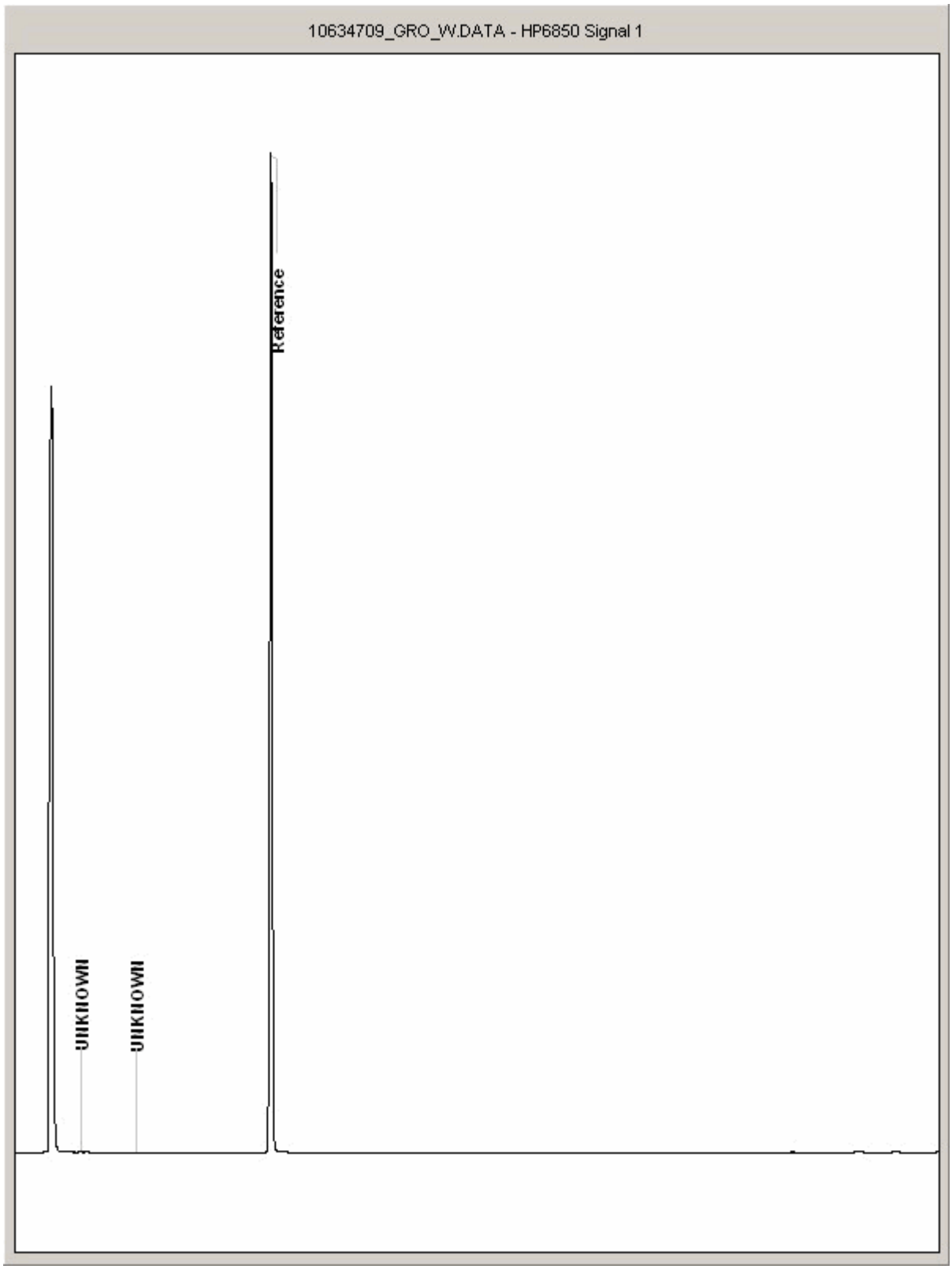
SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10634709
Sample ID : BH65

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	141219-139	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	298077
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

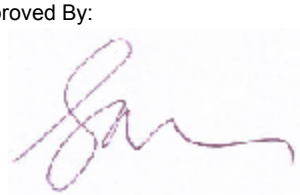
Date:	05 January 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	141220-59
Your Reference:	JER5575U
Location:	SHLNG
Report No:	297645

We received 4 samples on Saturday December 20, 2014 and 2 of these samples were scheduled for analysis which was completed on Monday January 05, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10603113	BH50			18/12/2014
10603115	BH60b			18/12/2014
10603116	BH60b Duplicate			18/12/2014
10603114	BH50 Duplicate			18/12/2014

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container			
			10603113	BH50			1l Glass bottle (ALE	Vial (ALE297)	1l Glass bottle (ALE	Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 2	X				X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2		X				X		X

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH50	BH60b
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	18/12/2014	18/12/2014
			Sampled Time	.	.
			Date Received	20/12/2014	20/12/2014
			SDG Ref	141220-59	141220-59
			Lab Sample No.(s)	10603113	10603115
			AGS Reference		
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		3310 #	151 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		137	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		3170	151

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH50	BH60b
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	18/12/2014	18/12/2014
			Sampled Time	.	.
			Date Received	20/12/2014	20/12/2014
			SDG Ref	141220-59	141220-59
			Lab Sample No.(s)	10603113	10603115
			AGS Reference		
GRO Surrogate % recovery**	%	TM245		83 ♦	90 ♦
GRO >C5-C6	<10 µg/l	TM245		19 ♦	<10 ♦
GRO >C6-C8	<10 µg/l	TM245		118 ♦	<10 ♦
GRO >C8-C10	<10 µg/l	TM245		1750 ♦	<10 ♦
GRO >C5-C10	<10 µg/l	TM245		1890 ♦	<10 ♦

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10603113	10603115
Customer Sample Ref.	BH50	BH60b
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	29-Dec-2014	29-Dec-2014
GRO by GC-FID (W)	05-Jan-2015	05-Jan-2015

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1094	QC 1019
EPH (DRO) (C10-C40)	TM172	**87.0** 58.60 : 104.65	**88.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1072
Benzene by GC	TM245	**108.0** 79.13 : 118.84
Ethylbenzene by GC	TM245	**104.0** 79.54 : 115.99
m & p Xylene by GC	TM245	**102.0** 78.44 : 116.32
MTBE GC-FID	TM245	**108.0** 81.43 : 120.09
o Xylene by GC	TM245	**102.5** 76.85 : 120.29
QC	TM245	**114.34** 69.85 : 125.92
Toluene by GC	TM245	**106.0** 81.66 : 114.03

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

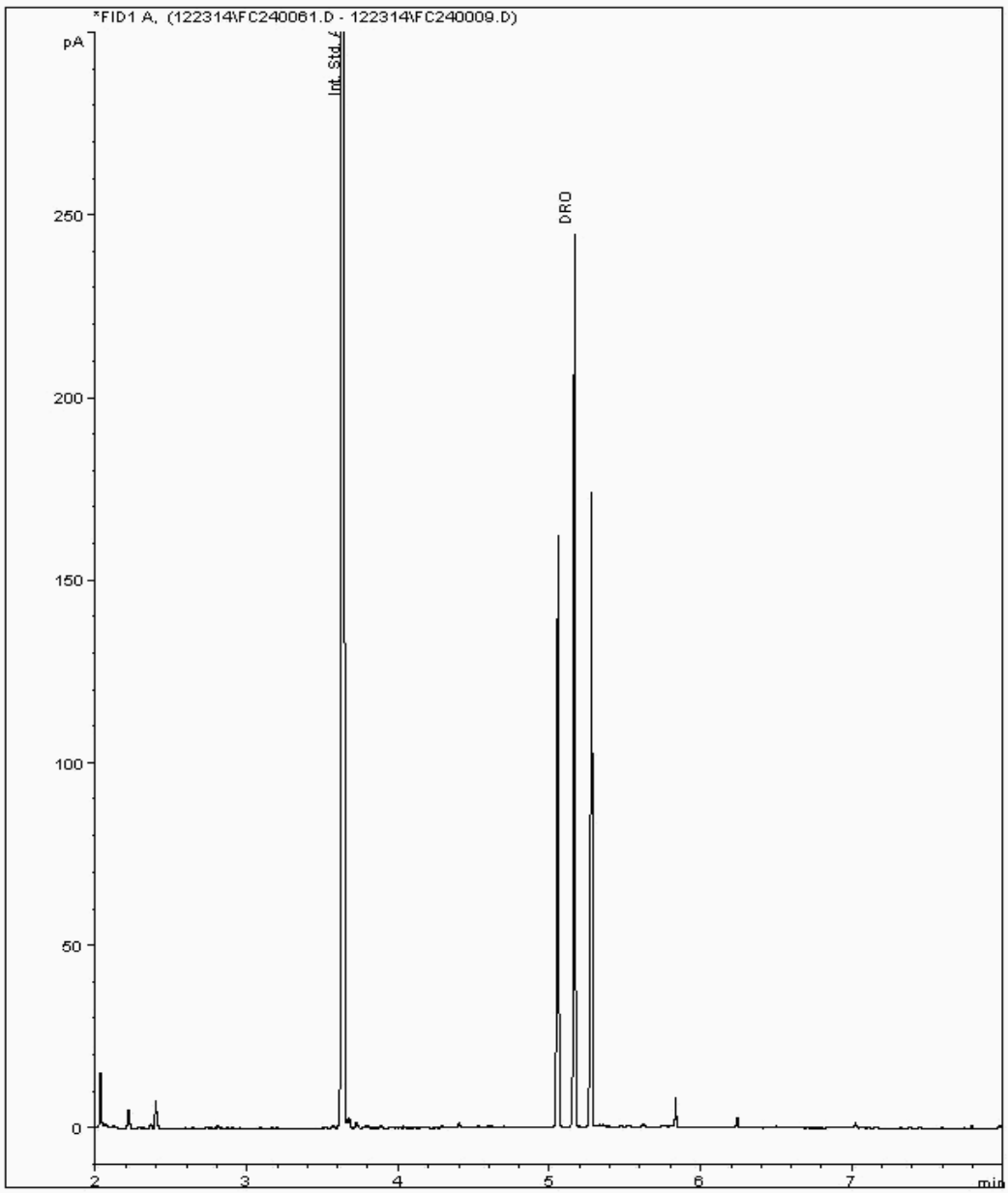
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10612049
Sample ID : BH60b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10096430-
Date Acquired : 25/12/2014 06:11:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

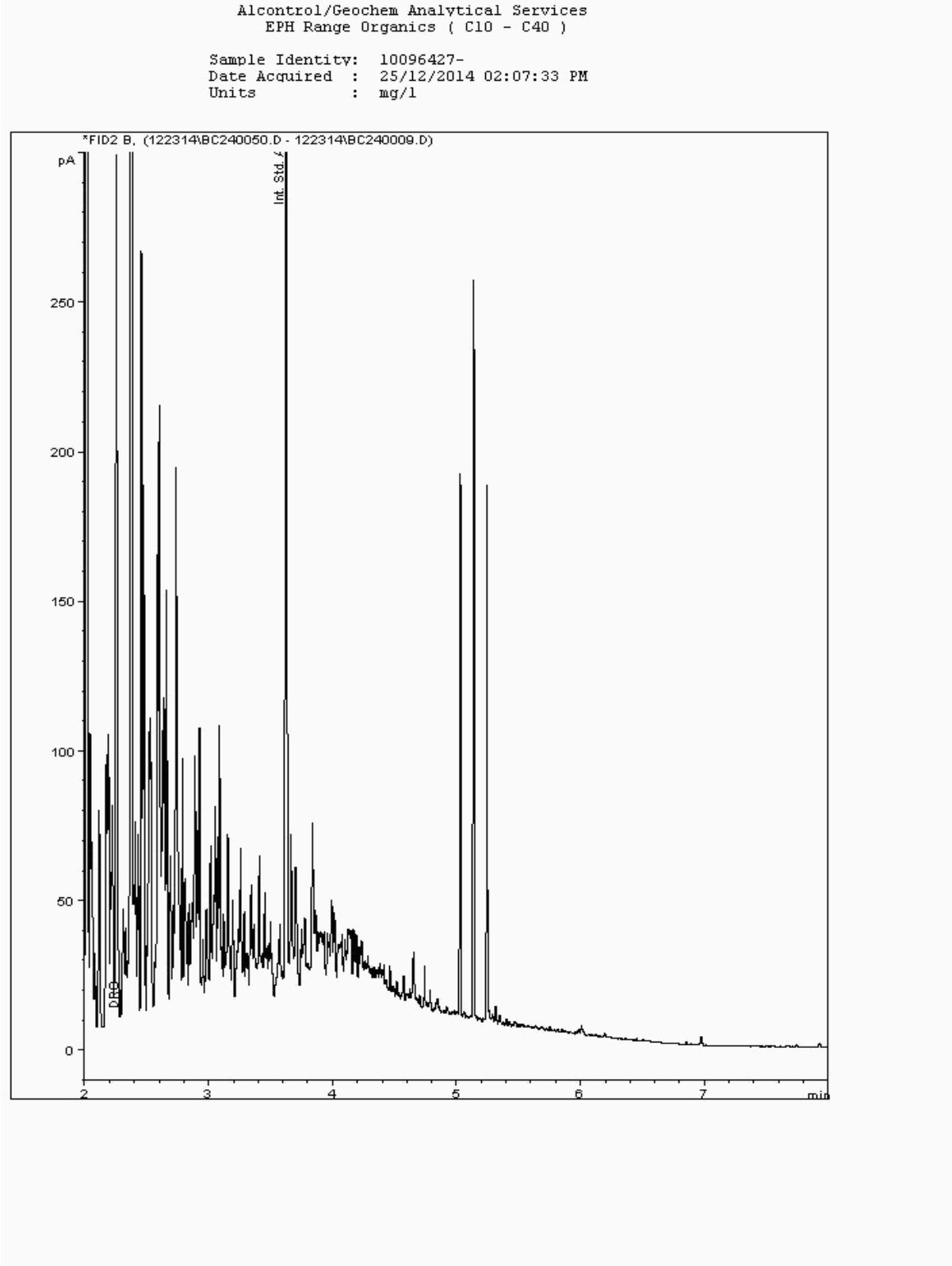
SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10612062
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

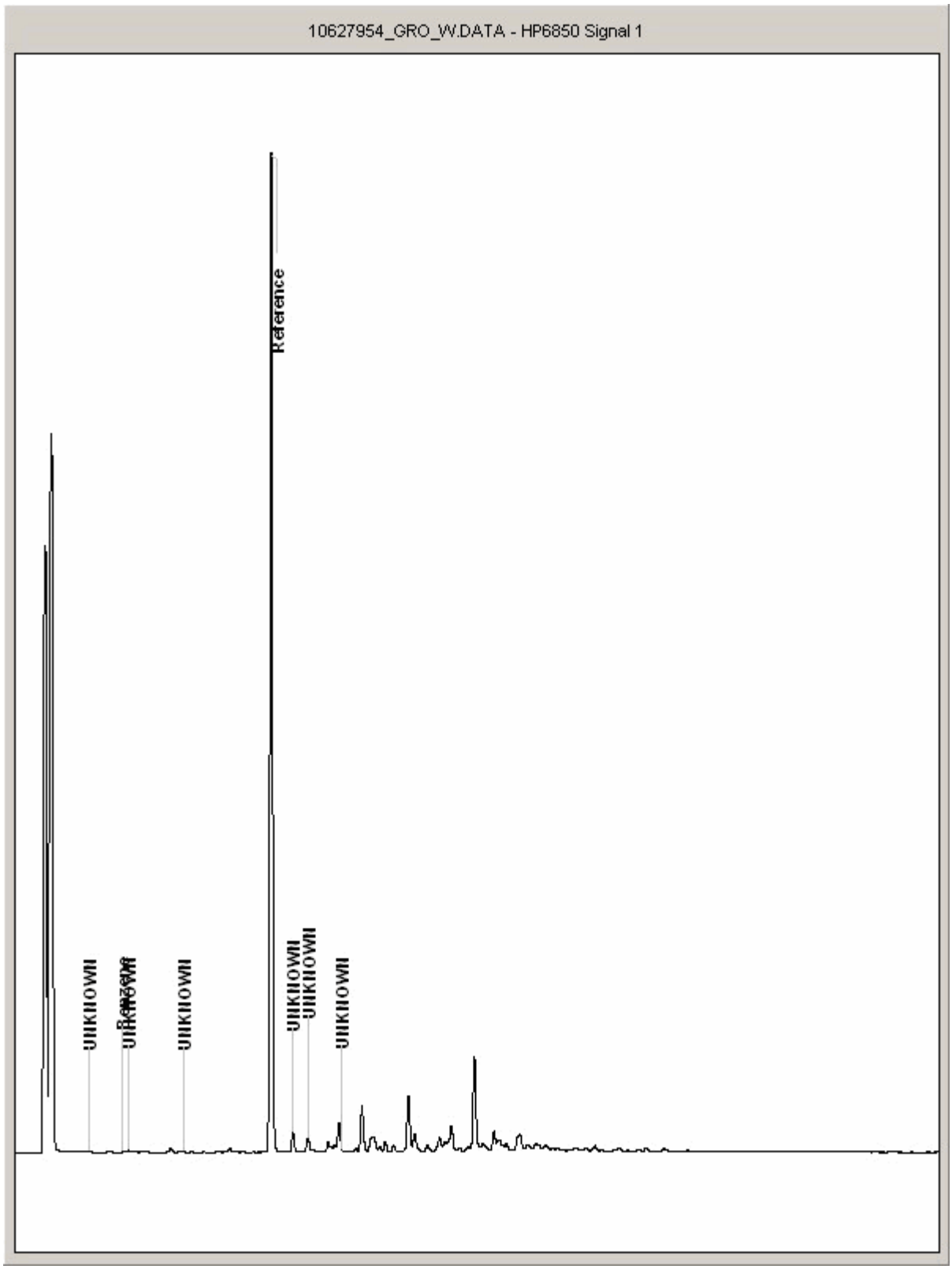
SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10627954
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

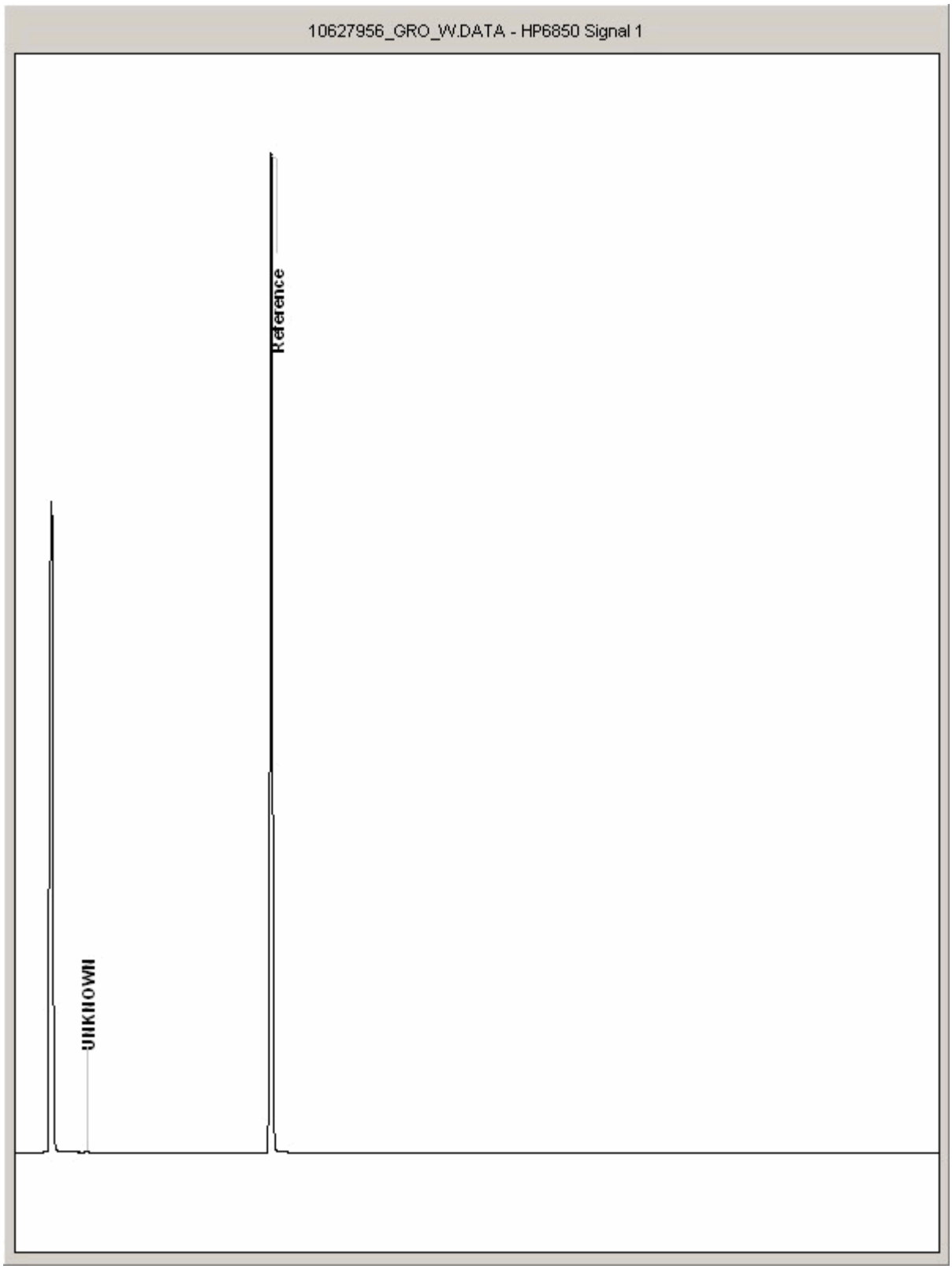
SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10627956
Sample ID : BH60b

Depth :



CERTIFICATE OF ANALYSIS

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	141220-59	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	297645
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

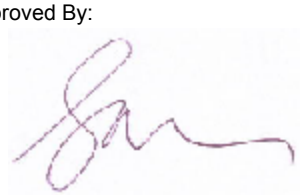
Date:	21 January 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150114-4
Your Reference:	JER5575U
Location:	SHLNG
Report No:	299319

We received 10 samples on Monday January 12, 2015 and 5 of these samples were scheduled for analysis which was completed on Wednesday January 21, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10665763	BH43			12/01/2015
10665761	BH99			12/01/2015
10665766	BH41A			12/01/2015
10665768	BH42A			12/01/2015
10665767	BH41ADUPLICATE			12/01/2015
10665769	BH42ADUPLICATE			12/01/2015
10665759	BH34B			12/01/2015
10665760	BH34B DUPLICATE			12/01/2015
10665765	BH43DUPLICATE			12/01/2015
10665762	BH99DUPLICATE			12/01/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			10665763	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			10665761	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			10665766	BH41A			1l Glass bottle (ALE
							Vial (ALE297)
			10665768	BH42A			1l Glass bottle (ALE
							Vial (ALE297)
			10665759	BH34B			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	46.9 #	4560 #	7470 #	52.1 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		29.2	21.5	1640	5840	21.4
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		16.9	25.6	2900	1640	30.7

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	23	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	119	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	387	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	10	529	<10

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	72.5 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<4 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.14 #	<2 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<10 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	20.7 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	11.2 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.38 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10665763	10665761	10665766	10665768	10665759
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015
GRO by GC-FID (W)	15-Jan-2015	15-Jan-2015	15-Jan-2015	15-Jan-2015	15-Jan-2015
SVOC MS (W) - Aqueous	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1026	QC 1025
EPH (DRO) (C10-C40)	TM172	**75.5** 56.50 : 116.50	**89.0** 58.60 : 104.65

GRO by GC-FID (W)

Component	Method Code	QC 1088
Benzene by GC	TM245	**98.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	**97.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**97.5** 77.50 : 122.50
MTBE GC-FID	TM245	**100.5** 77.50 : 122.50
o Xylene by GC	TM245	**97.5** 77.50 : 122.50
QC	TM245	**98.32** 68.49 : 116.95
Toluene by GC	TM245	**98.0** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1042
4-Bromophenylphenyleth er	TM176	**97.6** 55.04 : 128.00
Benzo(a)anthracene	TM176	**92.8** 52.64 : 123.68
Benzo(a)pyrene	TM176	**82.4** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**86.4** 41.53 : 109.48
Hexachlorobutadiene	TM176	**74.24** 42.80 : 108.20
Naphthalene	TM176	**103.2** 47.20 : 116.80
Nitrobenzene	TM176	**93.6** 58.70 : 110.90
Phenol	TM176	**51.76** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

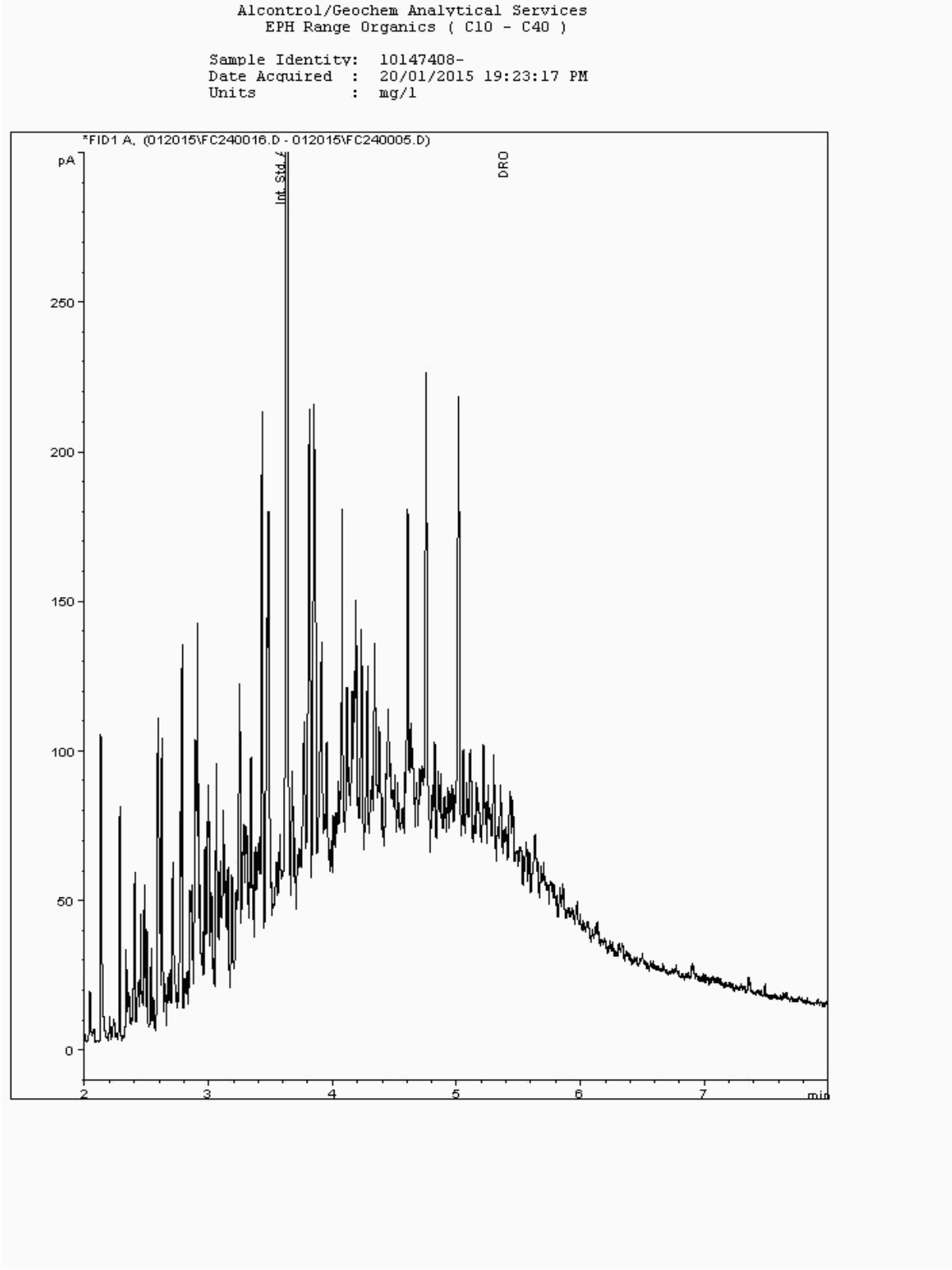
SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10669910
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

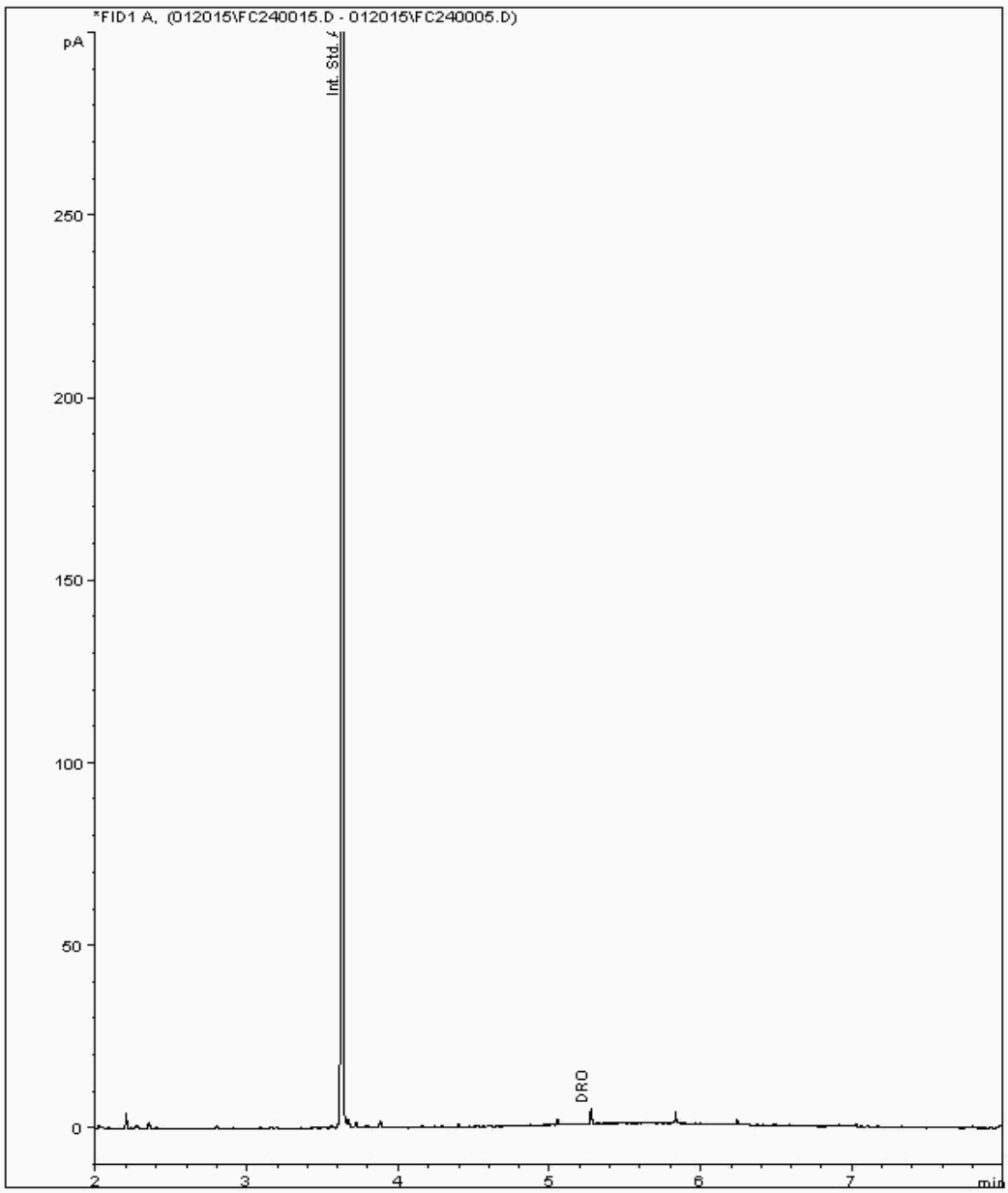
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10669920
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10147370-
Date Acquired : 20/01/2015 19:01:30 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

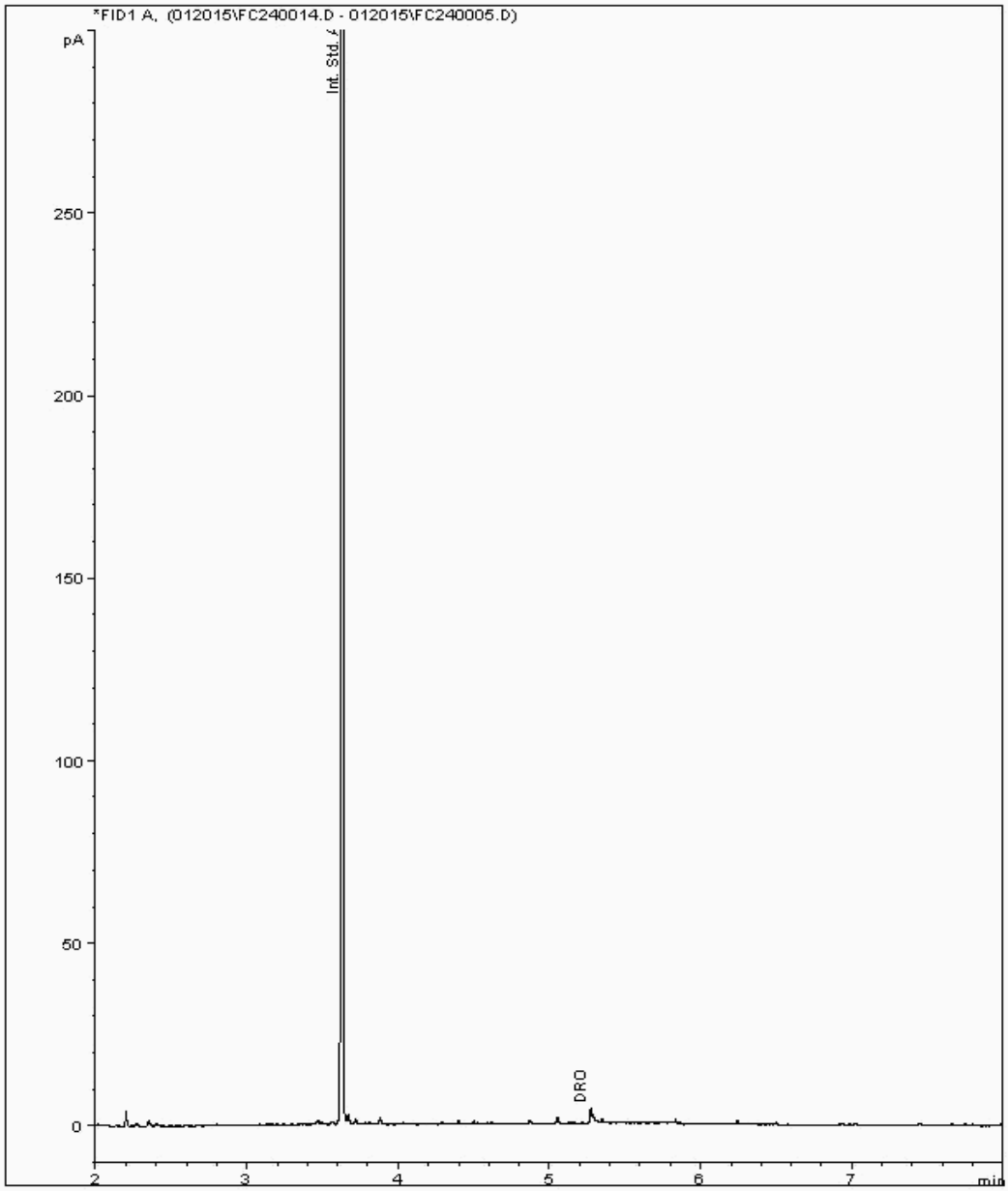
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10669959
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10147378-
Date Acquired : 20/01/2015 18:39:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

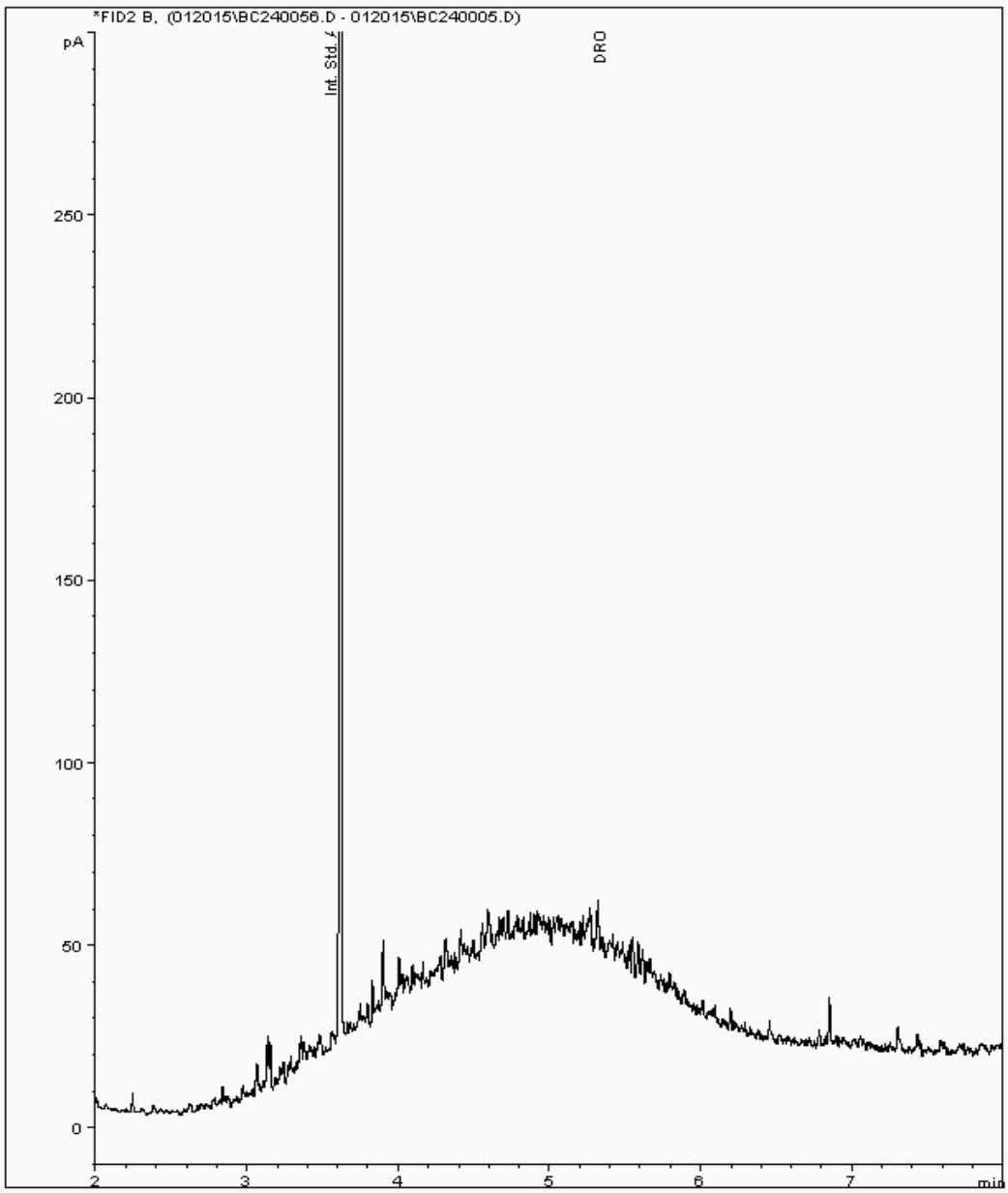
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10696689
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10170103-
Date Acquired : 21/01/2015 12:11:31 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

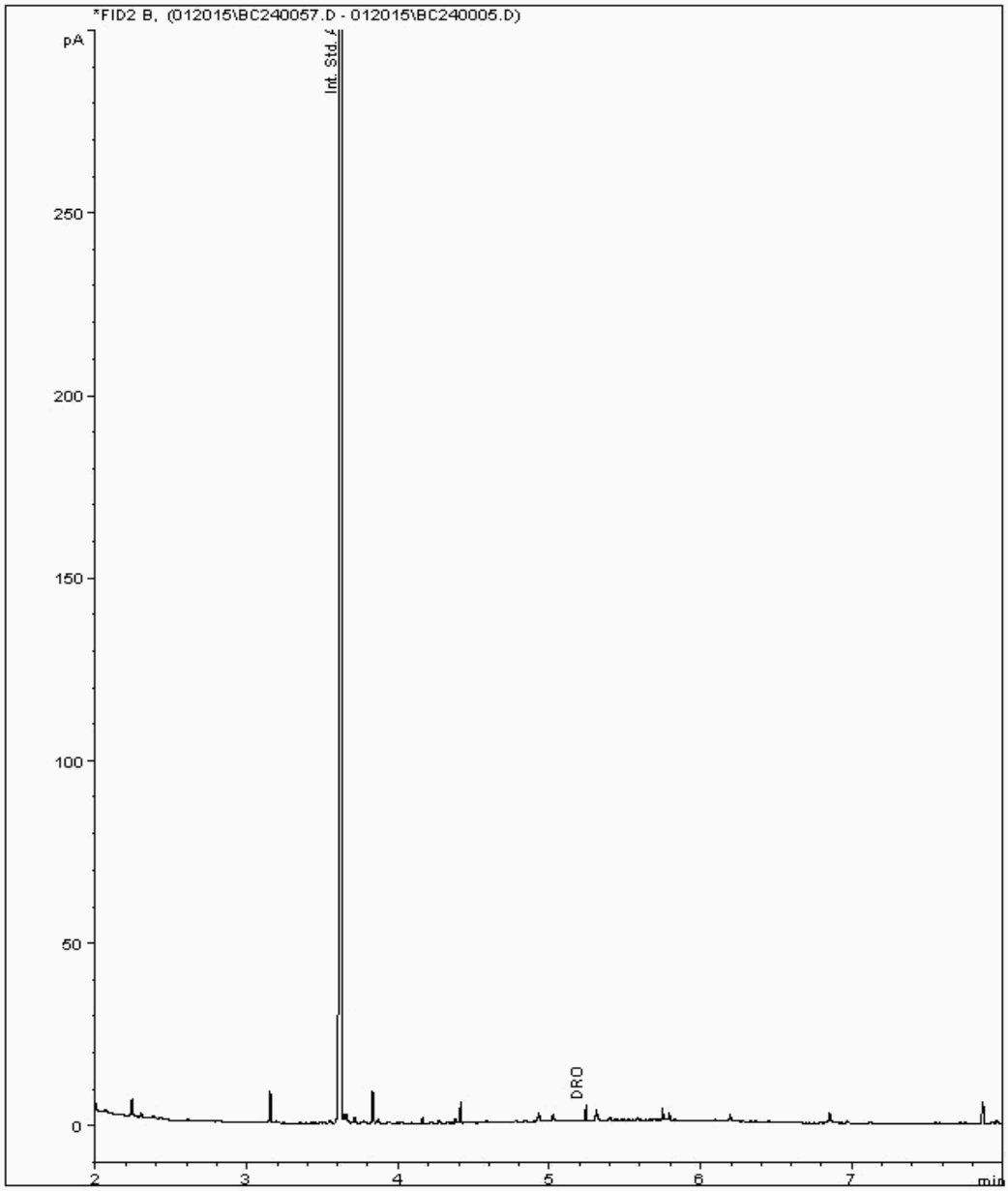
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10696697
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10170101-
Date Acquired : 21/01/2015 12:33:39 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

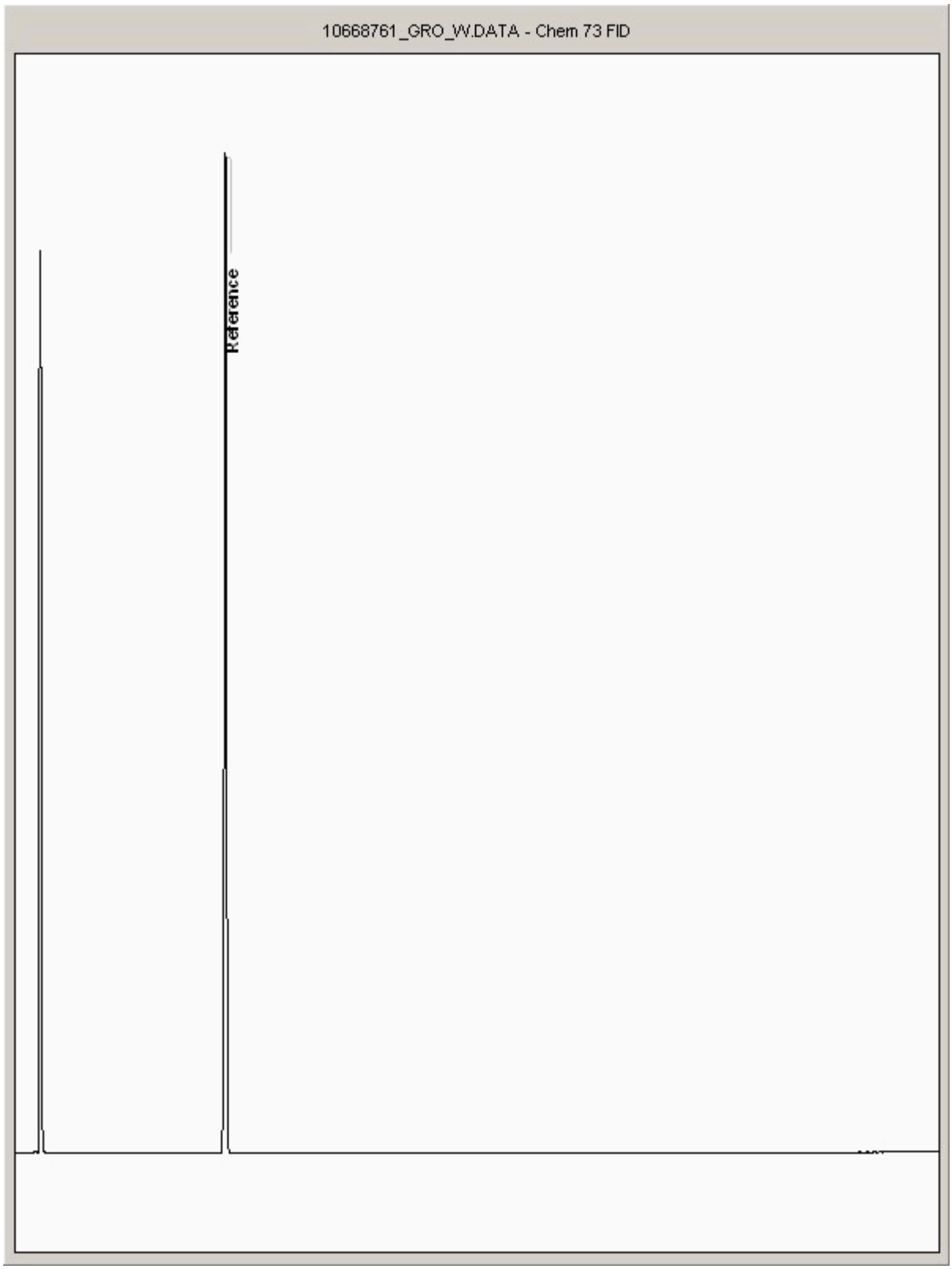
SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668761
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

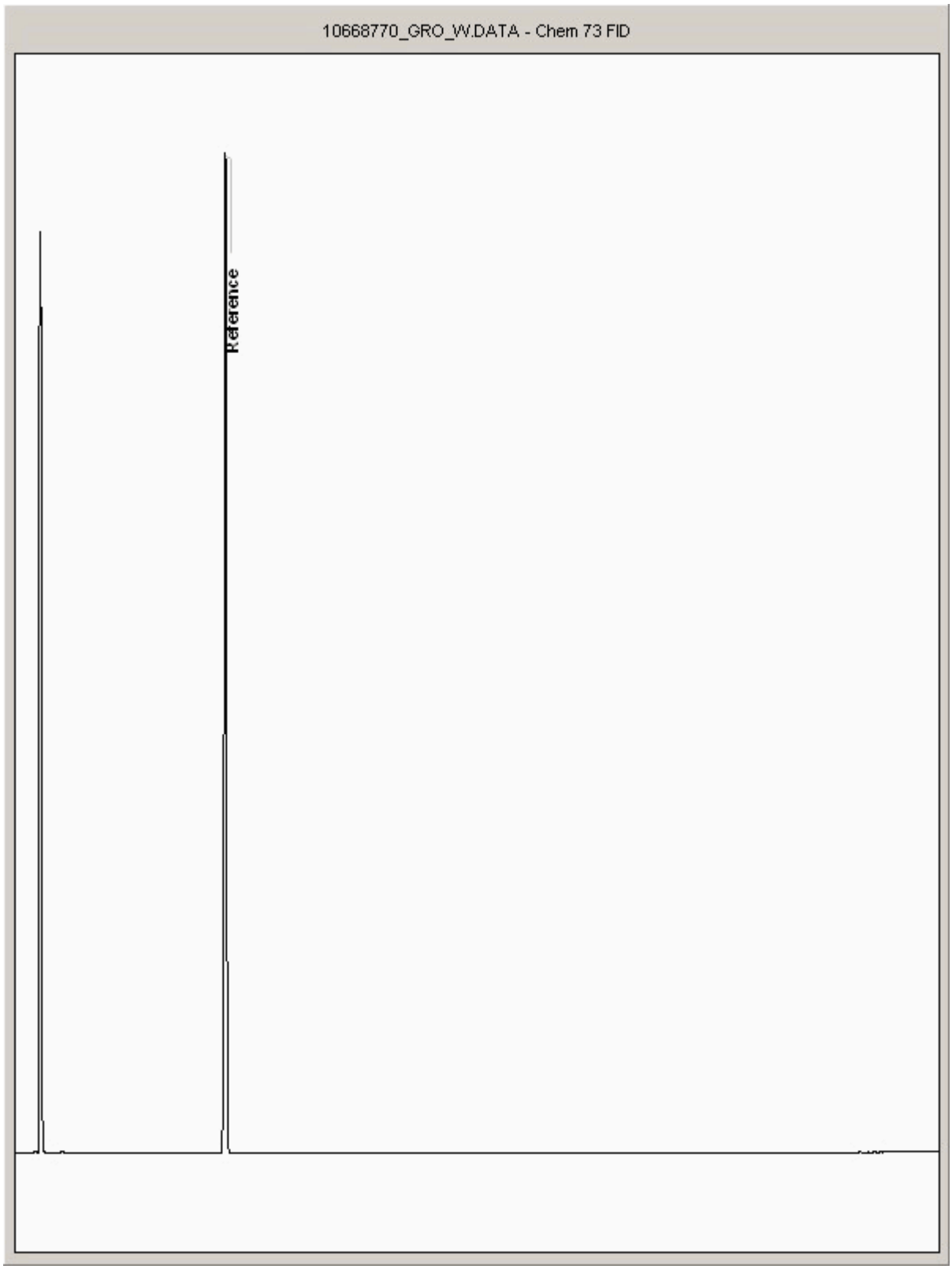
SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668770
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

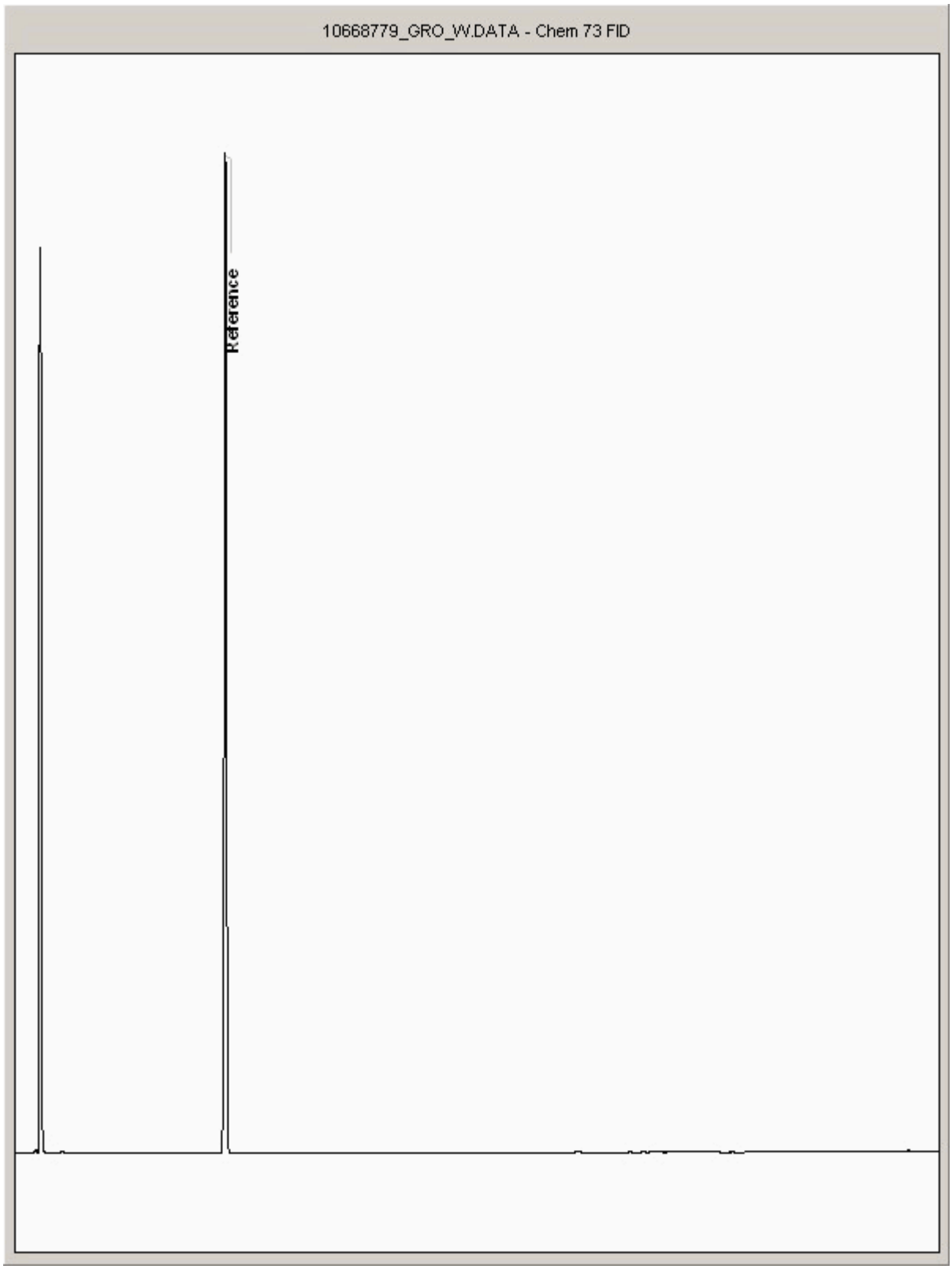
SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668779
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

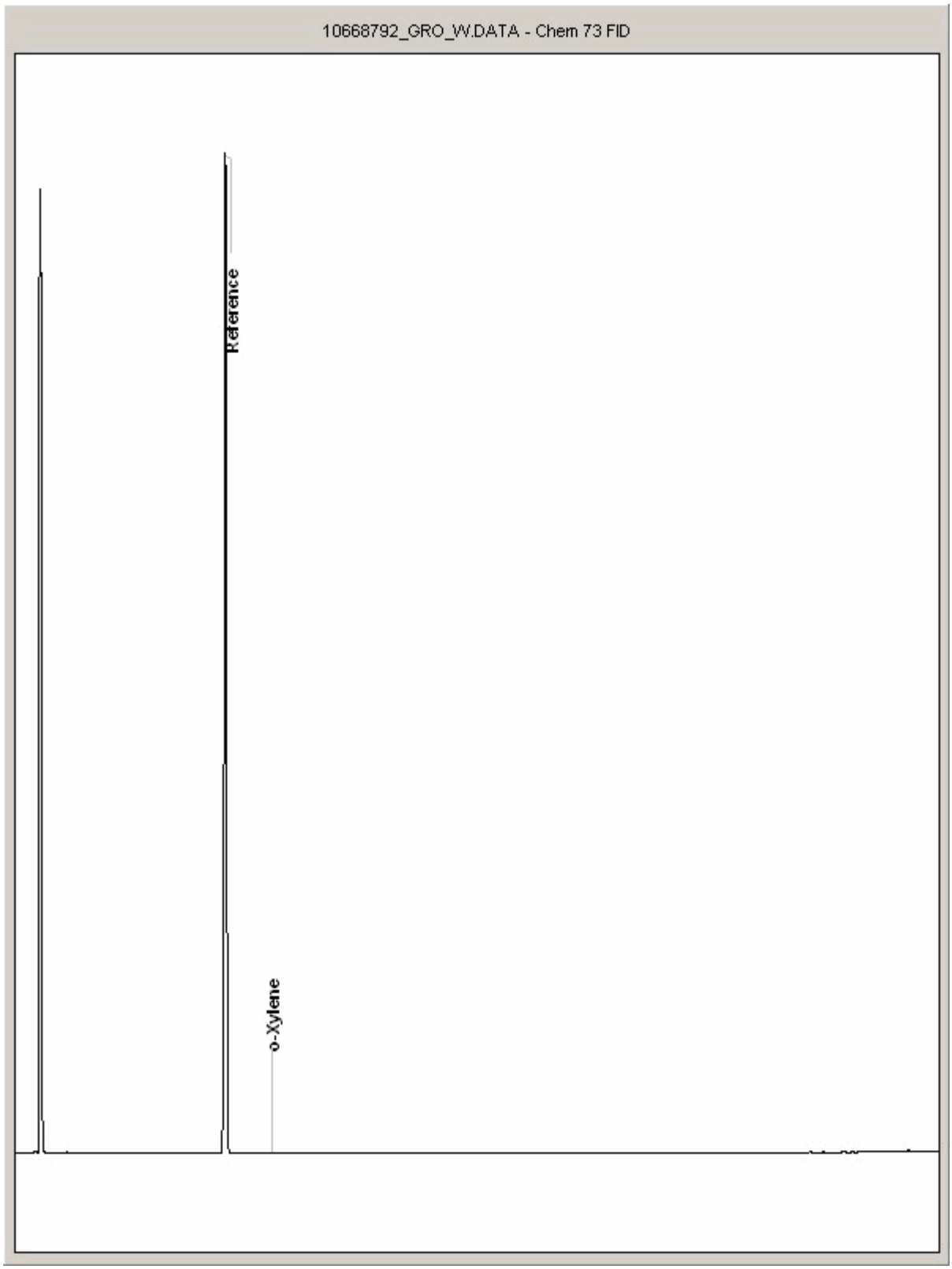
SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668792
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

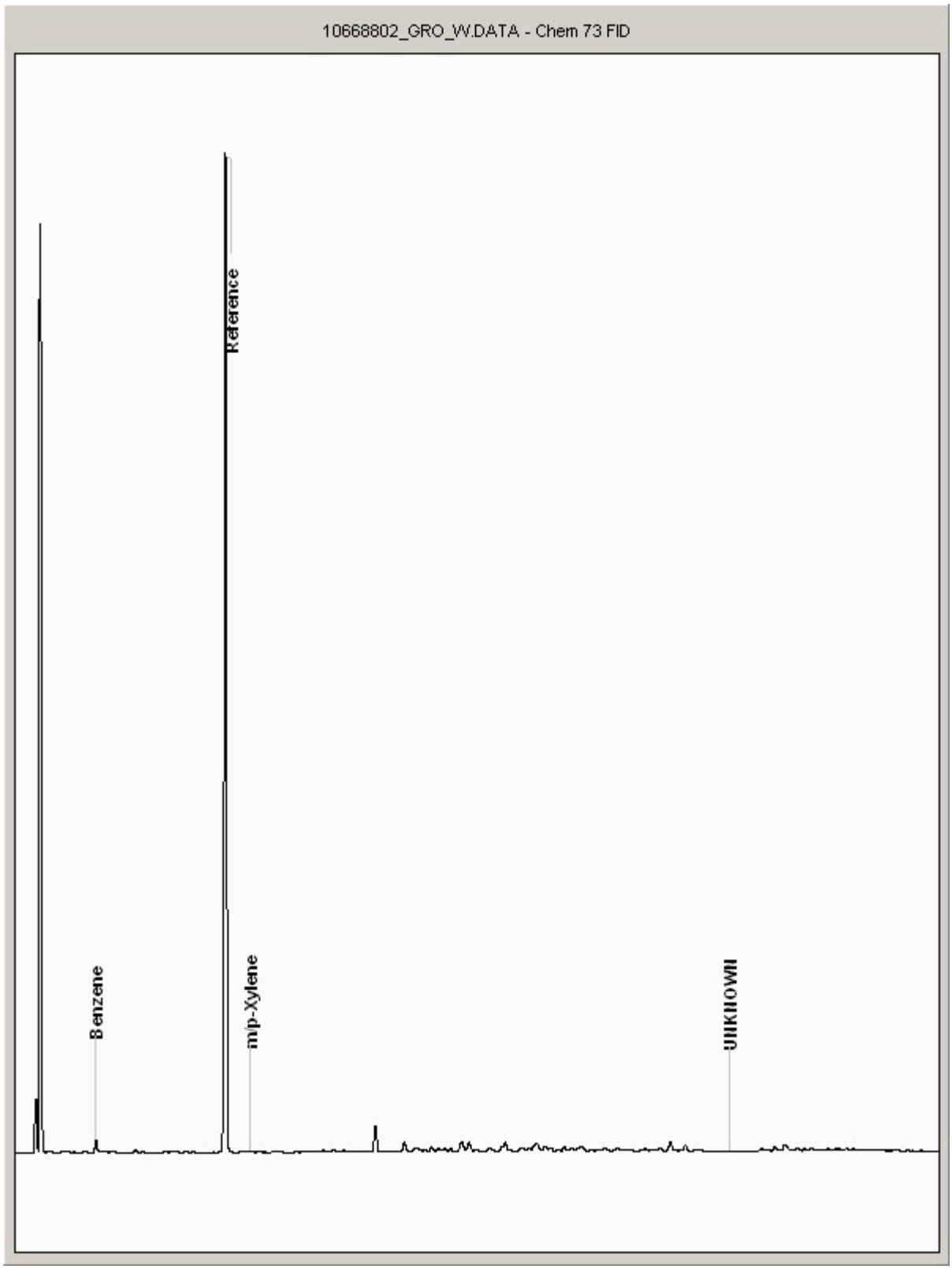
SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668802
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

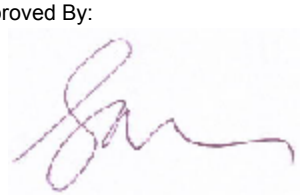
Date:	11 February 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150203-80
Your Reference:	JER5575U
Location:	SHLNG
Report No:	301470

We received 9 samples on Tuesday February 03, 2015 and 5 of these samples were scheduled for analysis which was completed on Wednesday February 11, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

Alcontrol Laboratories is a trading division of ALcontrol UK Limited
Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10769823	BH43			02/02/2015
10769822	BH99			02/02/2015
10769825	BH41A			02/02/2015
10769827	BH42A			02/02/2015
10769826	BH41A Duplicate			02/02/2015
10769828	BH42A Duplicate			02/02/2015
10769819	BH34B			02/02/2015
10769820	BH34B Duplicate			02/02/2015
10769824	BH43 Duplicate			02/02/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			10769823	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			10769822	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			10769825	BH41A			1l Glass bottle (ALE
							Vial (ALE297)
			10769827	BH42A			1l Glass bottle (ALE
							Vial (ALE297)
			10769819	BH34B			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/02/2015	02/02/2015	02/02/2015	02/02/2015	02/02/2015
			Sampled Time	.	.	.	.	.
			Date Received	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015
			SDG Ref	150203-80	150203-80	150203-80	150203-80	150203-80
			Lab Sample No.(s)	10769823	10769822	10769825	10769827	10769819
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		305 #	154 #	460 #	8780 #	263 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		68.1	58.4	144	2360	88.9
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		237	95.5	316	6410	174

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/02/2015	02/02/2015	02/02/2015	02/02/2015	02/02/2015
			Sampled Time	.	.	.	.	.
			Date Received	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015
			SDG Ref	150203-80	150203-80	150203-80	150203-80	150203-80
			Lab Sample No.(s)	10769823	10769822	10769825	10769827	10769819
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	11	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	58	<10
GRO >C8-C10	<10 µg/l	TM245		33	<10	<10	99	<10
GRO >C5-C10	<10 µg/l	TM245		36	13	<10	168	<10

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/02/2015	02/02/2015	02/02/2015	02/02/2015	02/02/2015
			Sampled Time	.	.	.	.	.
			Date Received	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015
			SDG Ref	150203-80	150203-80	150203-80	150203-80	150203-80
			Lab Sample No.(s)	10769823	10769822	10769825	10769827	10769819
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	32.9 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	1.51 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	02/02/2015	02/02/2015	02/02/2015	02/02/2015	02/02/2015
			Sampled Time	.	.	.	.	.
			Date Received	03/02/2015	03/02/2015	03/02/2015	03/02/2015	03/02/2015
			SDG Ref	150203-80	150203-80	150203-80	150203-80	150203-80
			Lab Sample No.(s)	10769823	10769822	10769825	10769827	10769819
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	3.64 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	14.4 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	4.96 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10769823	10769822	10769825	10769827	10769819
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	11-Feb-2015	11-Feb-2015	11-Feb-2015	11-Feb-2015	11-Feb-2015
GRO by GC-FID (W)	09-Feb-2015	09-Feb-2015	09-Feb-2015	09-Feb-2015	09-Feb-2015
SVOC MS (W) - Aqueous	10-Feb-2015	09-Feb-2015	09-Feb-2015	10-Feb-2015	10-Feb-2015

CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1029	QC 1036
EPH (DRO) (C10-C40)	TM172	**80.5** 56.50 : 116.50	**85.0** 59.22 : 112.78

GRO by GC-FID (W)

Component	Method Code	QC 1079
Benzene by GC	TM245	**99.5** 76.72 : 118.62
Ethylbenzene by GC	TM245	**106.0** 74.74 : 116.76
m & p Xylene by GC	TM245	**106.5** 73.06 : 114.58
MTBE GC-FID	TM245	**104.5** 80.00 : 121.03
o Xylene by GC	TM245	**110.5** 70.00 : 130.00
QC	TM245	**86.54** 70.00 : 130.00
Toluene by GC	TM245	**106.5** 70.00 : 130.00

SVOC MS (W) - Aqueous

Component	Method Code	QC 1009	QC 1075
4-Bromophenylphenyleth er	TM176	**92.8** 65.62 : 120.95	**92.0** 65.62 : 120.95
Benzo(a)anthracene	TM176	**84.8** 62.83 : 114.26	**87.2** 62.83 : 114.26
Benzo(a)pyrene	TM176	**78.88** 54.19 : 105.67	**77.52** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**73.12** 51.20 : 111.20	**70.64** 51.20 : 111.20
Hexachlorobutadiene	TM176	**76.88** 43.12 : 110.32	**78.72** 43.12 : 110.32
Naphthalene	TM176	**96.8** 69.48 : 118.94	**96.8** 69.48 : 118.94
Nitrobenzene	TM176	**90.4** 69.13 : 107.62	**88.8** 69.13 : 107.62
Phenol	TM176	**50.0** 30.92 : 74.19	**50.32** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

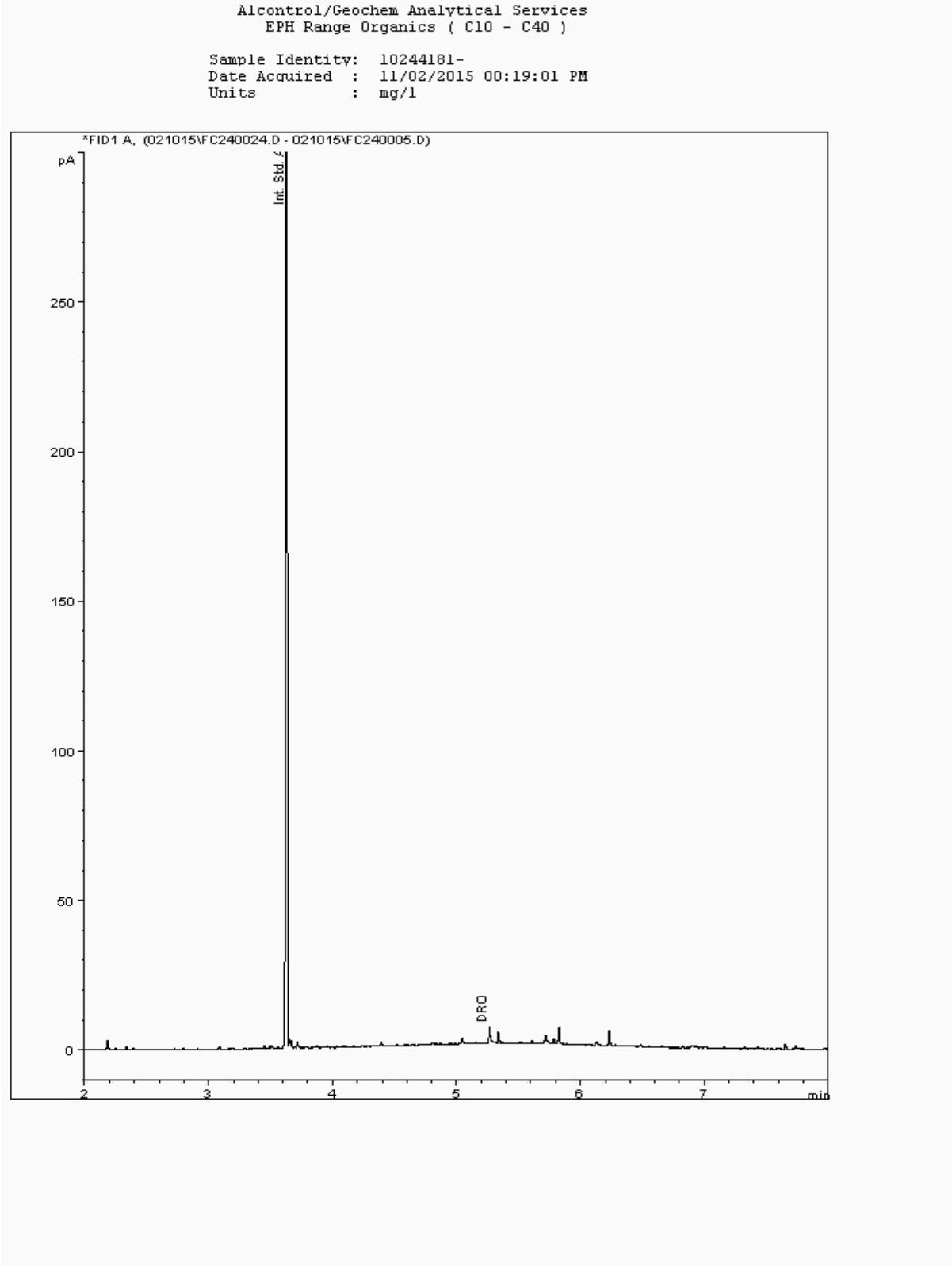
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10780507
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

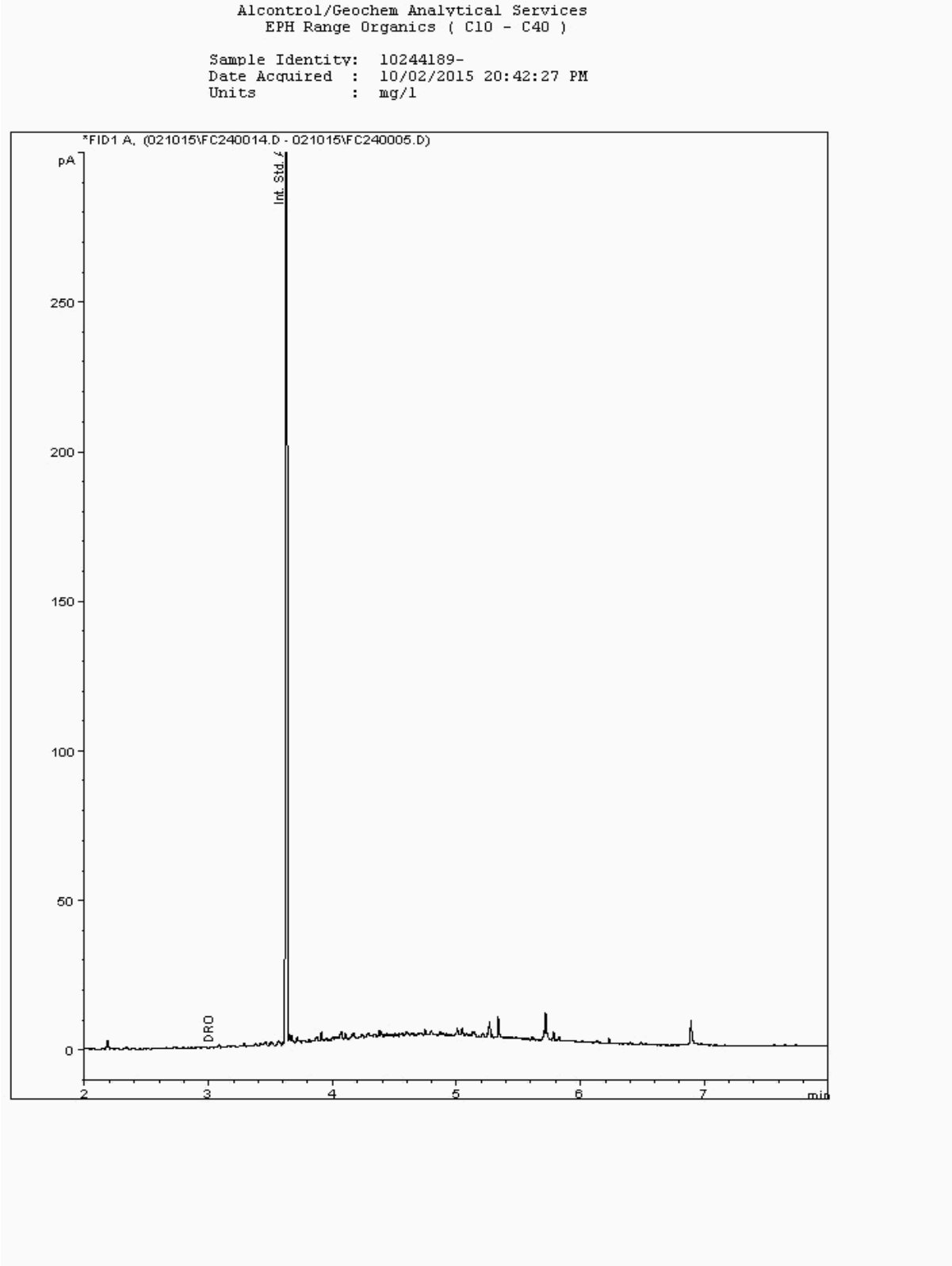
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10780516
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

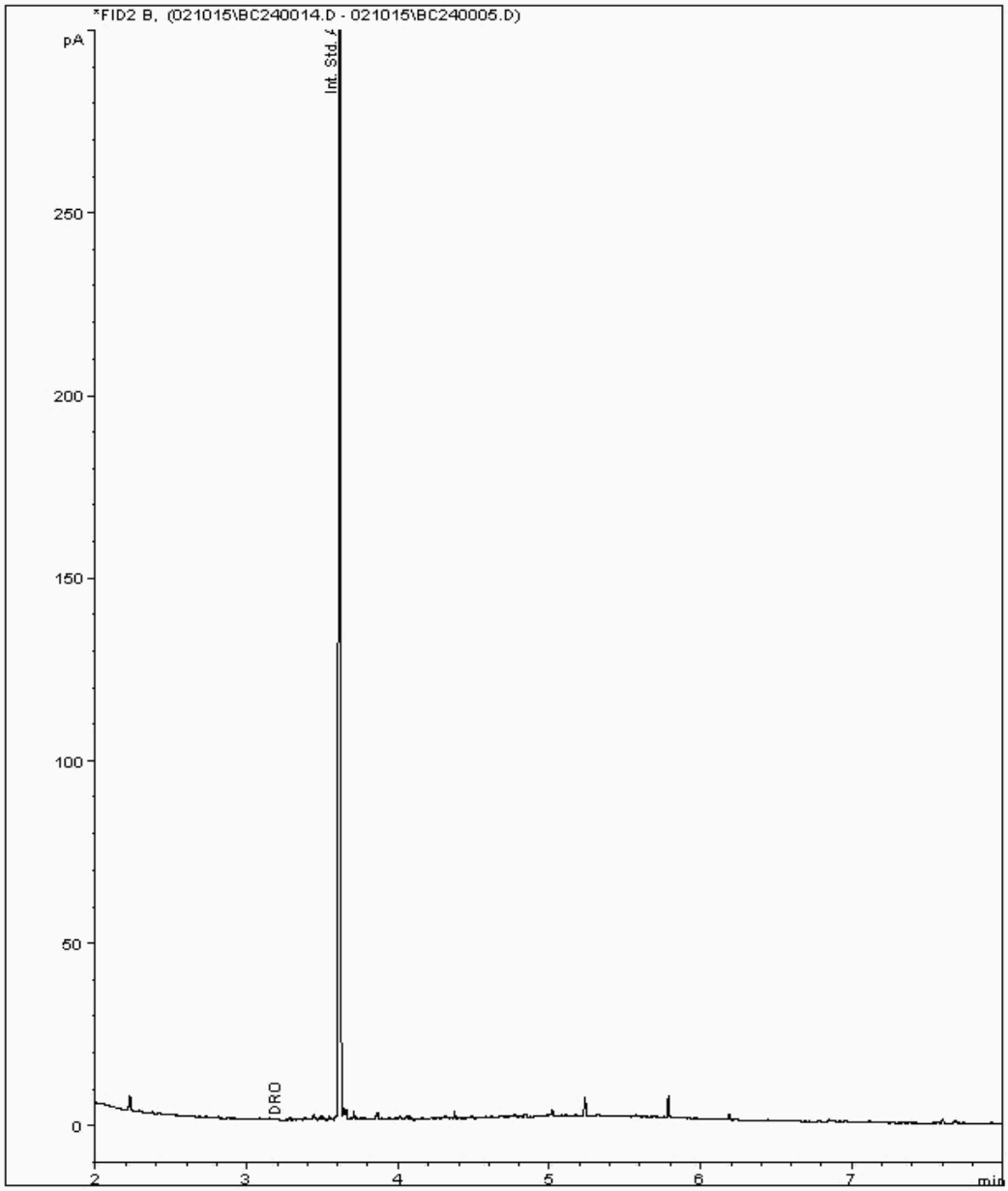
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10789929
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10244177-
Date Acquired : 10/02/2015 20:42:26 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

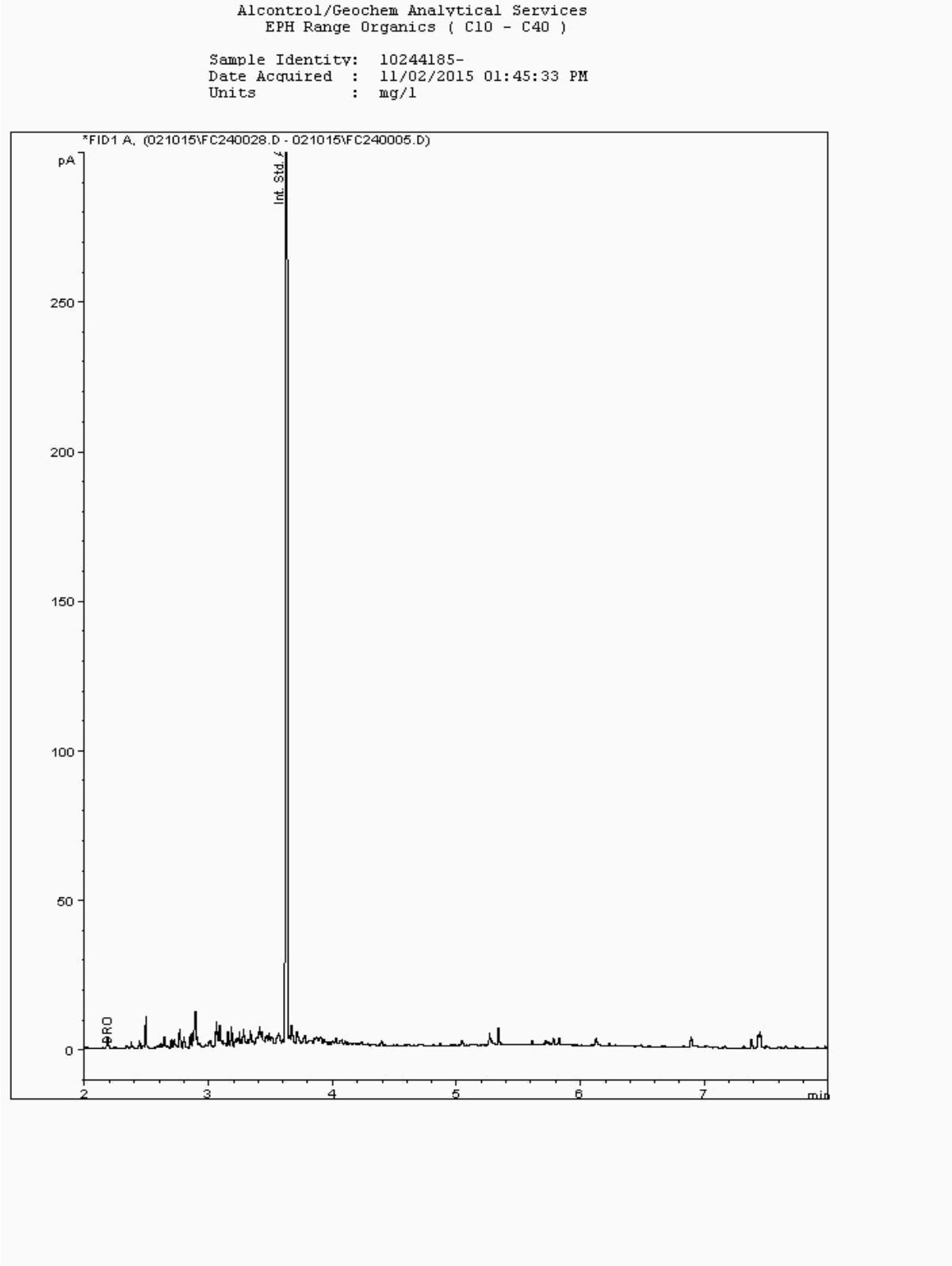
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10789958
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

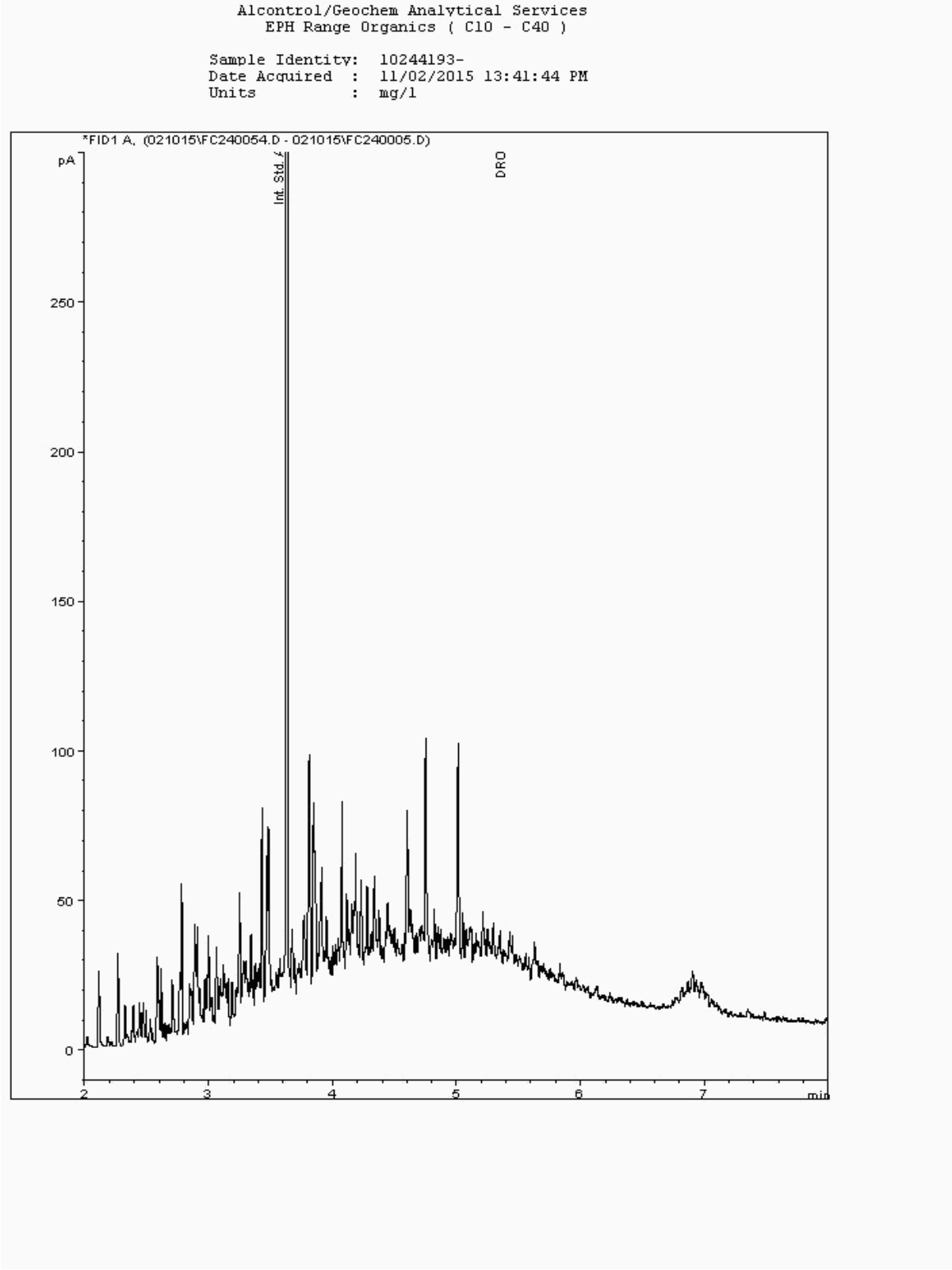
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10790041
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

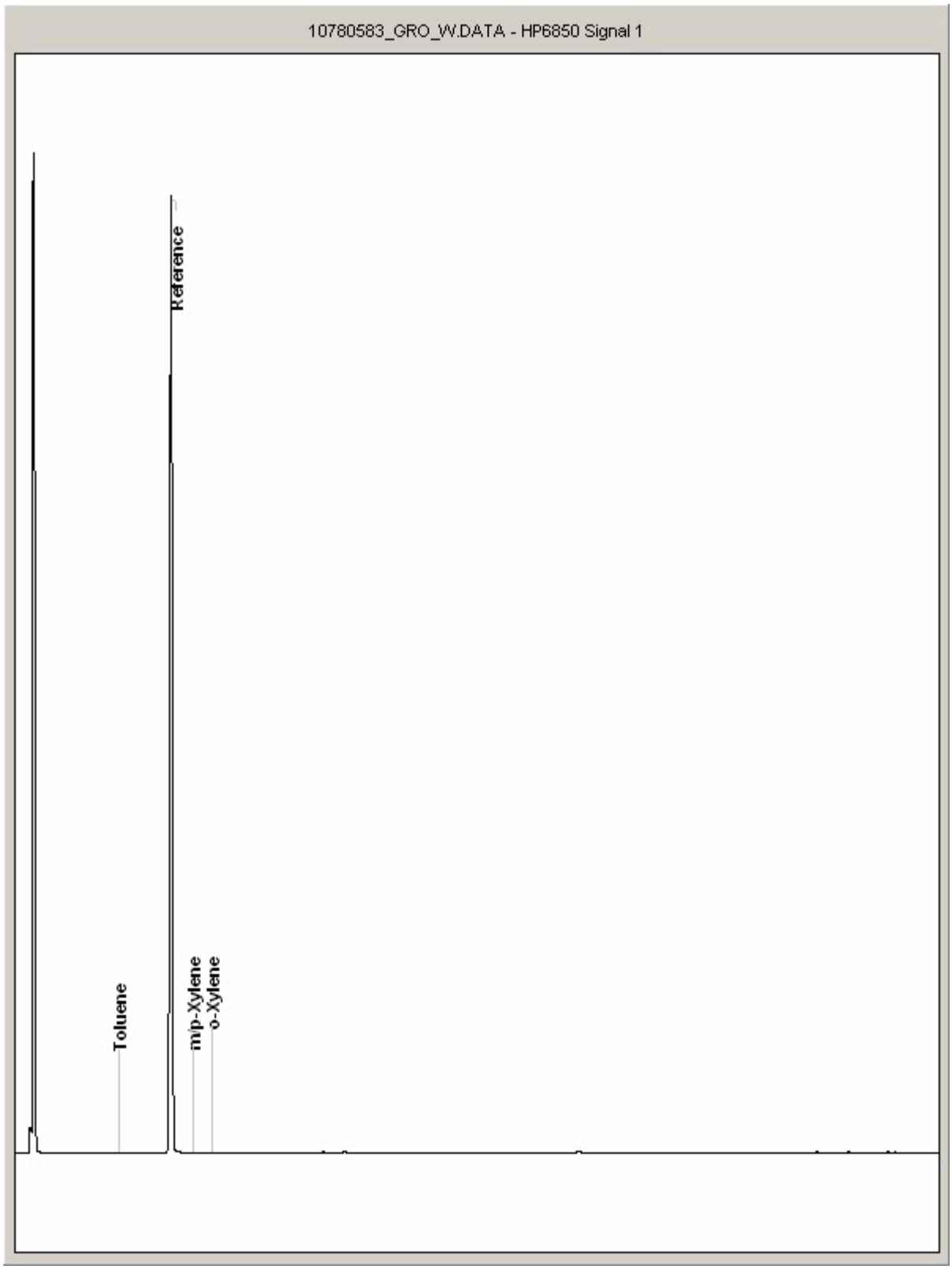
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10780583
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

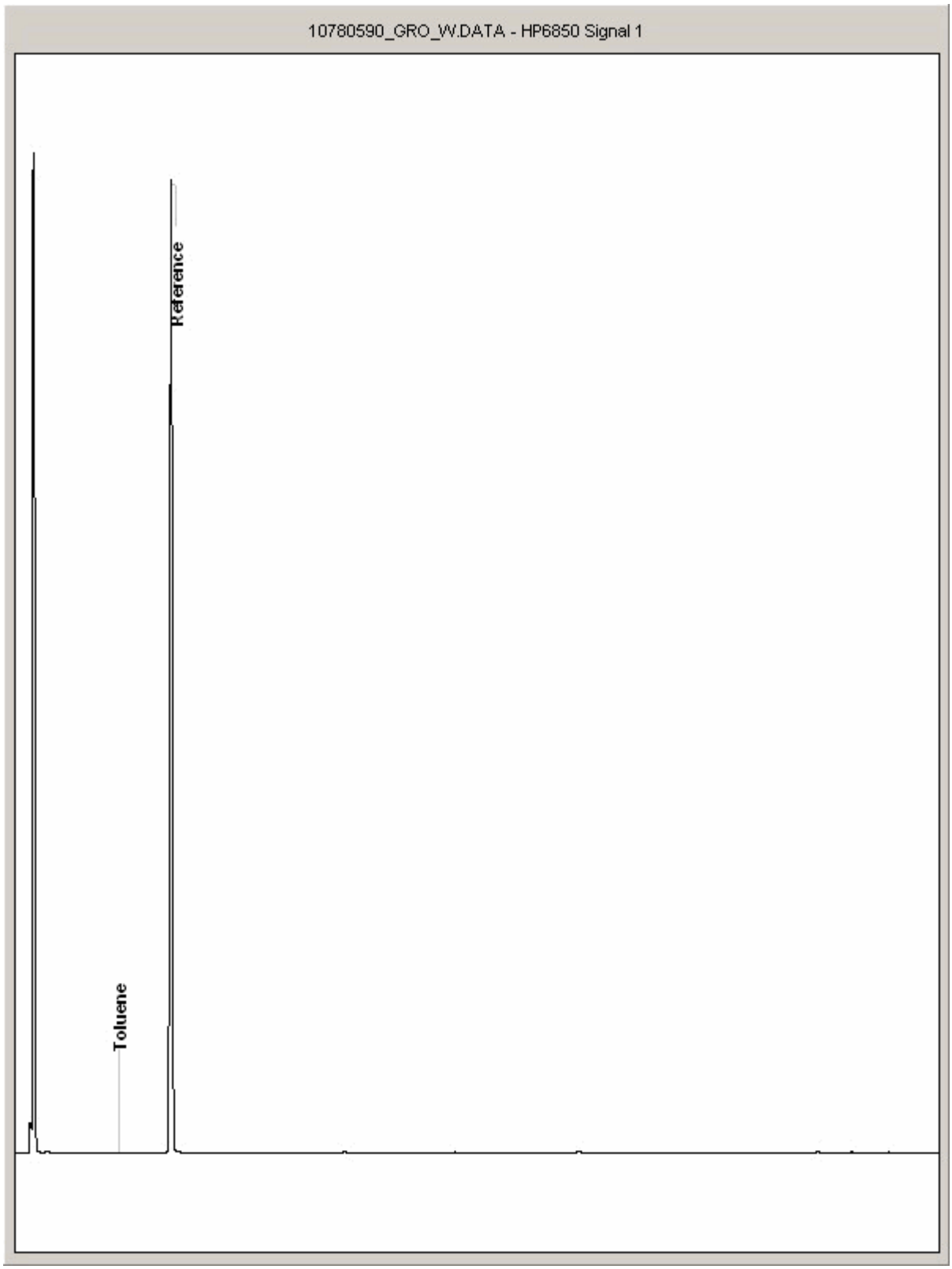
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10780590
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

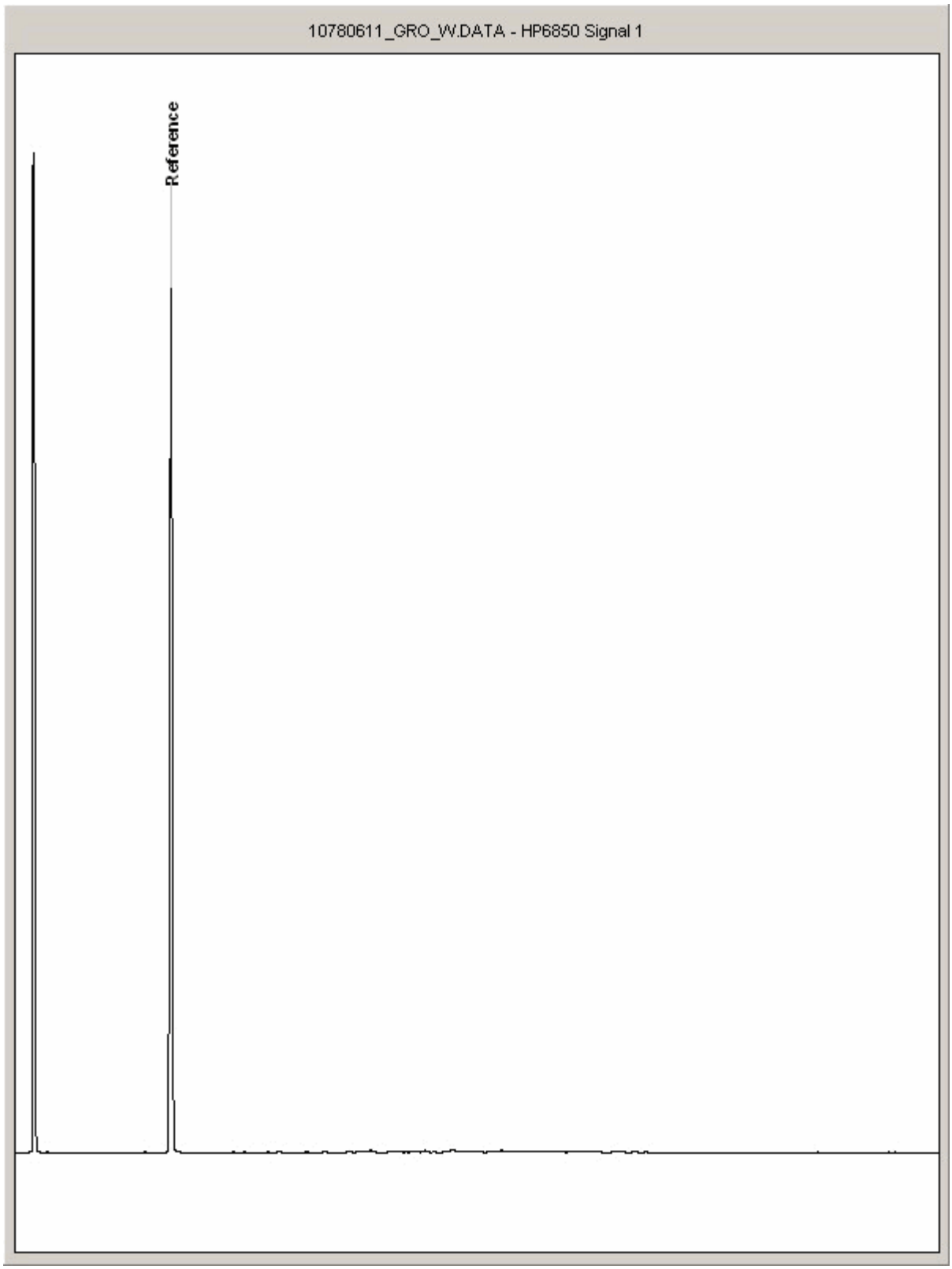
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10780611
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

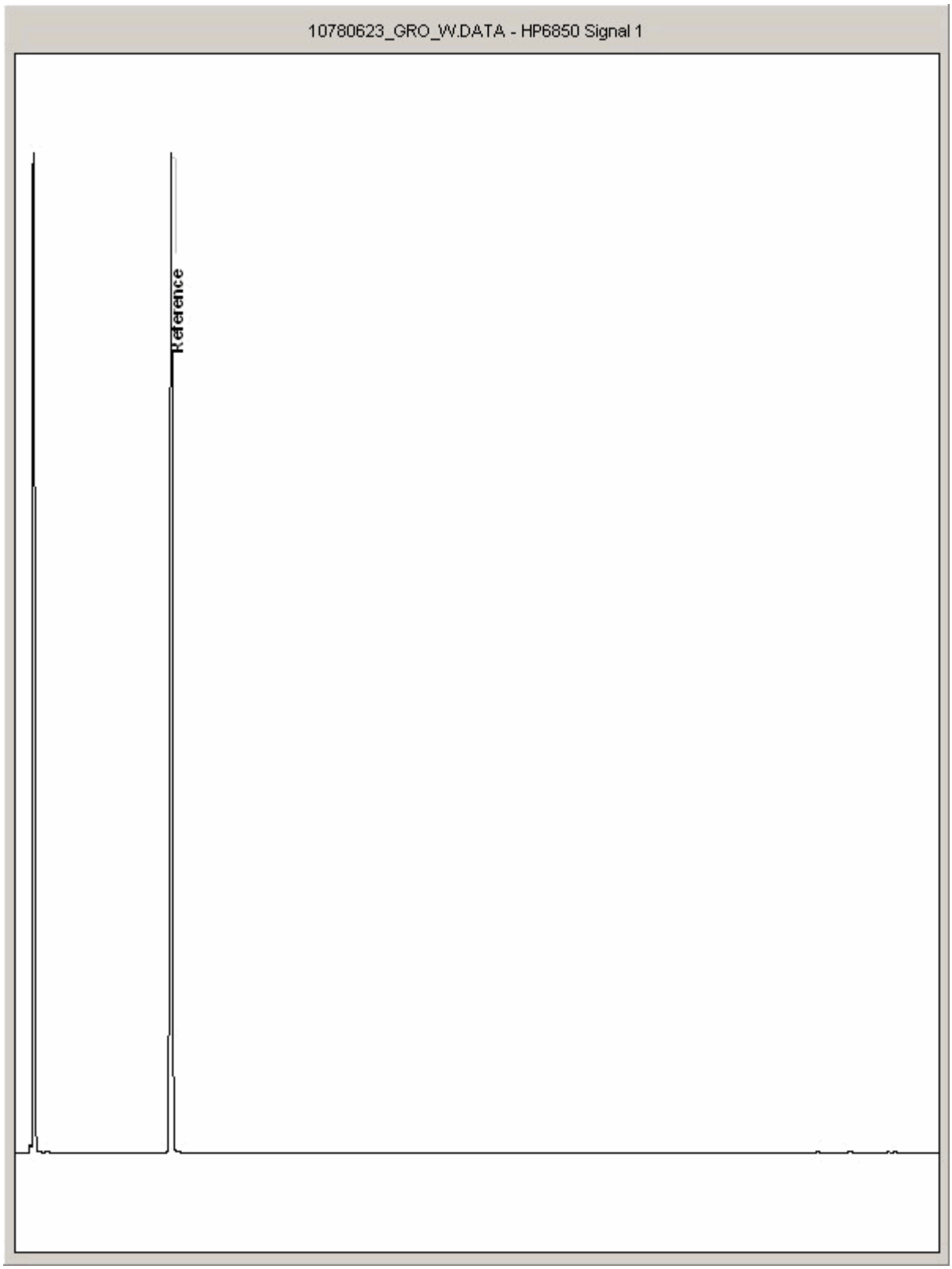
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10780623
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

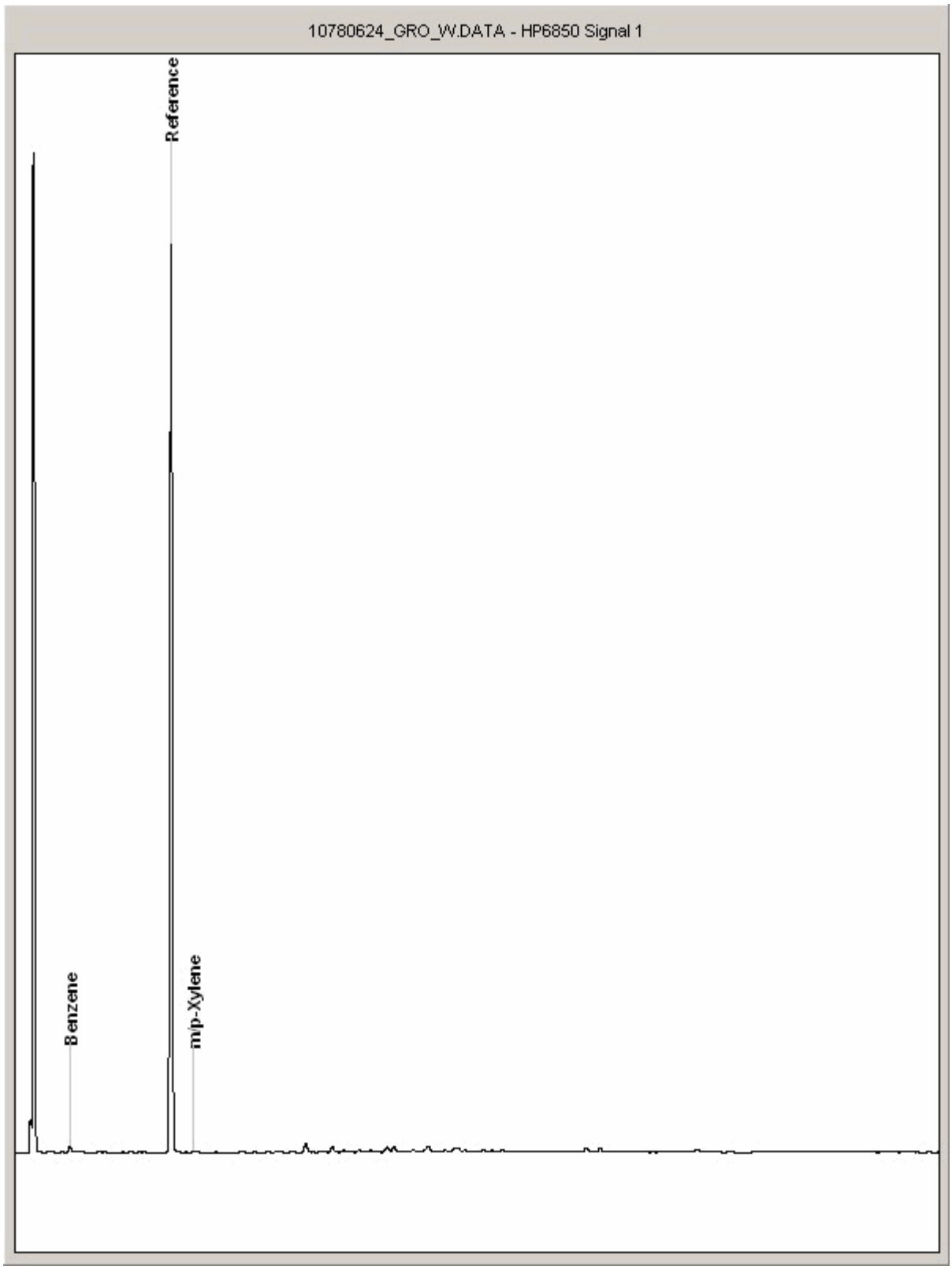
SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10780624
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150203-80	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	301470
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

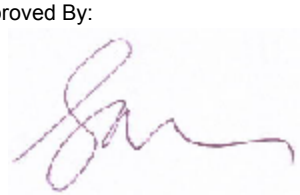
Date:	15 April 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150328-56
Your Reference:	JER5575U
Location:	SHLNG
Report No:	309089

We received 19 samples on Saturday March 28, 2015 and 10 of these samples were scheduled for analysis which was completed on Wednesday April 15, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11091503	BH06			26/03/2015
11091508	BH43			26/03/2015
11091497	BH44			26/03/2015
11091514	BH50			27/03/2015
11091507	BH99			26/03/2015
11091510	BH41a			26/03/2015
11091512	BH42a			26/03/2015
11091511	BH41a Duplicate			26/03/2015
11091513	BH42a Duplicate			26/03/2015
11091505	BH34b			26/03/2015
11091506	BH34b Duplicate			26/03/2015
11091504	BH06 Duplicate			26/03/2015
11091509	BH43 Duplicate			26/03/2015
11091498	BH44 Duplicate			26/03/2015
11091515	BH50 Duplicate			27/03/2015
11091499	MW01			26/03/2015
11091501	MW03			26/03/2015
11091500	MW01 Duplicate			26/03/2015
11091502	MW03 Duplicate			26/03/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11091503	BH06			1000ml glass bottle
			11091508	BH43			Vial (ALE297)
			11091497	BH44			1000ml glass bottle
			11091514	BH50			Vial (ALE297)
			11091507	BH99			1000ml glass bottle
			11091510	BH41a			Vial (ALE297)
			11091512	BH42a			1000ml glass bottle
			11091505	BH34b			Vial (ALE297)
			11091499	MW01			1000ml glass bottle
			11091501	MW03			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 10	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10		X		X		X		X		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7			X				X		X		X		X		X			

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	27/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091503	11091508	11091497	11091514	11091507	11091510
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 ♦ #	<46 ♦ #	<46 ♦ #	3620 ♦ #	<46 ♦ #	3940 ♦ #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34b	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015		
			SDG Ref	150328-56	150328-56	150328-56	150328-56		
			Lab Sample No.(s)	11091512	11091505	11091499	11091501		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		7100 ♦ #	133 ♦ #	<46 ♦ #	<46 ♦ #		

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	27/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091503	11091508	11091497	11091514	11091507	11091510
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		80 ♦	87 ♦	79 ♦	76 ♦	74	75
GRO >C5-C12	<50 µg/l	TM245		<50 ♦ #	<50 ♦ #	<50 ♦ #	4260 ♦ #	<50 #	<50 #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34b	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015		
			SDG Ref	150328-56	150328-56	150328-56	150328-56		
			Lab Sample No.(s)	11091512	11091505	11091499	11091501		
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		75	78	78 ♦	78 ♦		
GRO >C5-C12	<50 µg/l	TM245		336 #	<50 #	<50 ♦ #	<50 ♦ #		

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091508	11091507	11091510	11091512	11091505	11091499
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦	<1 ♦	<1 ♦	<1 ♦	<1 ♦	<1 ♦
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	5.39 ♦ #	<1 ♦ #	<1 ♦ #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Acenaphthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	1.05 ♦ #	<1 ♦ #	<1 ♦ #
Anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091508	11091507	11091510	11091512	11091505	11091499
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Carbazole (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Chrysene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #
Fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Fluorene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.13 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Naphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.99 ♦ #	<1 ♦ #	<1 ♦ #
Isophorone (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.21 ♦ #	<1 ♦ #	<1 ♦ #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	MW03
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	26/03/2015
Sampled Time	.
Date Received	28/03/2015
SDG Ref	150328-56
Lab Sample No.(s)	11091501
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<1
Azobenzene (aq)	<1 µg/l	TM176	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #
Acenaphthene (aq)	<1 µg/l	TM176	<1 #
Anthracene (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	MW03
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	26/03/2015
Sampled Time	.
Date Received	28/03/2015
SDG Ref	150328-56
Lab Sample No.(s)	11091501
AGS Reference	

Component	LOD/Units	Method	
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #
Carbazole (aq)	<1 µg/l	TM176	<1 #
Chrysene (aq)	<1 µg/l	TM176	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #
Fluoranthene (aq)	<1 µg/l	TM176	<1 #
Fluorene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<1
Phenol (aq)	<1 µg/l	TM176	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #
Naphthalene (aq)	<1 µg/l	TM176	<1 #
Isophorone (aq)	<1 µg/l	TM176	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1
Phenanthrene (aq)	<1 µg/l	TM176	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #
Pyrene (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11091503	11091508	11091497	11091514	11091507	11091510	11091512	11091505	11091499	11091501
Customer Sample Ref.	BH06	BH43	BH44	BH50	BH99	BH41a	BH42a	BH34b	MW01	MW03
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015
GRO by GC-FID (W)	15-Apr-2015	15-Apr-2015	15-Apr-2015	15-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	15-Apr-2015	15-Apr-2015
SVOC MS (W) - Aqueous		13-Apr-2015			13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	10-Apr-2015

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1189	QC 1168
EPH (DRO) (C10-C40)	TM172	**80.0** 59.22 : 112.78	**72.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1112	QC 1165
Benzene by GC	TM245	**107.5** 79.13 : 118.84	**108.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	**106.5** 79.54 : 115.99	**112.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**106.5** 78.44 : 116.32	**112.25** 77.50 : 122.50
MTBE GC-FID	TM245	**105.5** 81.43 : 120.09	**106.5** 77.50 : 122.50
o Xylene by GC	TM245	**107.0** 76.85 : 120.29	**112.5** 77.50 : 122.50
QC	TM245	**99.61** 69.85 : 125.92	**107.52** 74.88 : 125.54
Toluene by GC	TM245	**106.5** 79.00 : 121.96	**110.5** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1106	QC 1114
4-Bromophenylphenyleth er	TM176	**92.8** 65.62 : 120.95	**90.4** 65.62 : 120.95
Benzo(a)anthracene	TM176	**92.0** 62.83 : 114.26	**94.4** 62.83 : 114.26
Benzo(a)pyrene	TM176	**88.8** 54.19 : 105.67	**90.4** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**83.2** 51.20 : 111.20	**81.6** 51.20 : 111.20
Hexachlorobutadiene	TM176	**85.6** 43.12 : 110.32	**82.4** 43.12 : 110.32
Naphthalene	TM176	**99.2** 69.48 : 118.94	**96.8** 69.48 : 118.94
Nitrobenzene	TM176	**88.0** 69.13 : 107.62	**88.8** 69.13 : 107.62
Phenol	TM176	**52.08** 30.92 : 74.19	**54.64** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

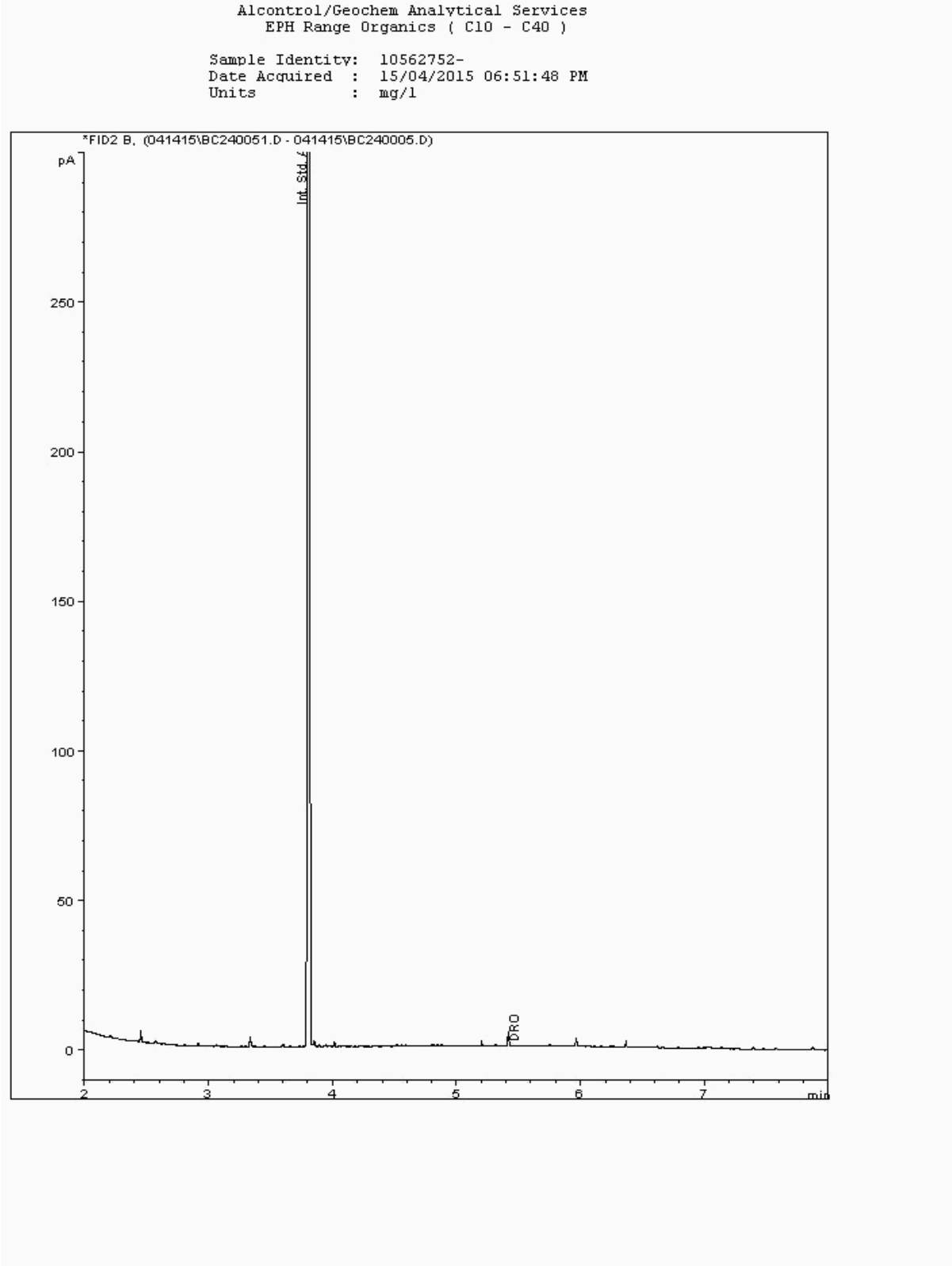
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112229
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

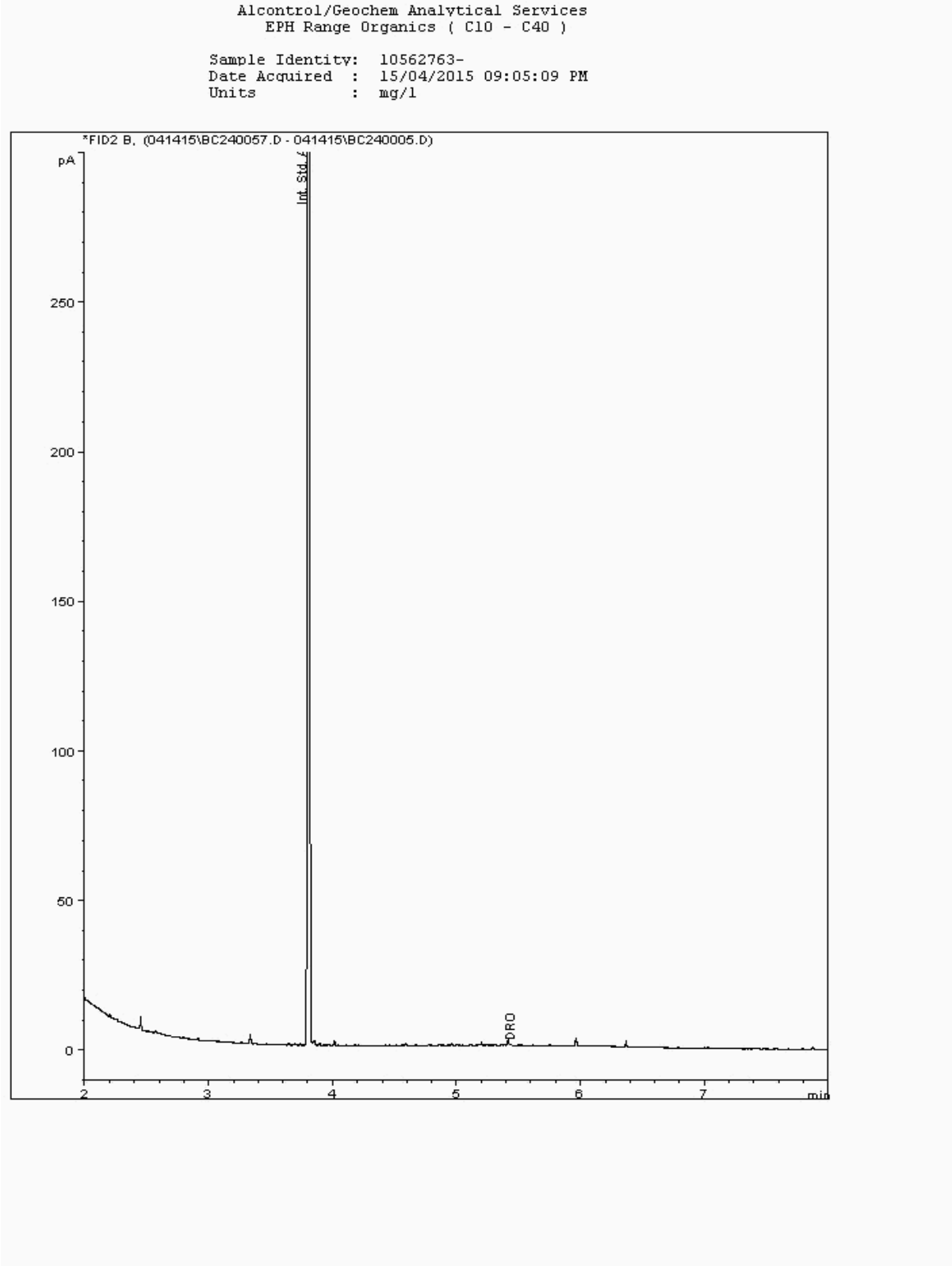
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112243
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

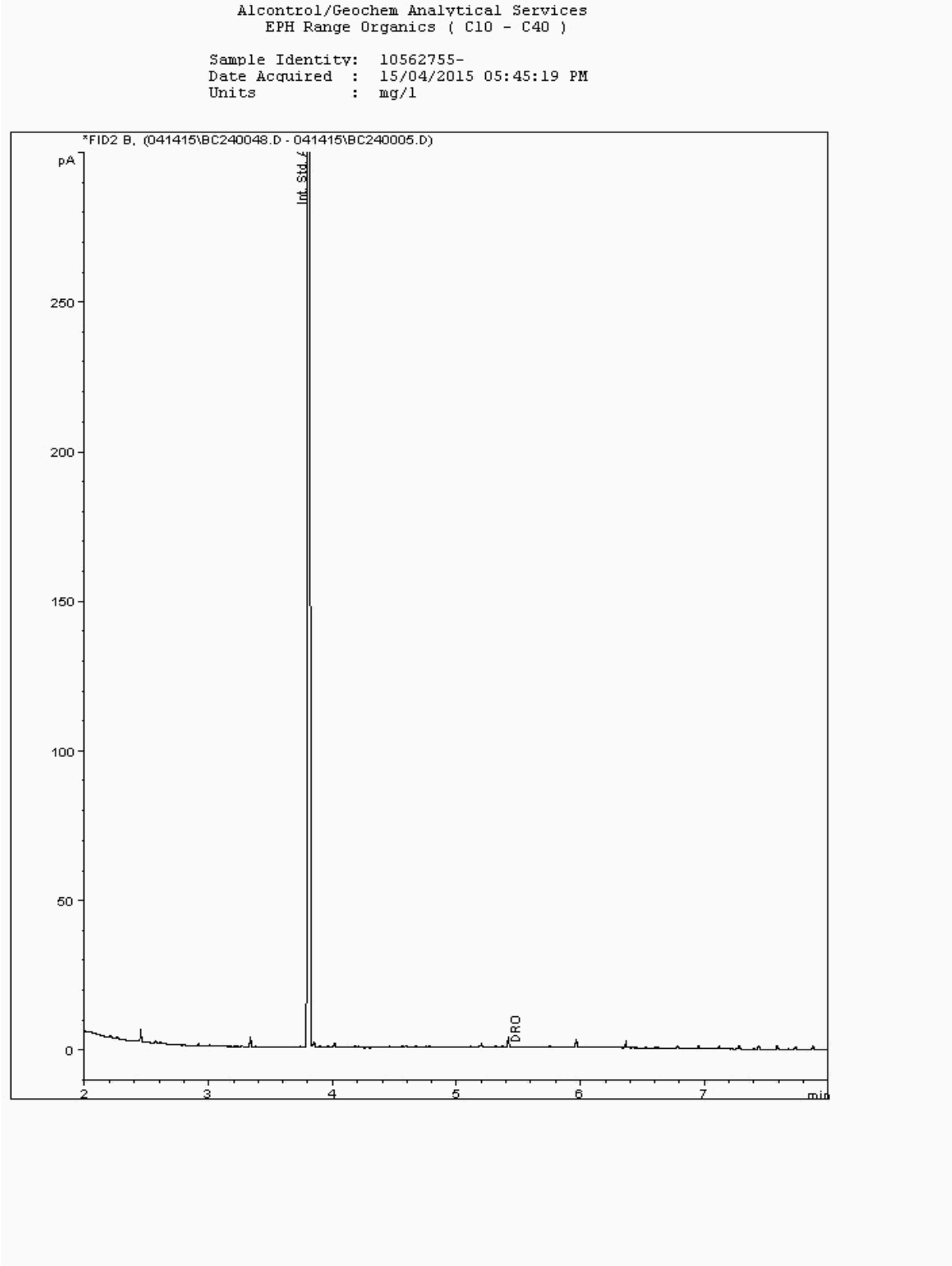
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112264
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

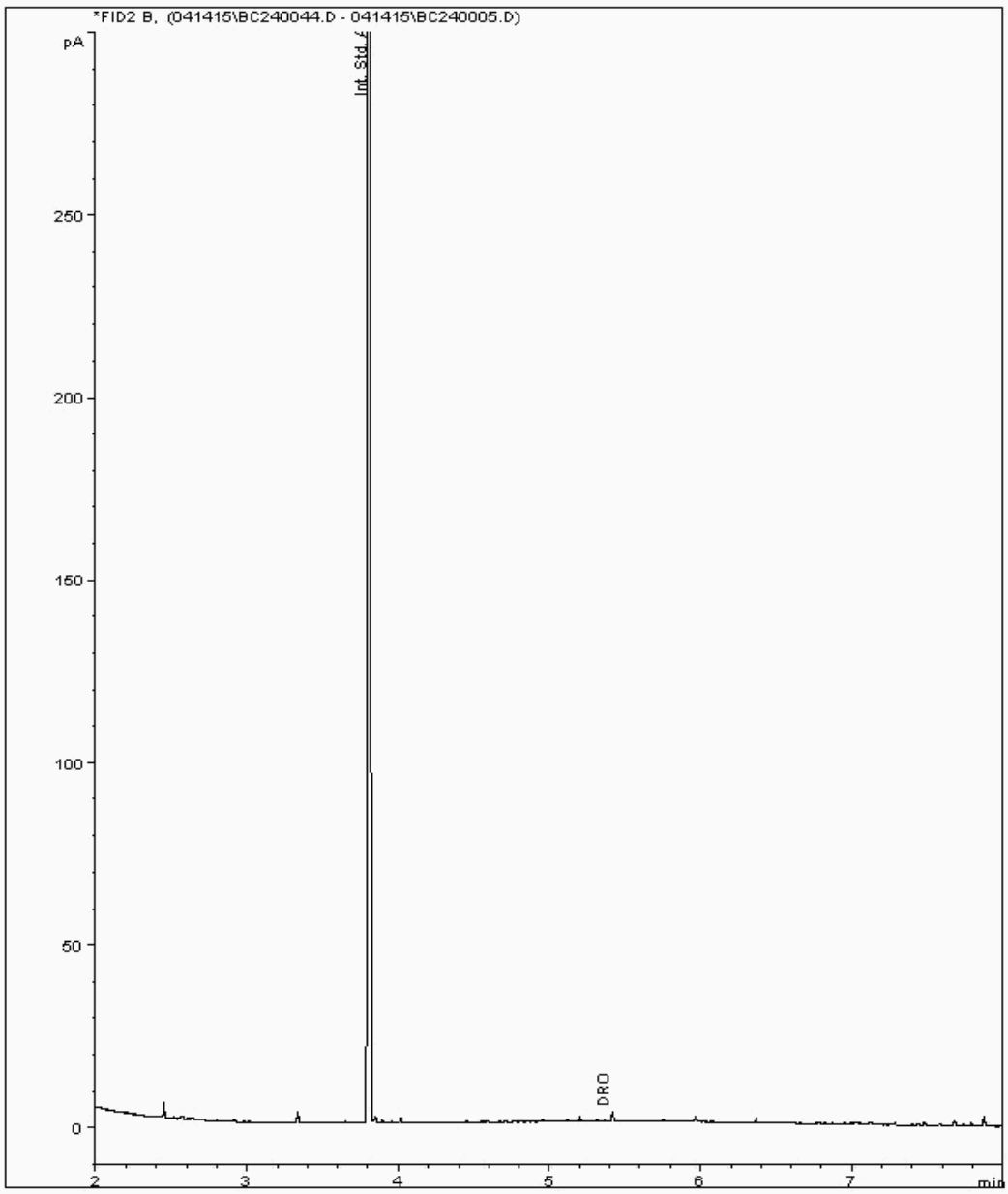
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112284
Sample ID : BH34b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562759-
Date Acquired : 15/04/2015 04:16:29 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

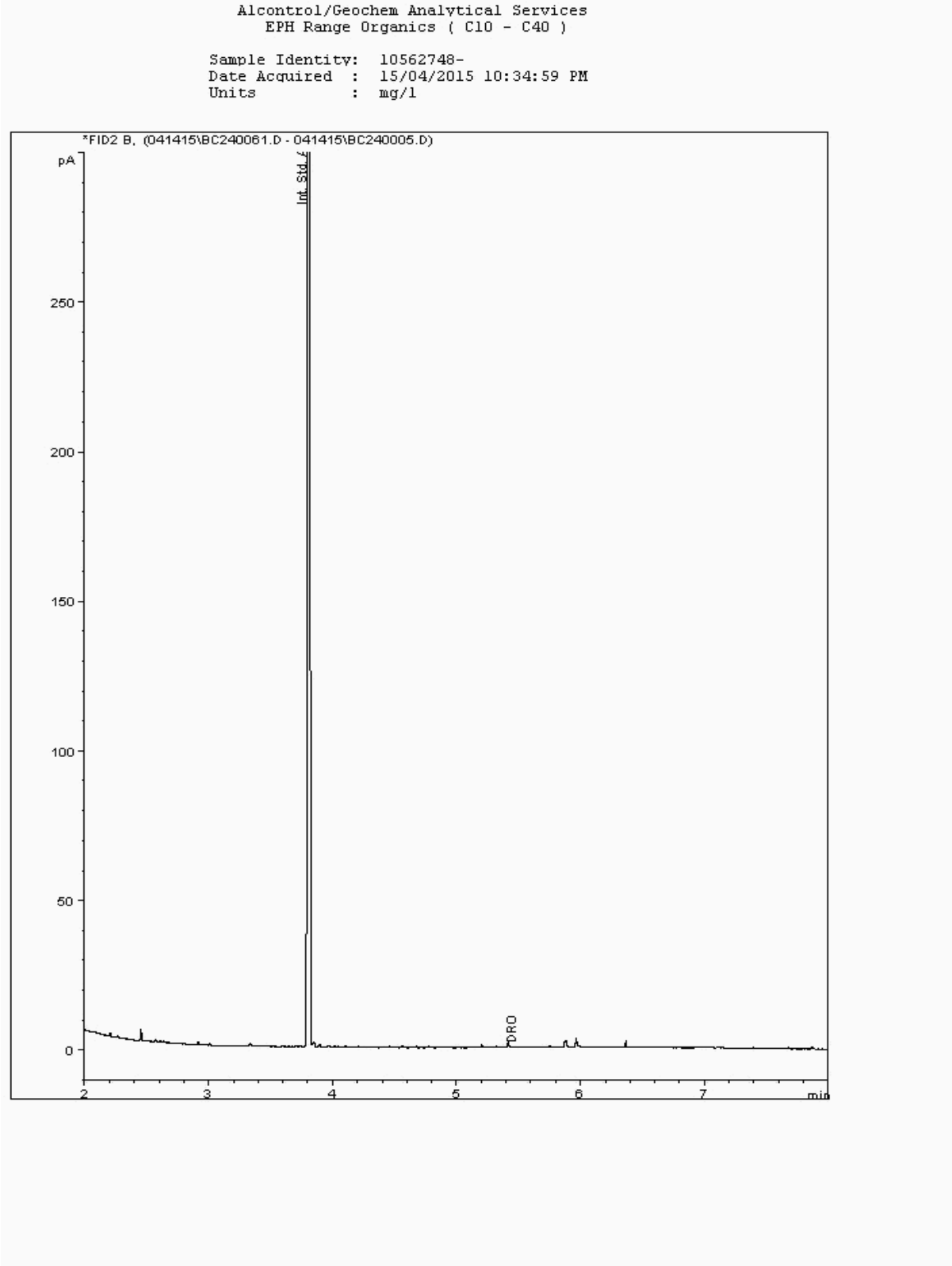
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11114775
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

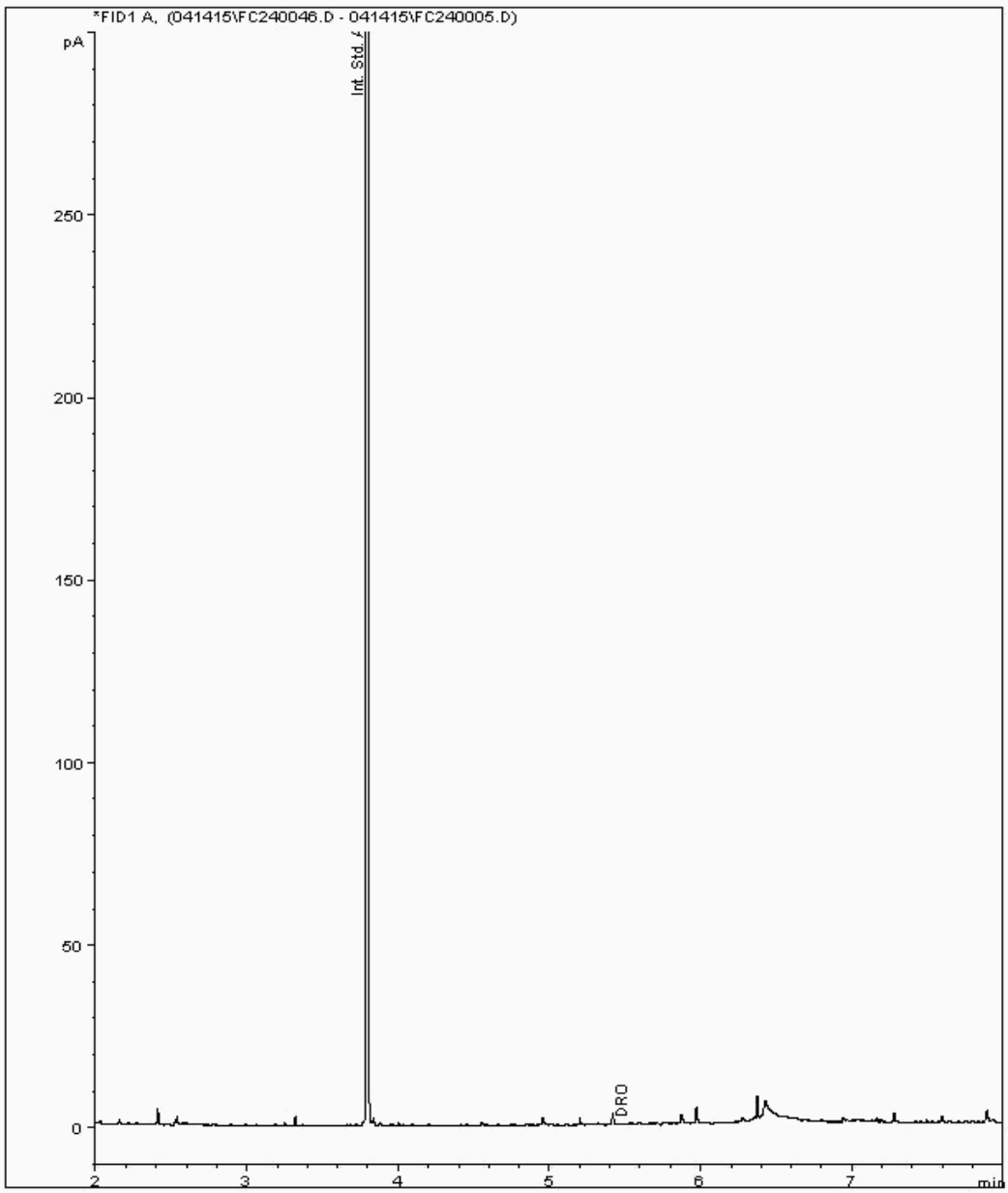
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11114787
Sample ID : BH44

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562744-
Date Acquired : 15/04/2015 05:00:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

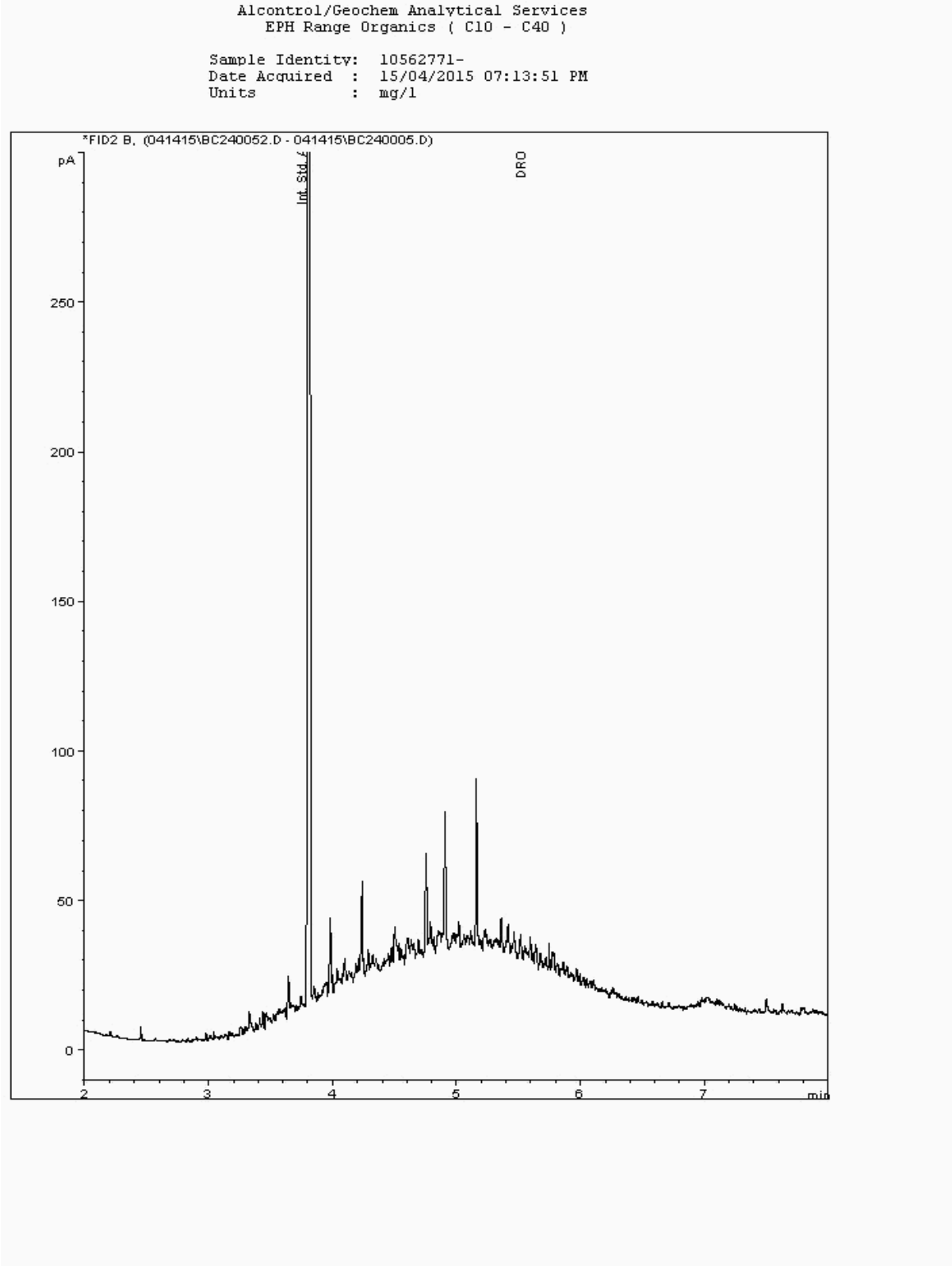
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115550
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

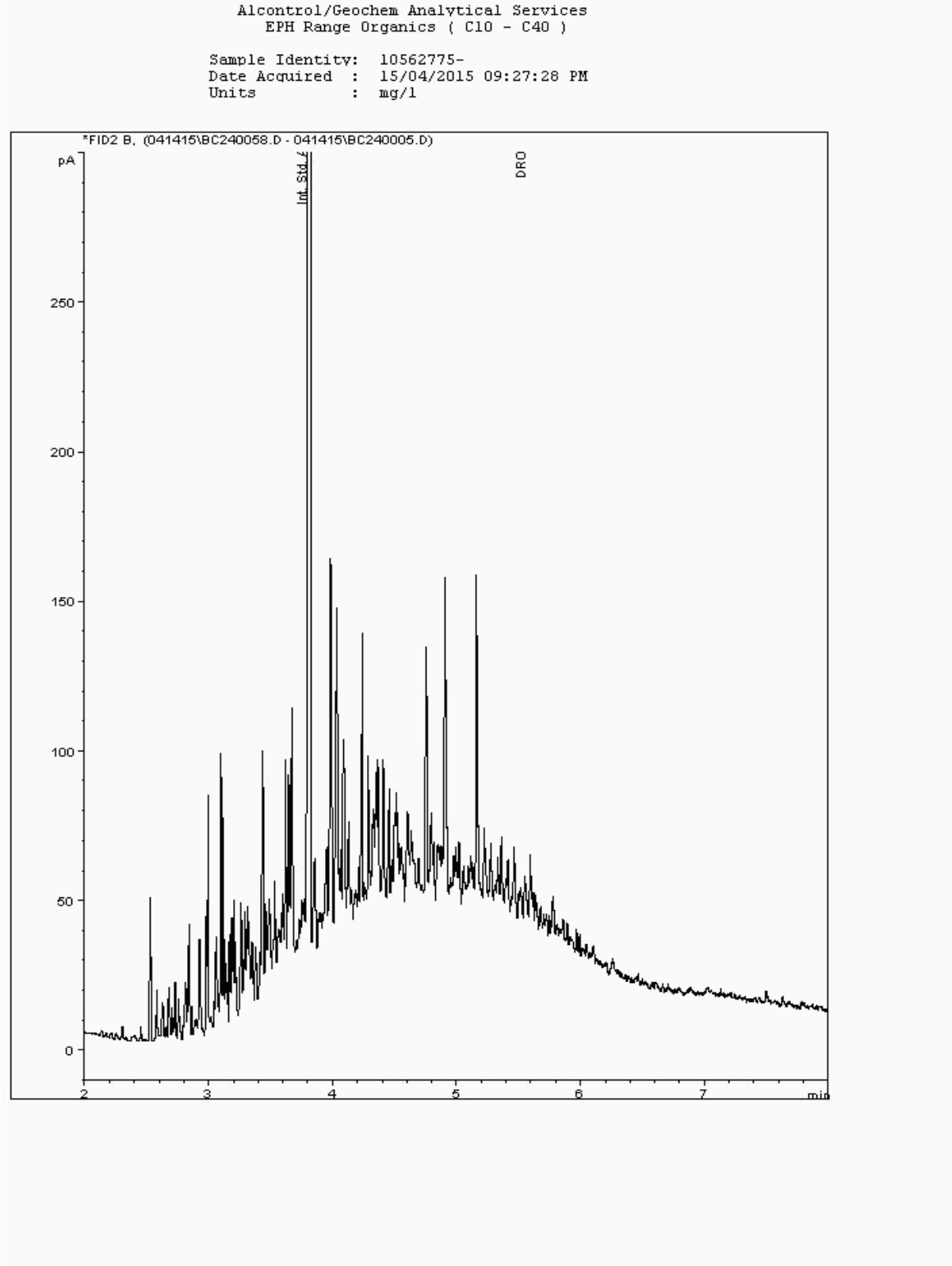
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115565
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

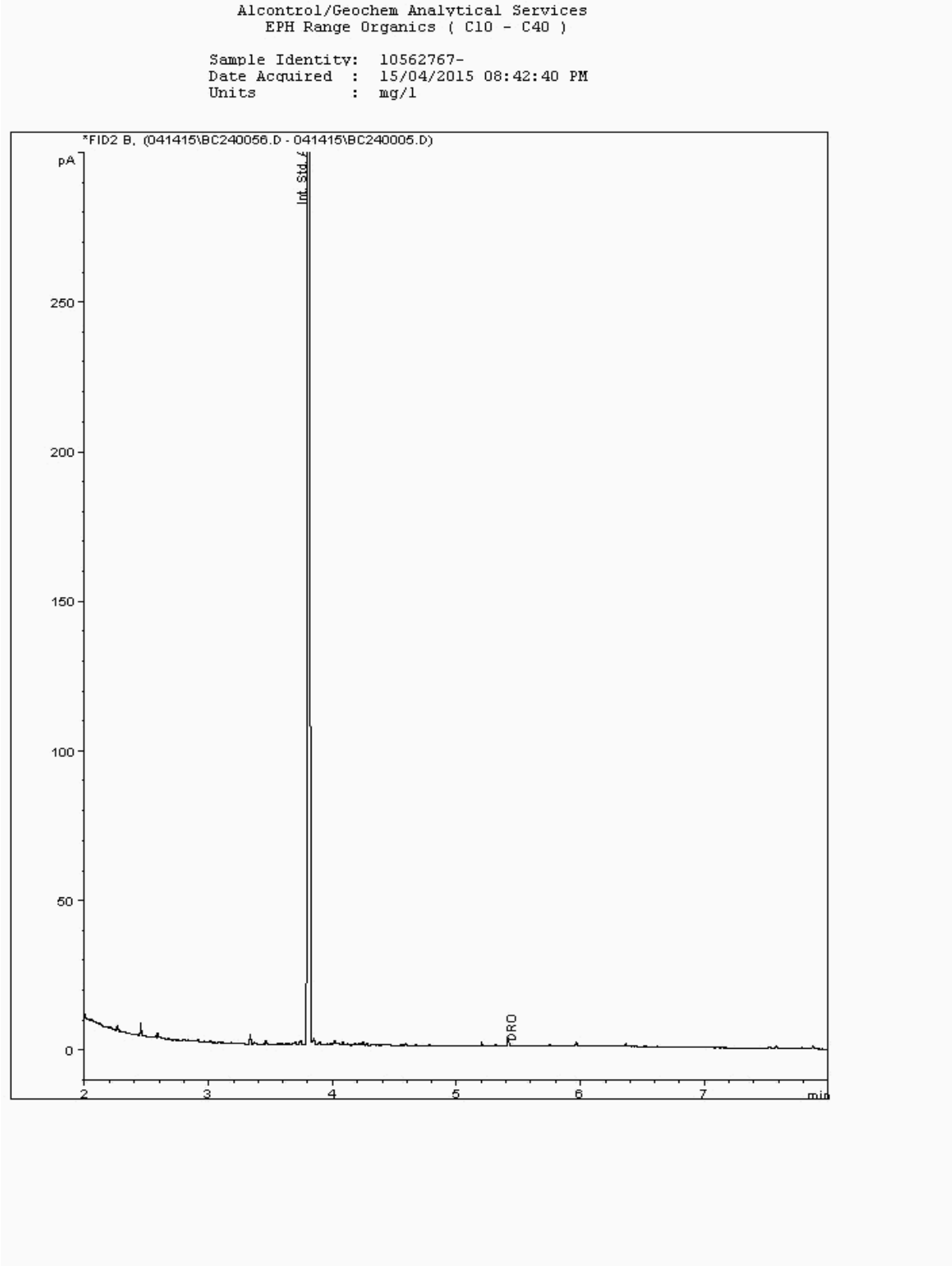
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115579
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

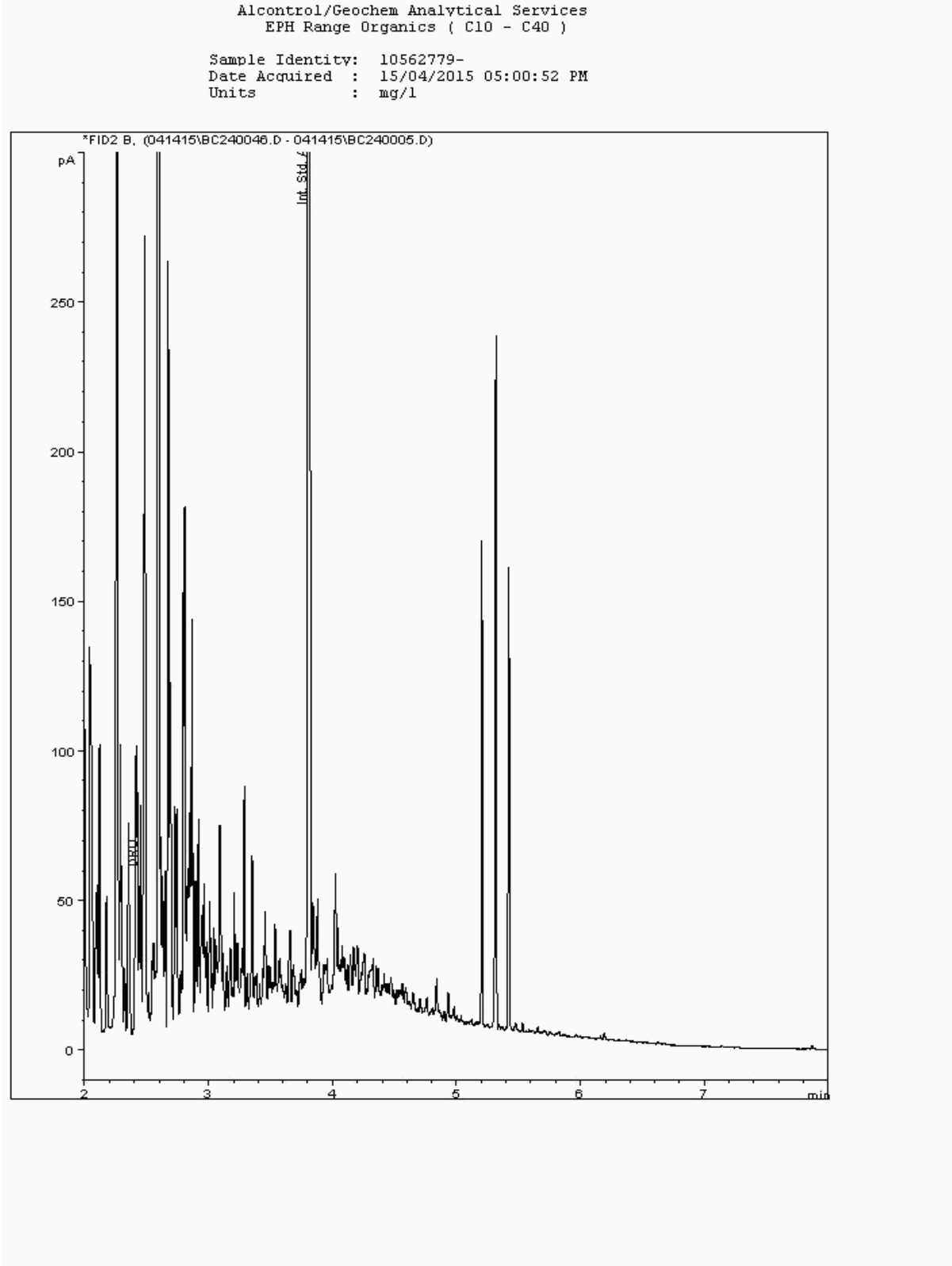
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115593
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

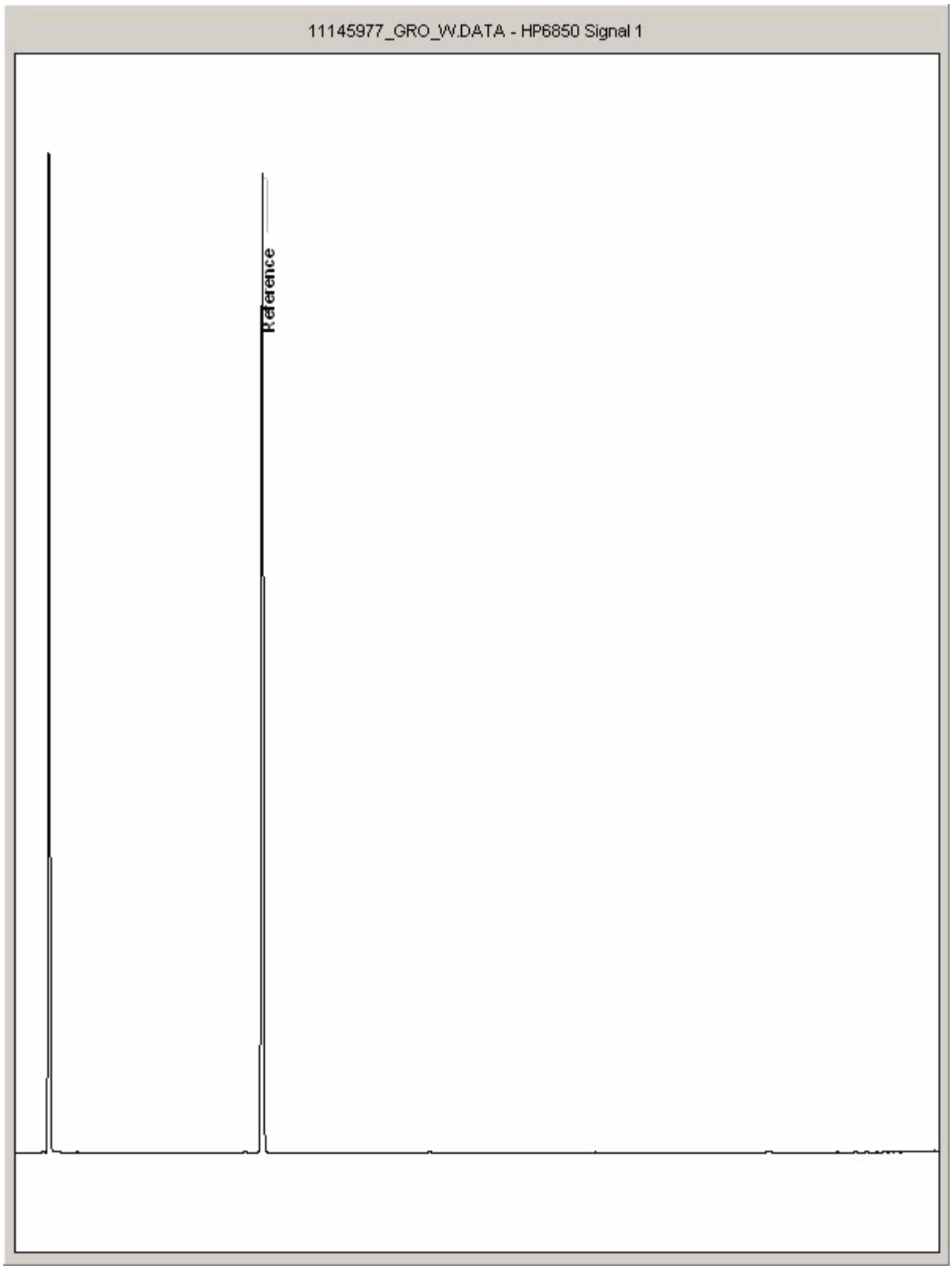
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145977
Sample ID : BH34b

Depth :



CERTIFICATE OF ANALYSIS

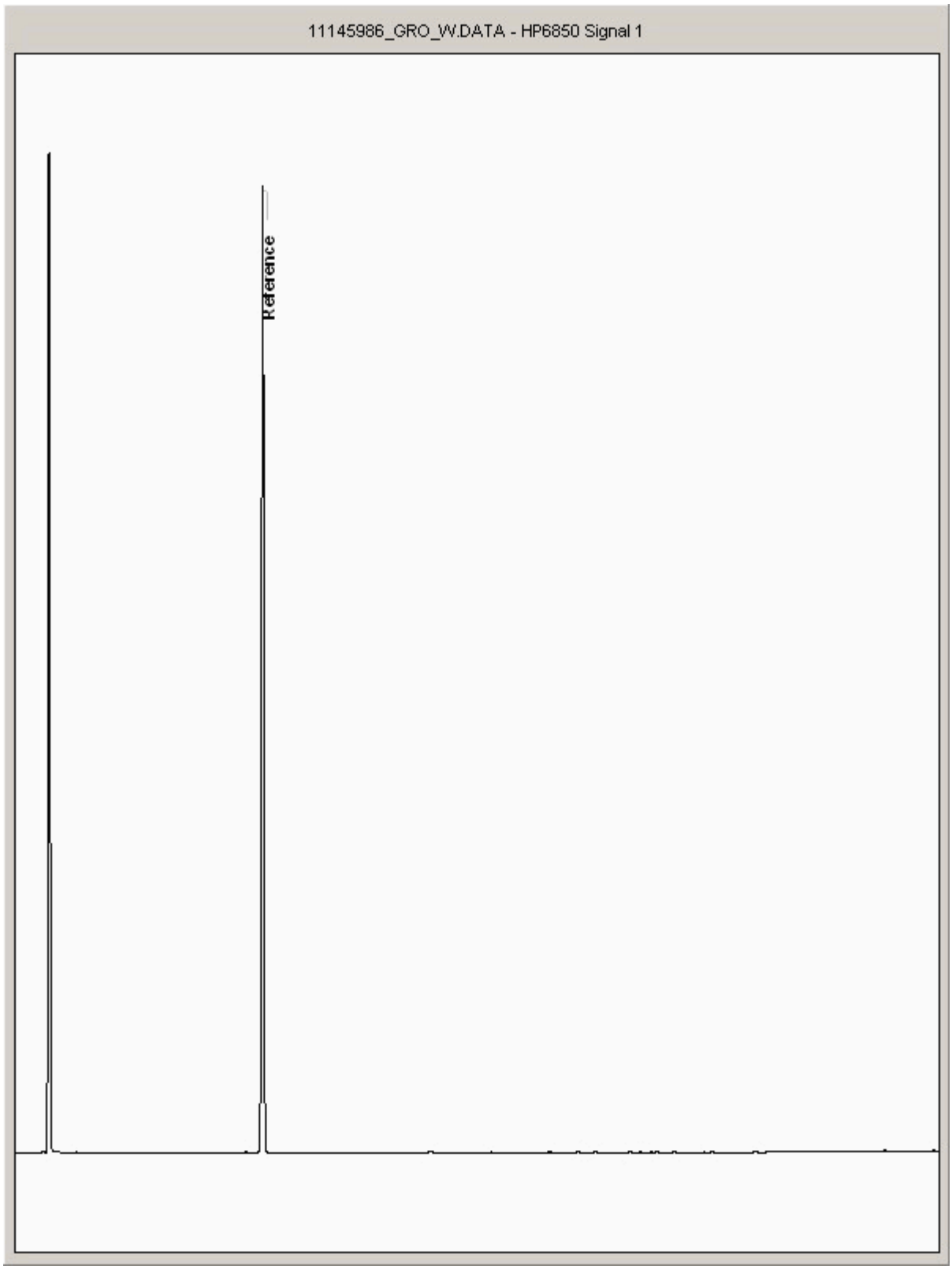
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145986
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

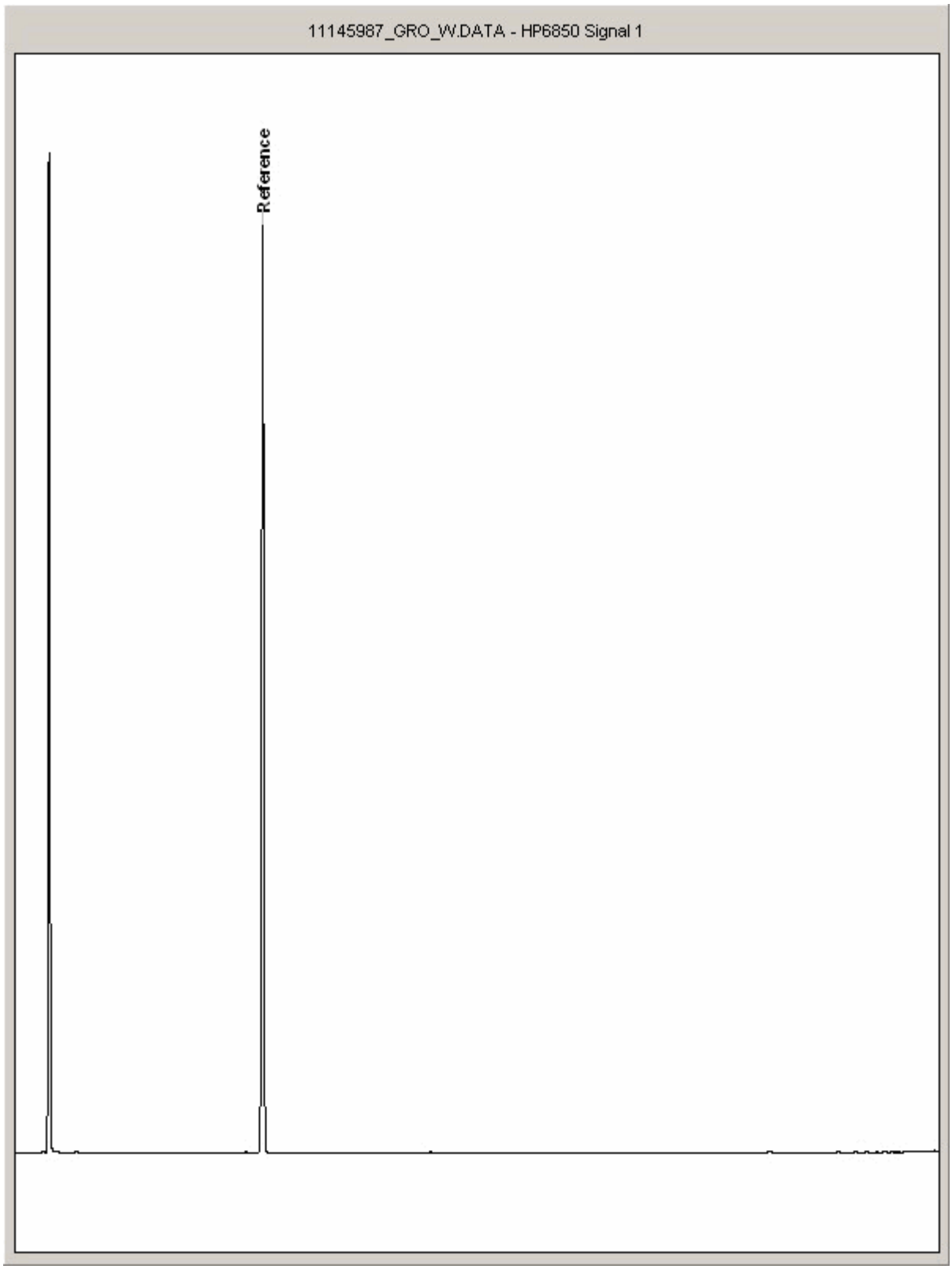
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145987
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

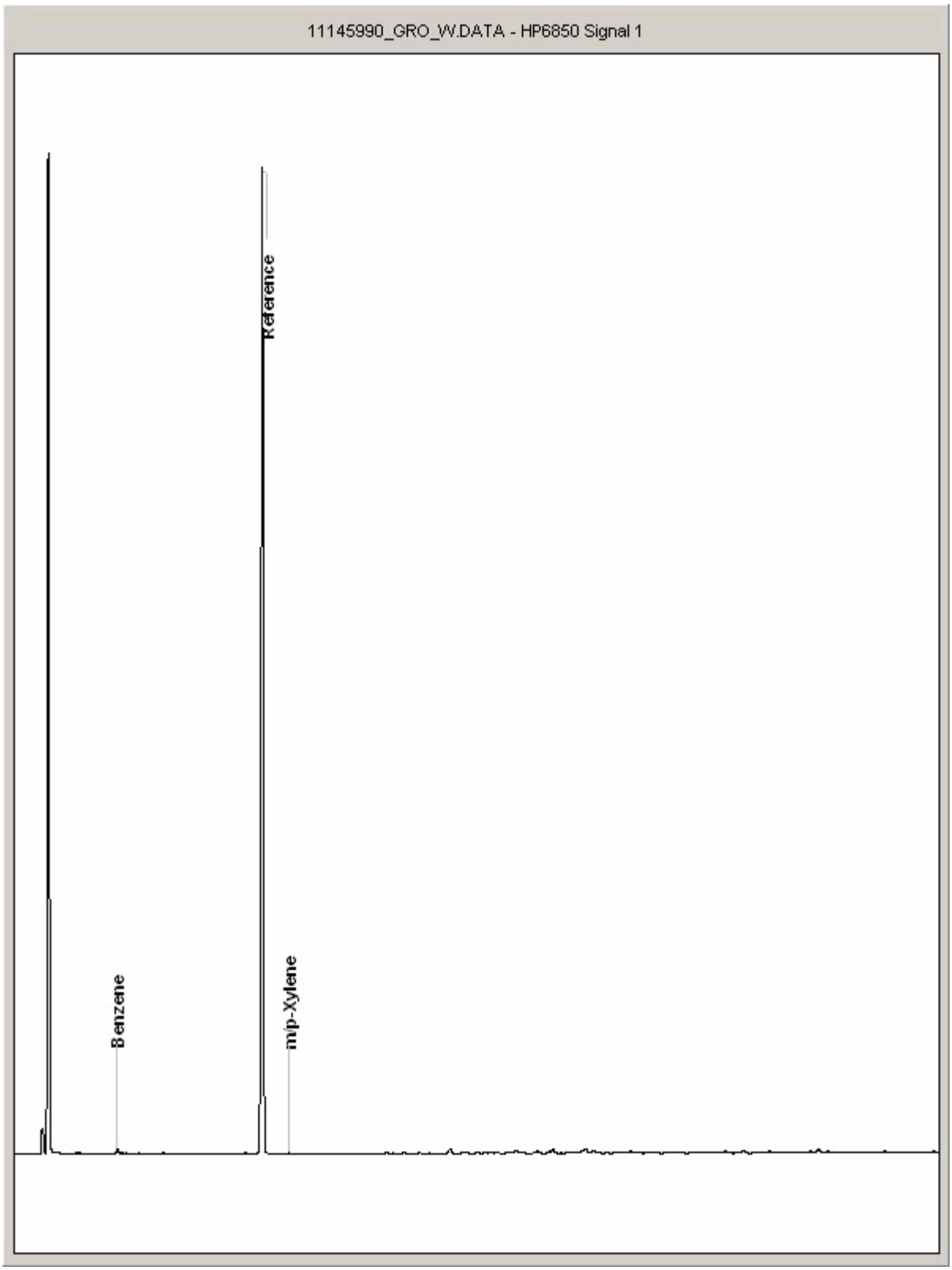
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145990
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

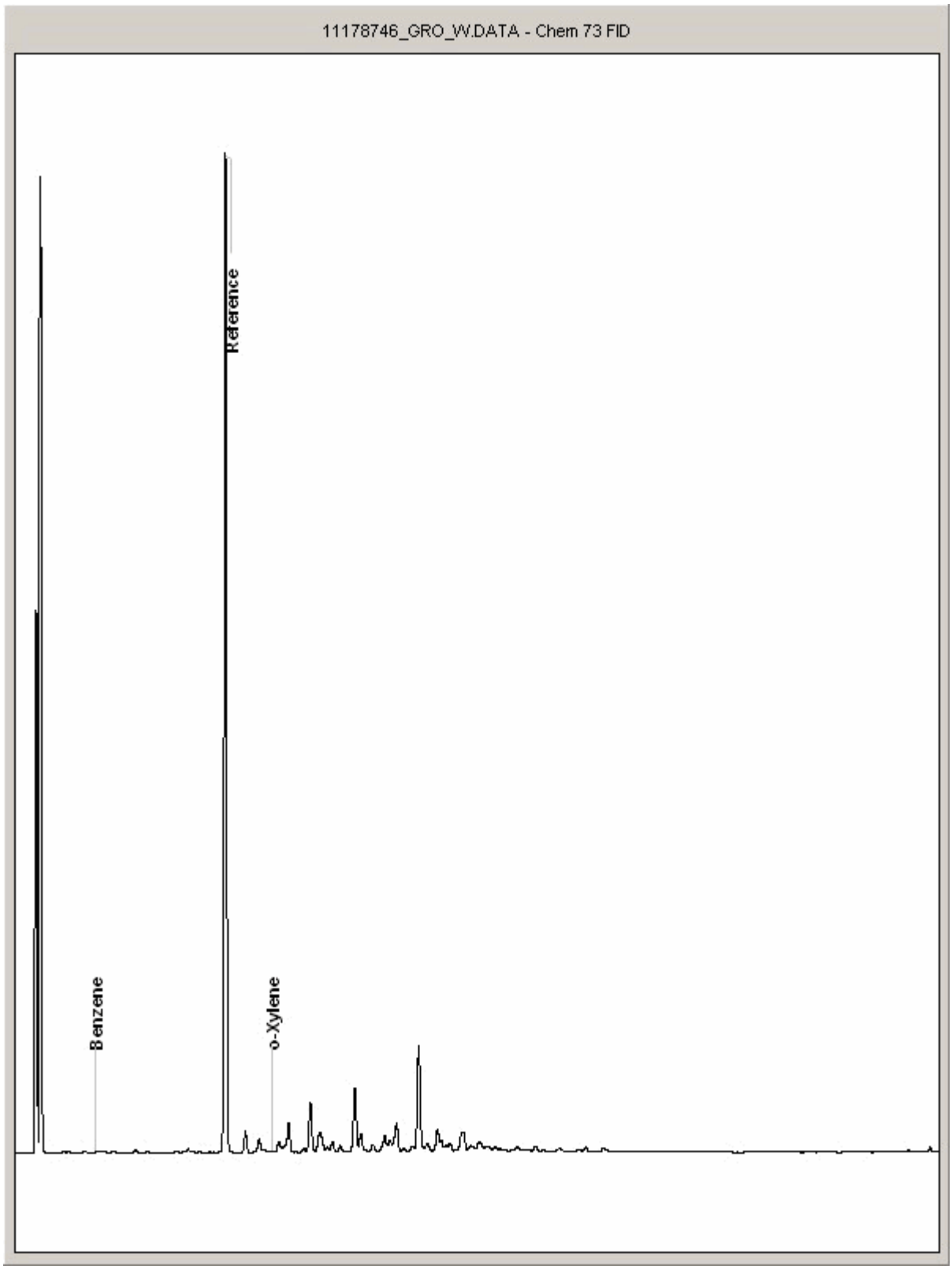
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178746
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

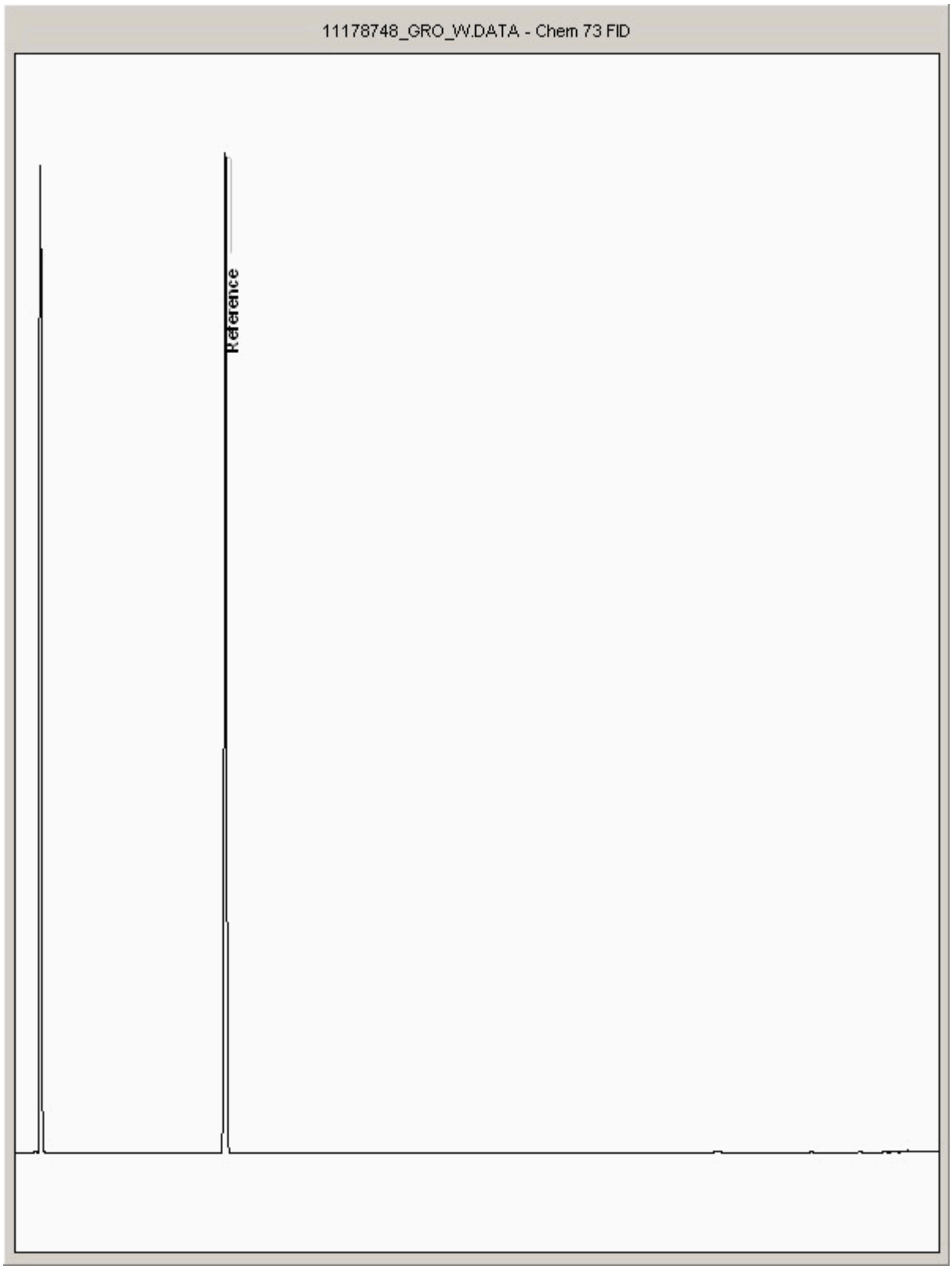
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178748
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

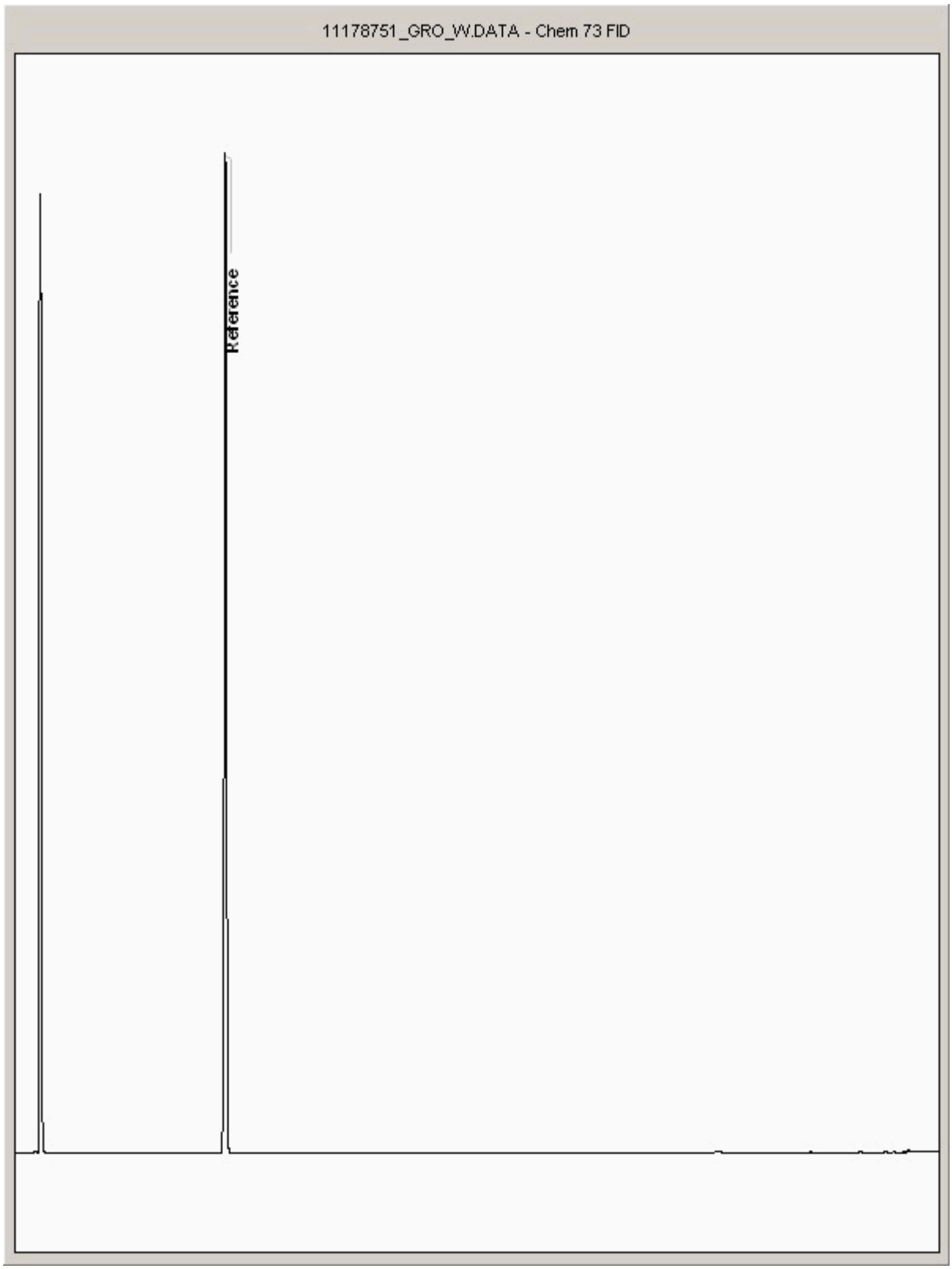
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178751
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

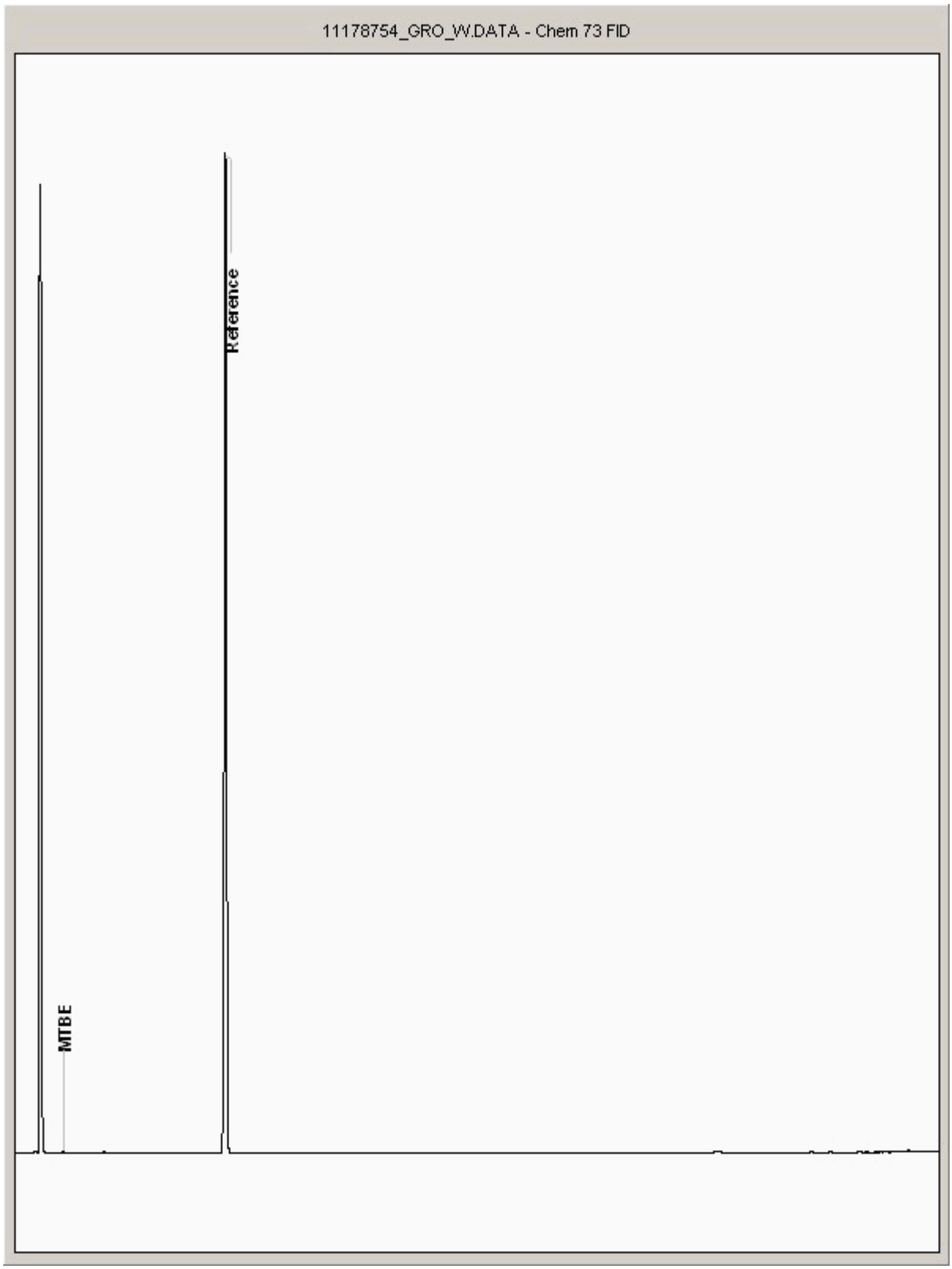
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178754
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

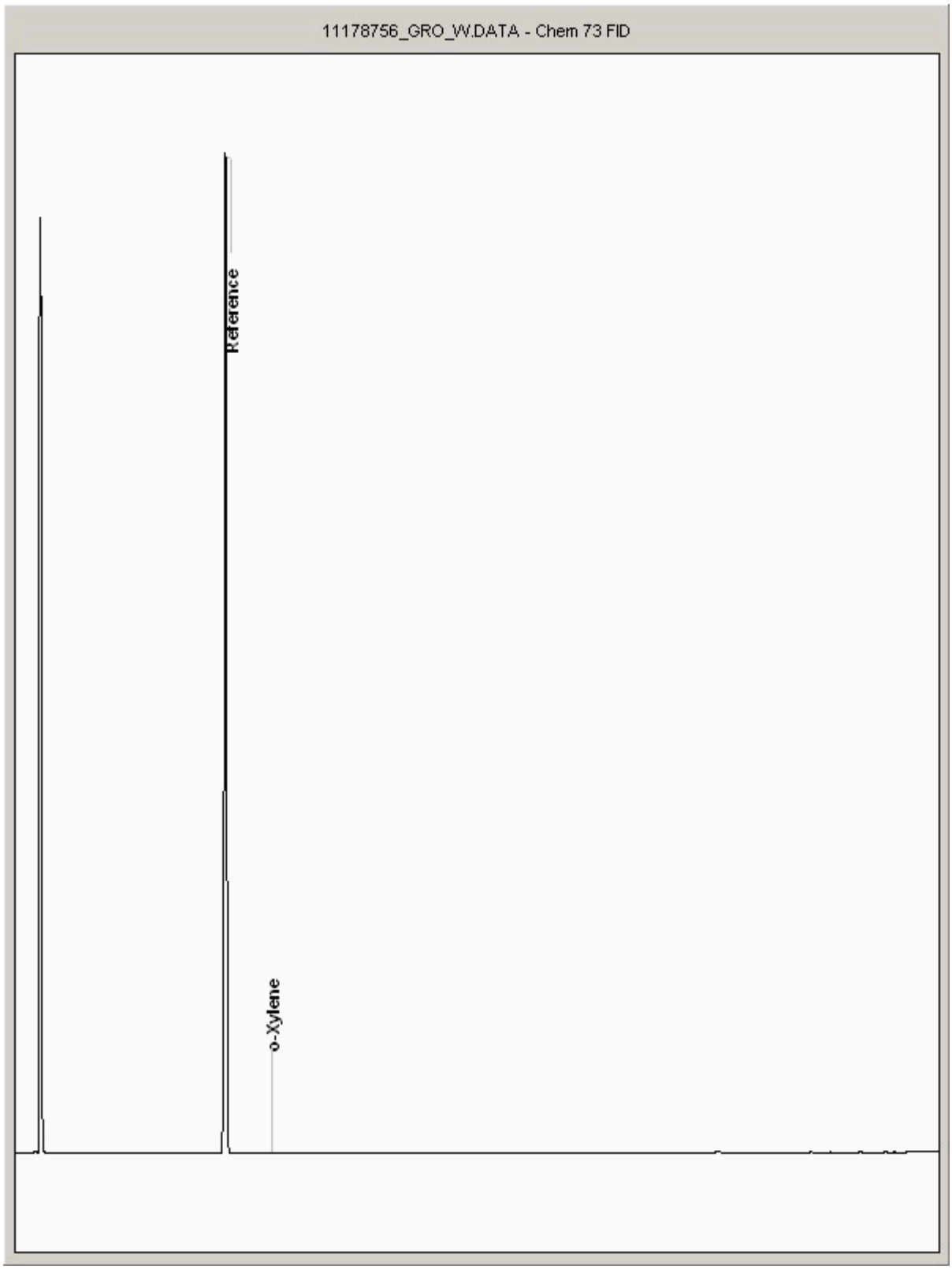
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178756
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

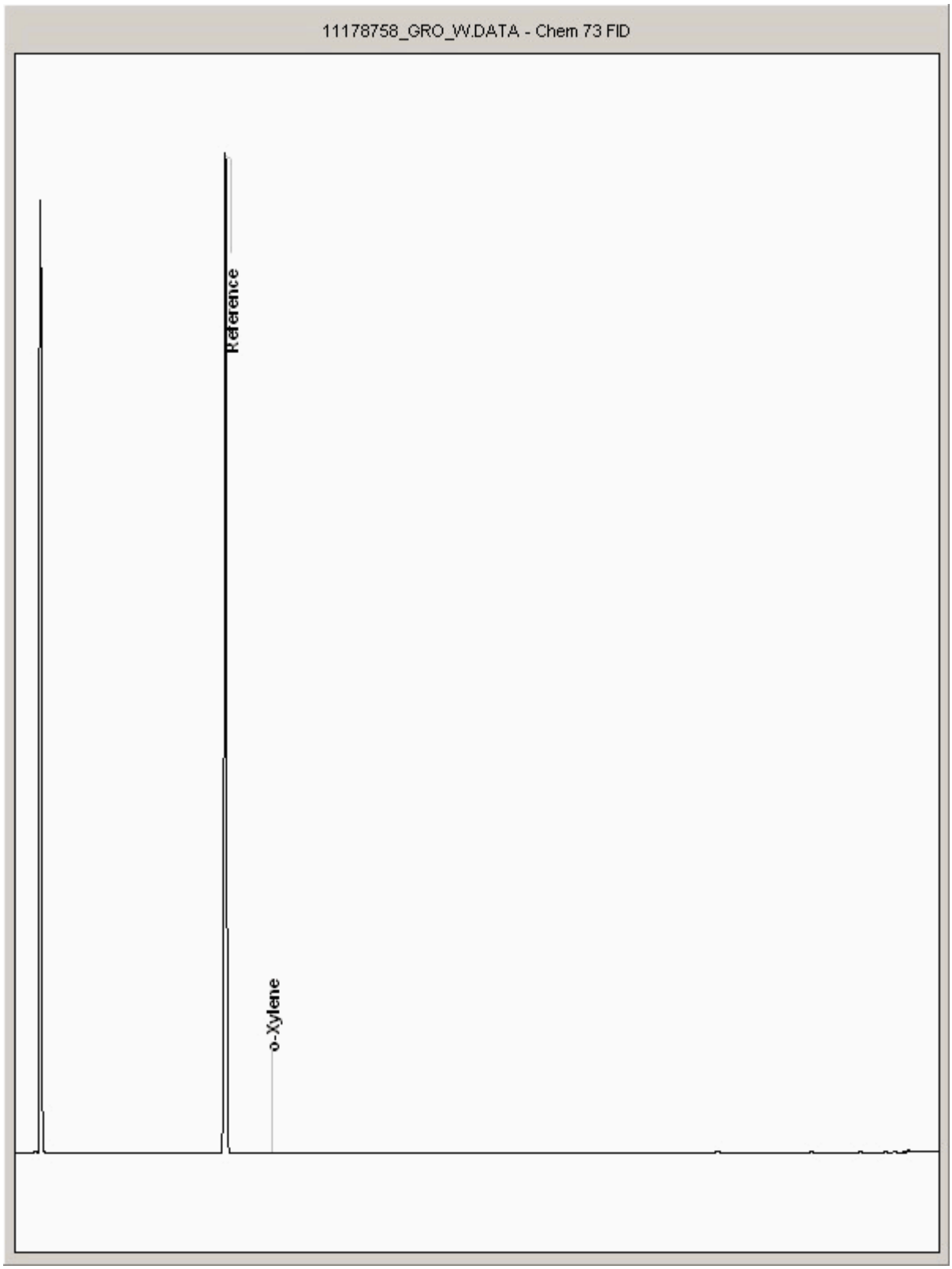
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178758
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309089
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	17 April 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150328-56
Your Reference:	JER5575U
Location:	SHLNG
Report No:	309553

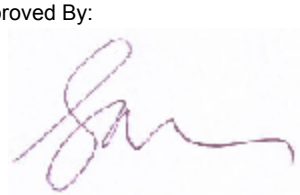
This report has been revised and directly supersedes 309552 in its entirety.

We received 19 samples on Saturday March 28, 2015 and 10 of these samples were scheduled for analysis which was completed on Friday April 17, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11091503	BH06			26/03/2015
11091508	BH43			26/03/2015
11091497	BH44			26/03/2015
11091514	BH50			27/03/2015
11091507	BH99			26/03/2015
11091510	BH41a			26/03/2015
11091512	BH42a			26/03/2015
11091511	BH41a Duplicate			26/03/2015
11091513	BH42a Duplicate			26/03/2015
11091505	BH34b			26/03/2015
11091506	BH34b Duplicate			26/03/2015
11091504	BH06 Duplicate			26/03/2015
11091509	BH43 Duplicate			26/03/2015
11091498	BH44 Duplicate			26/03/2015
11091515	BH50 Duplicate			27/03/2015
11091499	MW01			26/03/2015
11091501	MW03			26/03/2015
11091500	MW01 Duplicate			26/03/2015
11091502	MW03 Duplicate			26/03/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	11091503	11091508	11091497	11091514	11091507	11091510	11091512	11091505	11091499	11091501
			Customer Sample Reference	BH06	BH43	BH44	BH50	BH99	BH41a	BH42a	BH34b	MW01	MW03
			AGS Reference										
			Depth (m)										
			Container	1000ml glass bottle	Vial (ALE297)	1000ml glass bottle	Vial (ALE297)	1000ml glass bottle	Vial (ALE297)	1000ml glass bottle	Vial (ALE297)	1000ml glass bottle	Vial (ALE297)	1000ml glass bottle	Vial (ALE297)	1000ml glass bottle	Vial (ALE297)	1000ml glass bottle	Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 10		X		X		X		X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 10			X		X		X		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7				X				X		X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	27/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091503	11091508	11091497	11091514	11091507	11091510
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 ♦ #	<46 ♦ #	<46 ♦ #	3620 ♦ #	<46 ♦ #	3940 ♦ #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10 ♦	<10 ♦	<10 ♦	122 ♦	<10 ♦	1320 ♦
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10 ♦	<10 ♦	<10 ♦	3500 ♦	<10 ♦	2620 ♦

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34b	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015		
			SDG Ref	150328-56	150328-56	150328-56	150328-56		
			Lab Sample No.(s)	11091512	11091505	11091499	11091501		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		7100 ♦ #	133 ♦ #	<46 ♦ #	<46 ♦ #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		1710 ♦	50.1 ♦	<10 ♦	<10 ♦		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		5390 ♦	82.9 ♦	<10 ♦	<10 ♦		

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	27/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091503	11091508	11091497	11091514	11091507	11091510
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	76	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	1930	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	2010	<10	11

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34b	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015		
			Sampled Time	.	.	.	.		
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015		
			SDG Ref	150328-56	150328-56	150328-56	150328-56		
			Lab Sample No.(s)	11091512	11091505	11091499	11091501		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10		
GRO >C6-C8	<10 µg/l	TM245		33	<10	<10	<10		
GRO >C8-C10	<10 µg/l	TM245		27	<10	<10	<10		
GRO >C5-C10	<10 µg/l	TM245		66	<10	<10	12		

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091508	11091507	11091510	11091512	11091505	11091499
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦	<1 ♦	<1 ♦	<1 ♦	<1 ♦	<1 ♦
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	5.39 ♦ #	<1 ♦ #	<1 ♦ #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Acenaphthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	1.05 ♦ #	<1 ♦ #	<1 ♦ #
Anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091508	11091507	11091510	11091512	11091505	11091499
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Carbazole (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Chrysene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #
Fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Fluorene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.13 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Naphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.99 ♦ #	<1 ♦ #	<1 ♦ #
Isophorone (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.21 ♦ #	<1 ♦ #	<1 ♦ #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	MW03
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	26/03/2015
Sampled Time	.
Date Received	28/03/2015
SDG Ref	150328-56
Lab Sample No.(s)	11091501
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<1
Azobenzene (aq)	<1 µg/l	TM176	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #
Acenaphthene (aq)	<1 µg/l	TM176	<1 #
Anthracene (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	MW03
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	26/03/2015
Sampled Time	.
Date Received	28/03/2015
SDG Ref	150328-56
Lab Sample No.(s)	11091501
AGS Reference	

Component	LOD/Units	Method	
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #
Carbazole (aq)	<1 µg/l	TM176	<1 #
Chrysene (aq)	<1 µg/l	TM176	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #
Fluoranthene (aq)	<1 µg/l	TM176	<1 #
Fluorene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<1
Phenol (aq)	<1 µg/l	TM176	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #
Naphthalene (aq)	<1 µg/l	TM176	<1 #
Isophorone (aq)	<1 µg/l	TM176	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1
Phenanthrene (aq)	<1 µg/l	TM176	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #
Pyrene (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Test Completion Dates

Lab Sample No(s)	11091503	11091508	11091497	11091514	11091507	11091510	11091512	11091505	11091499	11091501
Customer Sample Ref.	BH06	BH43	BH44	BH50	BH99	BH41a	BH42a	BH34b	MW01	MW03
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
GRO by GC-FID (W)	15-Apr-2015	15-Apr-2015	17-Apr-2015	15-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	15-Apr-2015	15-Apr-2015
SVOC MS (W) - Aqueous		13-Apr-2015			13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	10-Apr-2015

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1189	QC 1168
EPH (DRO) (C10-C40)	TM172	**80.0** 59.22 : 112.78	**72.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1112	QC 1165
Benzene by GC	TM245	**107.5** 79.13 : 118.84	**108.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	**106.5** 79.54 : 115.99	**112.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**106.5** 78.44 : 116.32	**112.25** 77.50 : 122.50
MTBE GC-FID	TM245	**105.5** 81.43 : 120.09	**106.5** 77.50 : 122.50
o Xylene by GC	TM245	**107.0** 76.85 : 120.29	**112.5** 77.50 : 122.50
QC	TM245	**99.61** 69.85 : 125.92	**107.52** 74.88 : 125.54
Toluene by GC	TM245	**106.5** 79.00 : 121.96	**110.5** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1106	QC 1114
4-Bromophenylphenyleth er	TM176	**92.8** 65.62 : 120.95	**90.4** 65.62 : 120.95
Benzo(a)anthracene	TM176	**92.0** 62.83 : 114.26	**94.4** 62.83 : 114.26
Benzo(a)pyrene	TM176	**88.8** 54.19 : 105.67	**90.4** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**83.2** 51.20 : 111.20	**81.6** 51.20 : 111.20
Hexachlorobutadiene	TM176	**85.6** 43.12 : 110.32	**82.4** 43.12 : 110.32
Naphthalene	TM176	**99.2** 69.48 : 118.94	**96.8** 69.48 : 118.94
Nitrobenzene	TM176	**88.0** 69.13 : 107.62	**88.8** 69.13 : 107.62
Phenol	TM176	**52.08** 30.92 : 74.19	**54.64** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

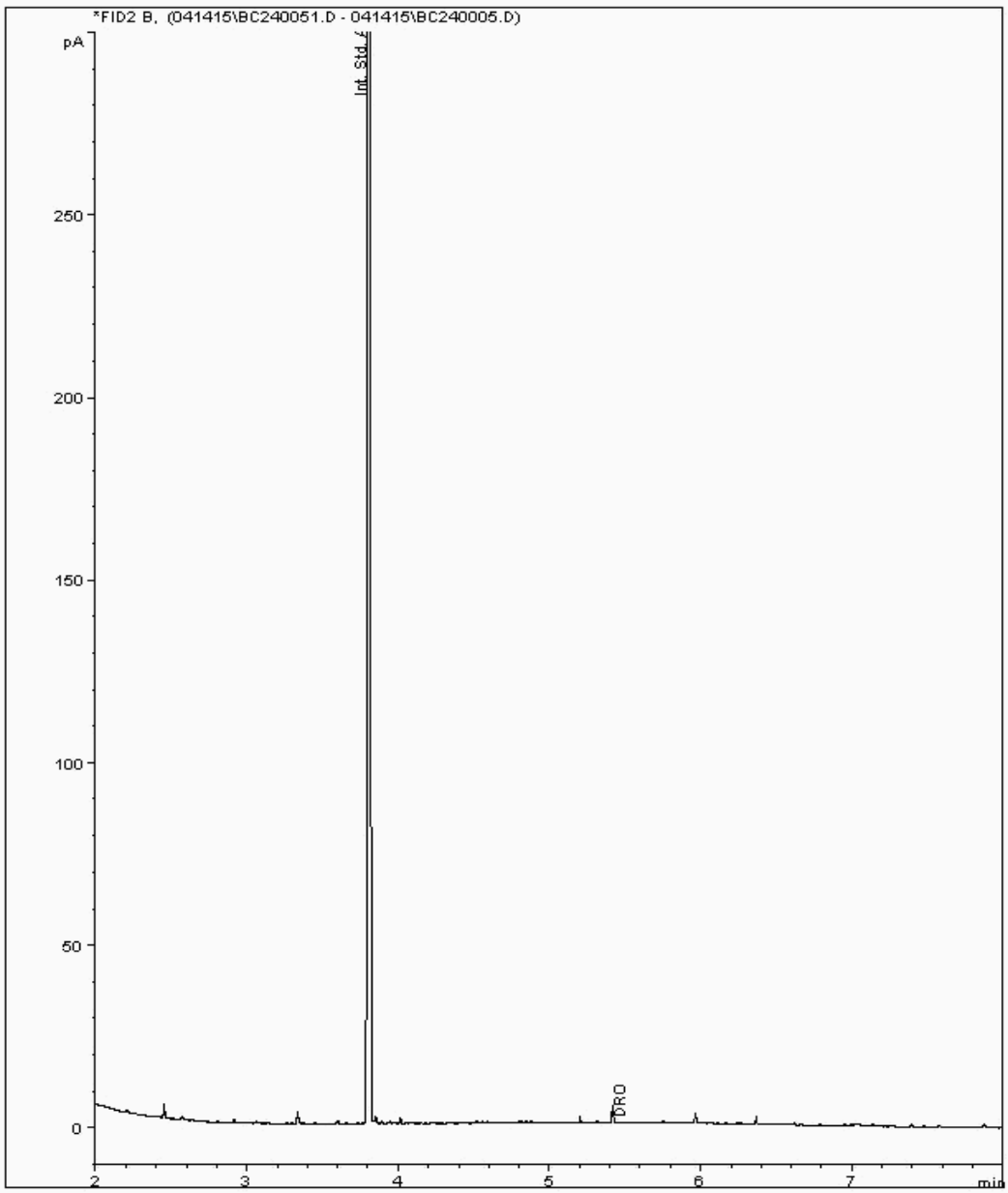
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112229
Sample ID : MW03

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562752-
Date Acquired : 15/04/2015 06:51:48 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

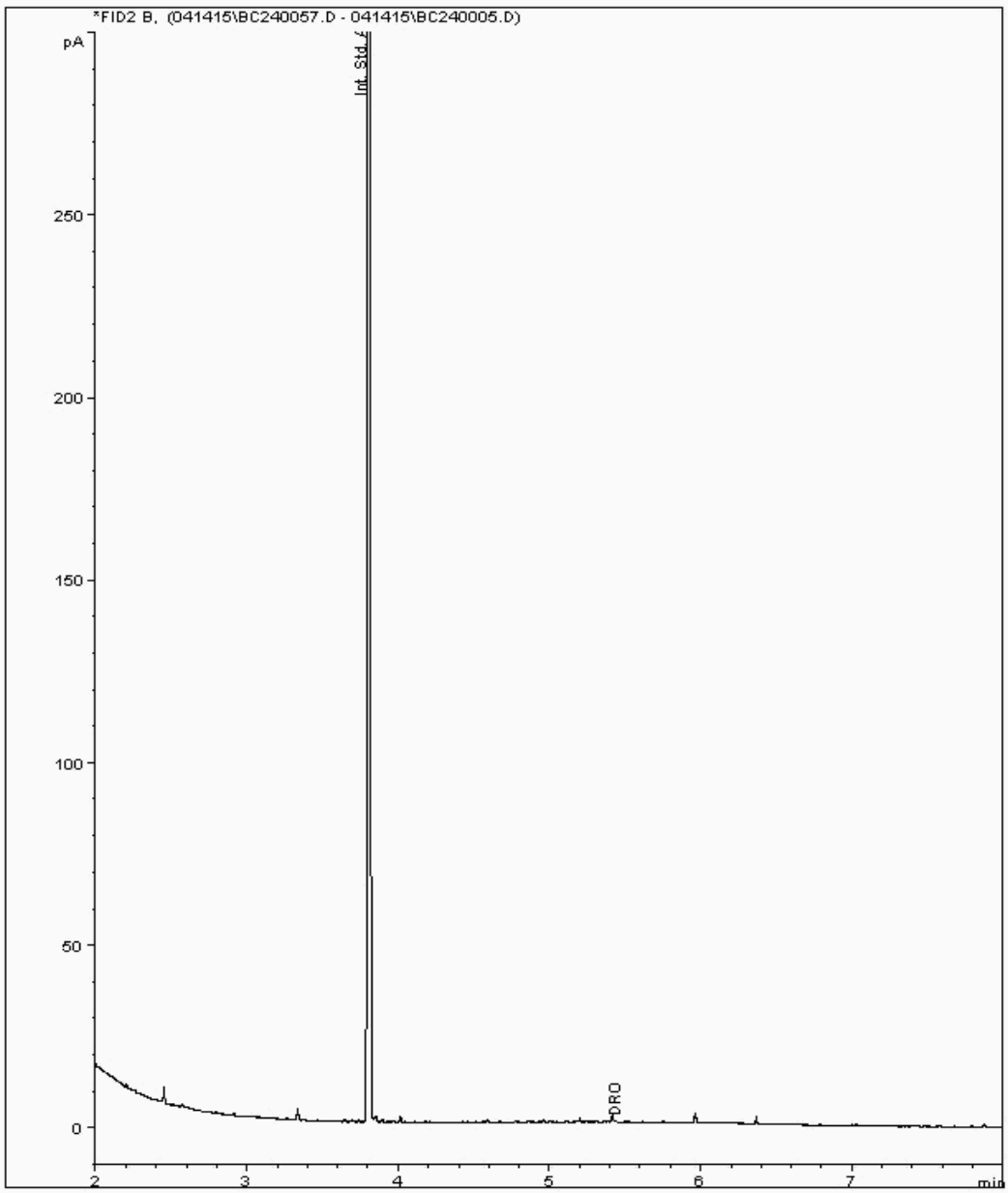
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112243
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562763-
Date Acquired : 15/04/2015 09:05:09 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

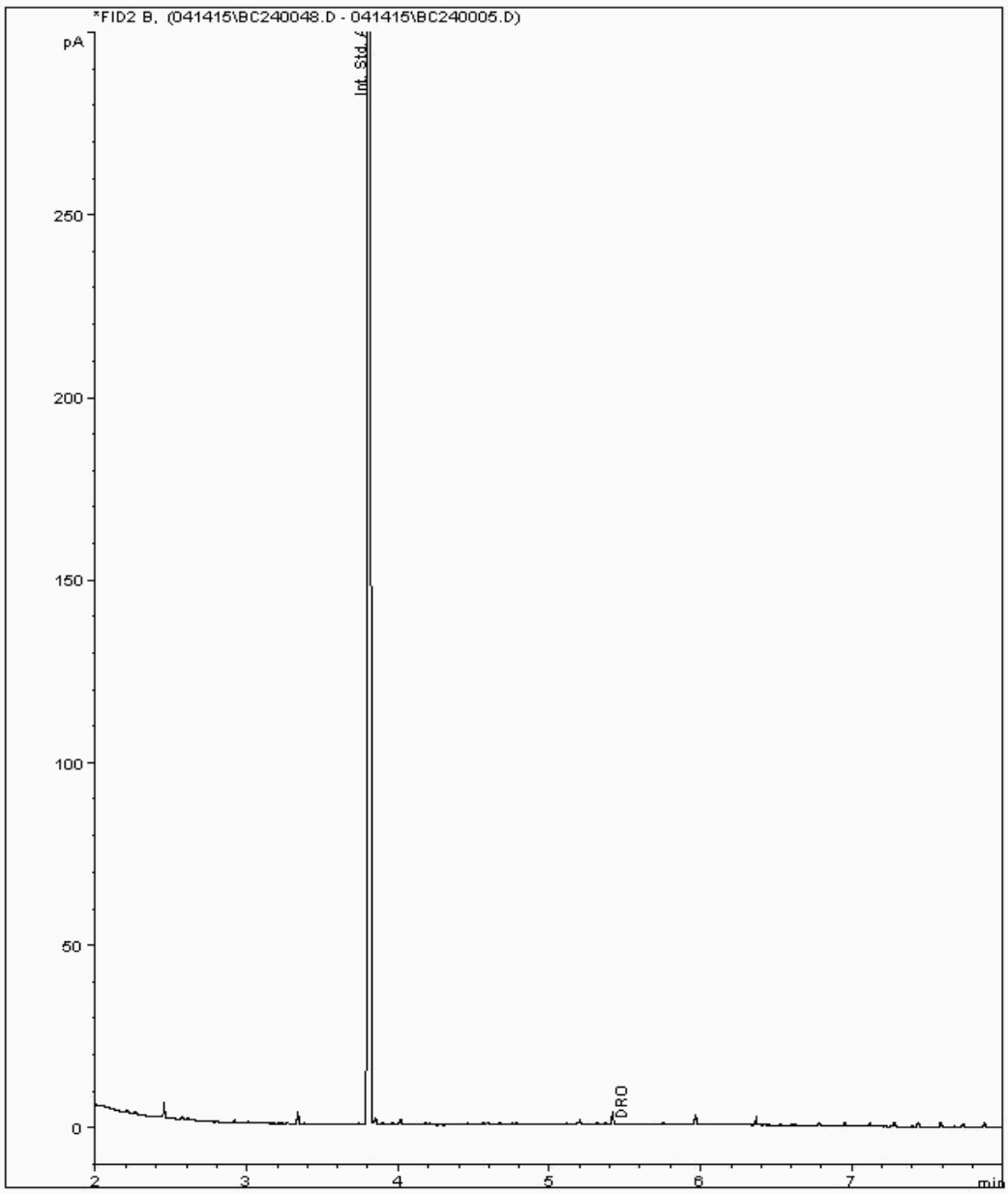
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112264
Sample ID : BH06

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562755-
Date Acquired : 15/04/2015 05:45:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

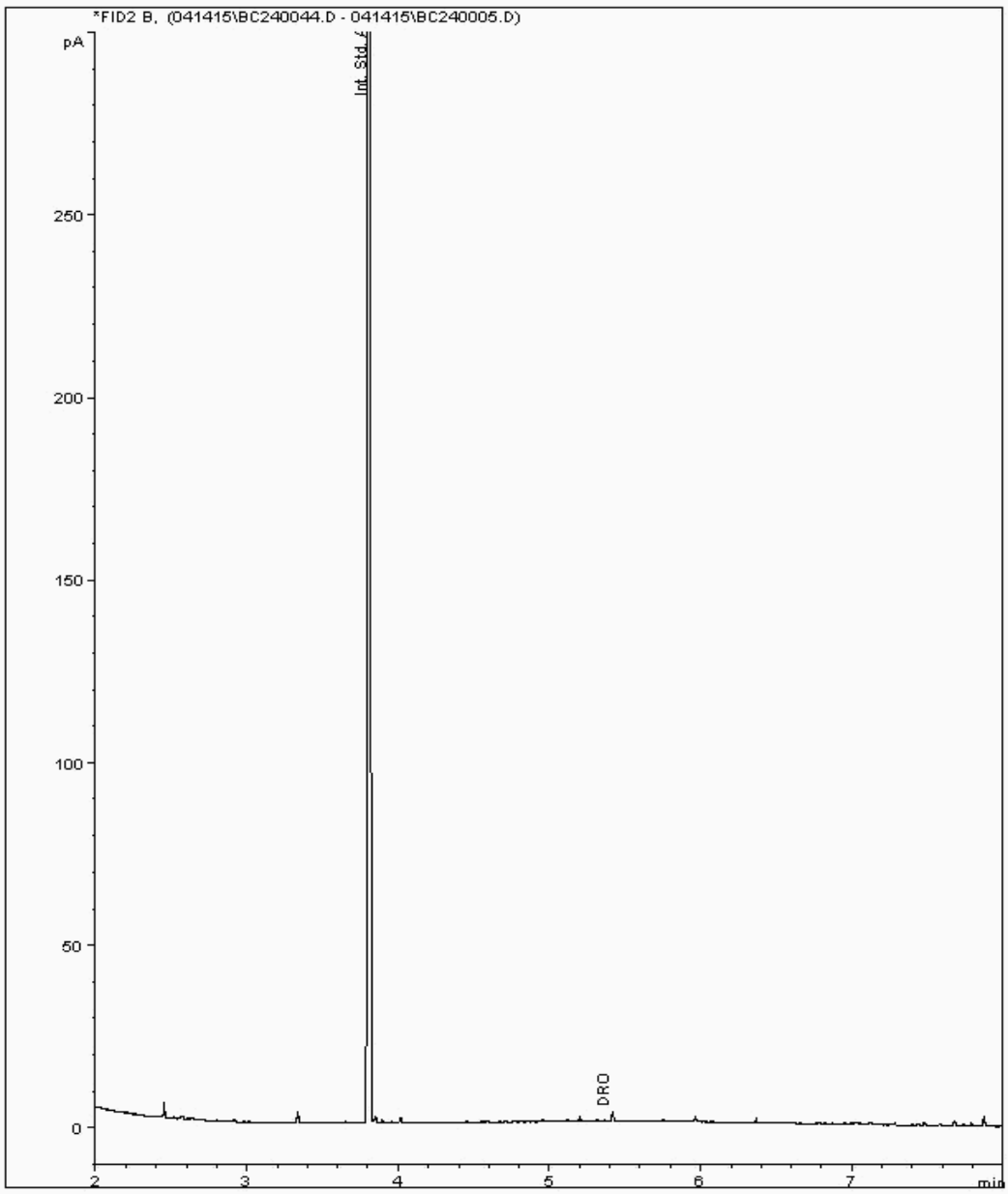
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112284
Sample ID : BH34b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562759-
Date Acquired : 15/04/2015 04:16:29 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

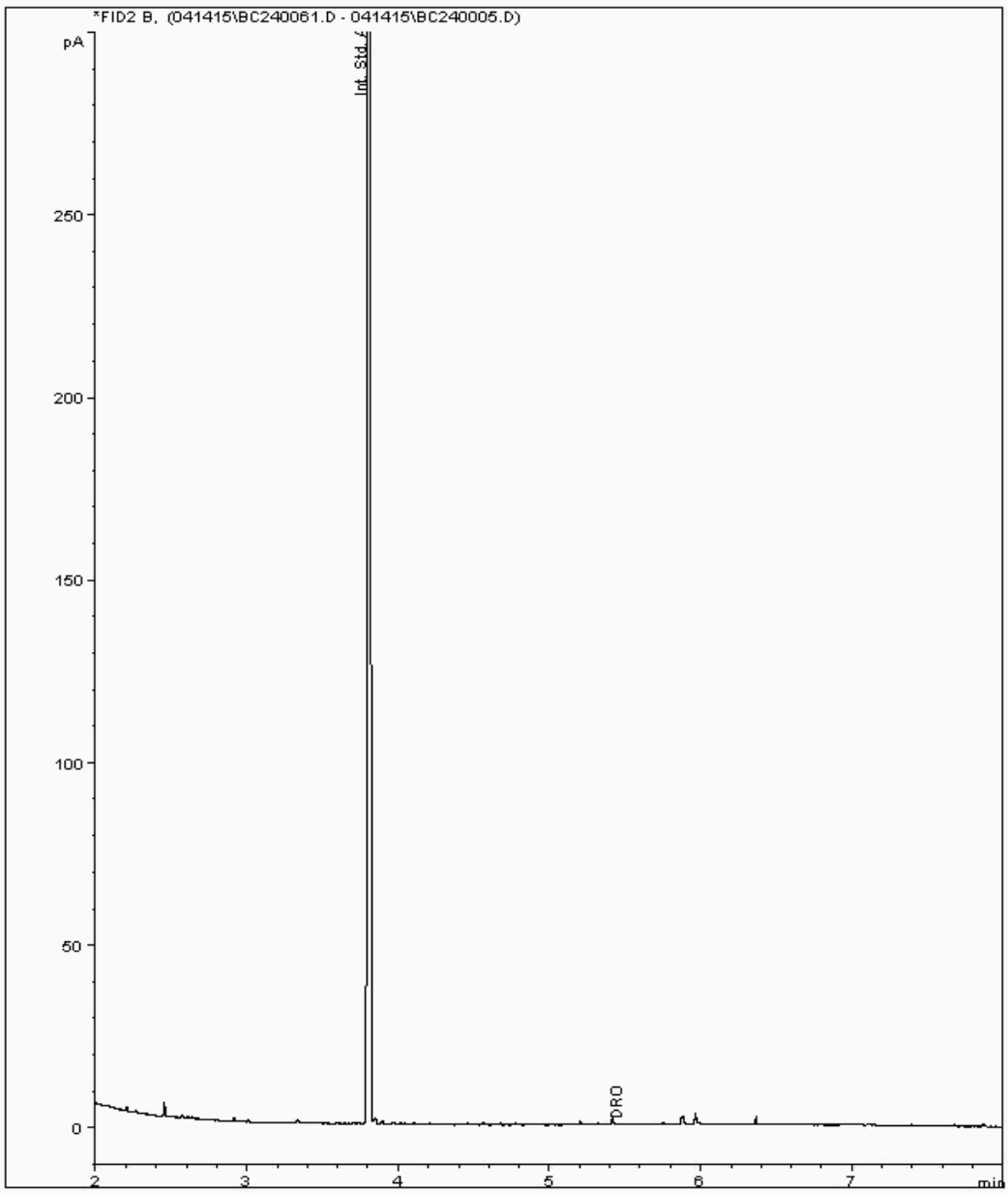
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11114775
Sample ID : MW01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562748-
Date Acquired : 15/04/2015 10:34:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

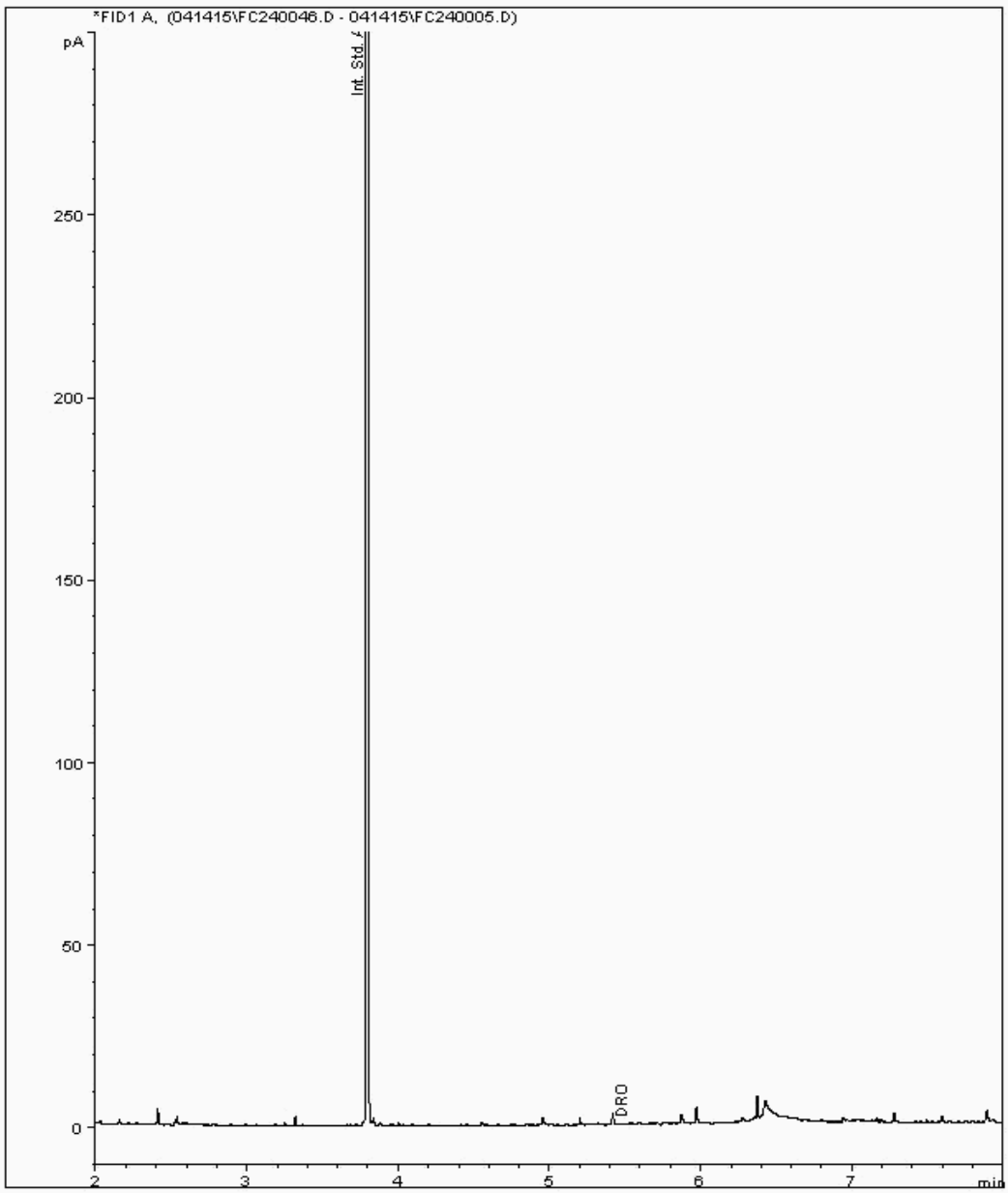
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11114787
Sample ID : BH44

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562744-
Date Acquired : 15/04/2015 05:00:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

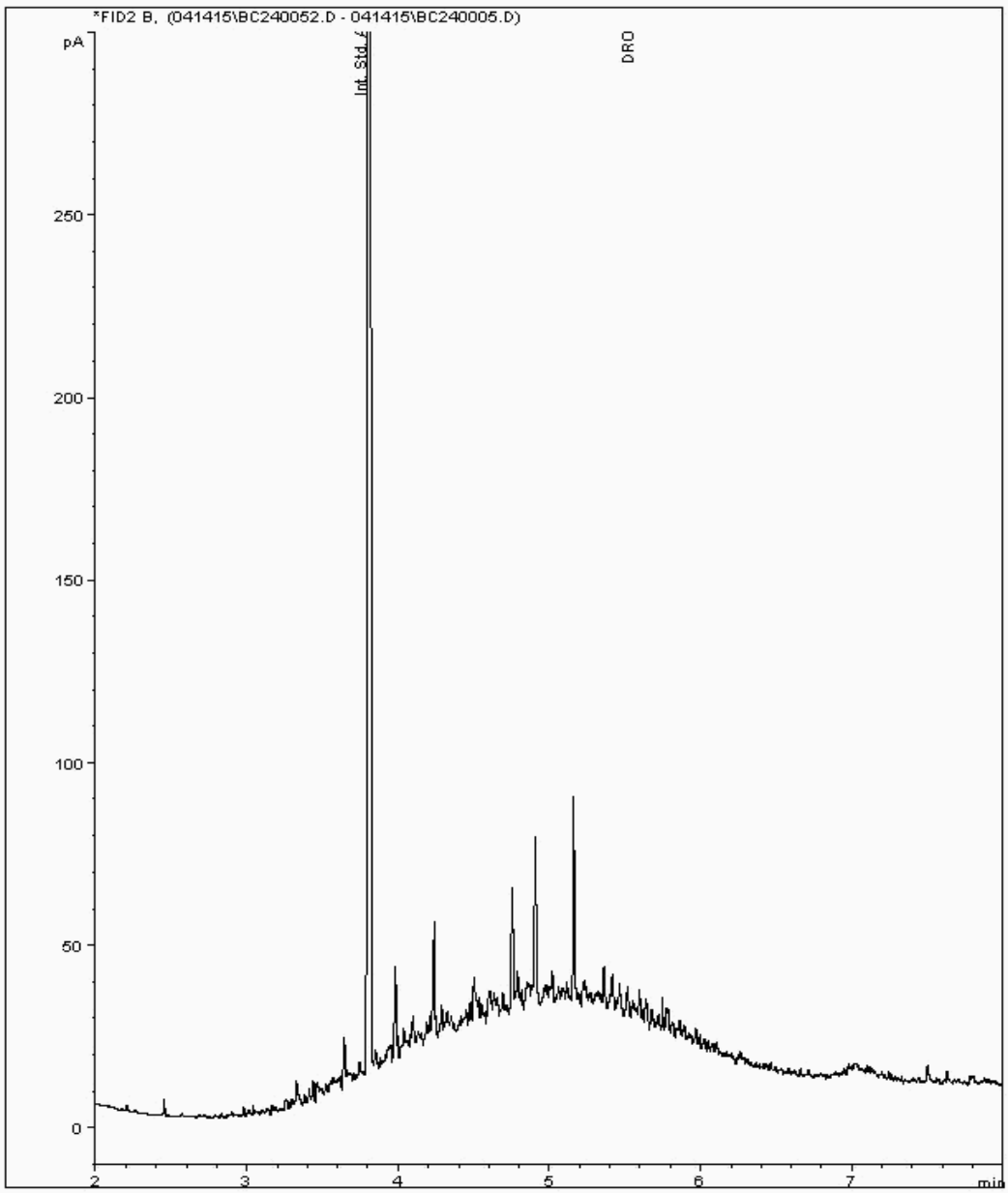
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115550
Sample ID : BH41a

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562771-
Date Acquired : 15/04/2015 07:13:51 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

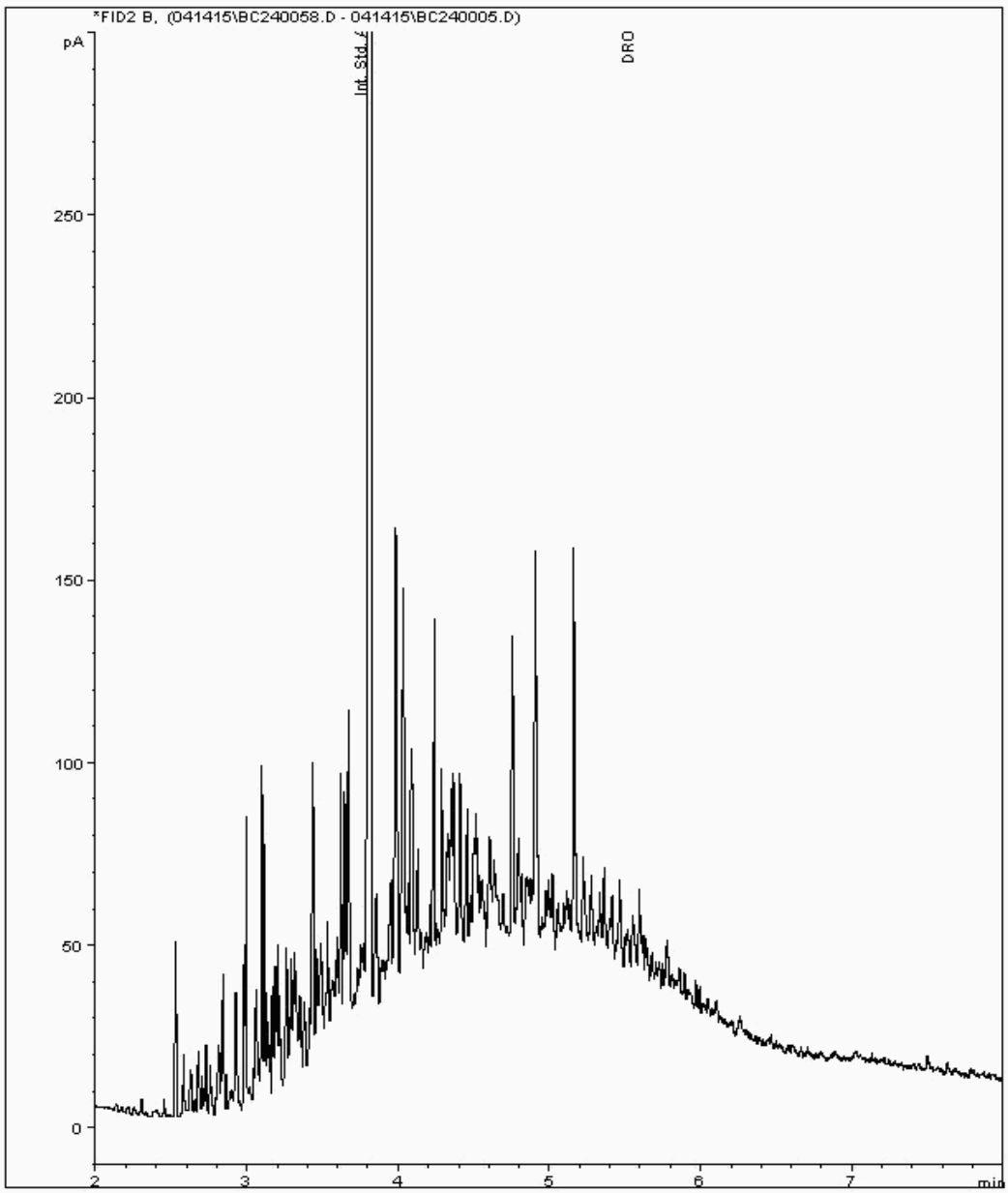
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115565
Sample ID : BH42a

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562775-
Date Acquired : 15/04/2015 09:27:28 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

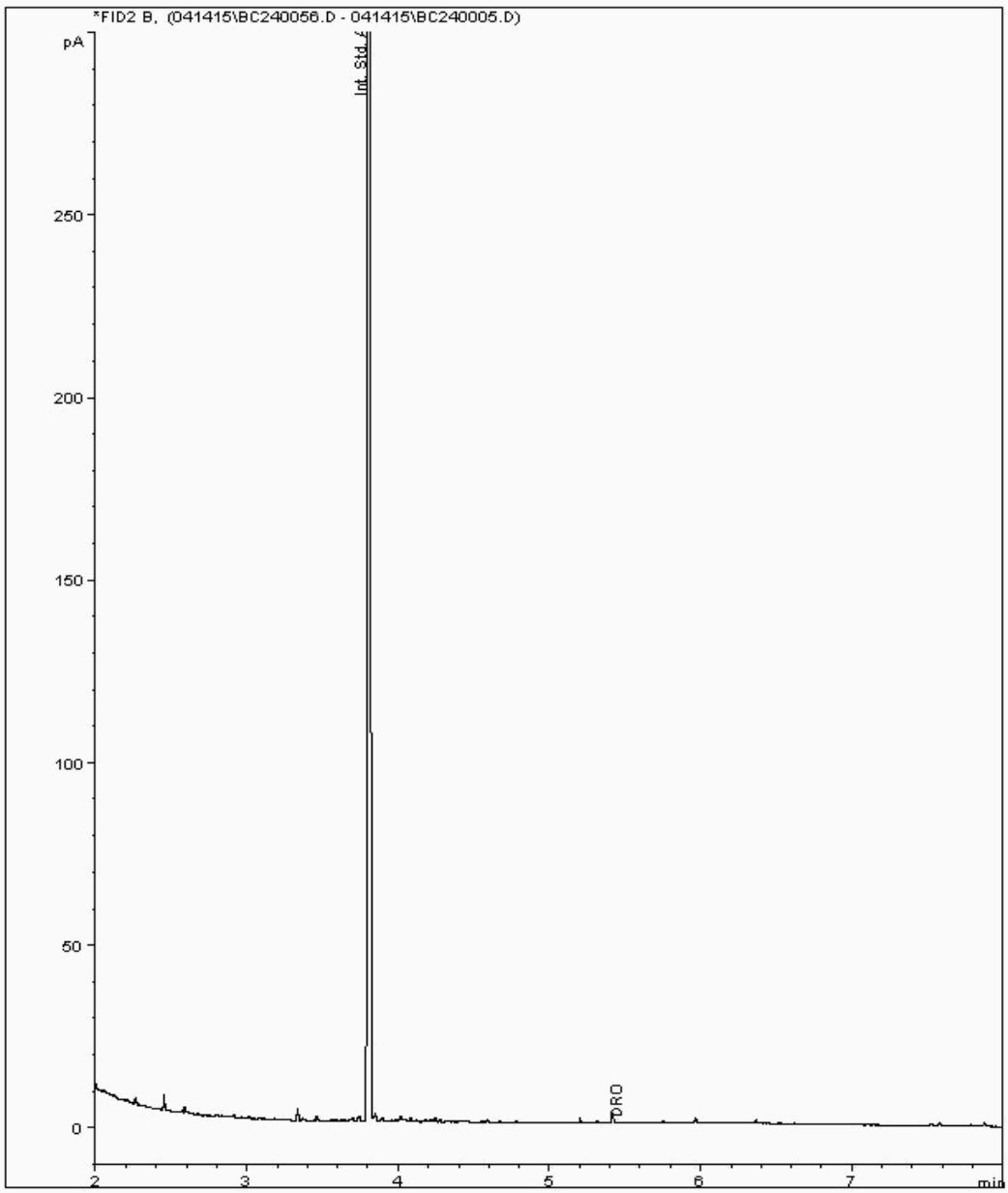
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115579
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562767-
Date Acquired : 15/04/2015 08:42:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

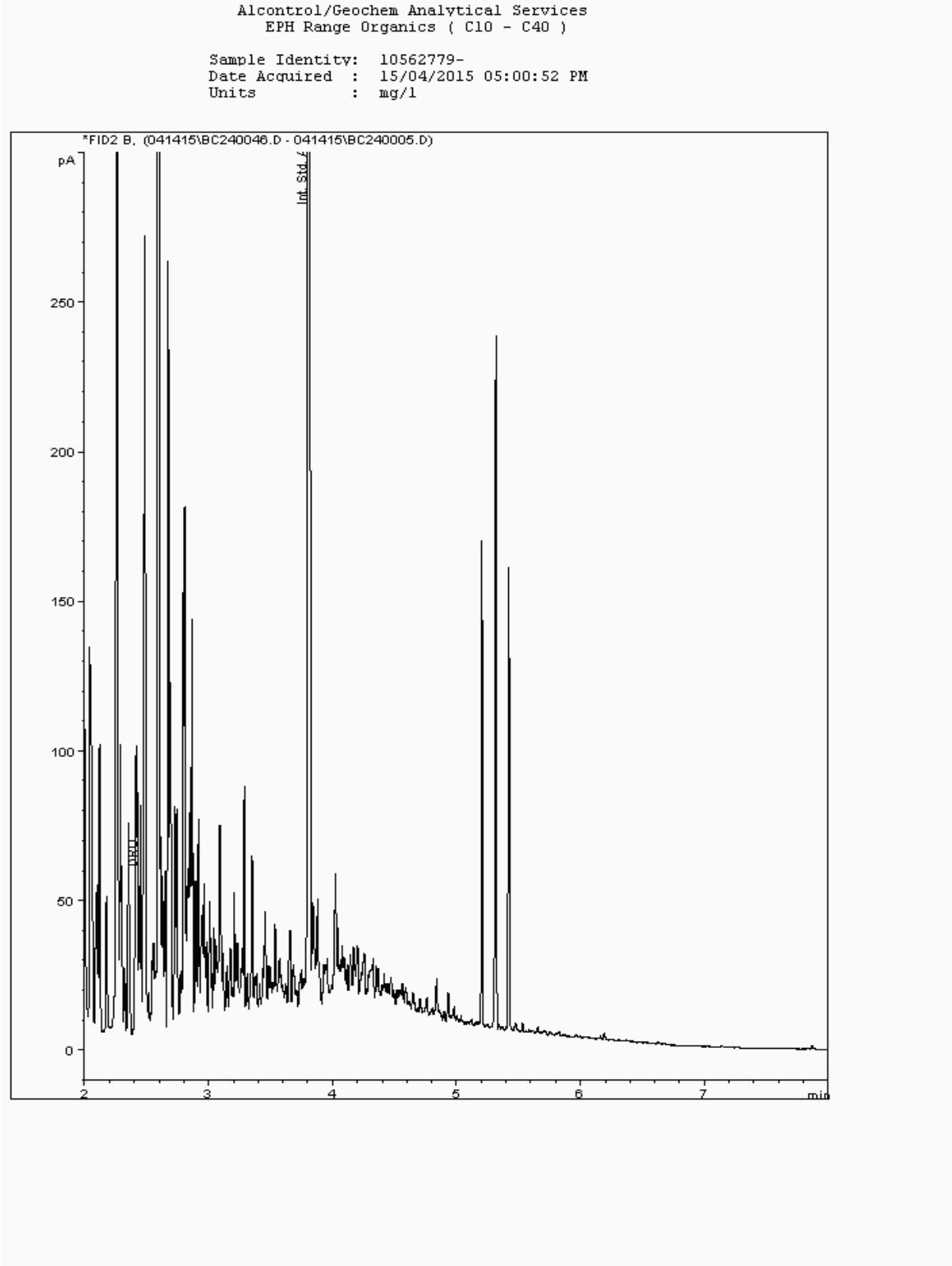
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115593
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

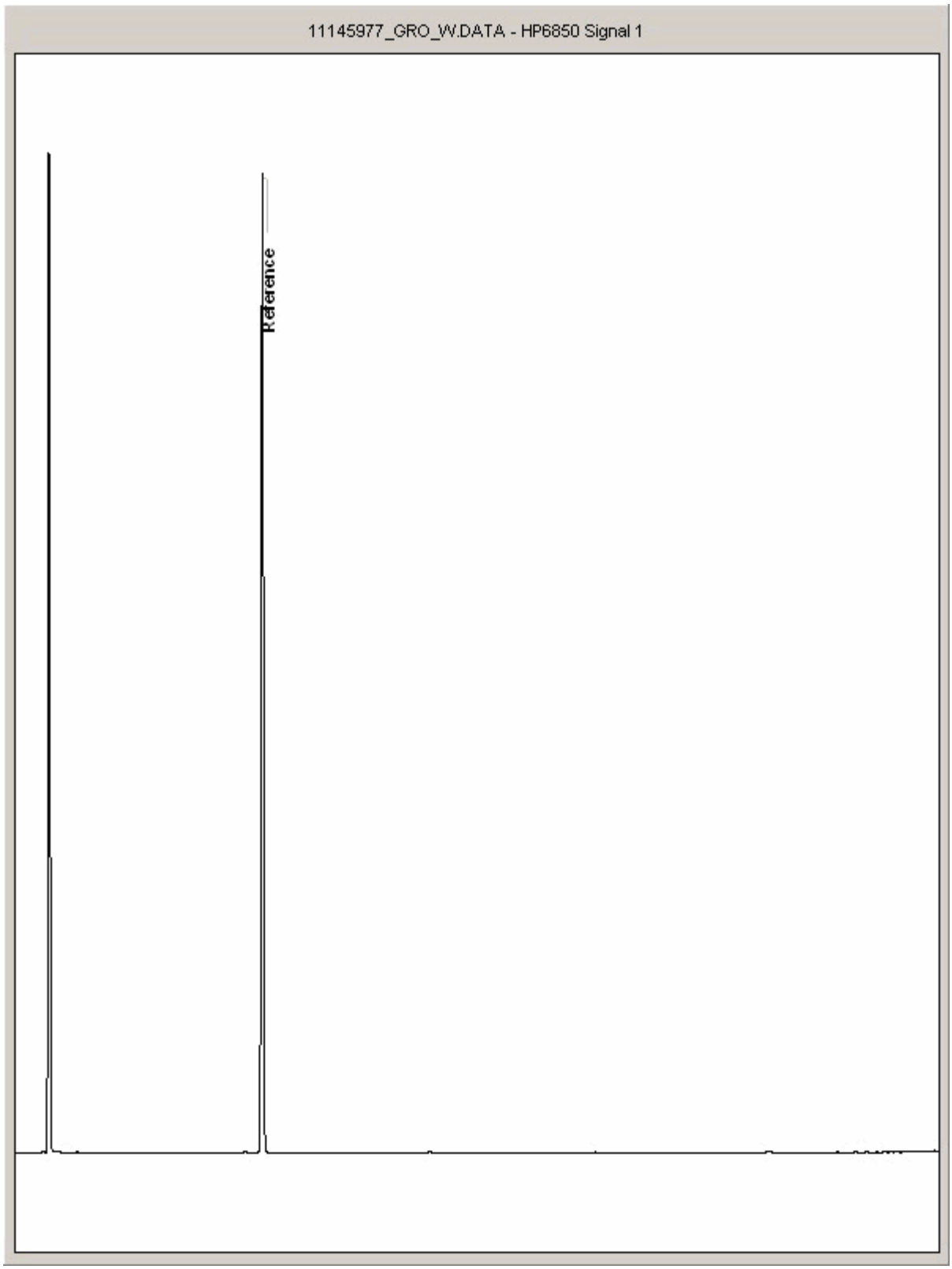
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145977
Sample ID : BH34b

Depth :



CERTIFICATE OF ANALYSIS

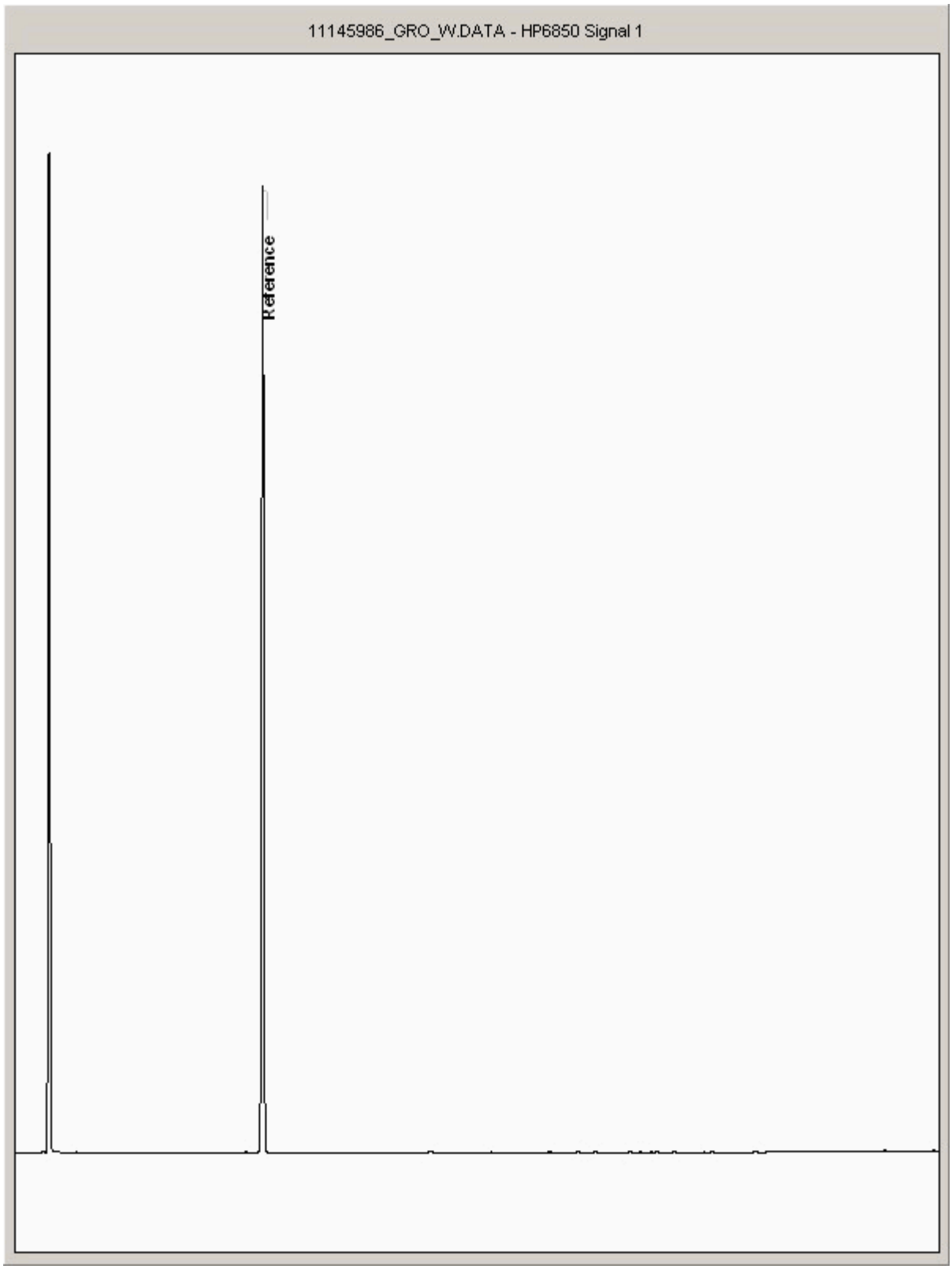
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145986
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

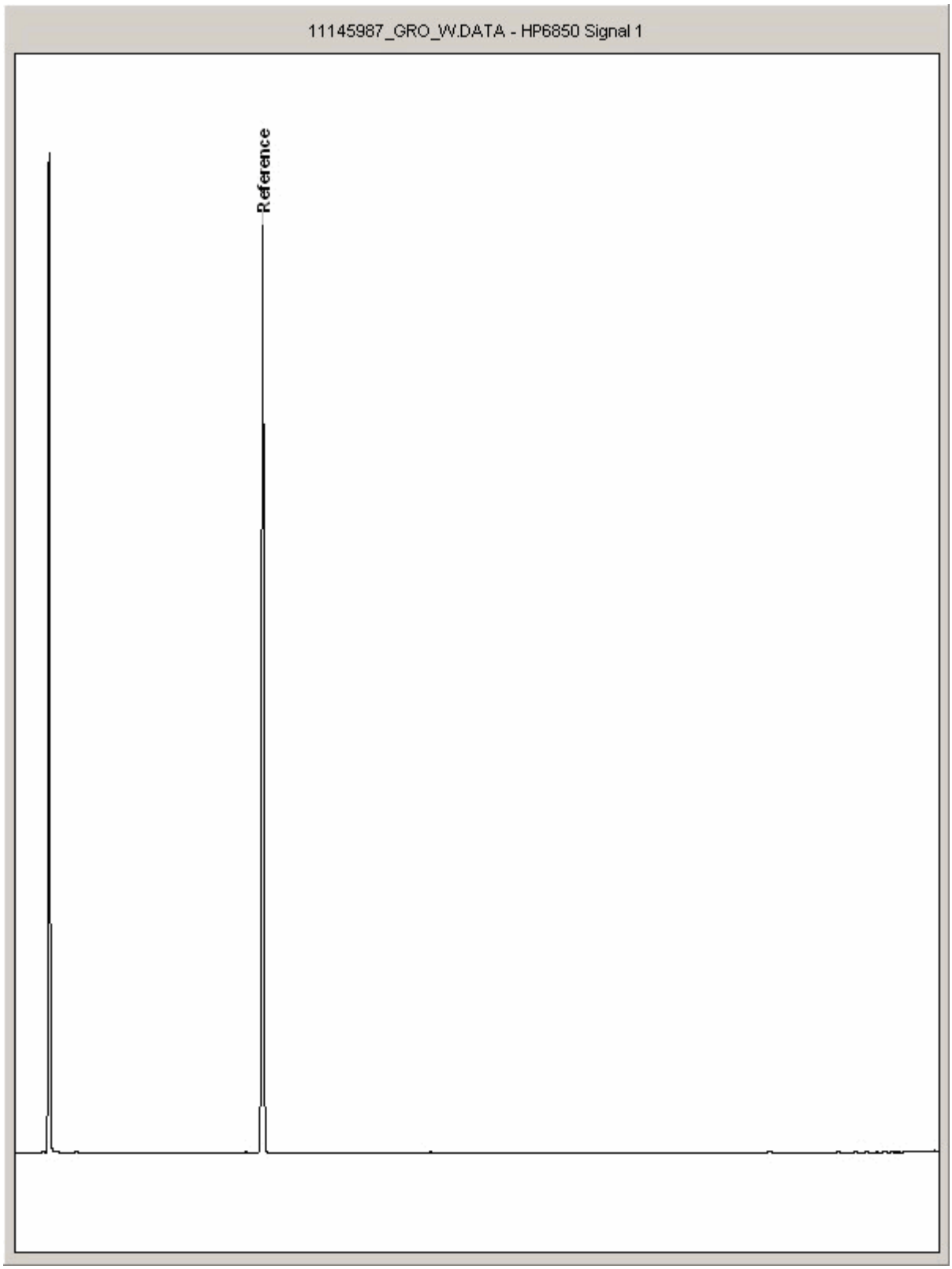
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145987
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

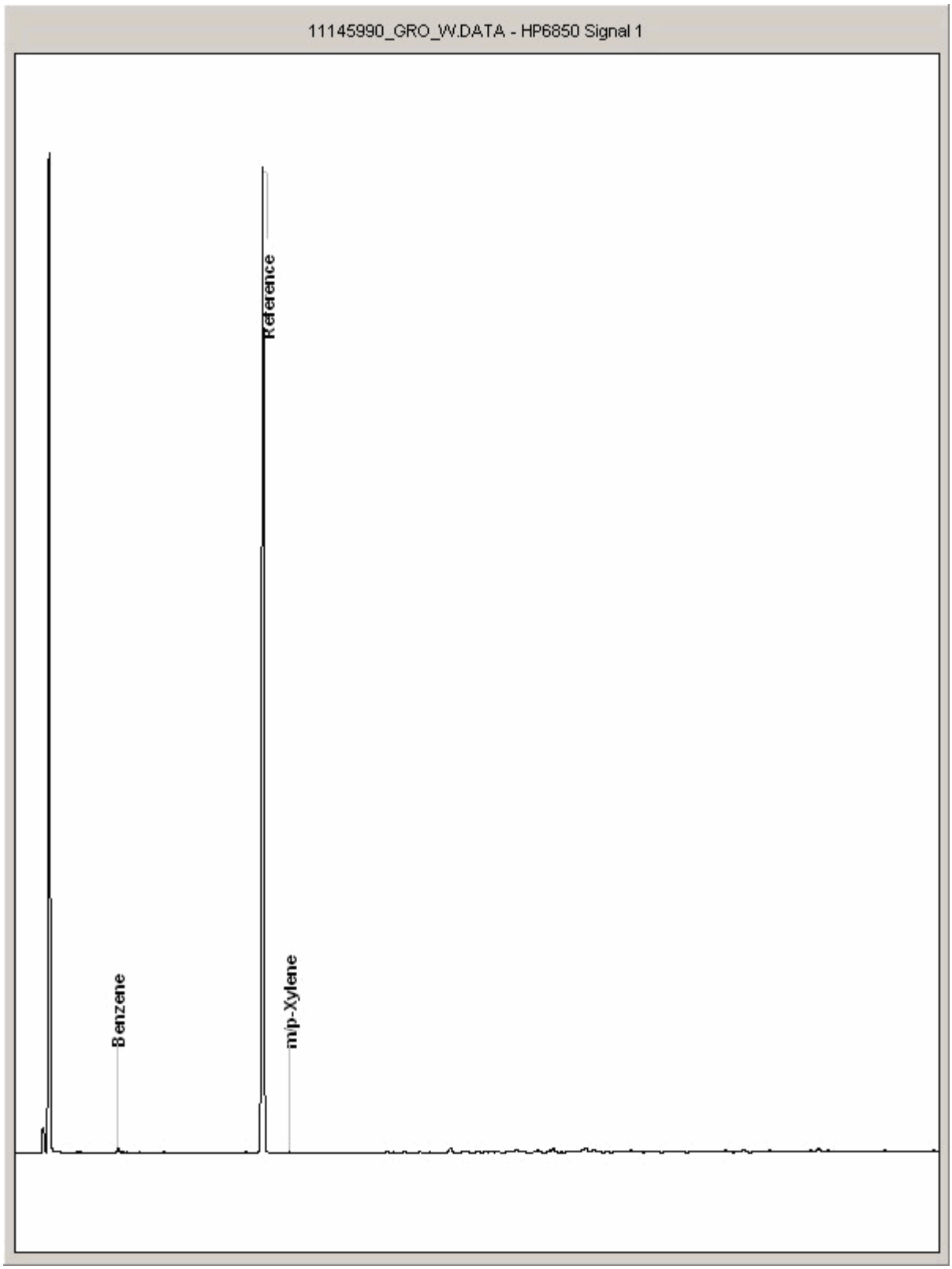
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145990
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

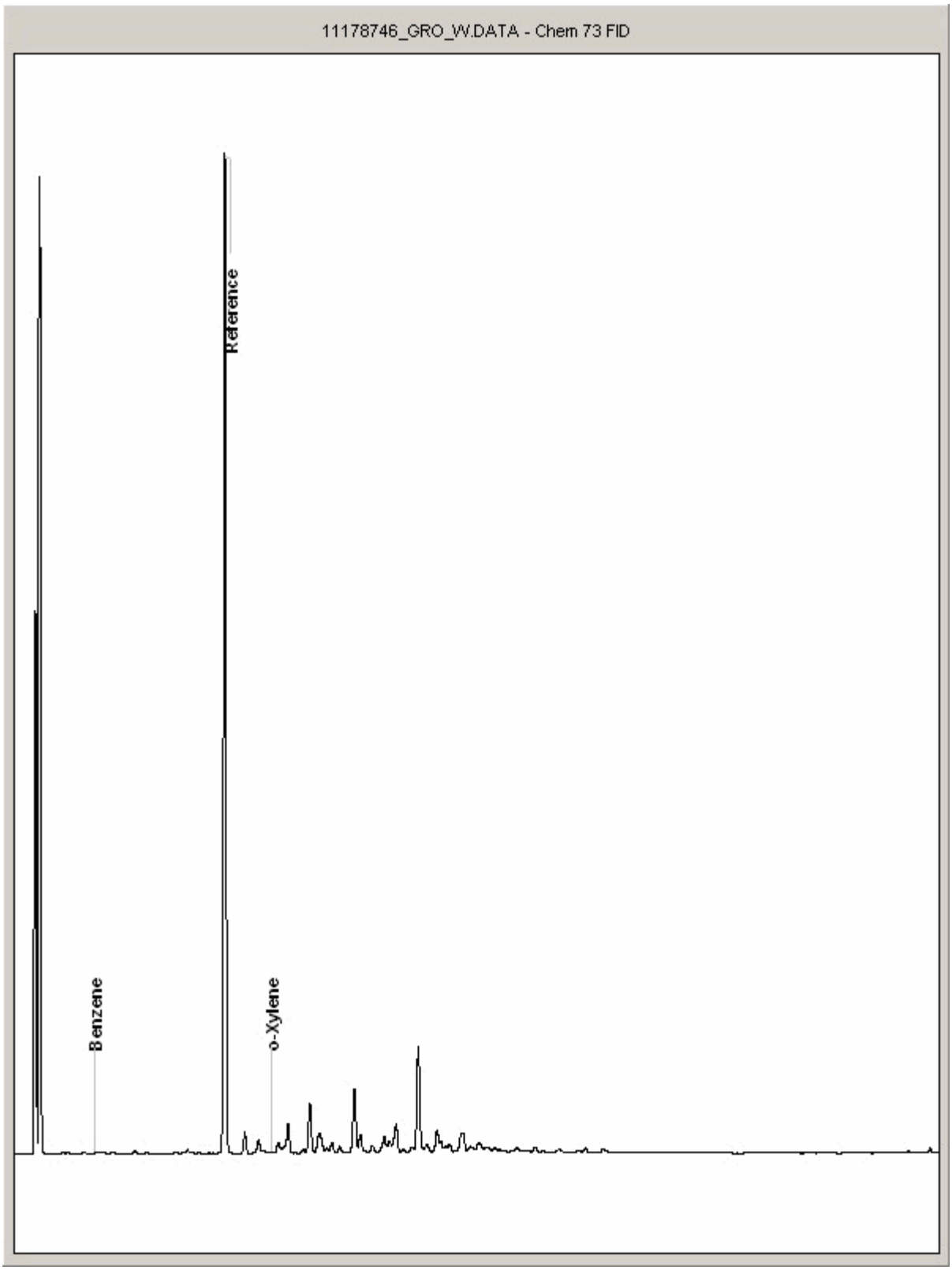
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178746
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

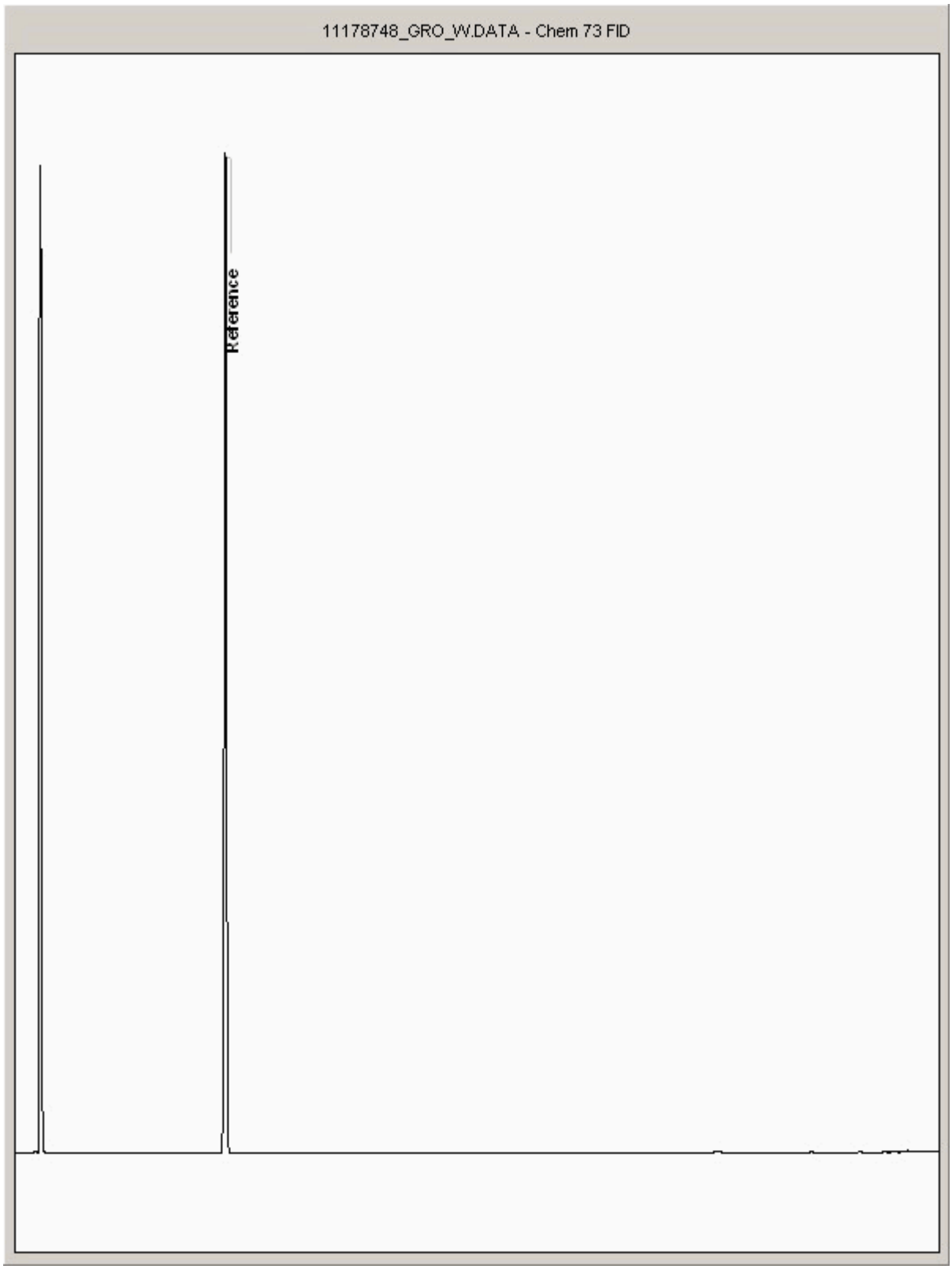
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178748
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

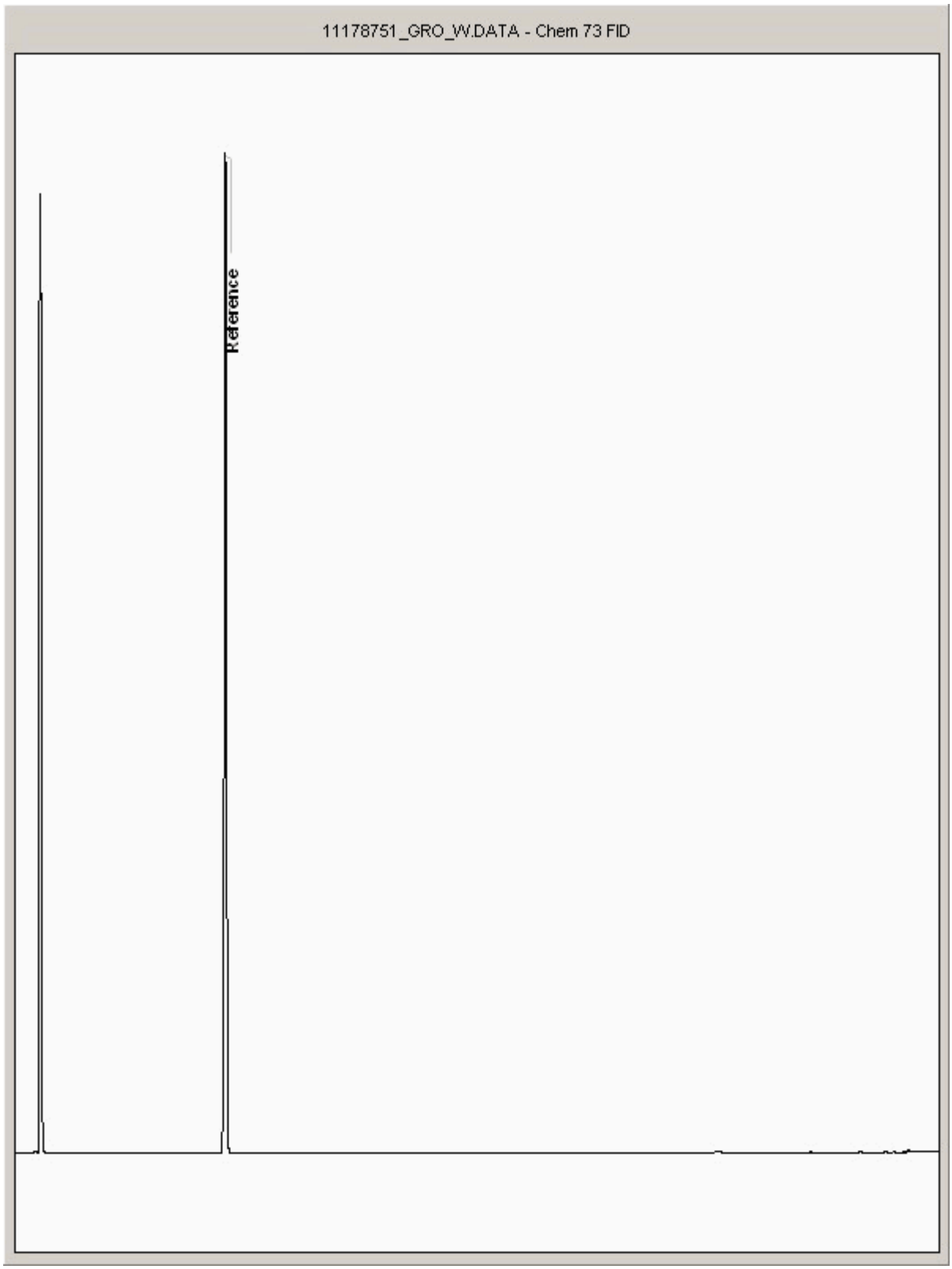
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178751
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

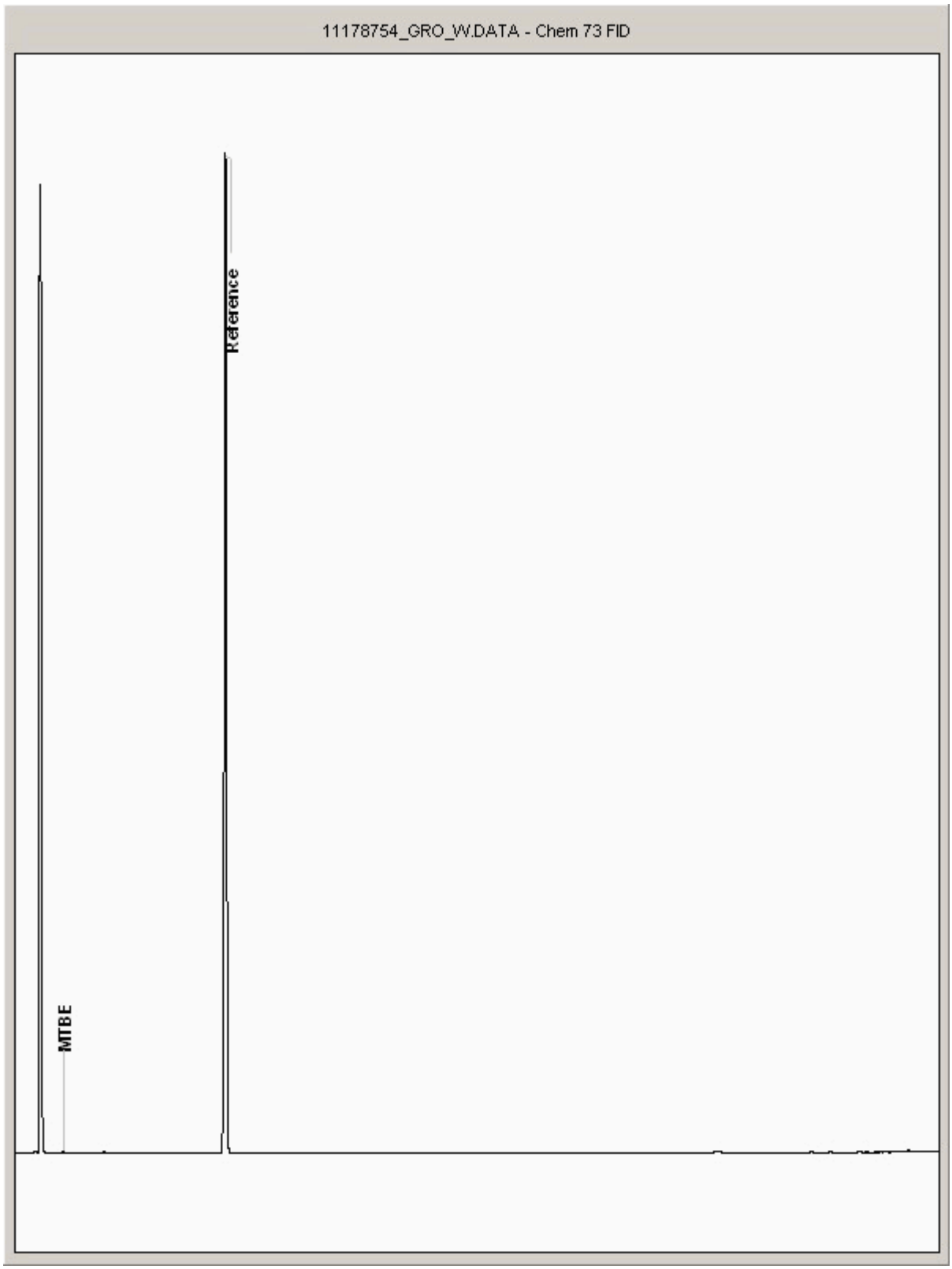
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178754
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

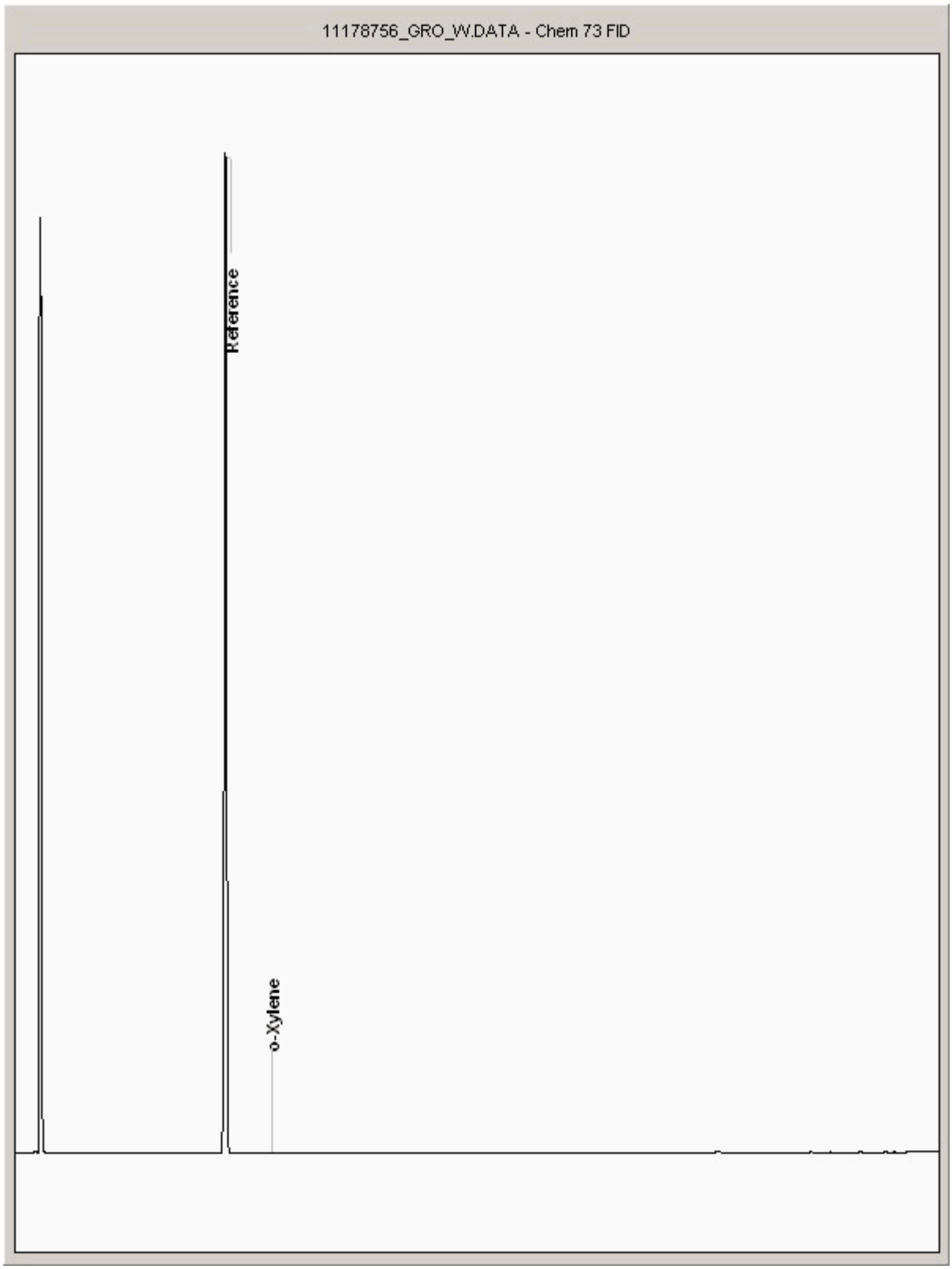
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178756
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

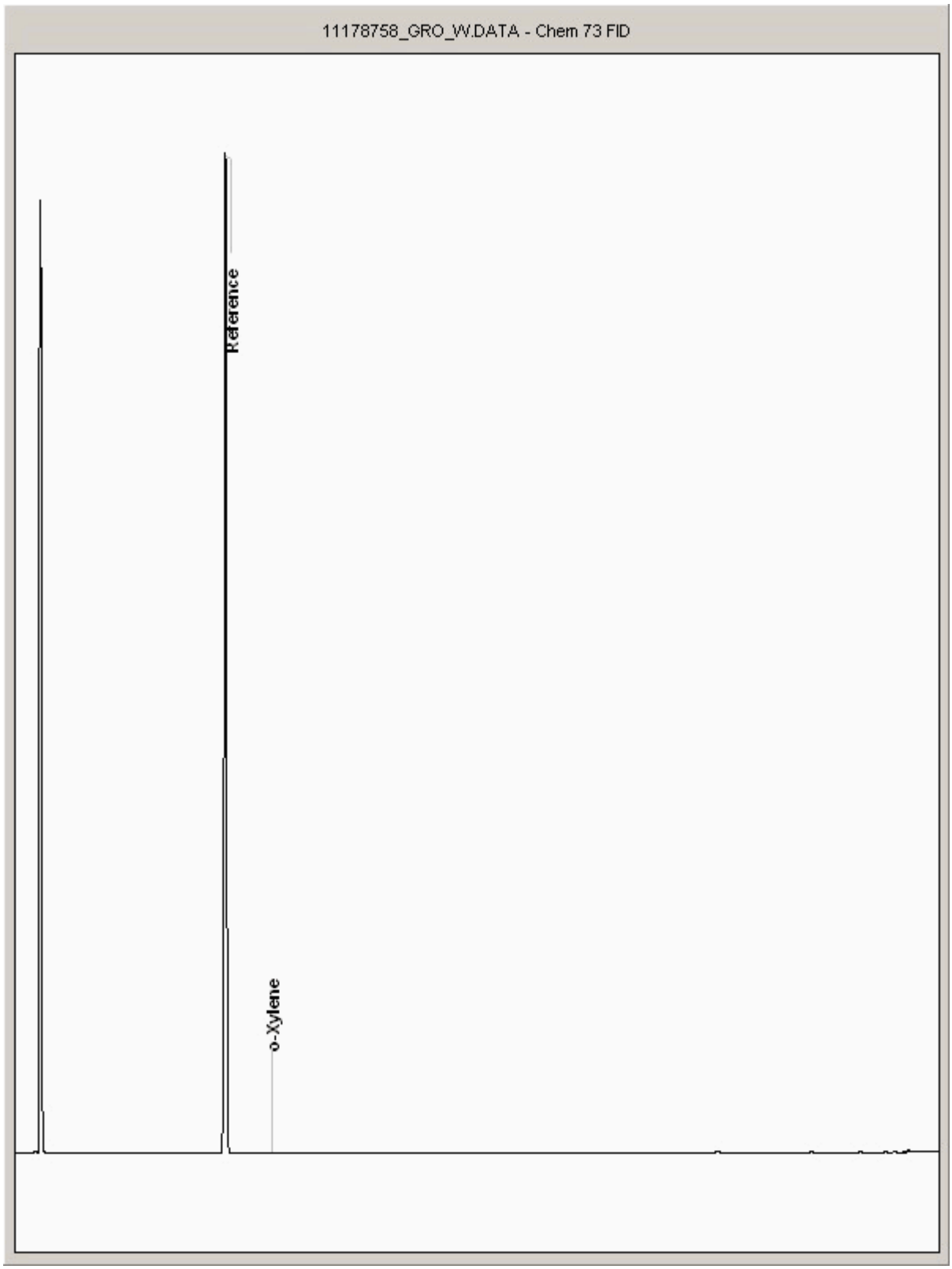
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178758
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	309553
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309552

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	28 April 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150328-56
Your Reference:	JER5575U
Location:	SHLNG
Report No:	310680

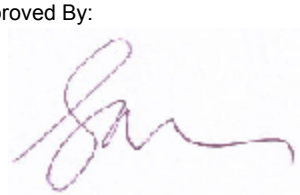
This report has been revised and directly supersedes 309553 in its entirety.

We received 19 samples on Saturday March 28, 2015 and 11 of these samples were scheduled for analysis which was completed on Tuesday April 28, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11091503	BH06			26/03/2015
11091508	BH43			26/03/2015
11091497	BH44			26/03/2015
11091514	BH50			27/03/2015
11091507	BH99			26/03/2015
11091510	BH41a			26/03/2015
11091512	BH42a			26/03/2015
11091511	BH41a Duplicate			26/03/2015
11091513	BH42a Duplicate			26/03/2015
11091505	BH34b			26/03/2015
11091506	BH34b Duplicate			26/03/2015
11091504	BH06 Duplicate			26/03/2015
11091509	BH43 Duplicate			26/03/2015
11091498	BH44 Duplicate			26/03/2015
11091515	BH50 Duplicate			27/03/2015
11091499	MW01			26/03/2015
11091501	MW03			26/03/2015
11091500	MW01 Duplicate			26/03/2015
11091502	MW03 Duplicate			26/03/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11091503	BH06			1000ml glass bottle
			11091503	BH06			Vial (ALE297)
			11091508	BH43			1000ml glass bottle
			11091508	BH43			Vial (ALE297)
			11091497	BH44			1000ml glass bottle
			11091497	BH44			Vial (ALE297)
			11091514	BH50			1000ml glass bottle
			11091514	BH50			Vial (ALE297)
			11091507	BH99			1000ml glass bottle
			11091507	BH99			Vial (ALE297)
			11091510	BH41a			1000ml glass bottle
			11091510	BH41a			Vial (ALE297)
			11091512	BH42a			1000ml glass bottle
			11091512	BH42a			Vial (ALE297)
			11091505	BH34b			1000ml glass bottle
			11091505	BH34b			Vial (ALE297)
			11091499	MW01			1000ml glass bottle
			11091499	MW01			Vial (ALE297)
			11091501	MW03			1000ml glass bottle
			11091501	MW03			Vial (ALE297)
			11091502	MW03 Duplicate			1000ml glass bottle
			11091502	MW03 Duplicate			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 11	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 8	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	27/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091503	11091508	11091497	11091514	11091507	11091510
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 ♦ #	<46 ♦ #	<46 ♦ #	3620 ♦ #	<46 ♦ #	3940 ♦ #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10 ♦	<10 ♦	<10 ♦	122 ♦	<10 ♦	1320 ♦
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10 ♦	<10 ♦	<10 ♦	3500 ♦	<10 ♦	2620 ♦

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34b	MW01	MW03	MW03 Duplicate
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091512	11091505	11091499	11091501	11091502
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		7100 ♦ #	133 ♦ #	<46 ♦ #	<46 ♦ #	148 & #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		1710 ♦	50.1 ♦	<10 ♦	<10 ♦	61.1 &
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		5390 ♦	82.9 ♦	<10 ♦	<10 ♦	86.9 &

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	27/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091503	11091508	11091497	11091514	11091507	11091510
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	76	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	1930	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	2010	<10	11

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42a	BH34b	MW01	MW03	MW03 Duplicate
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091512	11091505	11091499	11091501	11091502
			AGS Reference					
GRO Surrogate % recovery**	%	TM245						106 &
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10 &
GRO >C6-C8	<10 µg/l	TM245		33	<10	<10	<10	<10 &
GRO >C8-C10	<10 µg/l	TM245		27	<10	<10	<10	<10 &
GRO >C5-C10	<10 µg/l	TM245		66	<10	<10	12	<10 &

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091508	11091507	11091510	11091512	11091505	11091499
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦	<1 ♦	<1 ♦	<1 ♦	<1 ♦	<1 ♦
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	5.39 ♦ #	<1 ♦ #	<1 ♦ #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Acenaphthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	1.05 ♦ #	<1 ♦ #	<1 ♦ #
Anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #	<2 ♦ #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41a	BH42a	BH34b	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015	26/03/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015	28/03/2015
			SDG Ref	150328-56	150328-56	150328-56	150328-56	150328-56	150328-56
			Lab Sample No.(s)	11091508	11091507	11091510	11091512	11091505	11091499
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Carbazole (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Chrysene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #	<5 ♦ #
Fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Fluorene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.13 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Naphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.99 ♦ #	<1 ♦ #	<1 ♦ #
Isophorone (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	2.21 ♦ #	<1 ♦ #	<1 ♦ #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #
Pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #	<1 ♦ #

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MW03	MW03 Duplicate			
			Depth (m)	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	26/03/2015	26/03/2015			
			Sampled Time	.	.			
			Date Received	28/03/2015	28/03/2015			
			SDG Ref	150328-56	150328-56			
			Lab Sample No.(s)	11091501	11091502			
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1 &			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 & #			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 & #			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 & #			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 & #			
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 & #			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 & #			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 & #			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 & #			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 & #			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 & #			

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MW03	MW03 Duplicate			
			Depth (m)	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	26/03/2015	26/03/2015			
			Sampled Time	.	.			
			Date Received	28/03/2015	28/03/2015			
			SDG Ref	150328-56	150328-56			
			Lab Sample No.(s)	11091501	11091502			
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 & #			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<2 & #			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 & #			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 & #			
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 & #			
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 & #			

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Test Completion Dates

Lab Sample No(s)	11091503	11091508	11091497	11091514	11091507	11091510	11091512	11091505	11091499	11091501
Customer Sample Ref.	BH06	BH43	BH44	BH50	BH99	BH41a	BH42a	BH34b	MW01	MW03
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015	17-Apr-2015
GRO by GC-FID (W)	15-Apr-2015	15-Apr-2015	17-Apr-2015	15-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	14-Apr-2015	15-Apr-2015	15-Apr-2015
SVOC MS (W) - Aqueous		13-Apr-2015			13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	13-Apr-2015	10-Apr-2015

Lab Sample No(s)	11091502
Customer Sample Ref.	MW03 Duplicate
AGS Ref.	
Depth	
Type	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	28-Apr-2015
GRO by GC-FID (W)	24-Apr-2015
SVOC MS (W) - Aqueous	27-Apr-2015

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1189	QC 1168	QC 1131
EPH (DRO) (C10-C40)	TM172	**80.0** 59.22 : 112.78	**72.0** 56.50 : 116.50	**78.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1112	QC 1165	QC 1124
Benzene by GC	TM245	**107.5** 79.13 : 118.84	**108.5** 77.50 : 122.50	**106.5** 76.72 : 118.62
Ethylbenzene by GC	TM245	**106.5** 79.54 : 115.99	**112.5** 77.50 : 122.50	**106.5** 74.74 : 116.76
m & p Xylene by GC	TM245	**106.5** 78.44 : 116.32	**112.25** 77.50 : 122.50	**106.0** 73.06 : 114.58
MTBE GC-FID	TM245	**105.5** 81.43 : 120.09	**106.5** 77.50 : 122.50	**98.5** 80.00 : 121.03
o Xylene by GC	TM245	**107.0** 76.85 : 120.29	**112.5** 77.50 : 122.50	**108.5** 70.00 : 130.00
QC	TM245	**99.61** 69.85 : 125.92	**107.52** 74.88 : 125.54	**110.17** 70.00 : 130.00
Toluene by GC	TM245	**106.5** 79.00 : 121.96	**110.5** 77.50 : 122.50	**108.0** 79.35 : 119.27

SVOC MS (W) - Aqueous

Component	Method Code	QC 1106	QC 1114	QC 1104
4-Bromophenylphenyleth er	TM176	**92.8** 65.62 : 120.95	**90.4** 65.62 : 120.95	**76.72** 65.62 : 120.95
Benzo(a)anthracene	TM176	**92.0** 62.83 : 114.26	**94.4** 62.83 : 114.26	**87.2** 62.83 : 114.26
Benzo(a)pyrene	TM176	**88.8** 54.19 : 105.67	**90.4** 54.19 : 105.67	**83.2** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**83.2** 51.20 : 111.20	**81.6** 51.20 : 111.20	**92.0** 45.10 : 118.90
Hexachlorobutadiene	TM176	**85.6** 43.12 : 110.32	**82.4** 43.12 : 110.32	**73.12** 43.12 : 110.32
Naphthalene	TM176	**99.2** 69.48 : 118.94	**96.8** 69.48 : 118.94	**85.6** 69.48 : 118.94
Nitrobenzene	TM176	**88.0** 69.13 : 107.62	**88.8** 69.13 : 107.62	**79.6** 69.13 : 107.62
Phenol	TM176	**52.08** 30.92 : 74.19	**54.64** 30.92 : 74.19	**45.04** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

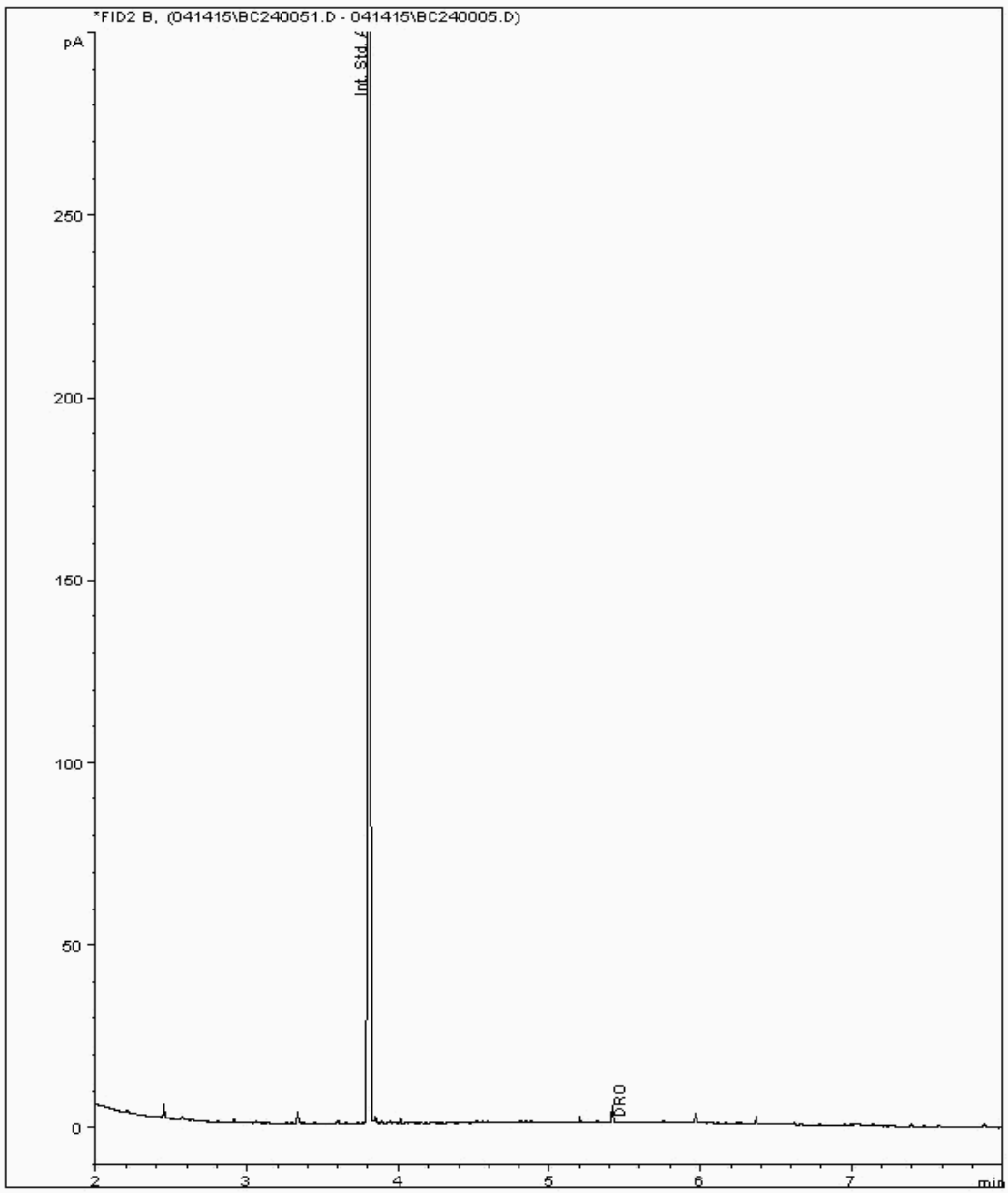
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112229
Sample ID : MW03

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562752-
Date Acquired : 15/04/2015 06:51:48 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

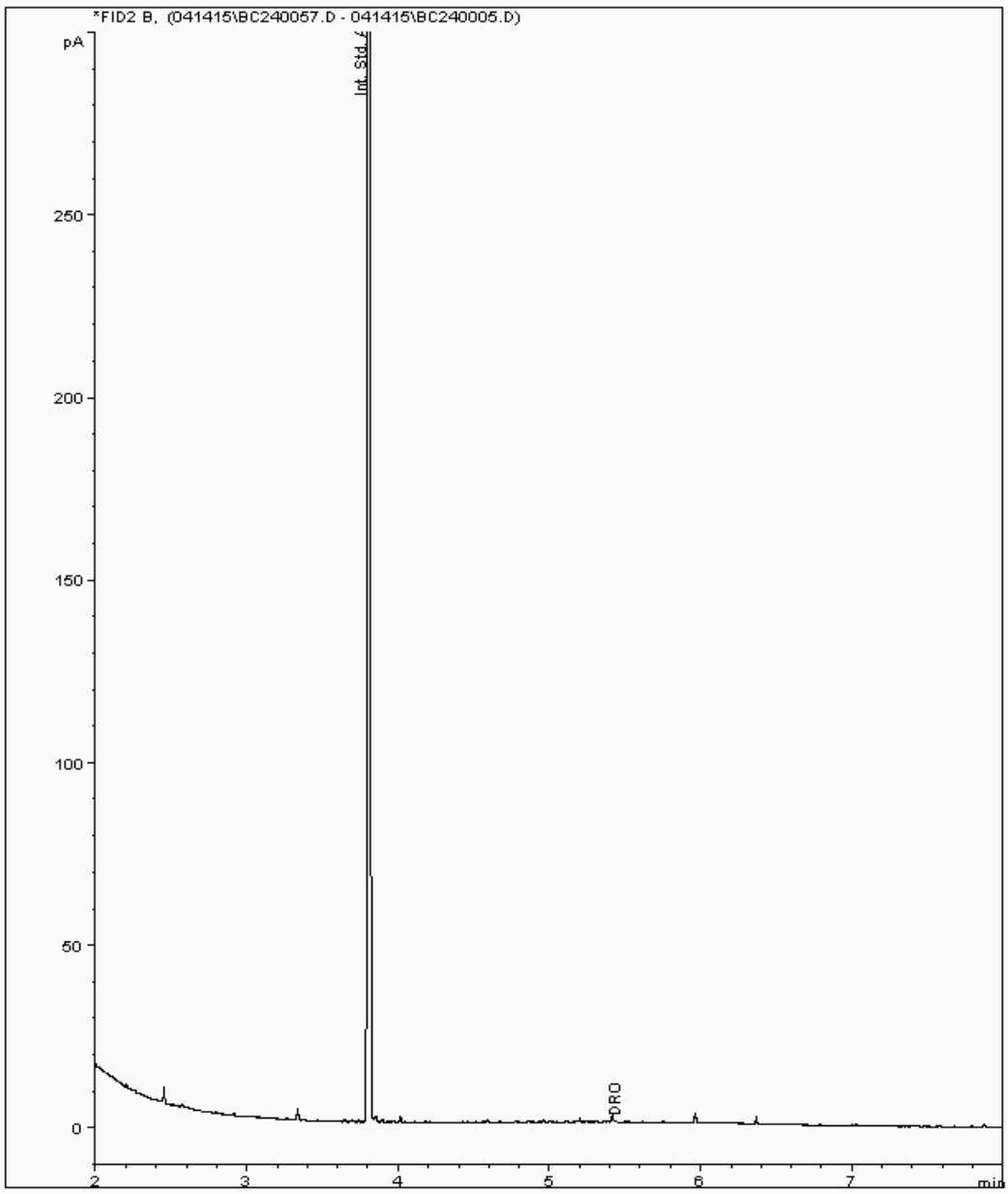
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112243
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562763-
Date Acquired : 15/04/2015 09:05:09 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

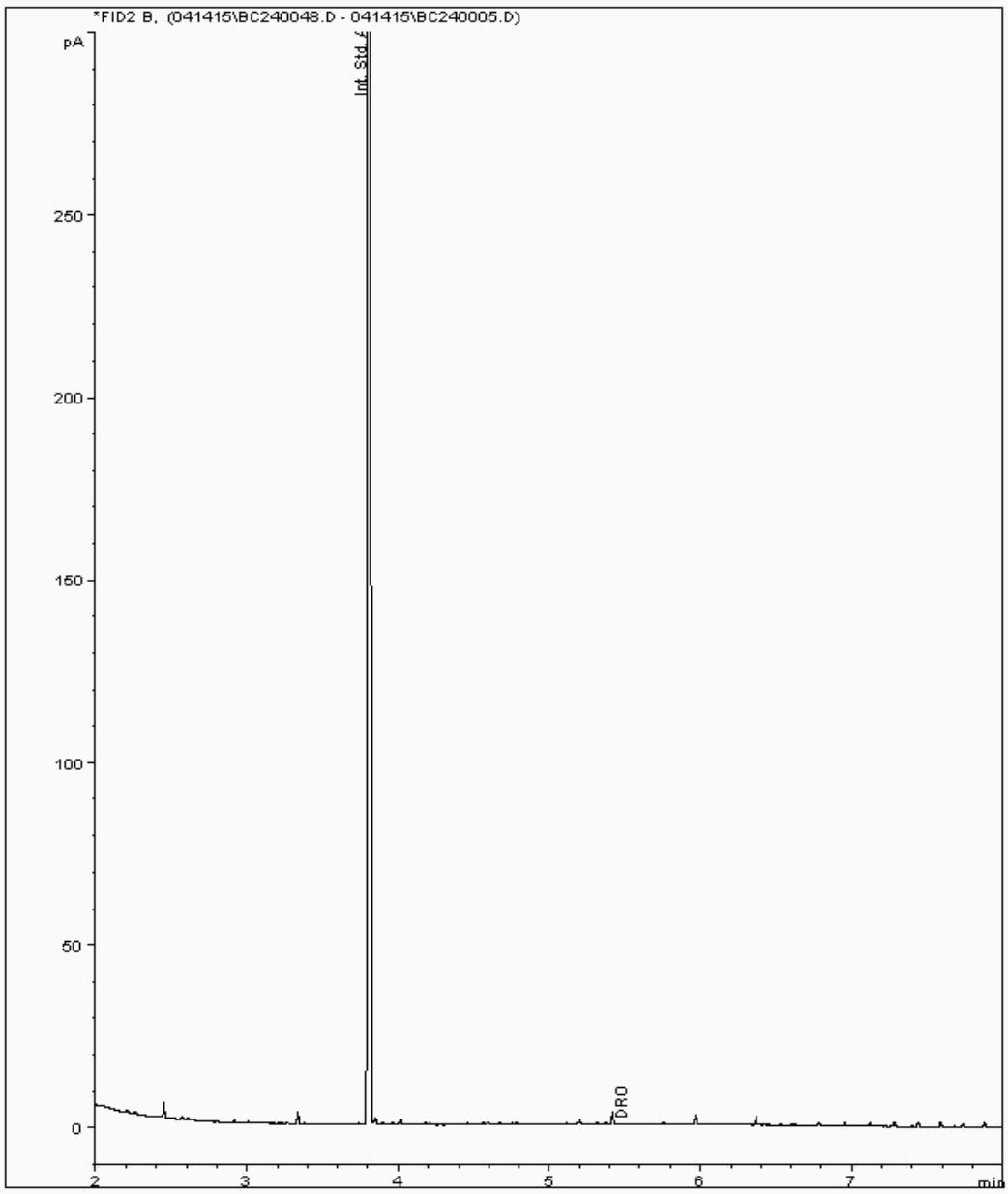
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112264
Sample ID : BH06

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562755-
Date Acquired : 15/04/2015 05:45:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

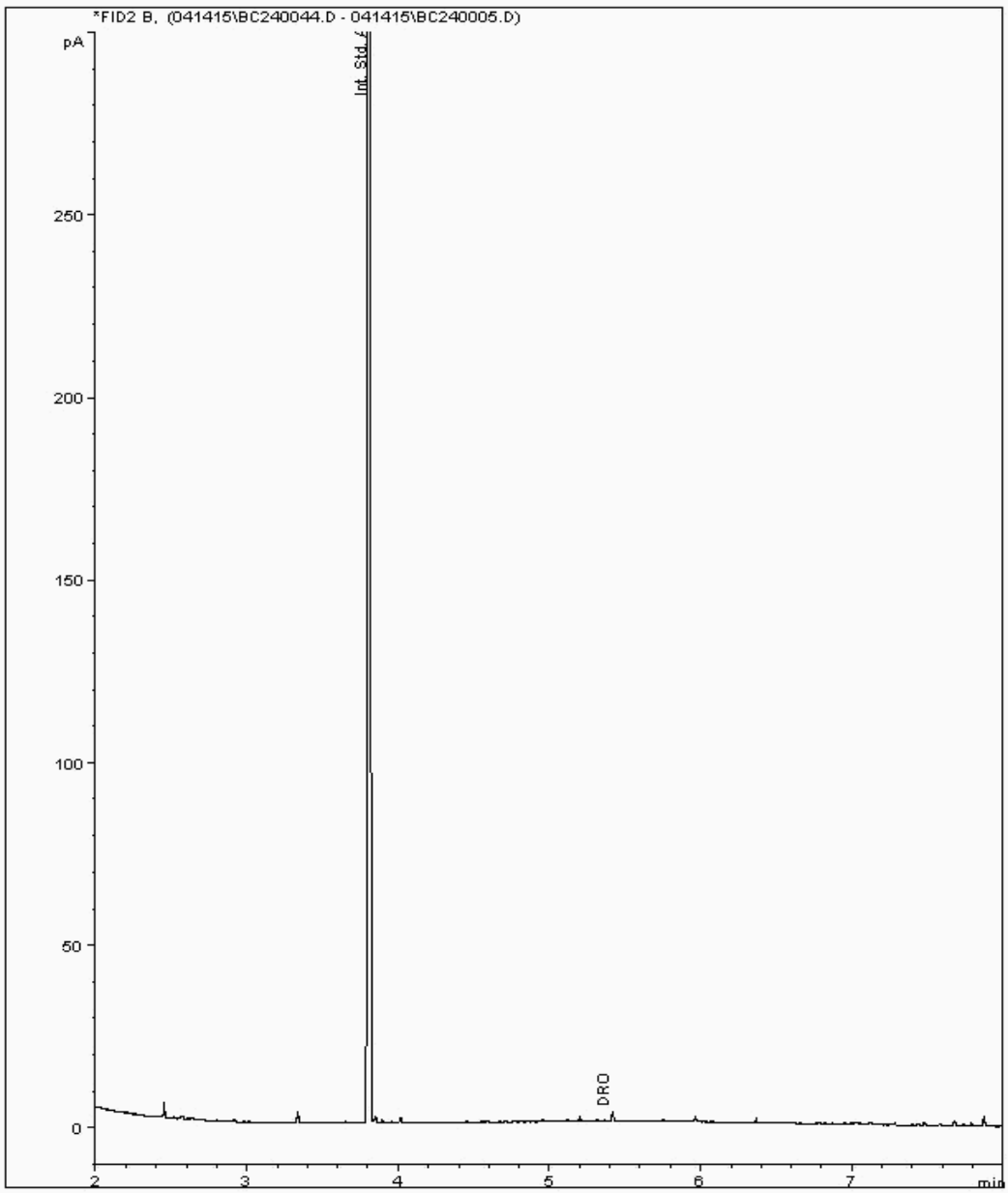
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11112284
Sample ID : BH34b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562759-
Date Acquired : 15/04/2015 04:16:29 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

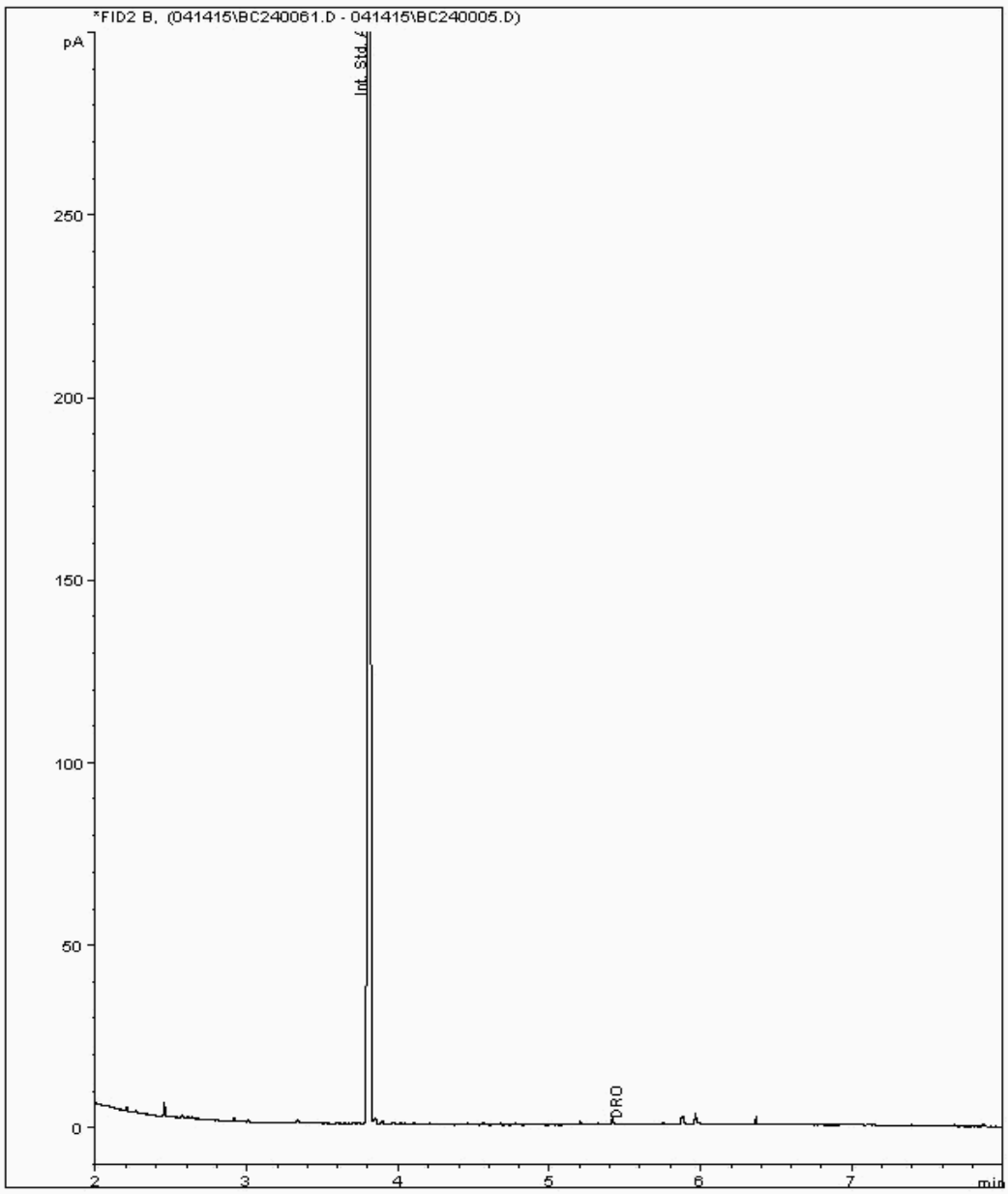
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11114775
Sample ID : MW01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562748-
Date Acquired : 15/04/2015 10:34:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

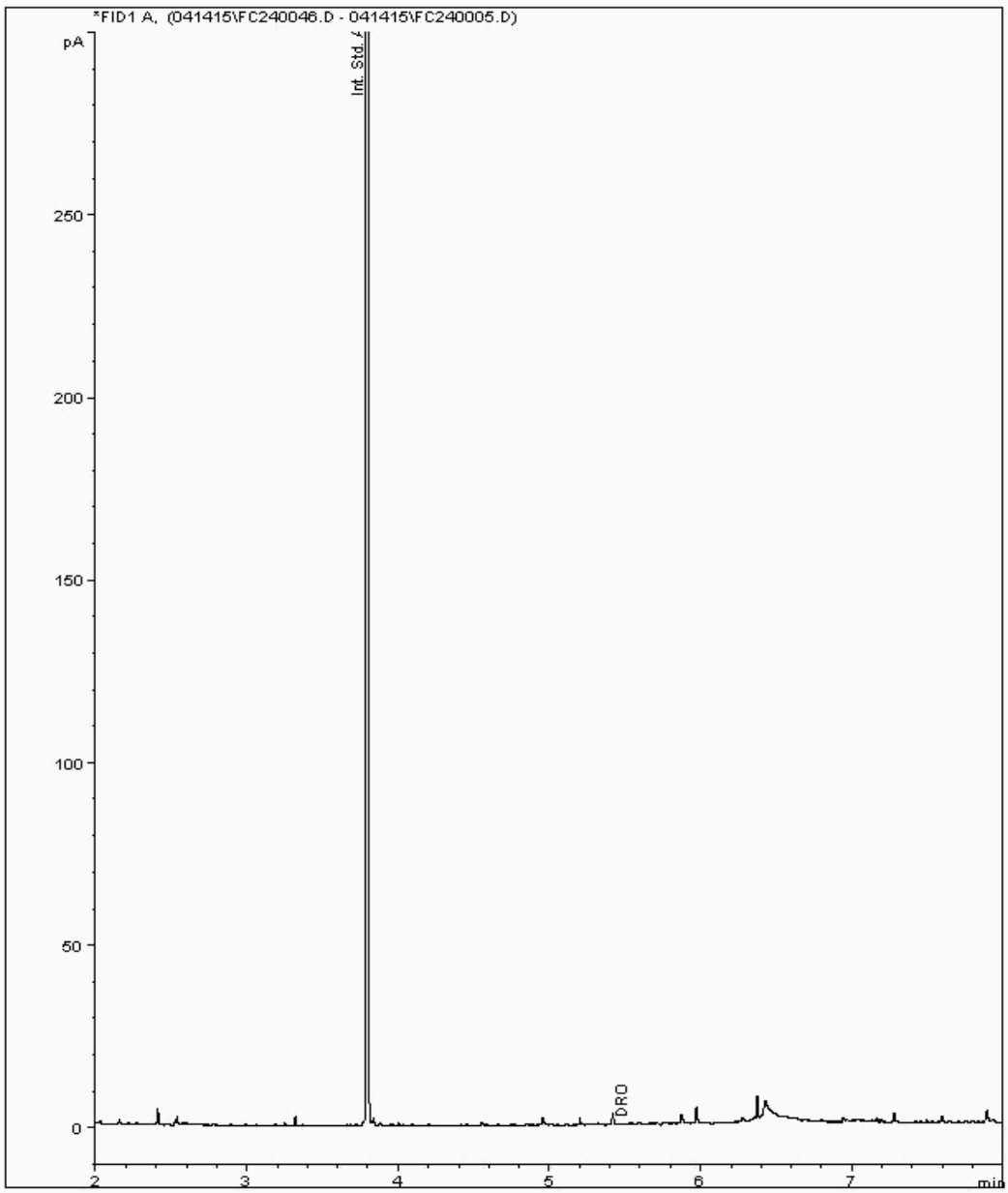
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11114787
Sample ID : BH44

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562744-
Date Acquired : 15/04/2015 05:00:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

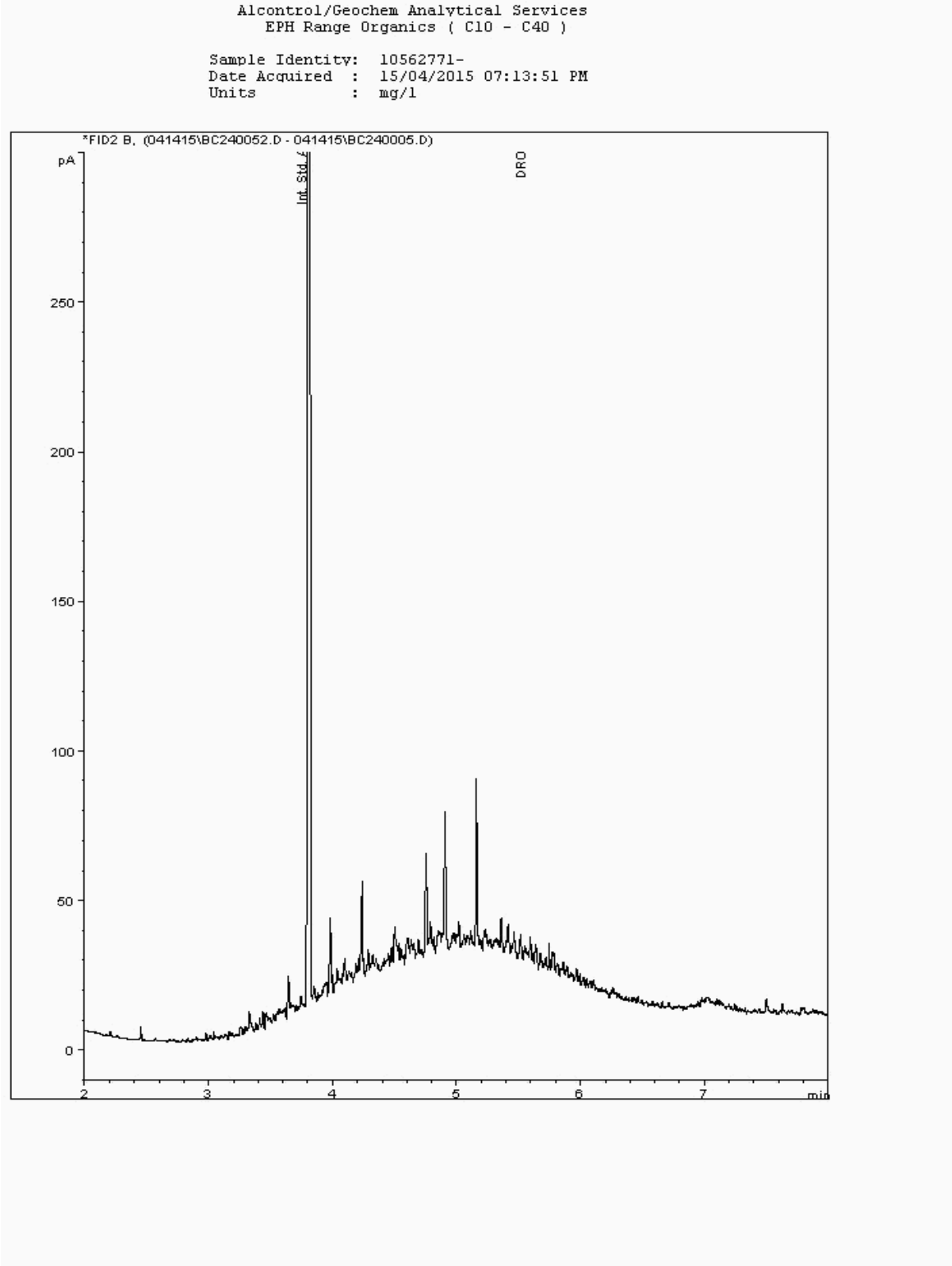
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115550
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

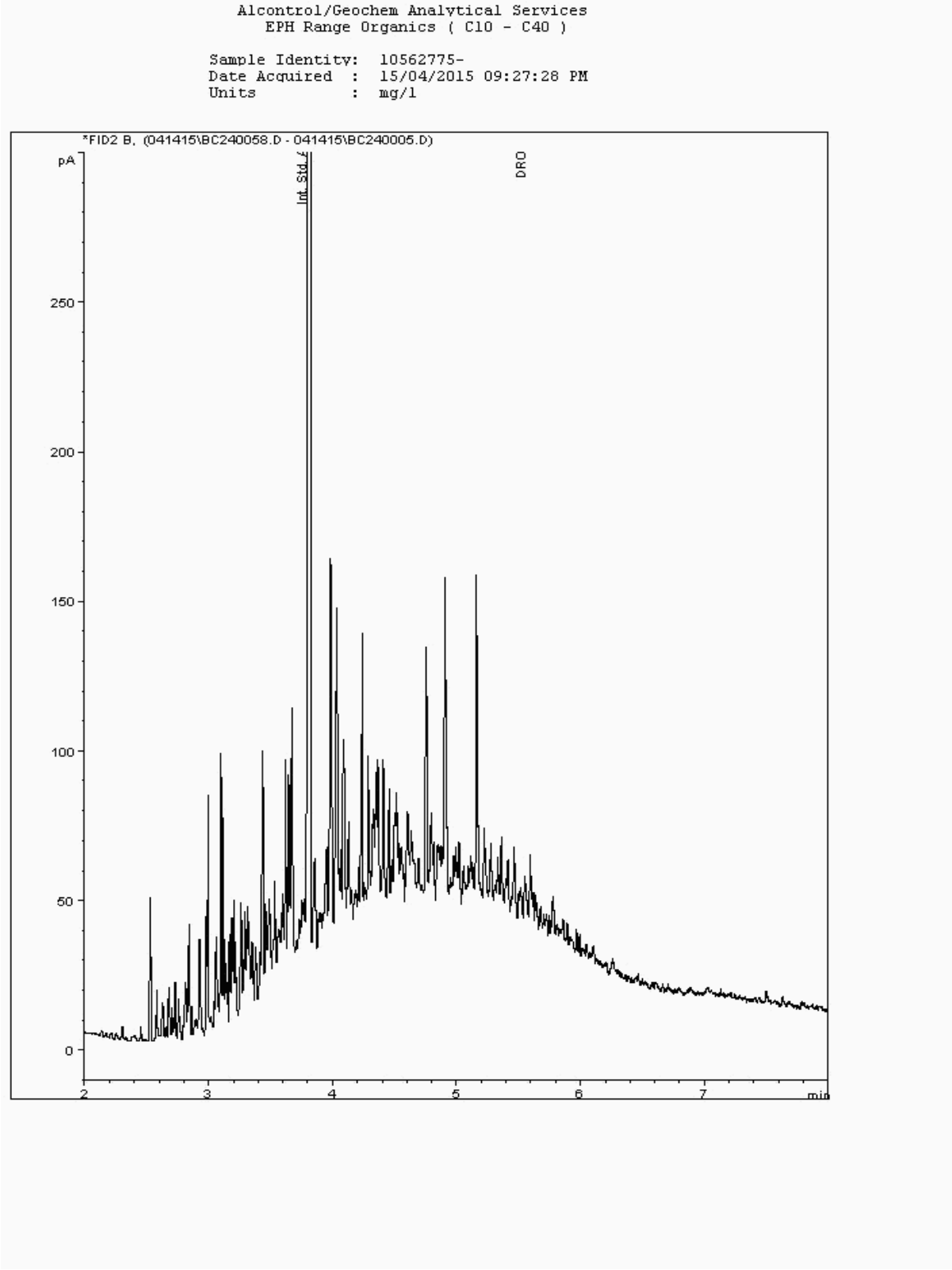
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115565
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

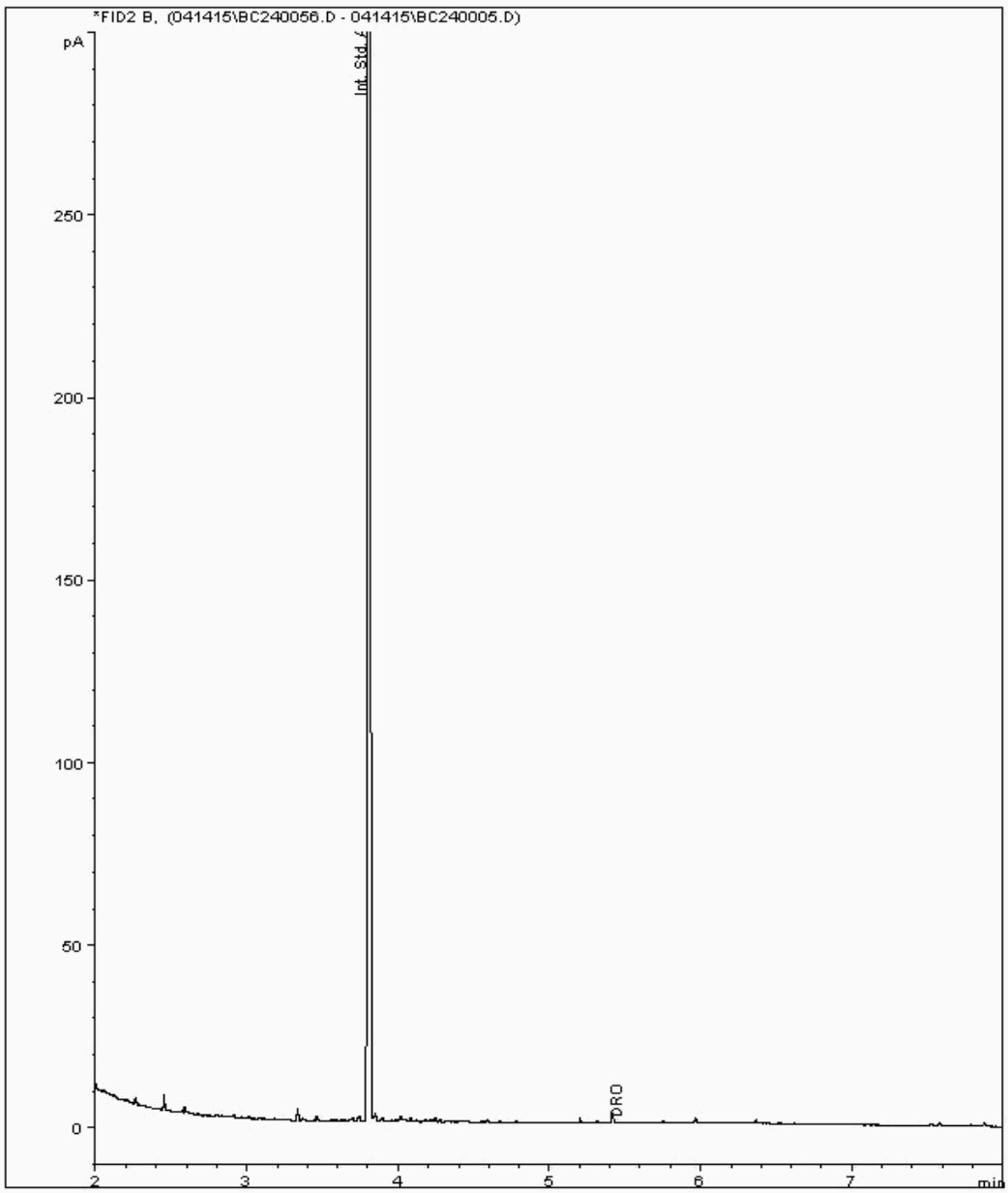
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115579
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10562767-
Date Acquired : 15/04/2015 08:42:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

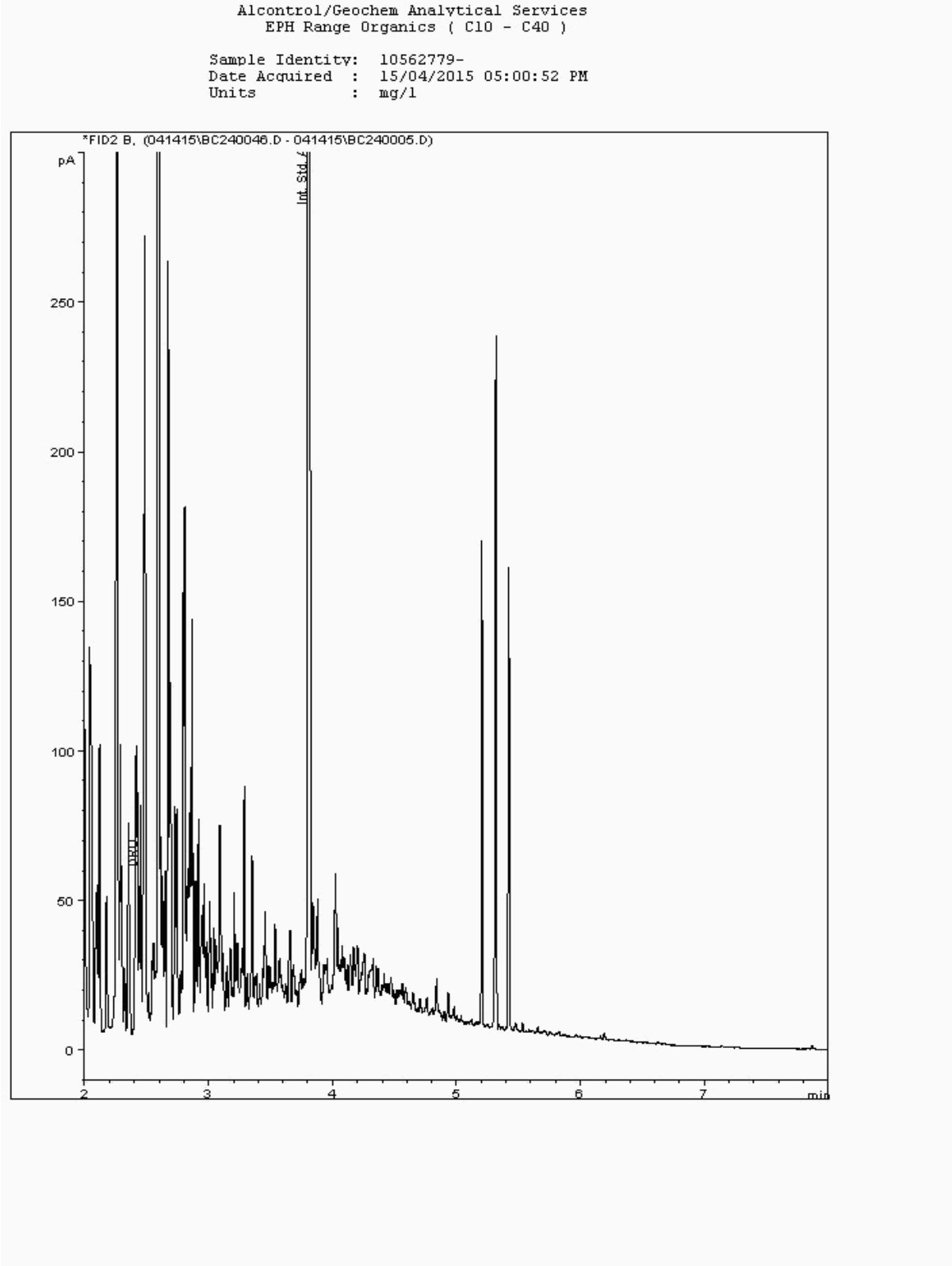
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11115593
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

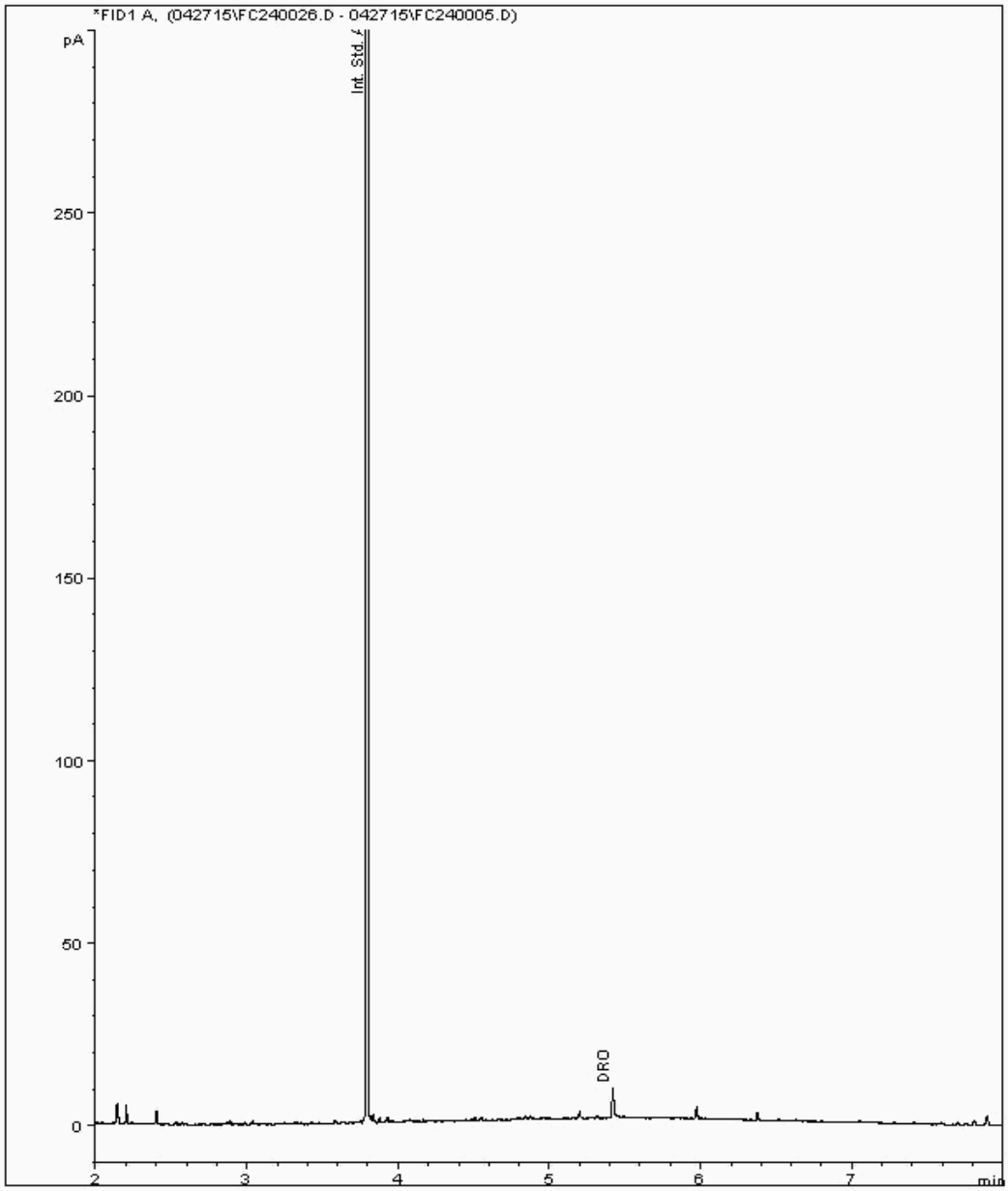
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11226267
Sample ID : MW03 Duplicate

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10671987-
Date Acquired : 27/04/2015 23:26:45 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

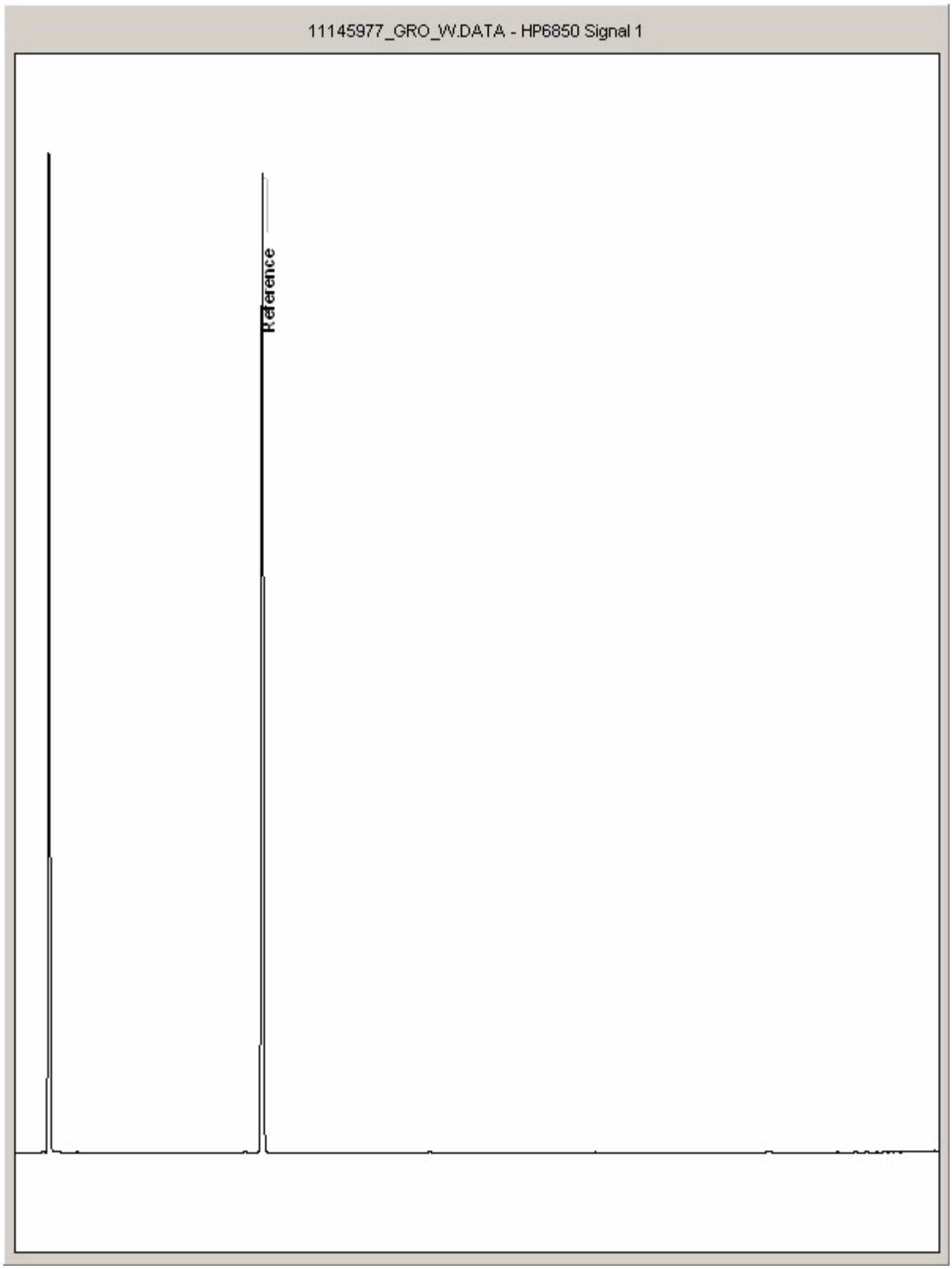
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145977
Sample ID : BH34b

Depth :



CERTIFICATE OF ANALYSIS

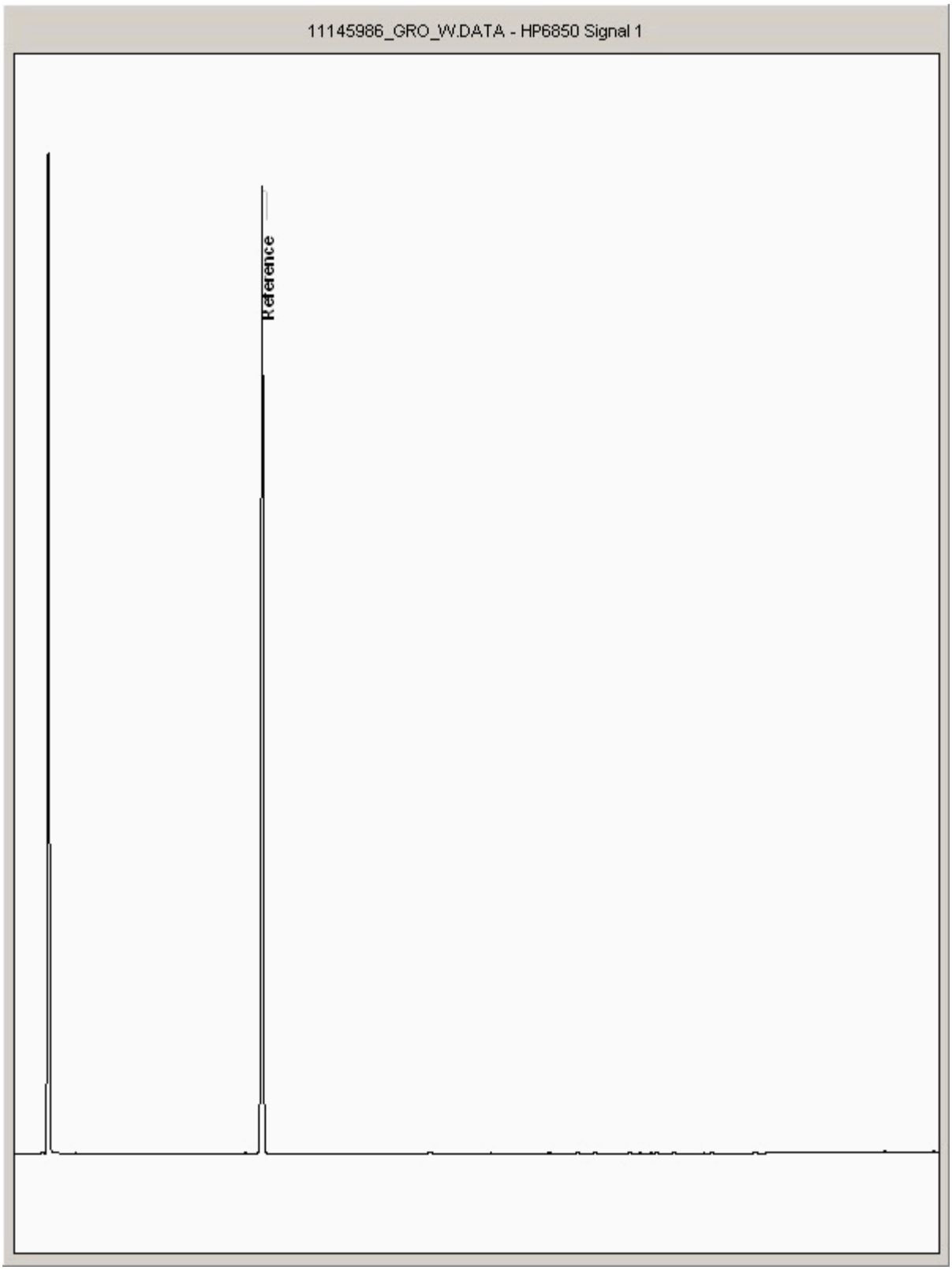
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145986
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

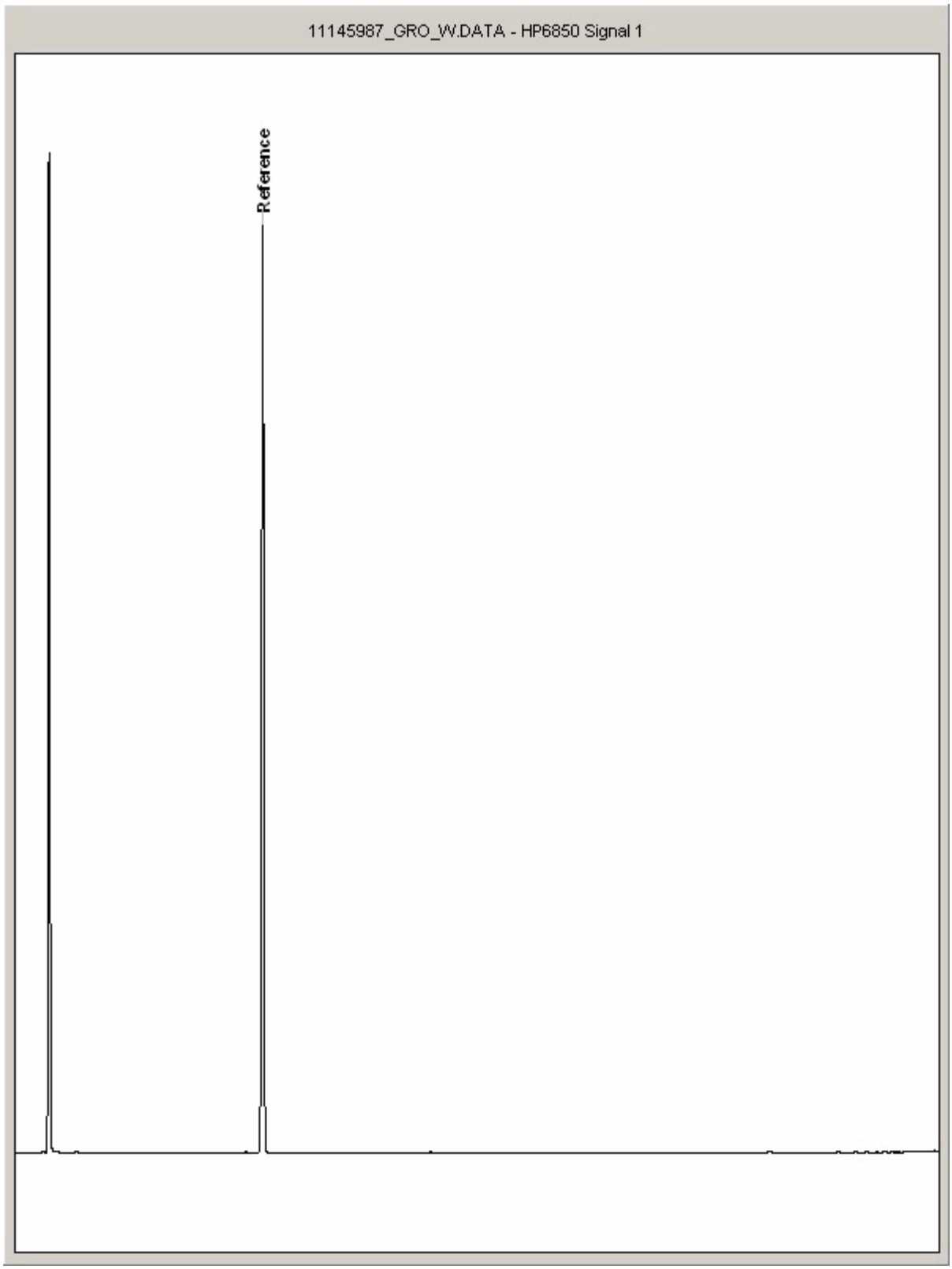
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145987
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

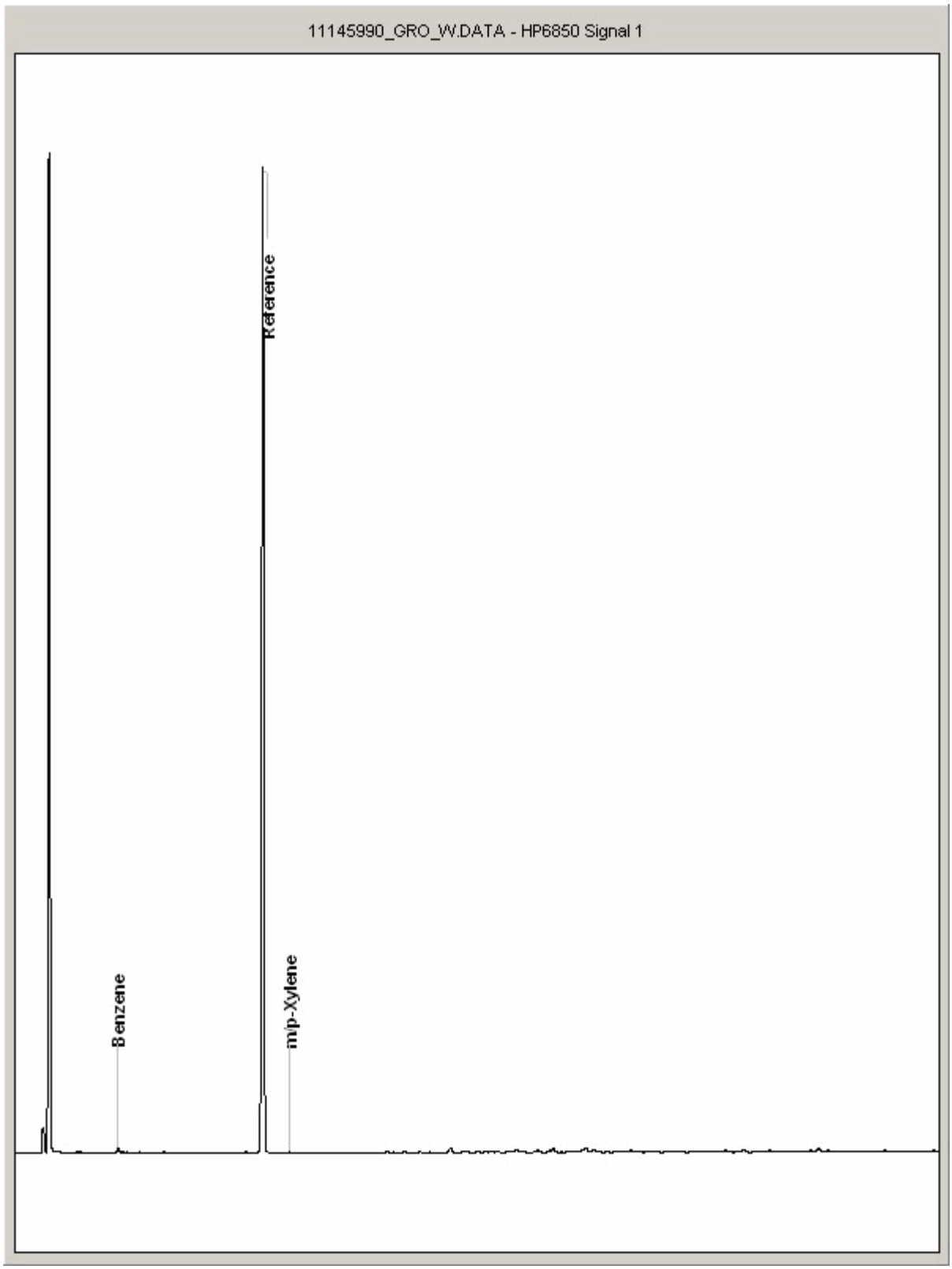
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11145990
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

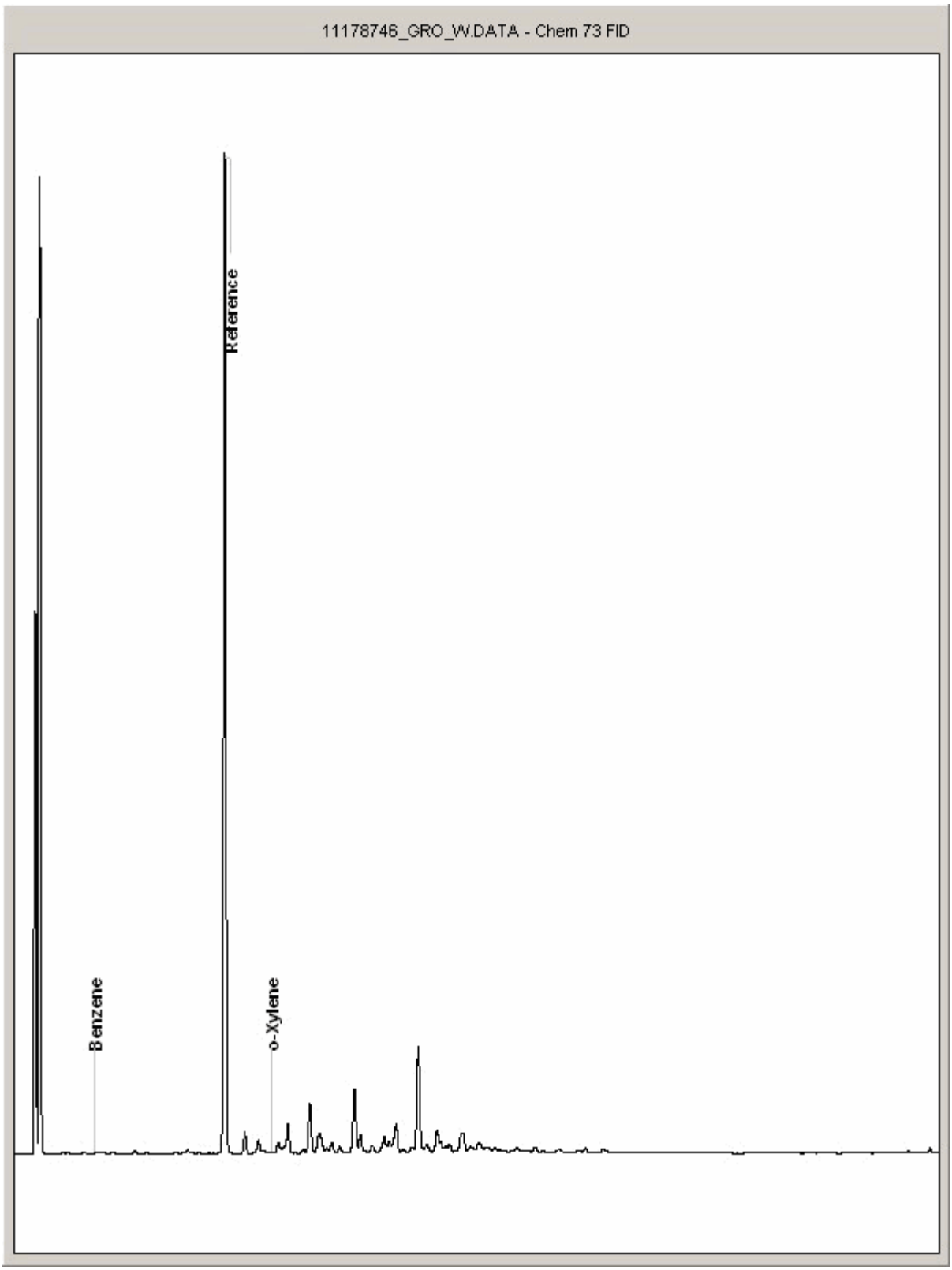
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178746
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

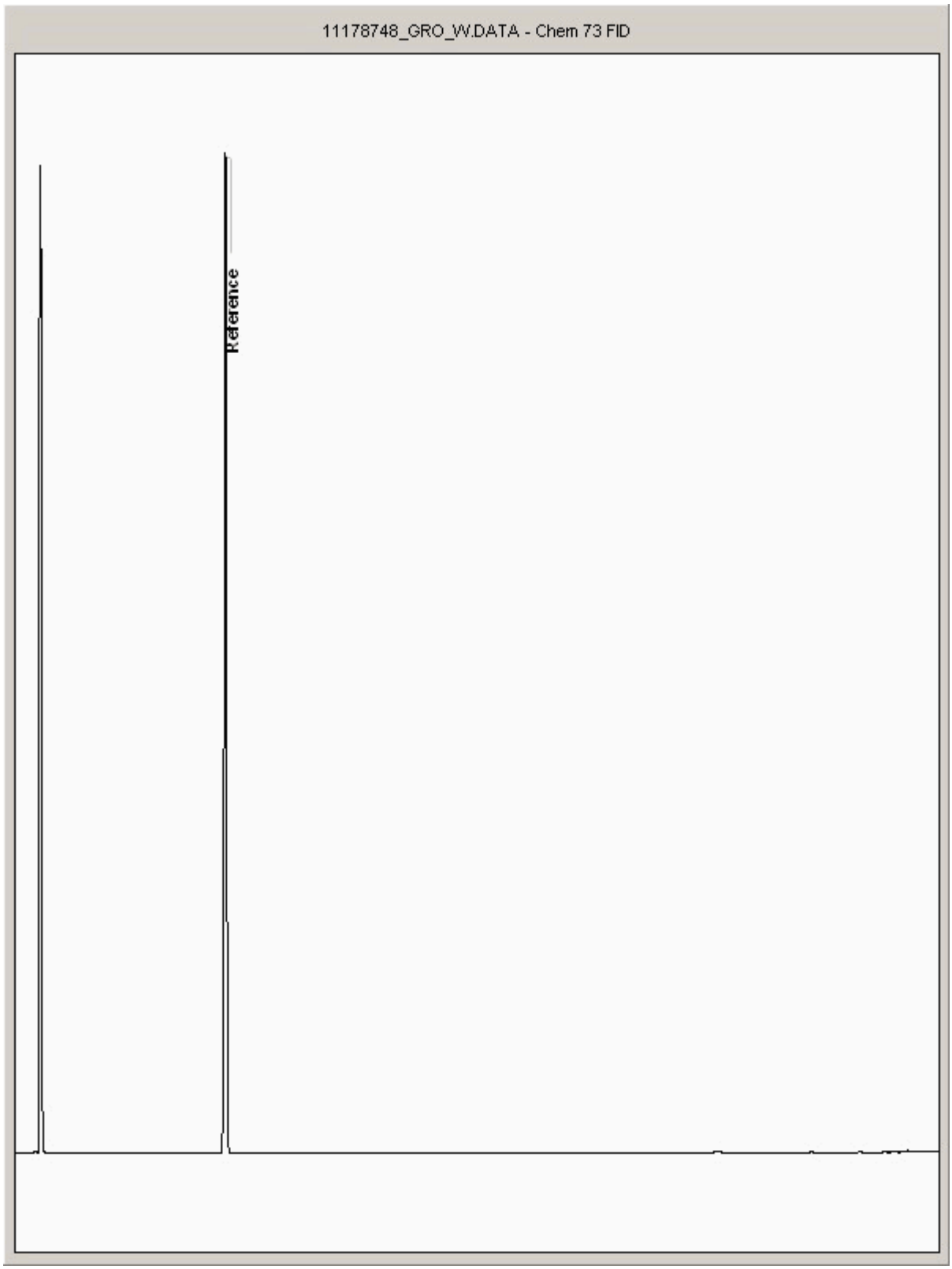
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178748
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

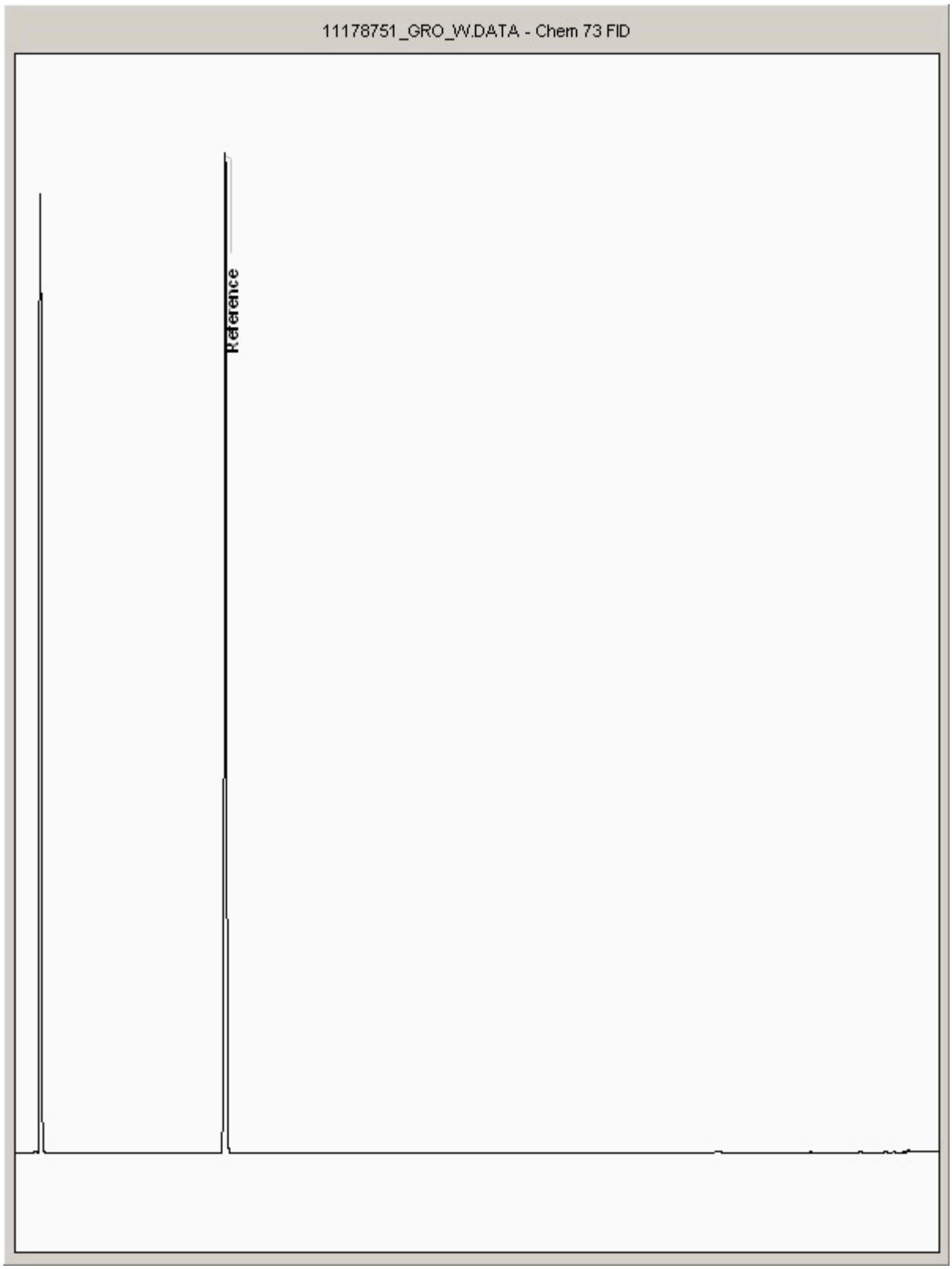
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178751
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

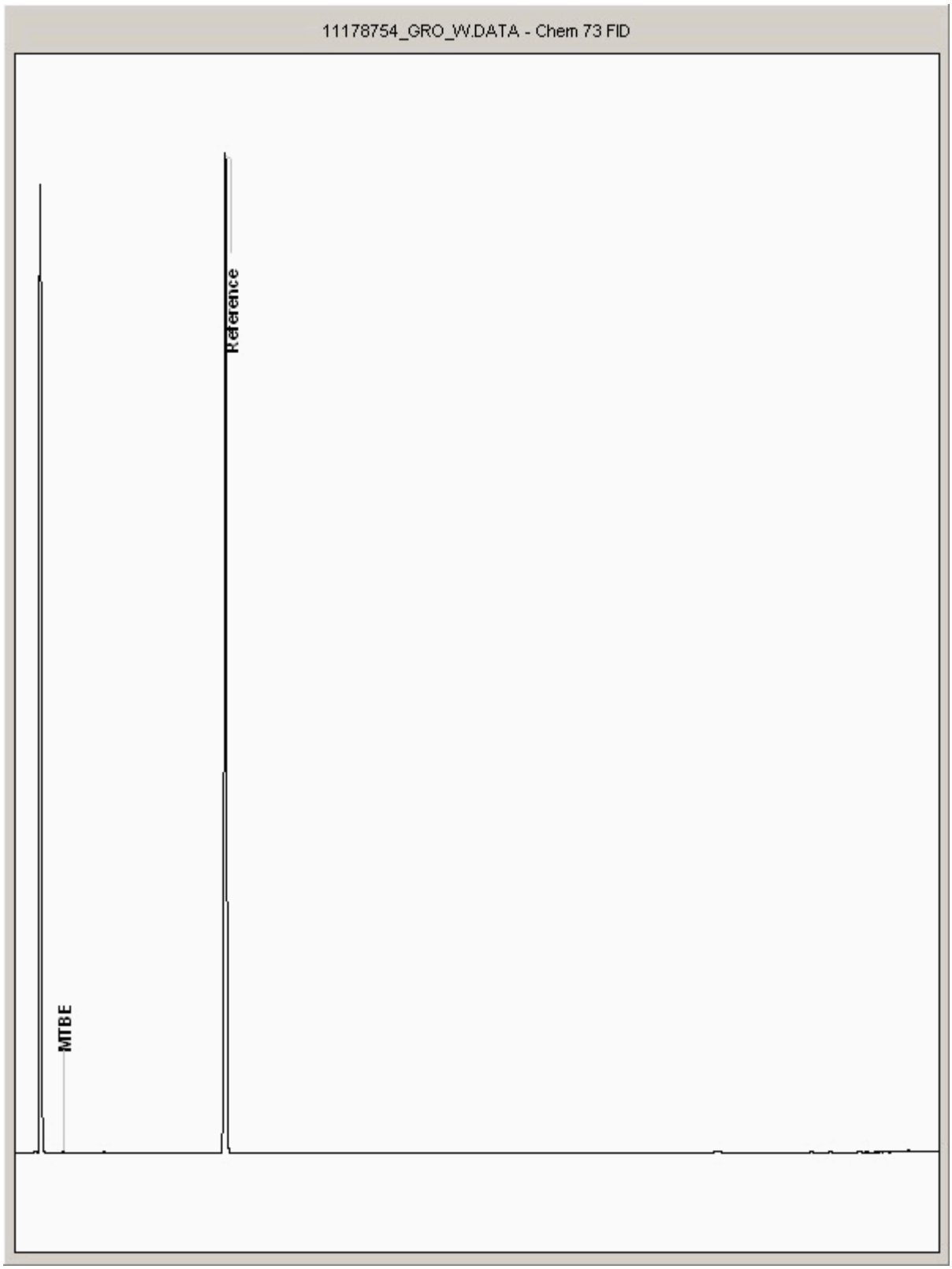
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178754
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

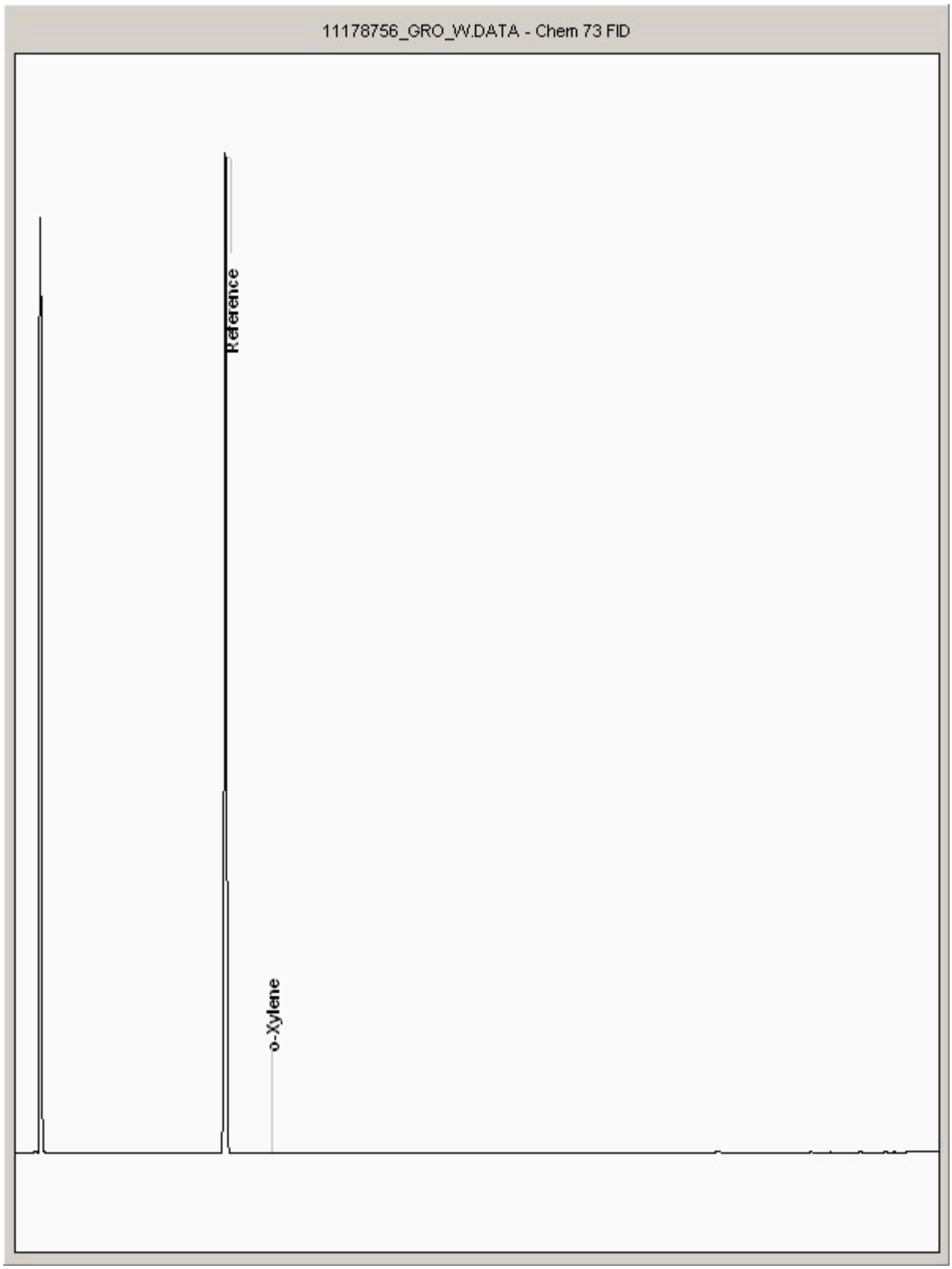
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178756
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

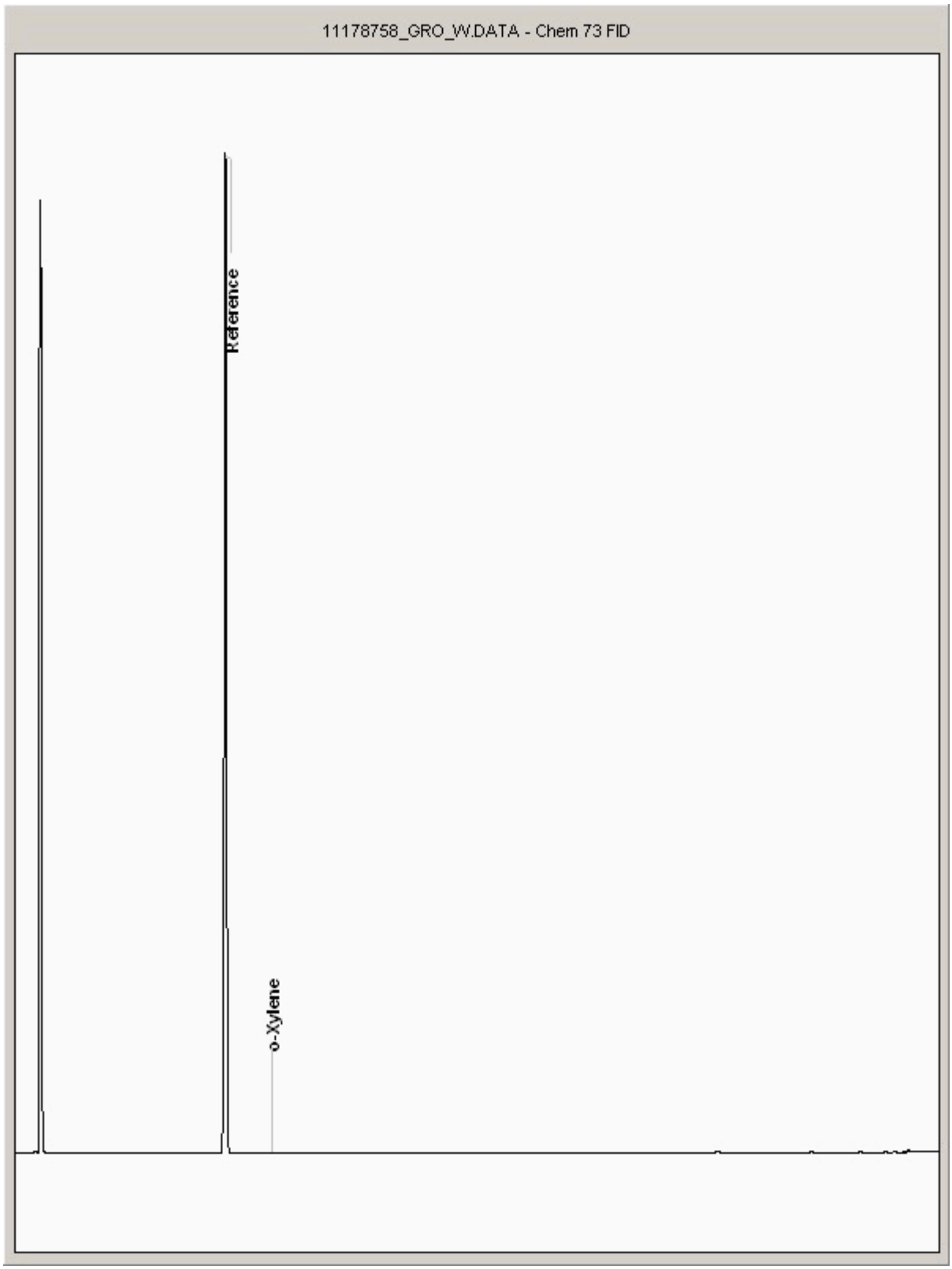
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11178758
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

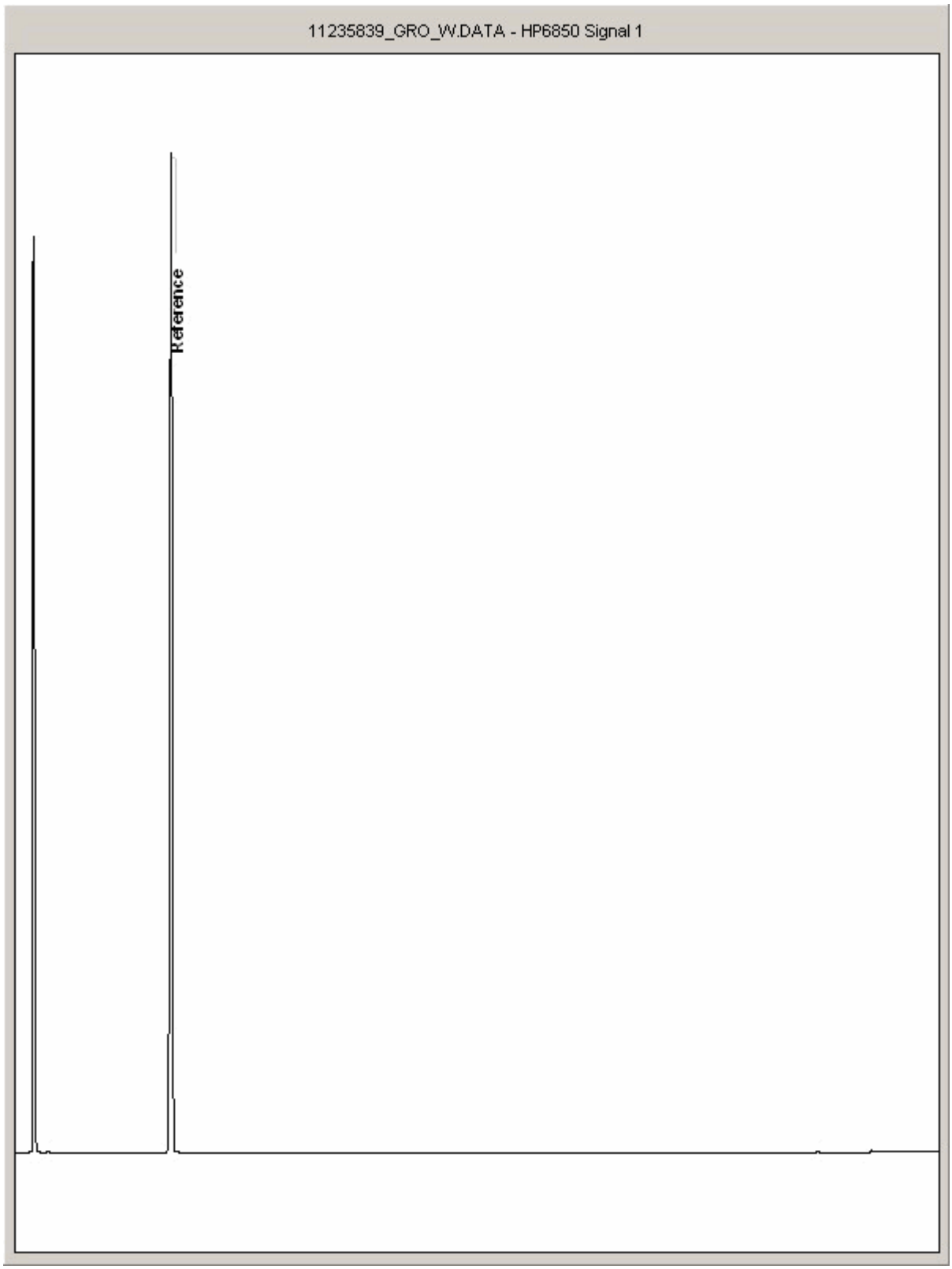
SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11235839
Sample ID : MW03 Duplicate

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150328-56	**Location:**	SHLNG	**Order Number:**	PO15-202
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	310680
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	309553

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

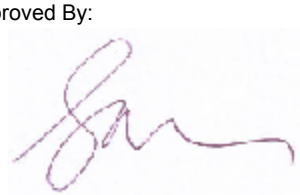
Date:	07 May 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150423-116
Your Reference:	JER5575U
Location:	SHLNG
Report No:	311867

We received 9 samples on Thursday April 23, 2015 and 8 of these samples were scheduled for analysis which was completed on Thursday May 07, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11243133	BH43			22/04/2015
11243135	BH99			22/04/2015
11243129	BH41A			22/04/2015
11243131	BH42A			22/04/2015
11243130	BH41A DUPLICATE			22/04/2015
11243132	BH42A DUPLICATE			22/04/2015
11243127	BH34B			22/04/2015
11243128	BH34B DUPLICATE			22/04/2015
11243134	BH43 DUPLICATE			22/04/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11243133	BH43			1000ml glass bottle
			11243133	BH43			Vial (ALE297)
			11243135	BH99			1000ml glass bottle
			11243135	BH99			Vial (ALE297)
			11243129	BH41A			1000ml glass bottle
			11243129	BH41A			Vial (ALE297)
			11243131	BH42A			1000ml glass bottle
			11243131	BH42A			Vial (ALE297)
			11243127	BH34B			1000ml glass bottle
			11243127	BH34B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		415 #	169 #	969 #	27300 #	251 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		49.4	65.2	446	8280	44.4
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		366	104	523	19100	207

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	55	<10
GRO >C8-C10	<10 µg/l	TM245		21	<10	<10	464	<10
GRO >C5-C10	<10 µg/l	TM245		24	<10	<10	526	<10

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		1.03 #	<1 #	<1 #	1.2 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11243133	11243135	11243129	11243131	11243127
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	01-May-2015	02-May-2015	01-May-2015	01-May-2015	07-May-2015
GRO by GC-FID (W)	29-Apr-2015	29-Apr-2015	29-Apr-2015	29-Apr-2015	29-Apr-2015
SVOC MS (W) - Aqueous	01-May-2015	01-May-2015	01-May-2015	01-May-2015	05-May-2015

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1153	QC 1146	QC 1183
EPH (DRO) (C10-C40)	TM172	**67.5** 56.50 : 116.50	**68.5** 59.47 : 106.15	**71.5** 59.22 : 112.78

GRO by GC-FID (W)

Component	Method Code	QC 1150
Benzene by GC	TM245	**101.0** 79.00 : 121.00
Ethylbenzene by GC	TM245	**98.5** 79.00 : 121.00
m & p Xylene by GC	TM245	**97.75** 79.00 : 121.00
MTBE GC-FID	TM245	**94.0** 79.00 : 121.00
o Xylene by GC	TM245	**98.5** 79.00 : 121.00
QC	TM245	**111.15** 77.50 : 122.50
Toluene by GC	TM245	**98.5** 79.00 : 121.00

SVOC MS (W) - Aqueous

Component	Method Code	QC 1159	QC 1162	QC 1112
4-Bromophenylphenyleth er	TM176	**87.2** 55.04 : 128.00	**83.2** 65.62 : 120.95	**77.68** 65.62 : 120.95
Benzo(a)anthracene	TM176	**81.6** 52.64 : 123.68	**94.4** 62.83 : 114.26	**85.6** 62.83 : 114.26
Benzo(a)pyrene	TM176	**75.28** 49.60 : 114.40	**91.2** 54.19 : 105.67	**75.12** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**87.2** 49.04 : 127.76	**96.0** 45.10 : 118.90	**84.8** 45.10 : 118.90
Hexachlorobutadiene	TM176	**74.8** 42.80 : 108.20	**72.08** 43.12 : 110.32	**63.68** 43.12 : 110.32
Naphthalene	TM176	**91.2** 47.20 : 116.80	**92.0** 69.48 : 118.94	**80.8** 69.48 : 118.94
Nitrobenzene	TM176	**74.08** 58.70 : 110.90	**88.8** 69.13 : 107.62	**76.16** 69.13 : 107.62
Phenol	TM176	**45.36** 30.25 : 79.75	**51.2** 30.92 : 74.19	**46.08** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

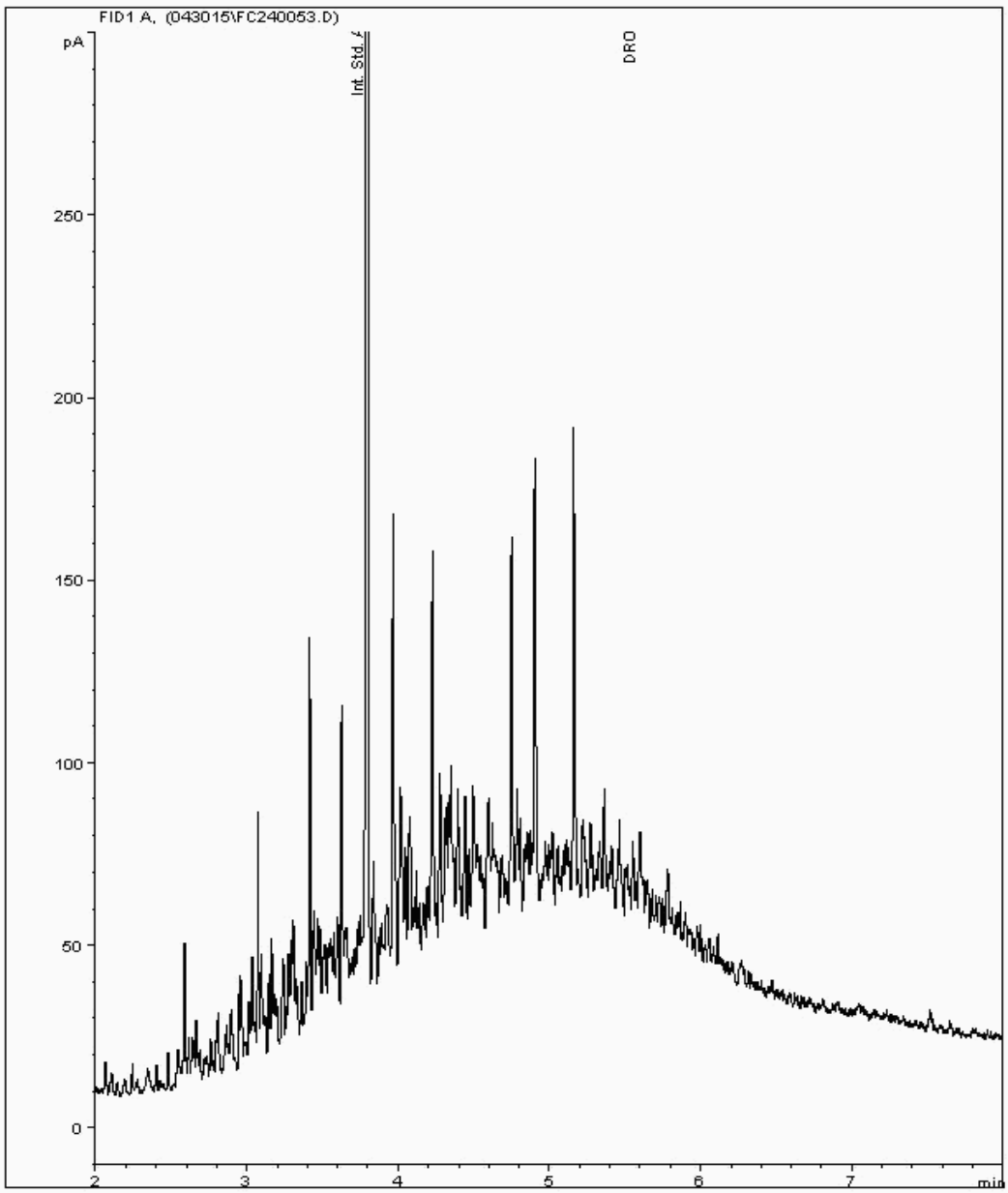
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11258134
Sample ID : BH42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10704180-
Date Acquired : 01/05/2015 13:51:27 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

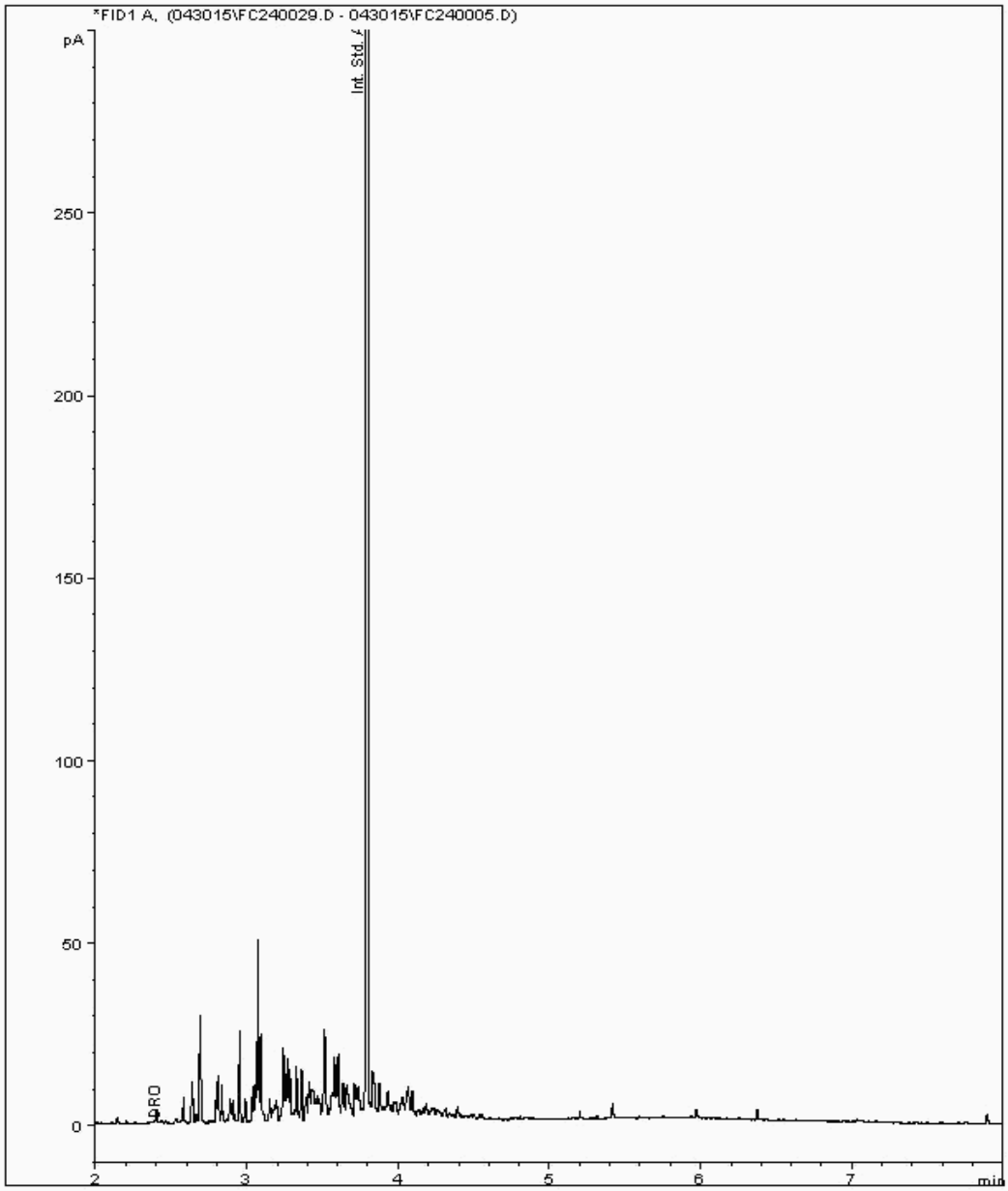
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11258138
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10704184-
Date Acquired : 01/05/2015 03:15:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

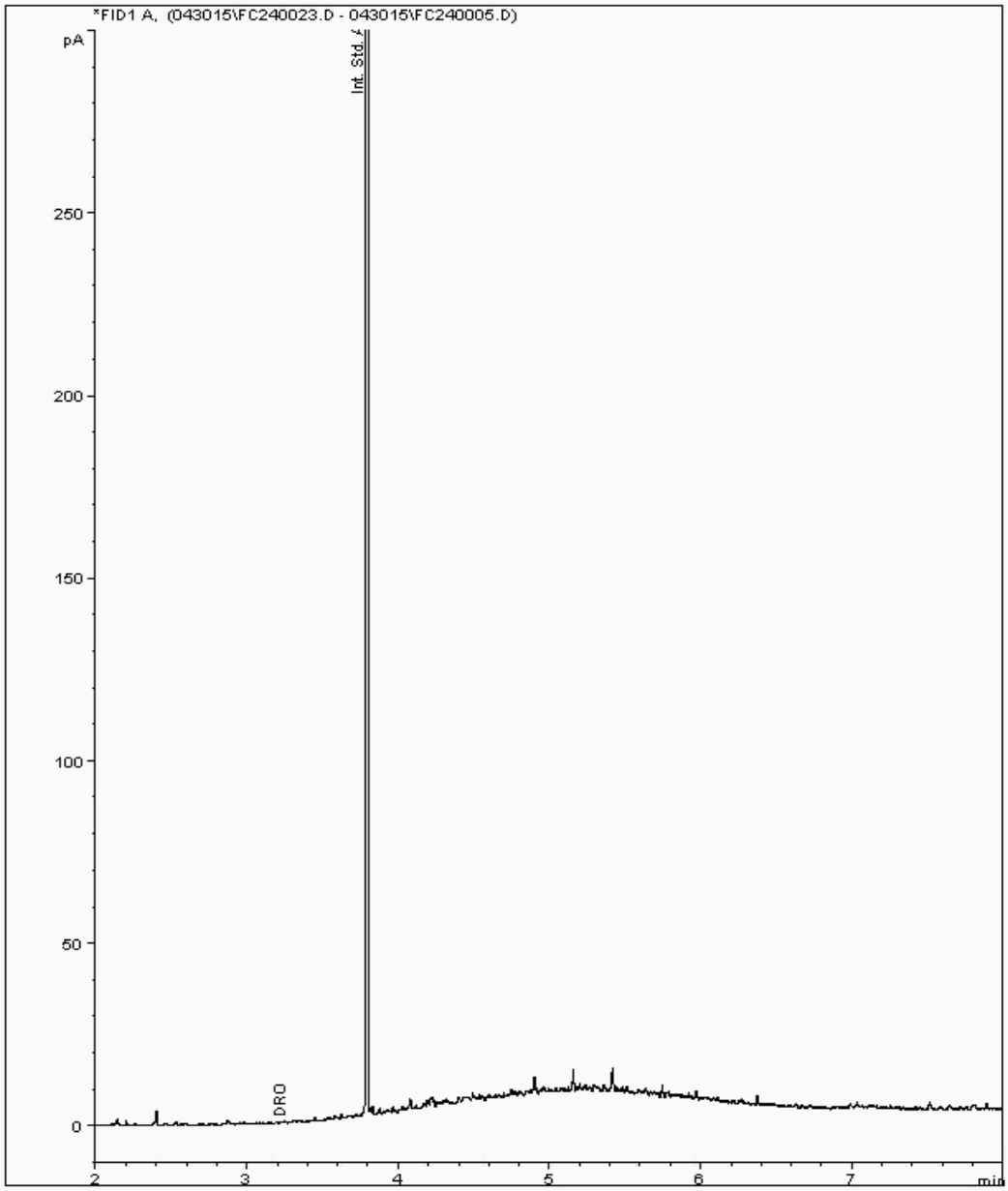
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11258142
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10704176-
Date Acquired : 01/05/2015 01:01:37 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

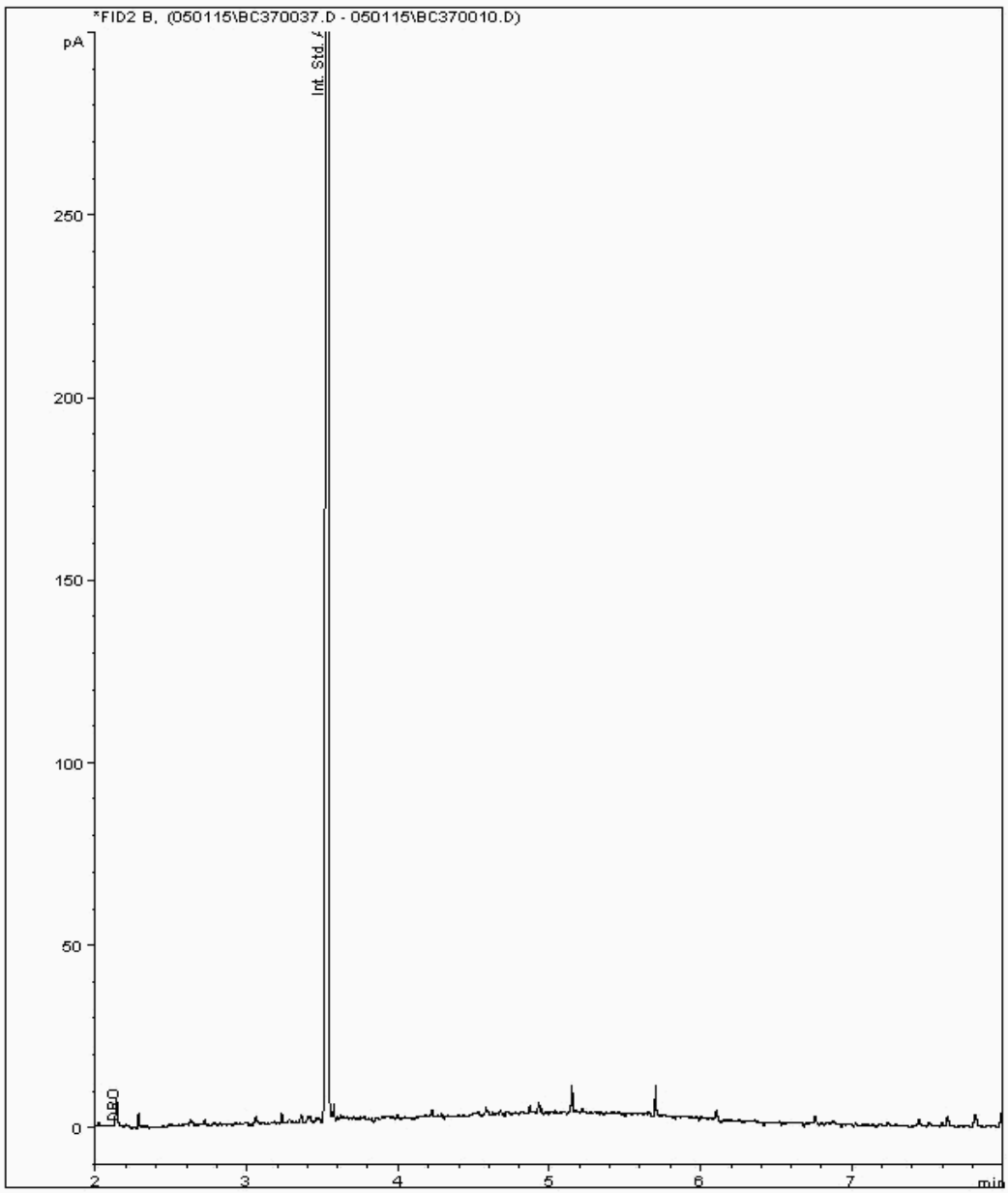
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11261222
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10695112-
Date Acquired : 02/05/2015 05:21:47 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

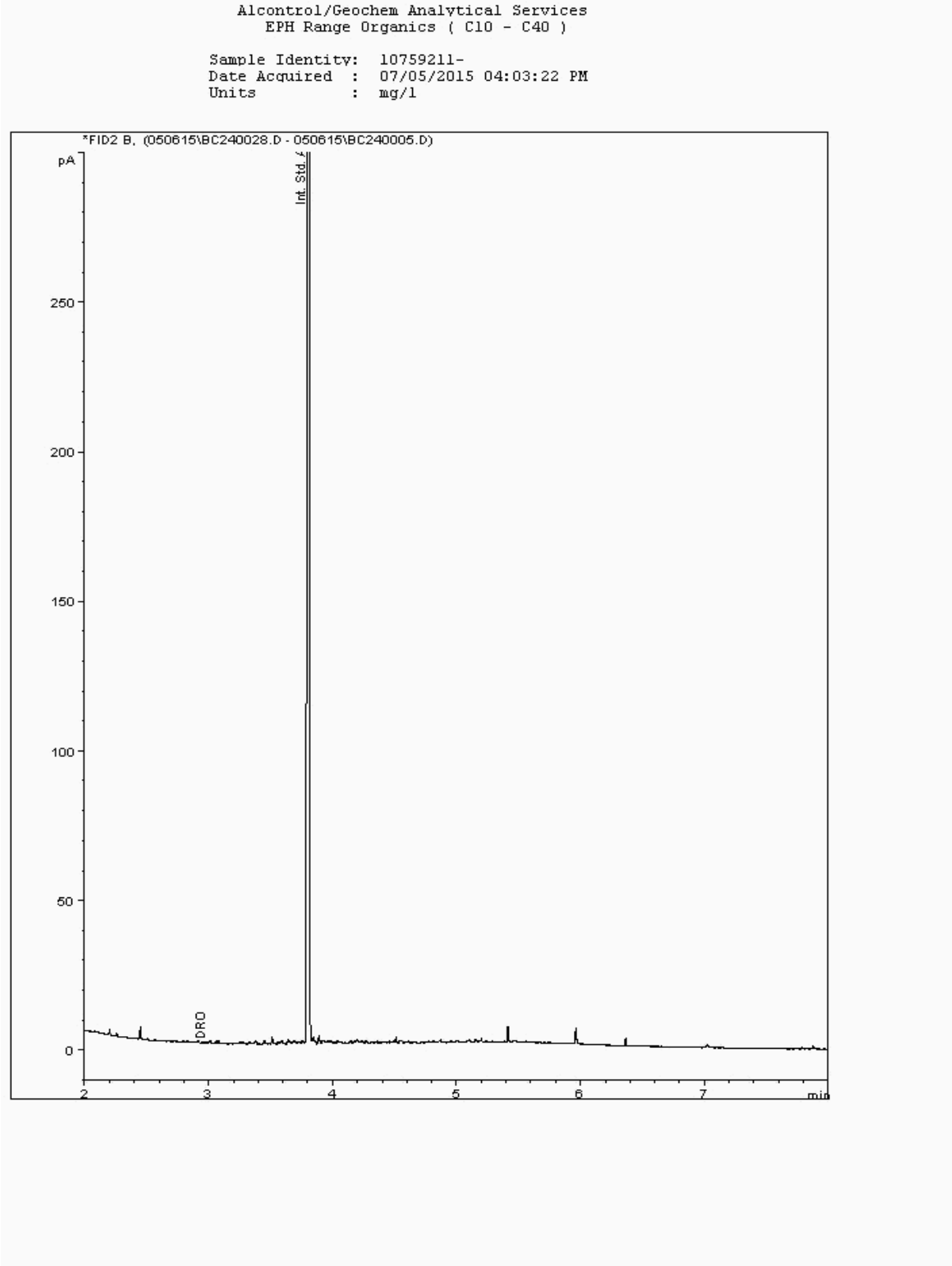
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11312585
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

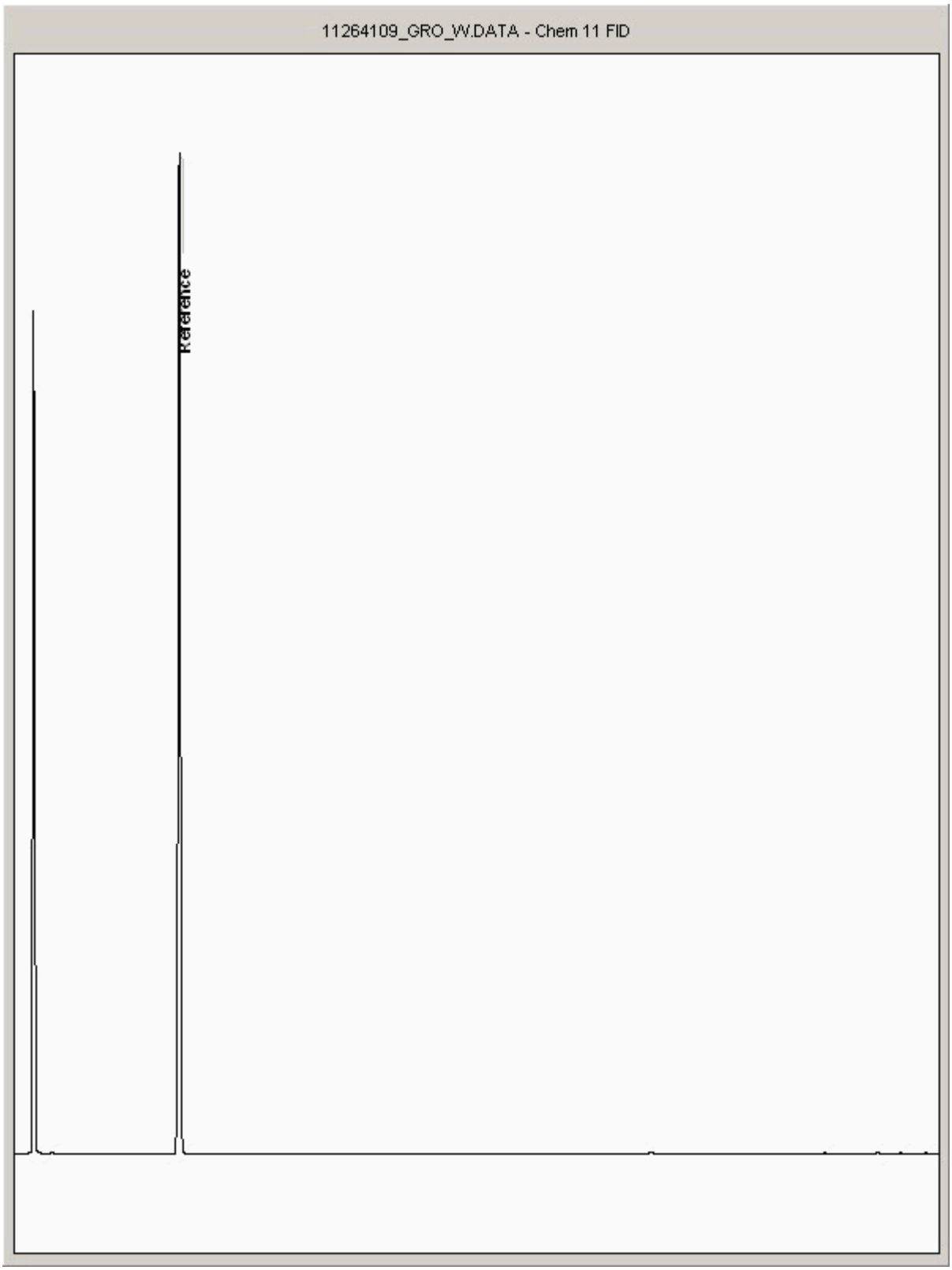
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264109
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

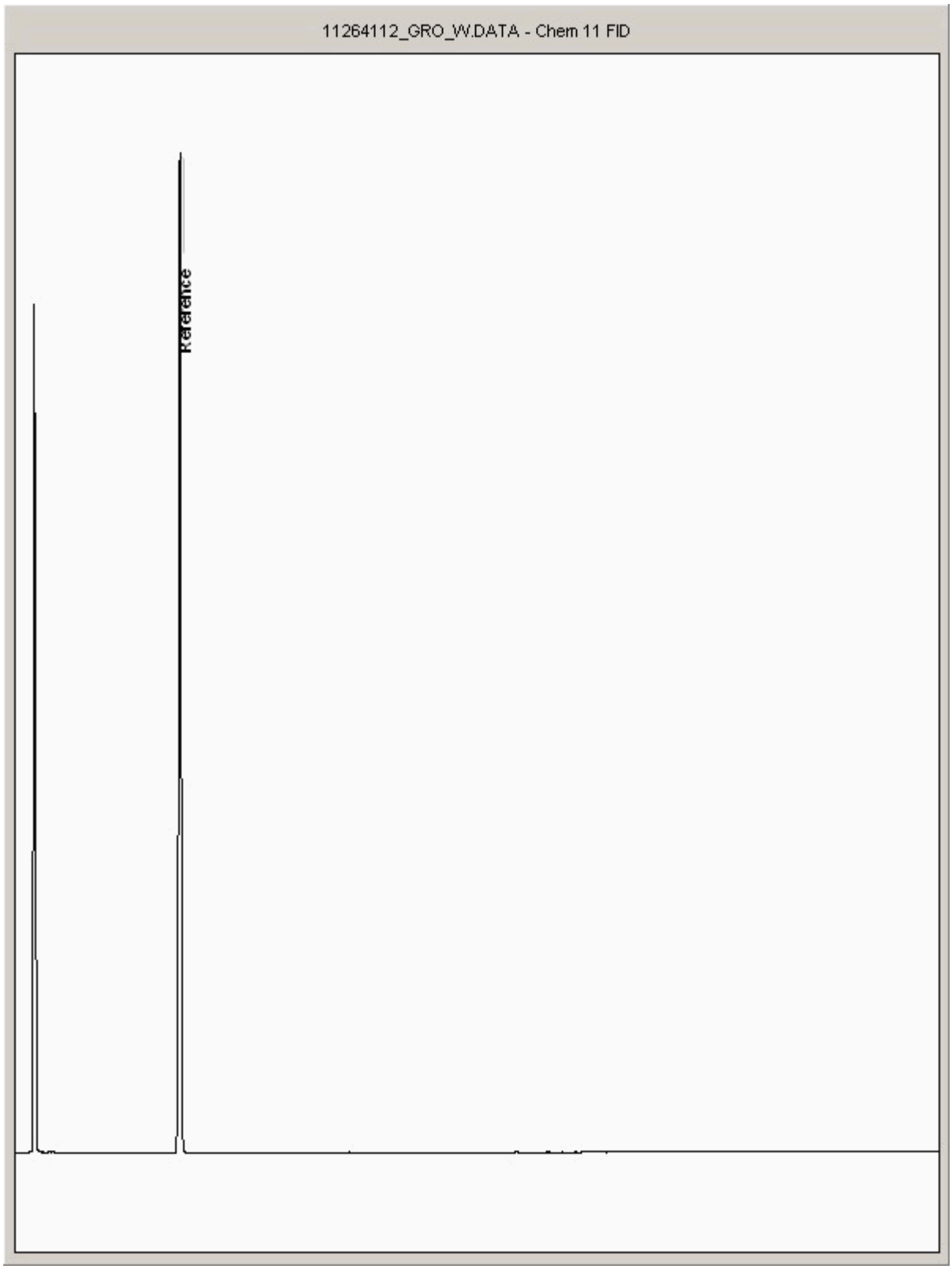
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264112
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

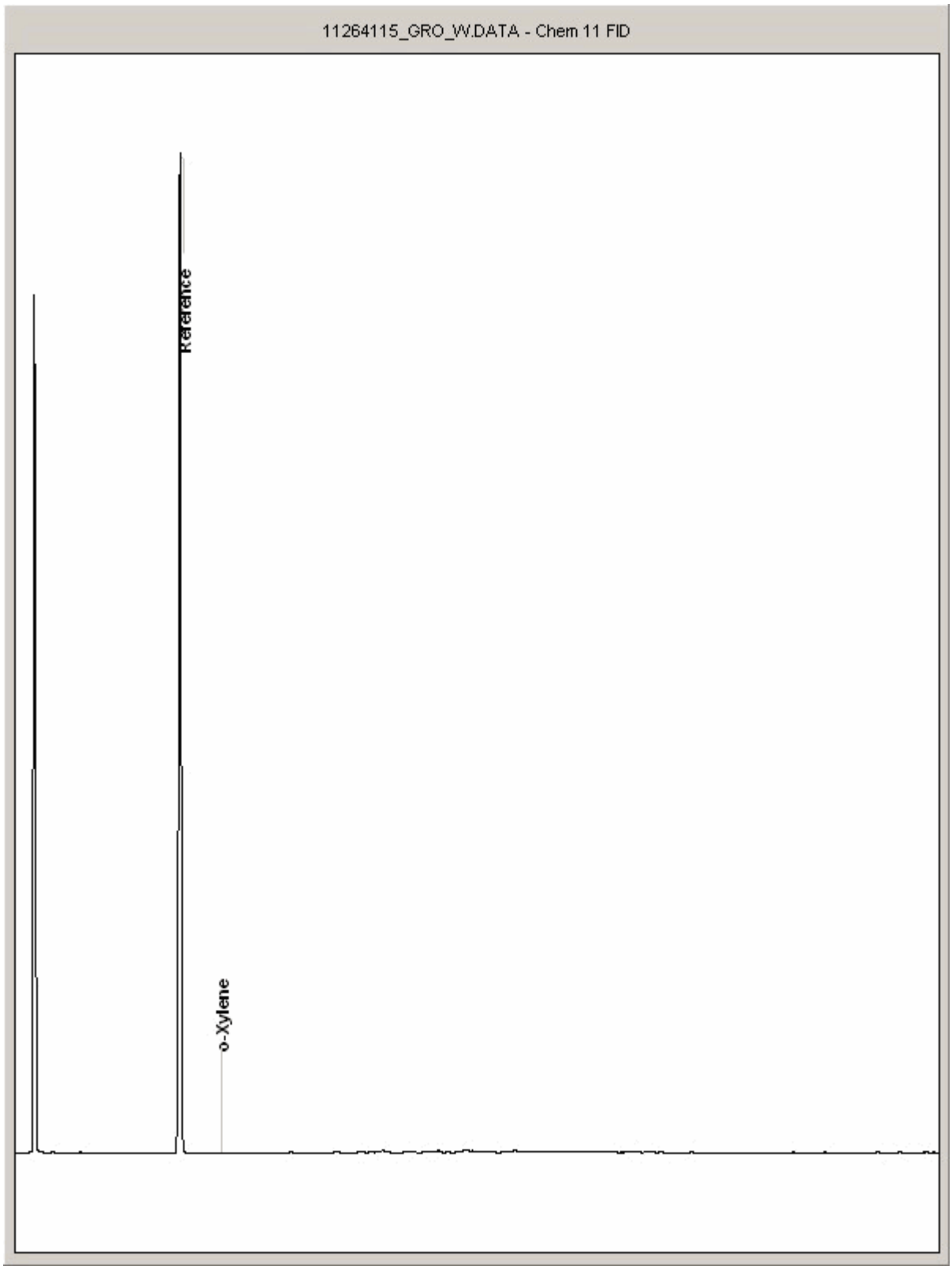
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264115
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

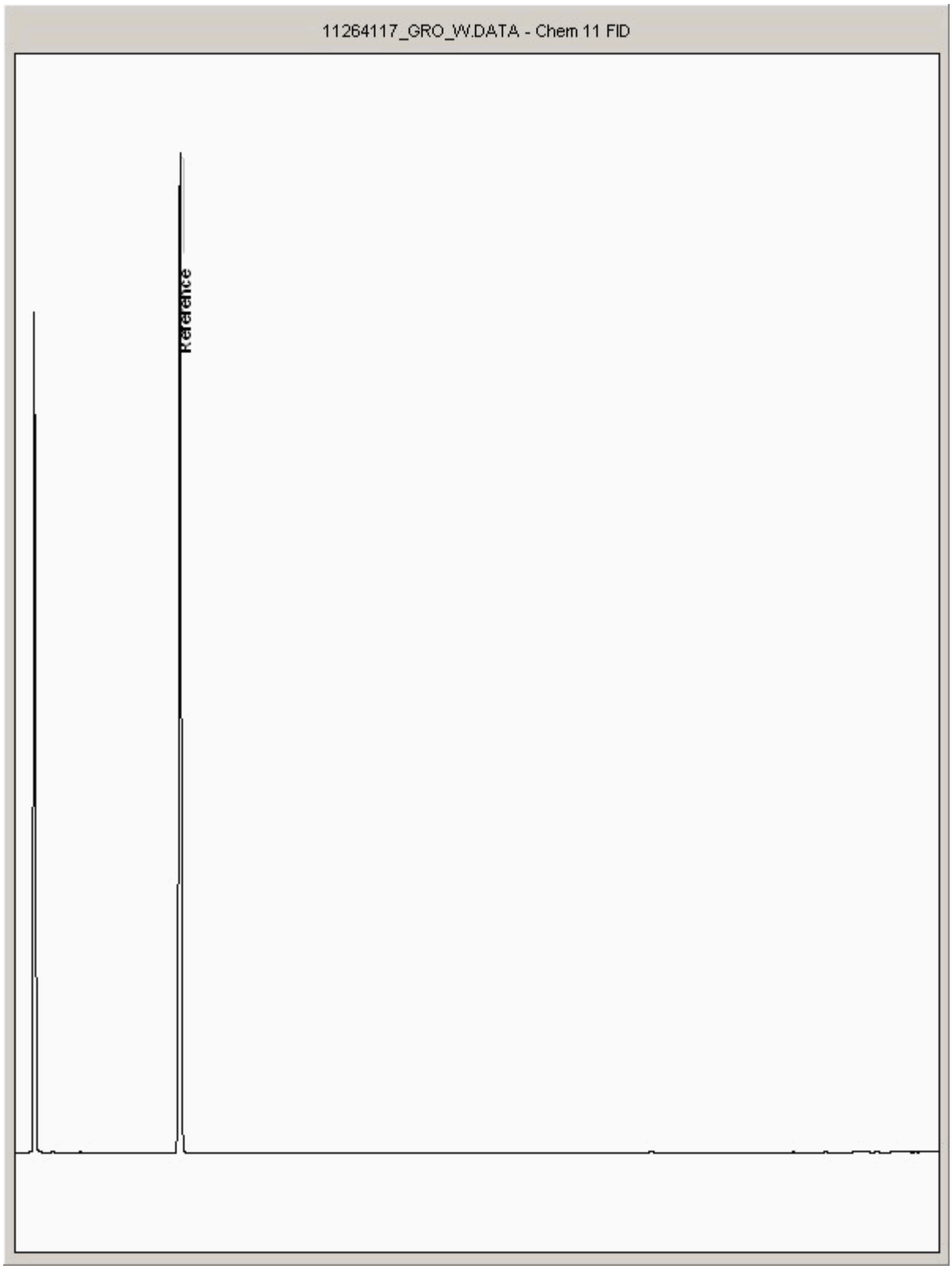
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264117
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

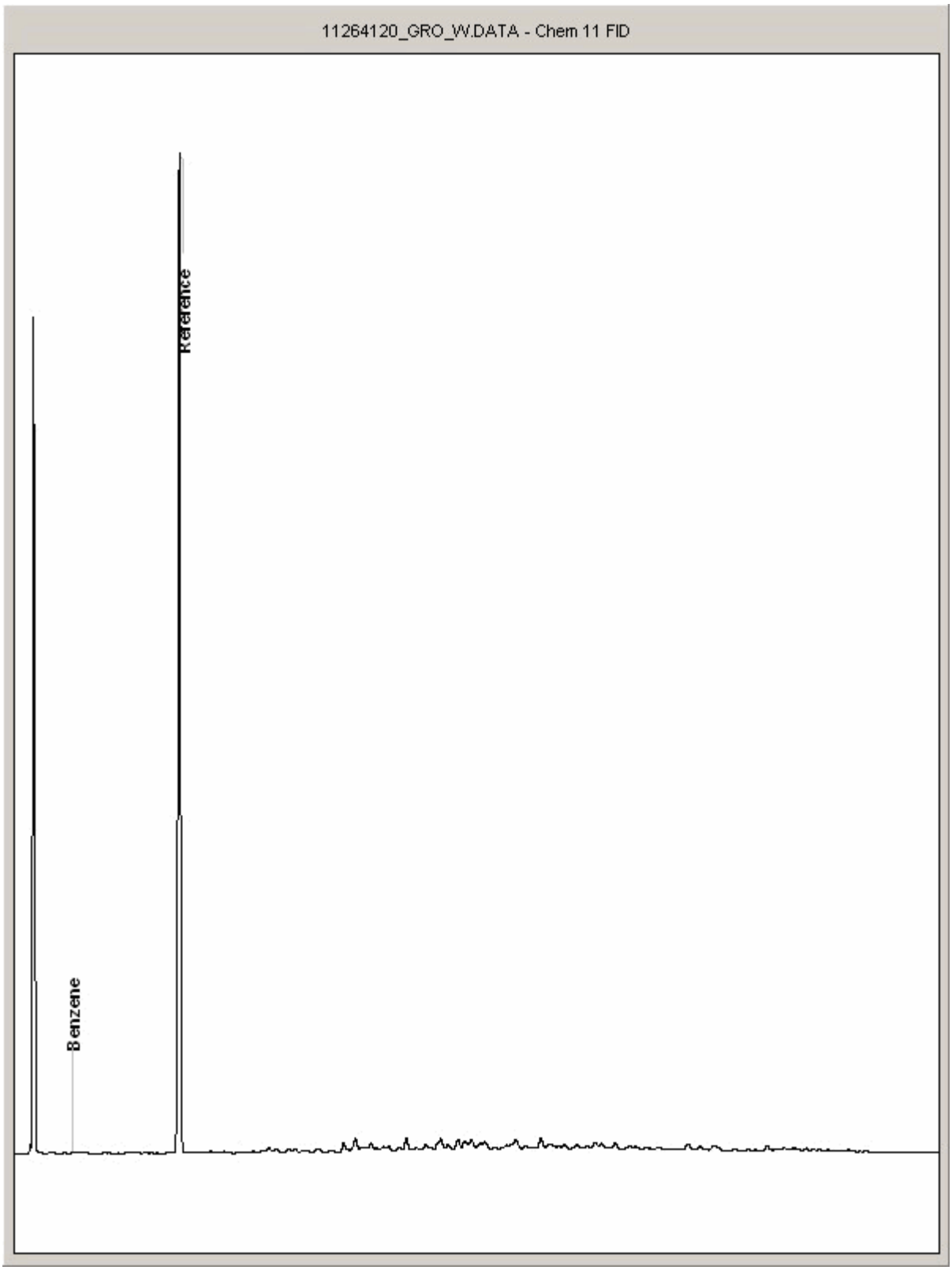
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264120
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311867
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
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BS32 4AQ

Attention: Adrian Green

PRELIMINARY/INTERIM REPORT

Date:	06 May 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150423-116
Your Reference:	JER5575U
Location:	SHLNG
Report No:	311658

We received 9 samples on Thursday April 23, 2015 and 8 of these samples were scheduled for analysis which was completed on Tuesday May 05, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

This is a preliminary report which has not had final authorisation.

Approved By:

ilac-MRA UKAS TESTING 1291

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PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11243133	BH43			22/04/2015
11243135	BH99			22/04/2015
11243129	BH41A			22/04/2015
11243131	BH42A			22/04/2015
11243130	BH41A DUPLICATE			22/04/2015
11243132	BH42A DUPLICATE			22/04/2015
11243127	BH34B			22/04/2015
11243128	BH34B DUPLICATE			22/04/2015
11243134	BH43 DUPLICATE			22/04/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11243133	BH43			1000ml glass bottle
			11243133	BH43			Vial (ALE297)
			11243135	BH99			1000ml glass bottle
			11243135	BH99			Vial (ALE297)
			11243129	BH41A			1000ml glass bottle
			11243129	BH41A			Vial (ALE297)
			11243131	BH42A			1000ml glass bottle
			11243131	BH42A			Vial (ALE297)
			11243127	BH34B			1000ml glass bottle
			11243127	BH34B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X		X		X	

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		415 #	169 #	969 #	27300 #	incomplete #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		49.4	65.2	446	8280	incomplete
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		366	104	523	19100	incomplete

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	55	<10
GRO >C8-C10	<10 µg/l	TM245		21	<10	<10	464	<10
GRO >C5-C10	<10 µg/l	TM245		24	<10	<10	526	<10

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	22/04/2015	22/04/2015	22/04/2015	22/04/2015	22/04/2015
			Sampled Time	.	.	.	.	.
			Date Received	23/04/2015	23/04/2015	23/04/2015	23/04/2015	23/04/2015
			SDG Ref	150423-116	150423-116	150423-116	150423-116	150423-116
			Lab Sample No.(s)	11243133	11243135	11243129	11243131	11243127
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		1.03 #	<1 #	<1 #	1.2 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11243133	11243135	11243129	11243131	11243127
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	01-May-2015	02-May-2015	01-May-2015	01-May-2015	
GRO by GC-FID (W)	29-Apr-2015	29-Apr-2015	29-Apr-2015	29-Apr-2015	29-Apr-2015
SVOC MS (W) - Aqueous	01-May-2015	01-May-2015	01-May-2015	01-May-2015	05-May-2015

PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1153	QC 1146
EPH (DRO) (C10-C40)	TM172	**67.5** 56.50 : 116.50	**68.5** 59.47 : 106.15

GRO by GC-FID (W)

Component	Method Code	QC 1150
Benzene by GC	TM245	**101.0** 79.00 : 121.00
Ethylbenzene by GC	TM245	**98.5** 79.00 : 121.00
m & p Xylene by GC	TM245	**97.75** 79.00 : 121.00
MTBE GC-FID	TM245	**94.0** 79.00 : 121.00
o Xylene by GC	TM245	**98.5** 79.00 : 121.00
QC	TM245	**111.15** 77.50 : 122.50
Toluene by GC	TM245	**98.5** 79.00 : 121.00

SVOC MS (W) - Aqueous

Component	Method Code	QC 1159	QC 1162	QC 1112
4-Bromophenylphenyleth er	TM176	**87.2** 55.04 : 128.00	**83.2** 65.62 : 120.95	**77.68** 65.62 : 120.95
Benzo(a)anthracene	TM176	**81.6** 52.64 : 123.68	**94.4** 62.83 : 114.26	**85.6** 62.83 : 114.26
Benzo(a)pyrene	TM176	**75.28** 49.60 : 114.40	**91.2** 54.19 : 105.67	**75.12** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**87.2** 49.04 : 127.76	**96.0** 45.10 : 118.90	**84.8** 45.10 : 118.90
Hexachlorobutadiene	TM176	**74.8** 42.80 : 108.20	**72.08** 43.12 : 110.32	**63.68** 43.12 : 110.32
Naphthalene	TM176	**91.2** 47.20 : 116.80	**92.0** 69.48 : 118.94	**80.8** 69.48 : 118.94
Nitrobenzene	TM176	**74.08** 58.70 : 110.90	**88.8** 69.13 : 107.62	**76.16** 69.13 : 107.62
Phenol	TM176	**45.36** 30.25 : 79.75	**51.2** 30.92 : 74.19	**46.08** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

PRELIMINARY/INTERIM REPORT

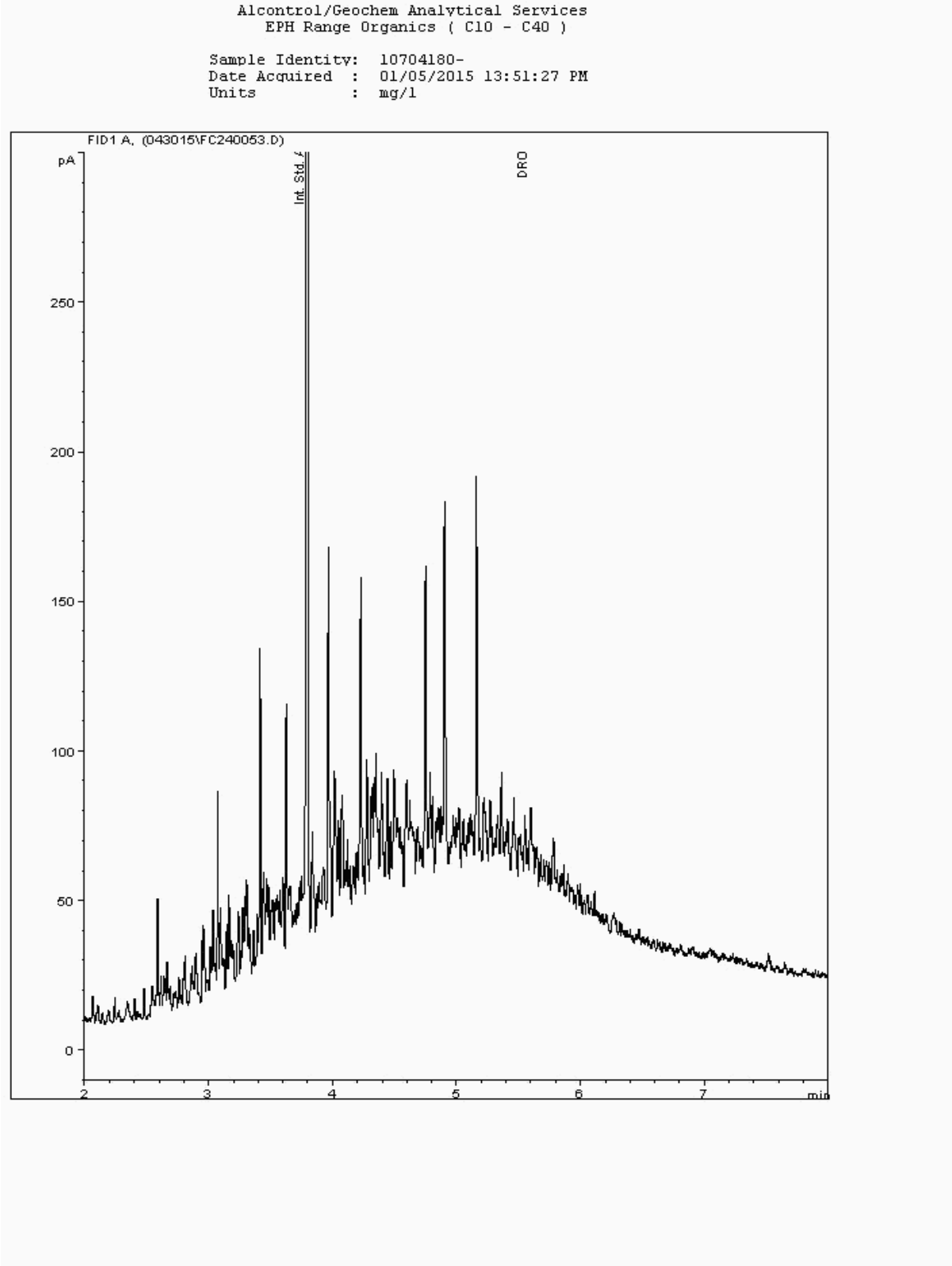
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11258134
Sample ID : BH42A

Depth :



PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

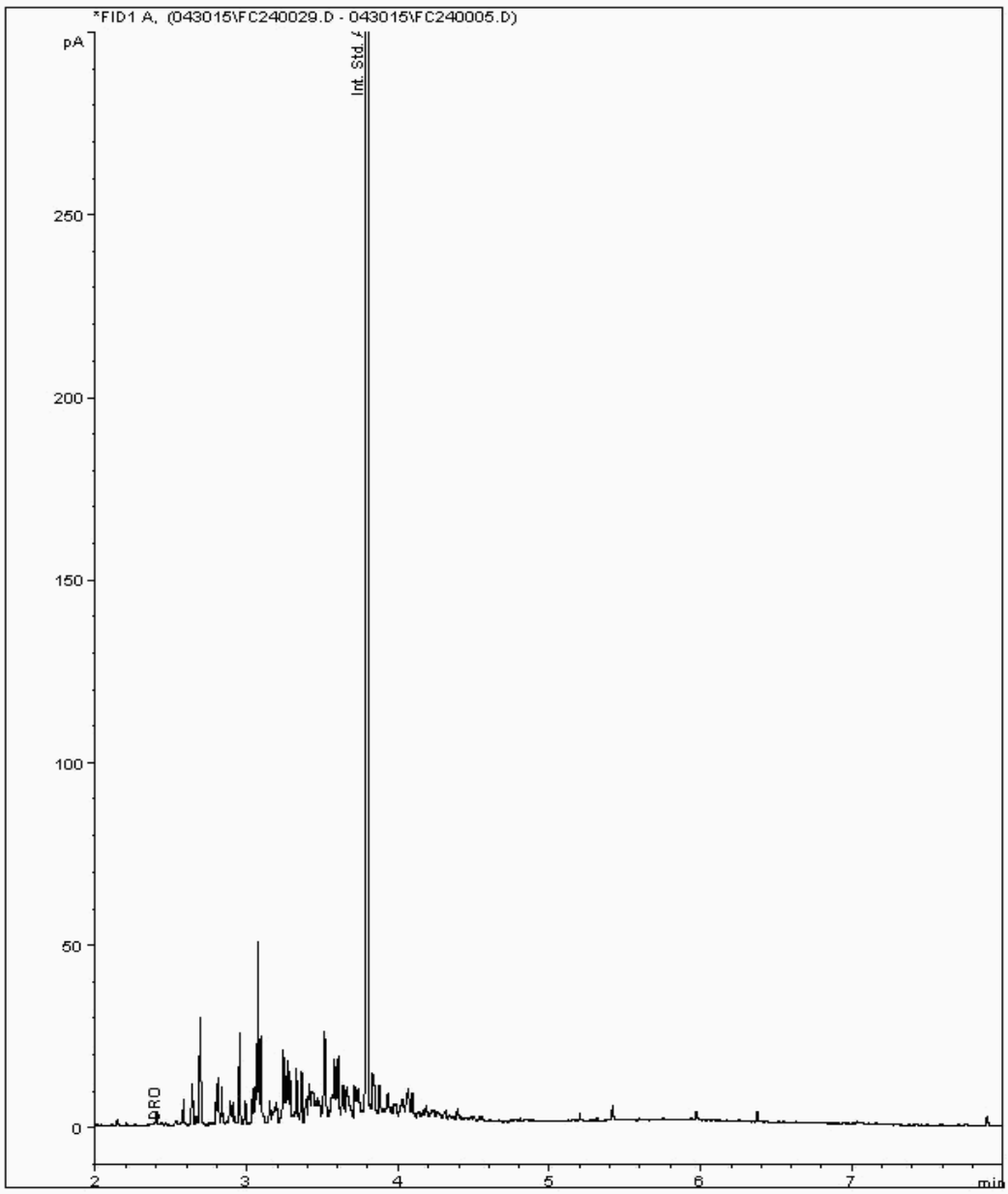
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11258138
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10704184-
Date Acquired : 01/05/2015 03:15:19 PM
Units : mg/l



PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

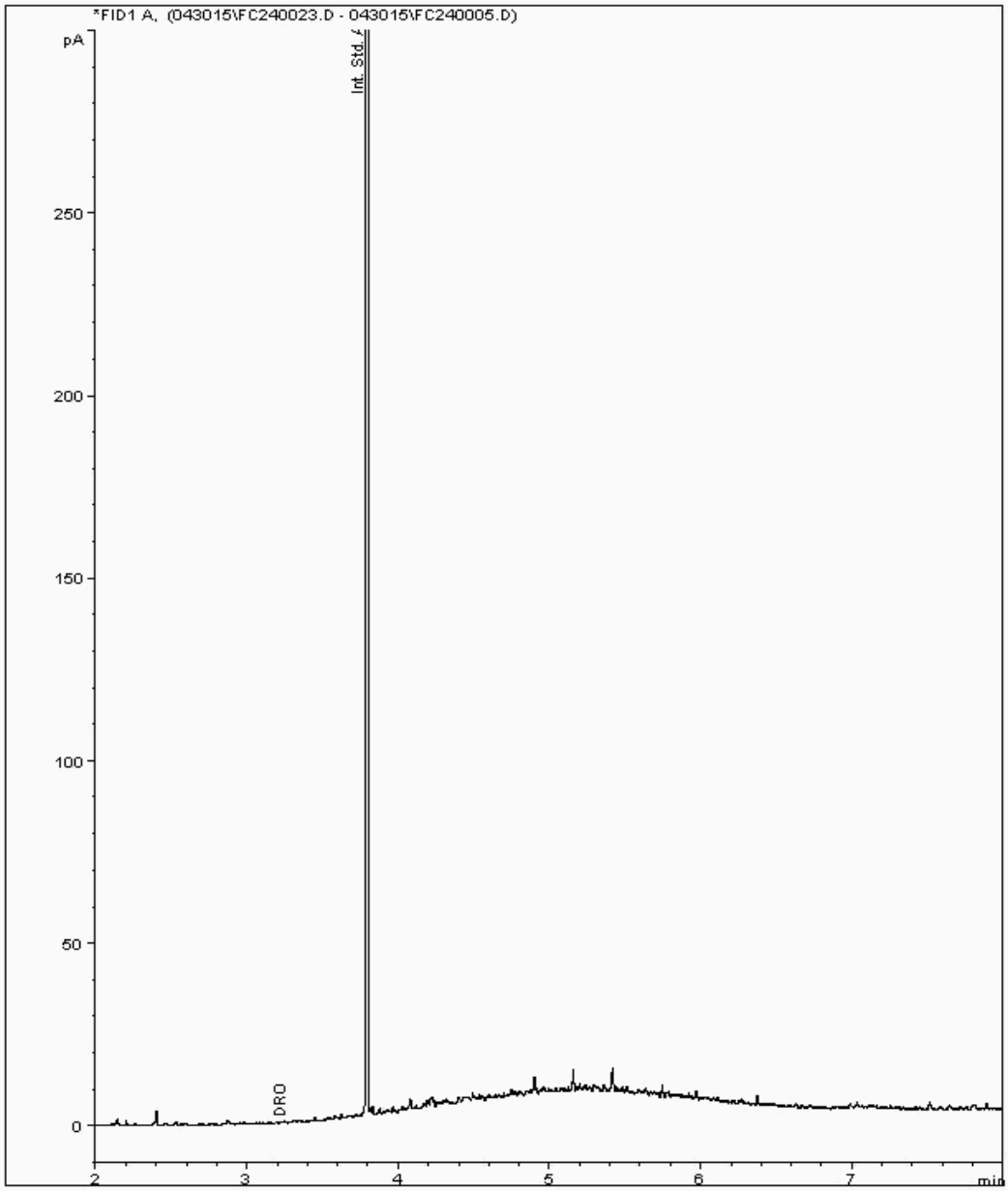
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11258142
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10704176-
Date Acquired : 01/05/2015 01:01:37 PM
Units : mg/l



PRELIMINARY/INTERIM REPORT

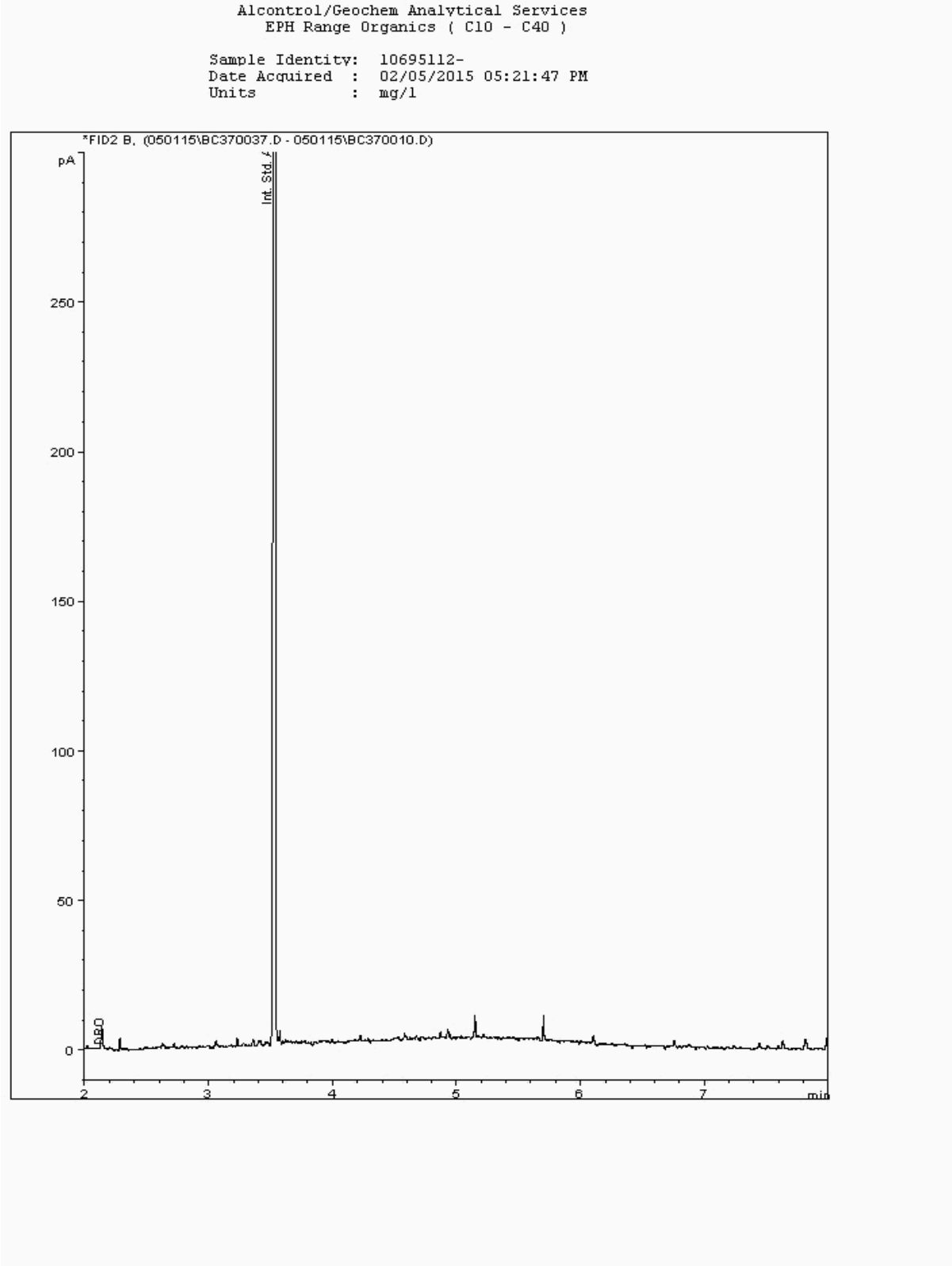
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11261222
Sample ID : BH99

Depth :



PRELIMINARY/INTERIM REPORT

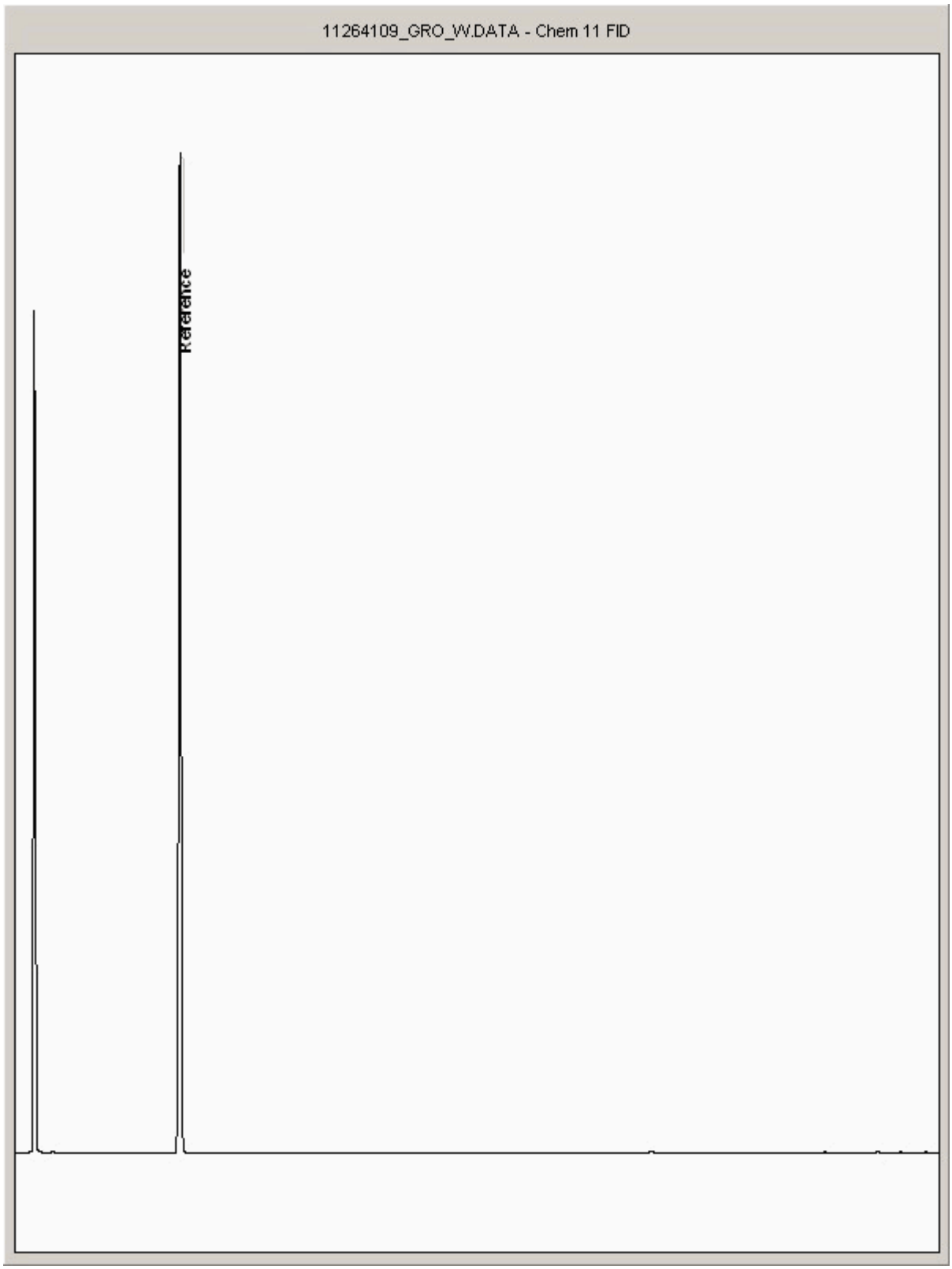
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264109
Sample ID : BH99

Depth :



PRELIMINARY/INTERIM REPORT

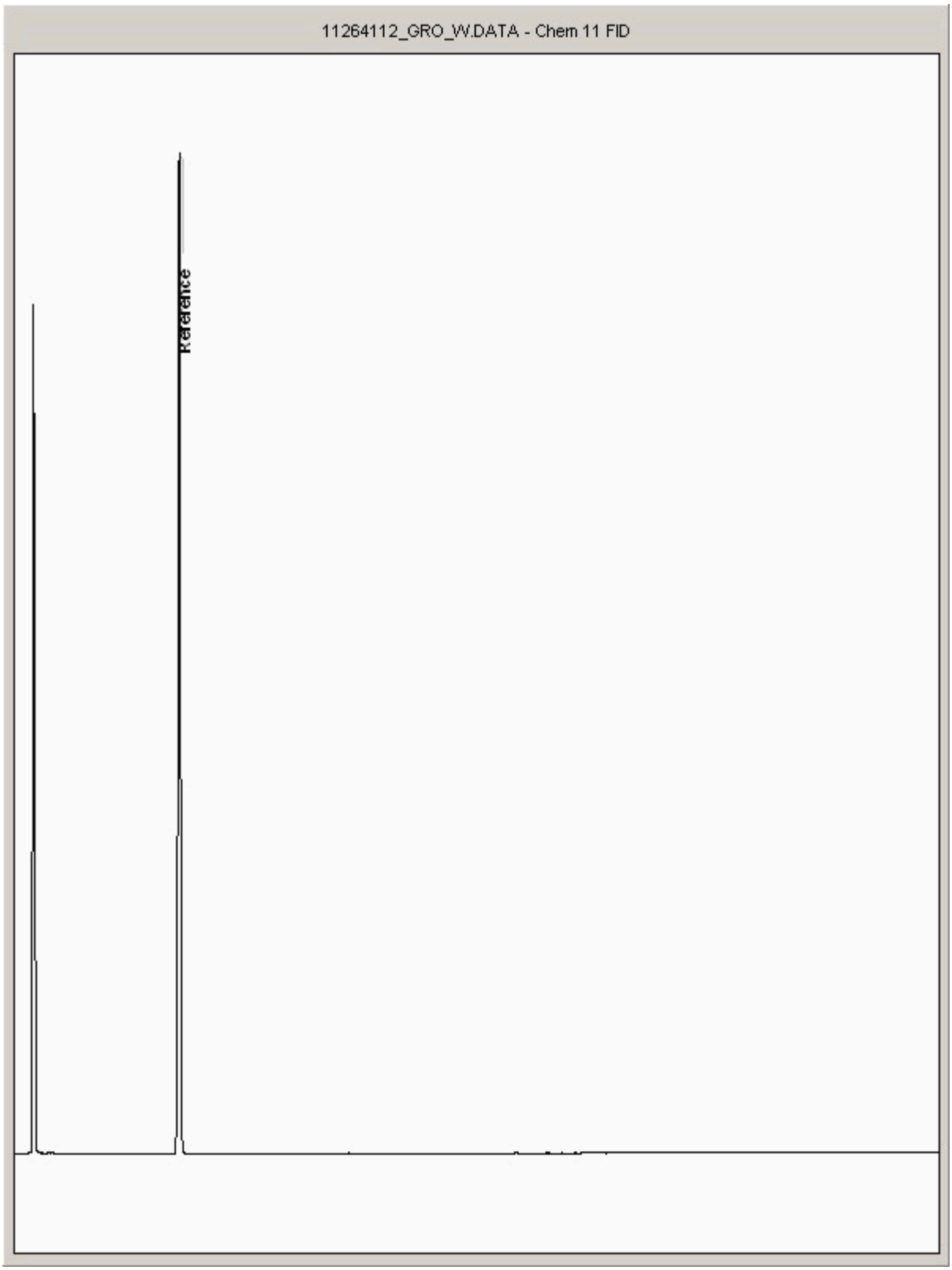
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264112
Sample ID : BH41A

Depth :



PRELIMINARY/INTERIM REPORT

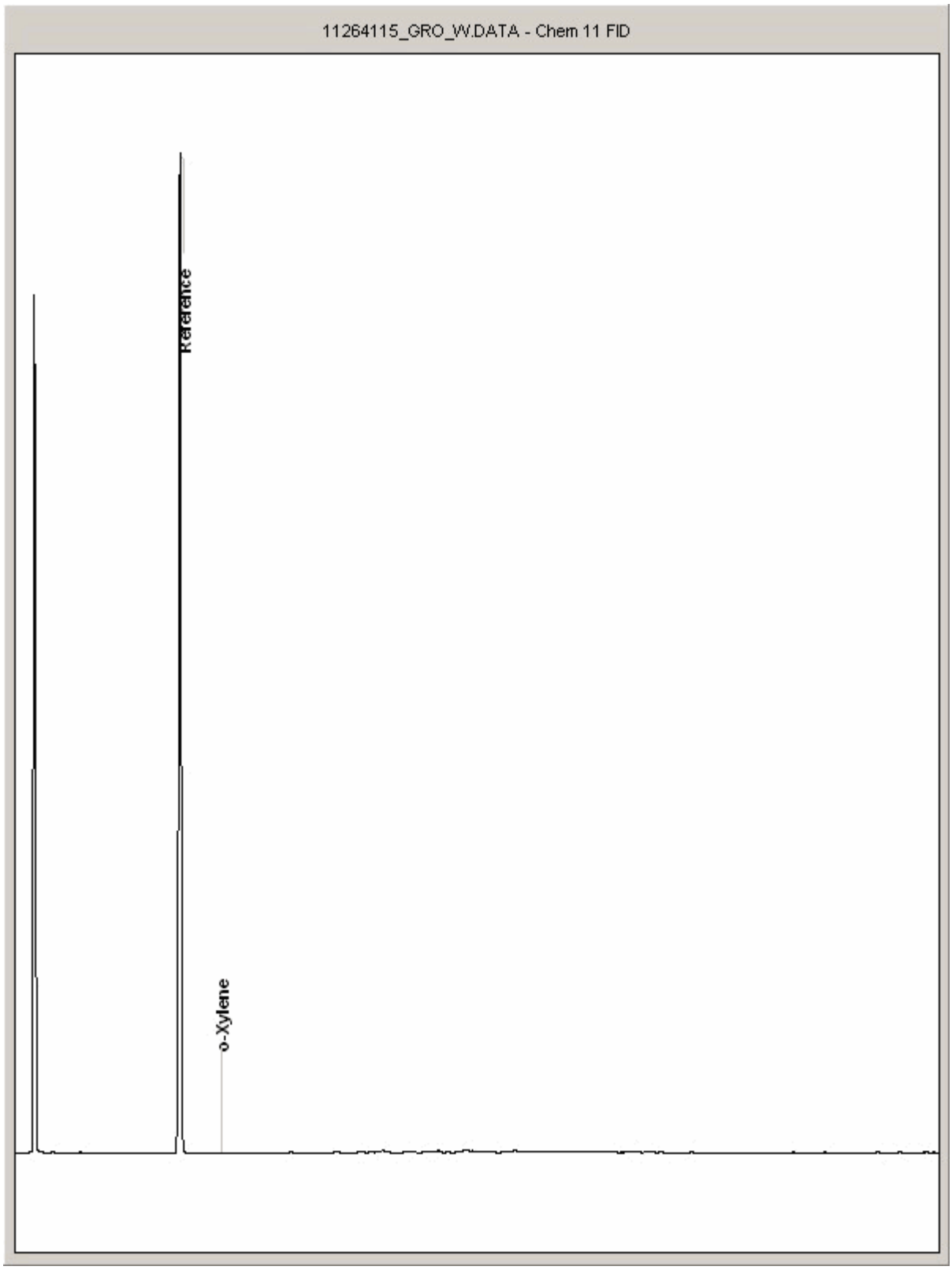
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264115
Sample ID : BH43

Depth :



PRELIMINARY/INTERIM REPORT

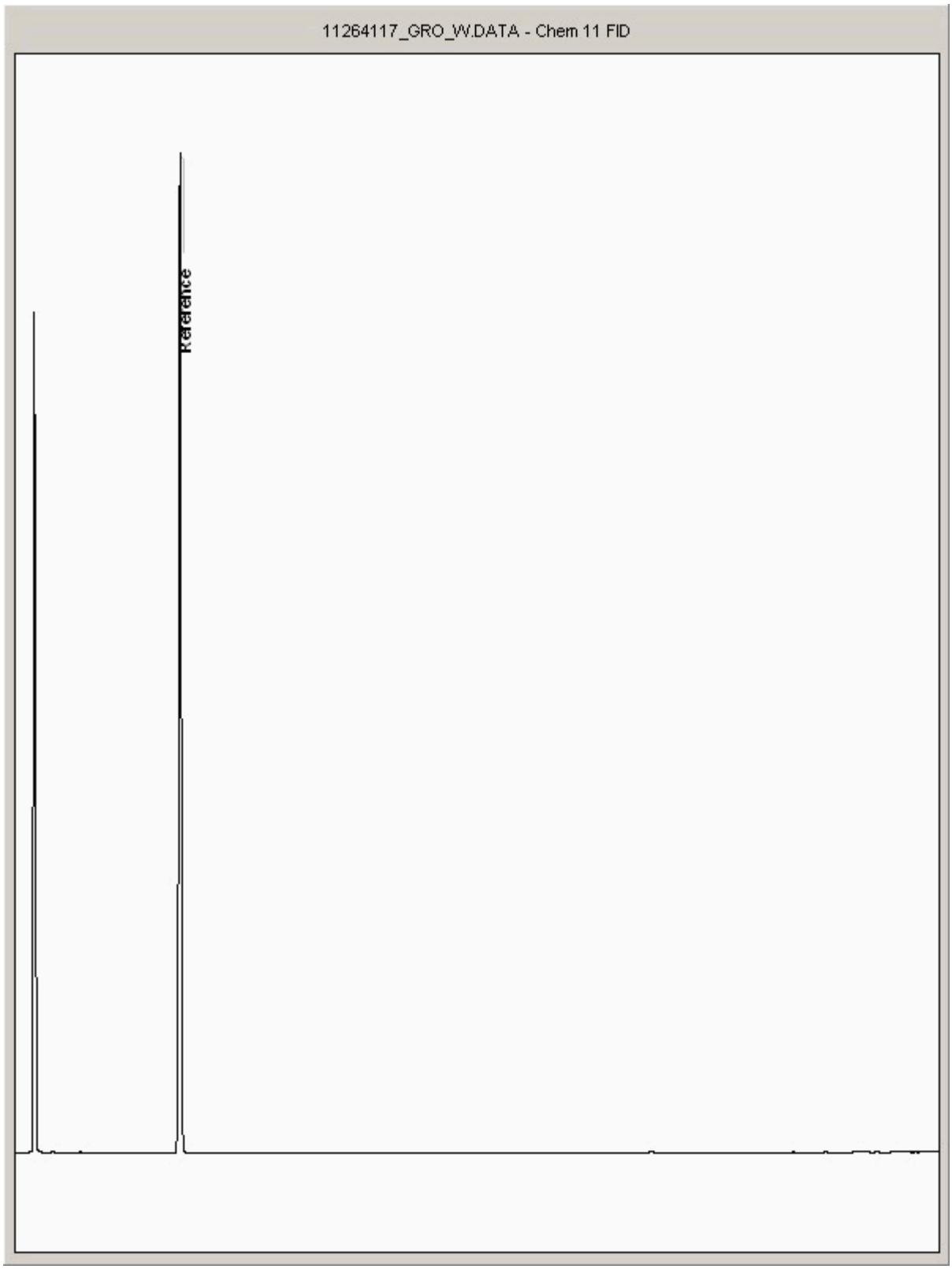
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264117
Sample ID : BH34B

Depth :



PRELIMINARY/INTERIM REPORT

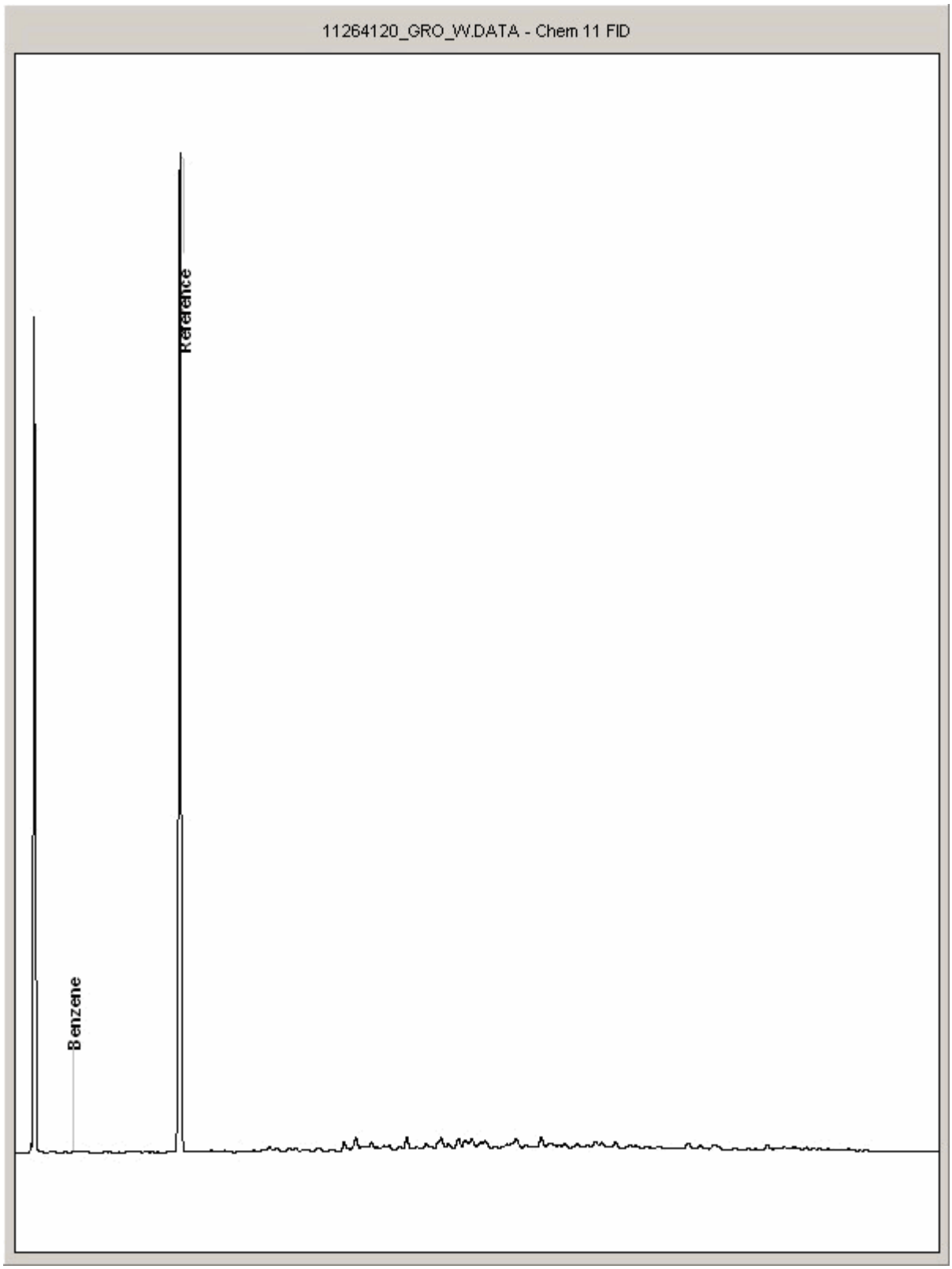
SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11264120
Sample ID : BH42A

Depth :



PRELIMINARY/INTERIM REPORT

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150423-116	**Location:**	SHLNG	**Order Number:**	PO15-247
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	311658
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
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Aztec West
Almondsbury
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

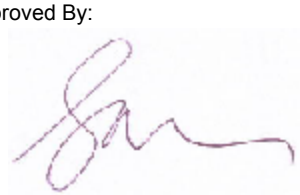
Date:	13 June 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150529-95
Your Reference:	JER5575U
Location:	SHLNG
Report No:	316900

We received 9 samples on Friday May 29, 2015 and 5 of these samples were scheduled for analysis which was completed on Saturday June 13, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11448717	BH43			28/05/2015
11448716	BH99			28/05/2015
11448719	BH41A			28/05/2015
11448722	BH42A			28/05/2015
11448720	BH41A DUPLICATE			28/05/2015
11448723	BH42A DUPLICATE			28/05/2015
11448714	BH34B			28/05/2015
11448715	BH34B DUPLICATE			28/05/2015
11448718	BH43 DUPLICATE			28/05/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11448717	BH43			1000ml glass bottle
			11448716	BH99			Vial (ALE297)
			11448719	BH41A			Vial (ALE297)
			11448722	BH42A			1000ml glass bottle
			11448714	BH34B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 4	X			X	X	X	
GRO by GC-FID (W)	All	NDPs: 1 Tests: 4		N					
				X		X	X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X	X		X	

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	28/05/2015	28/05/2015	28/05/2015	28/05/2015		
			Sampled Time	.	.	.	.		
			Date Received	29/05/2015	29/05/2015	29/05/2015	29/05/2015		
			SDG Ref	150529-95	150529-95	150529-95	150529-95		
			Lab Sample No.(s)	11448717	11448719	11448722	11448714		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		153 #	1300 #	4720 #	172 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		52.6	695	1540	64.6		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		100	606	3170	107		

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	28/05/2015	28/05/2015	28/05/2015	28/05/2015		
			Sampled Time	.	.	.	.		
			Date Received	29/05/2015	29/05/2015	29/05/2015	29/05/2015		
			SDG Ref	150529-95	150529-95	150529-95	150529-95		
			Lab Sample No.(s)	11448717	11448719	11448722	11448714		
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10 ♦	<10 ♦	12 ♦	<10 ♦		
GRO >C6-C8	<10 µg/l	TM245		<10 ♦	<10 ♦	77 ♦	<10 ♦		
GRO >C8-C10	<10 µg/l	TM245		16 ♦	17 ♦	71 ♦	<10 ♦		
GRO >C5-C10	<10 µg/l	TM245		18 ♦	20 ♦	160 ♦	<10 ♦		

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	28/05/2015	28/05/2015	28/05/2015	28/05/2015	28/05/2015
			Sampled Time	.	.	.	.	.
			Date Received	29/05/2015	29/05/2015	29/05/2015	29/05/2015	29/05/2015
			SDG Ref	150529-95	150529-95	150529-95	150529-95	150529-95
			Lab Sample No.(s)	11448717	11448716	11448719	11448722	11448714
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 ♦	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	1.21 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	53.8 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	2.44 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 ♦ #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	28/05/2015	28/05/2015	28/05/2015	28/05/2015	28/05/2015
			Sampled Time	.	.	.	.	.
			Date Received	29/05/2015	29/05/2015	29/05/2015	29/05/2015	29/05/2015
			SDG Ref	150529-95	150529-95	150529-95	150529-95	150529-95
			Lab Sample No.(s)	11448717	11448716	11448719	11448722	11448714
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 ♦ #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	17.4 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 ♦ #	1.17 #	<1 #	<1 #	<3 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	7.66 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 ♦ #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Notification of NDPs (No determination possible)

Date Received : 29/05/2015 12:27:58

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
11448716	BH99		GRO by GC-FID (W)	Insufficient Sample

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11448717	11448716	11448719	11448722	11448714
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	12-Jun-2015		11-Jun-2015	11-Jun-2015	12-Jun-2015
GRO by GC-FID (W)	13-Jun-2015		13-Jun-2015	13-Jun-2015	13-Jun-2015
SVOC MS (W) - Aqueous	10-Jun-2015	08-Jun-2015	12-Jun-2015	12-Jun-2015	12-Jun-2015

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1125	QC 1177
EPH (DRO) (C10-C40)	TM172	**81.5** 59.47 : 106.15	**89.5** 59.47 : 106.15

GRO by GC-FID (W)

Component	Method Code	QC 1145
Benzene by GC	TM245	**97.5** 76.72 : 118.62
Ethylbenzene by GC	TM245	**100.5** 74.74 : 116.76
m & p Xylene by GC	TM245	**100.75** 73.06 : 114.58
MTBE GC-FID	TM245	**100.0** 80.00 : 121.03
o Xylene by GC	TM245	**104.0** 70.00 : 130.00
QC	TM245	**106.76** 70.00 : 130.00
Toluene by GC	TM245	**102.0** 79.35 : 119.27

SVOC MS (W) - Aqueous

Component	Method Code	QC 1167	QC 1147	QC 1116
4-Bromophenylphenyleth er	TM176	**84.0** 65.62 : 120.95	**110.4** 65.62 : 120.95	**84.0** 55.04 : 128.00
Benzo(a)anthracene	TM176	**88.0** 62.83 : 114.26	**110.4** 62.83 : 114.26	**83.2** 52.64 : 123.68
Benzo(a)pyrene	TM176	**79.04** 54.19 : 105.67	**102.4** 54.19 : 105.67	**75.12** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**98.4** 45.10 : 118.90	**112.8** 45.10 : 118.90	**84.0** 49.04 : 127.76
Hexachlorobutadiene	TM176	**70.96** 43.12 : 110.32	**91.2** 43.12 : 110.32	**62.64** 42.80 : 108.20
Naphthalene	TM176	**84.8** 69.48 : 118.94	**107.2** 69.48 : 118.94	**84.0** 47.20 : 116.80
Nitrobenzene	TM176	**80.0** 69.13 : 107.62	**100.0** 69.13 : 107.62	**84.8** 58.70 : 110.90
Phenol	TM176	**47.2** 30.92 : 74.19	**56.48** 30.92 : 74.19	**49.92** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

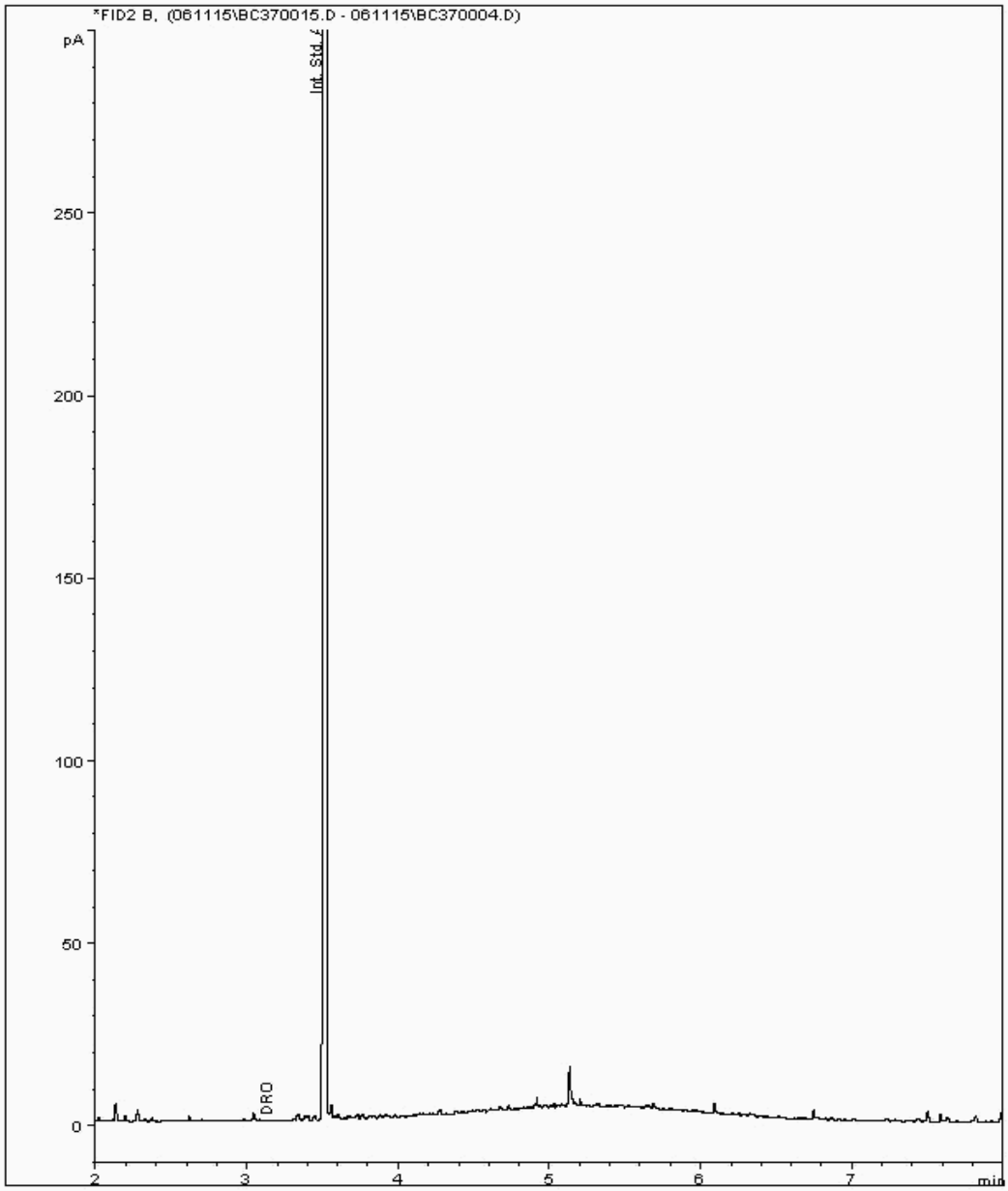
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11467212
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10881780-
Date Acquired : 11/06/2015 21:35:11 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

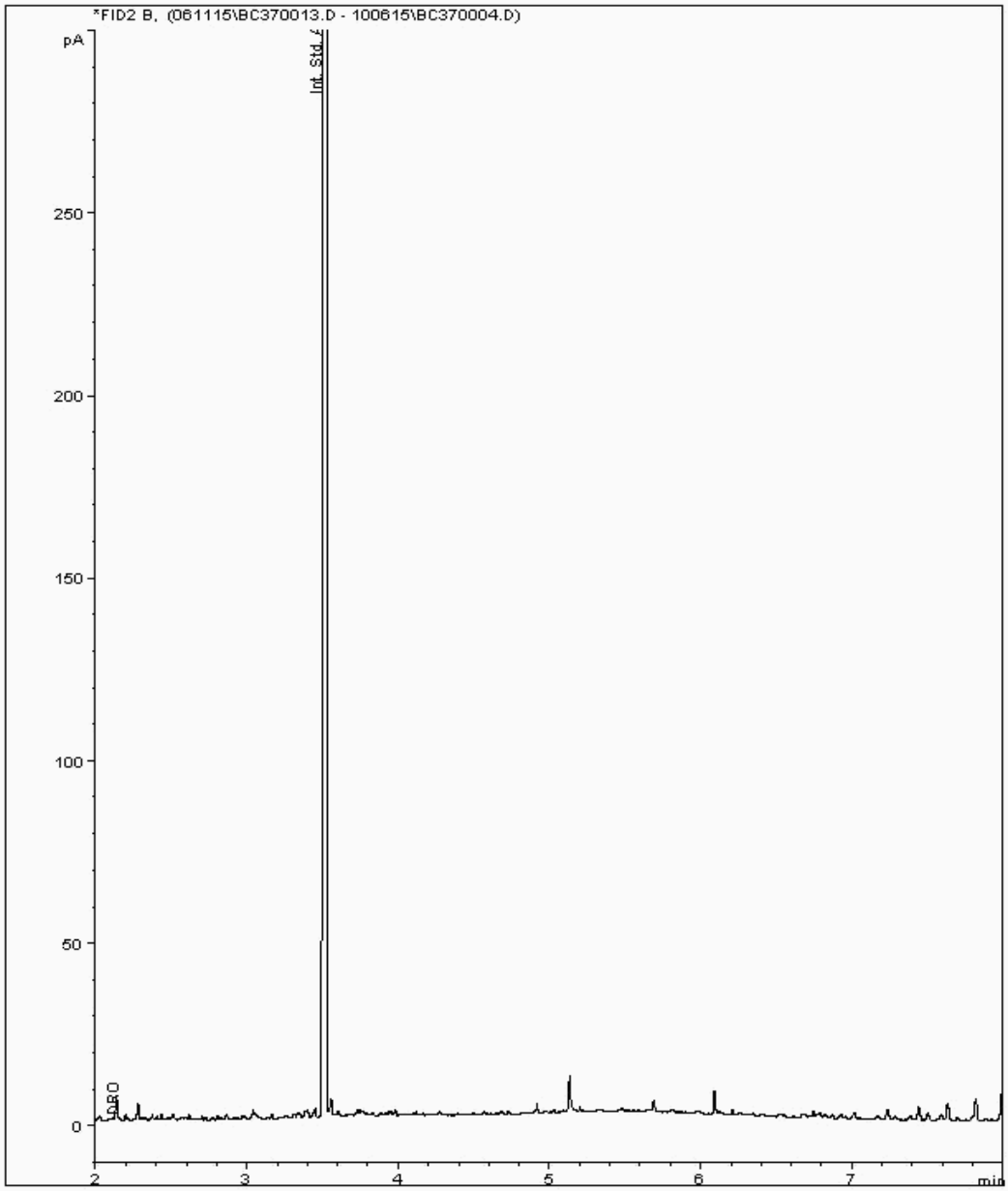
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11467216
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10881788-
Date Acquired : 11/06/2015 20:49:37 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

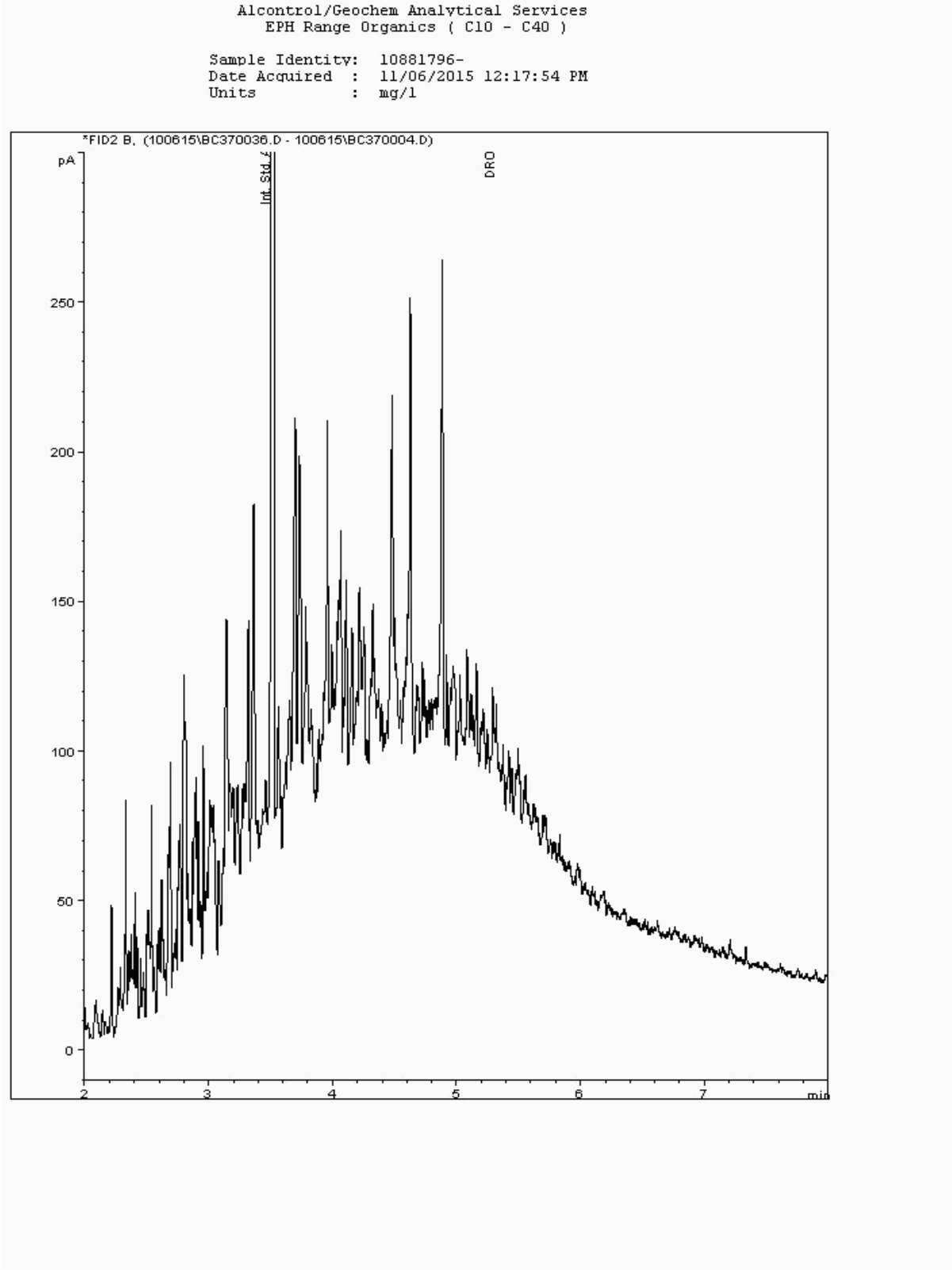
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11471075
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

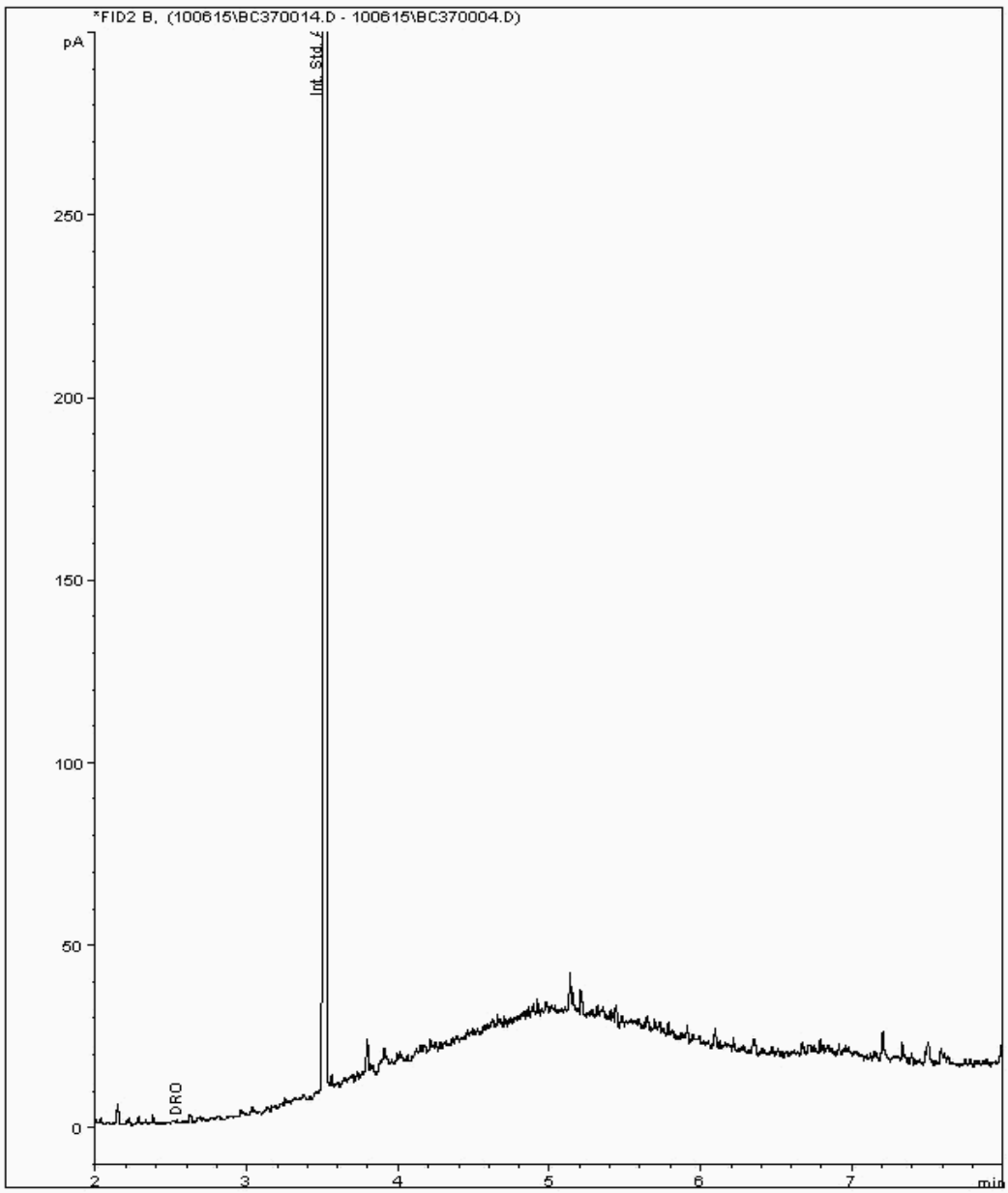
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11471084
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10881792-
Date Acquired : 10/06/2015 21:24:00 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

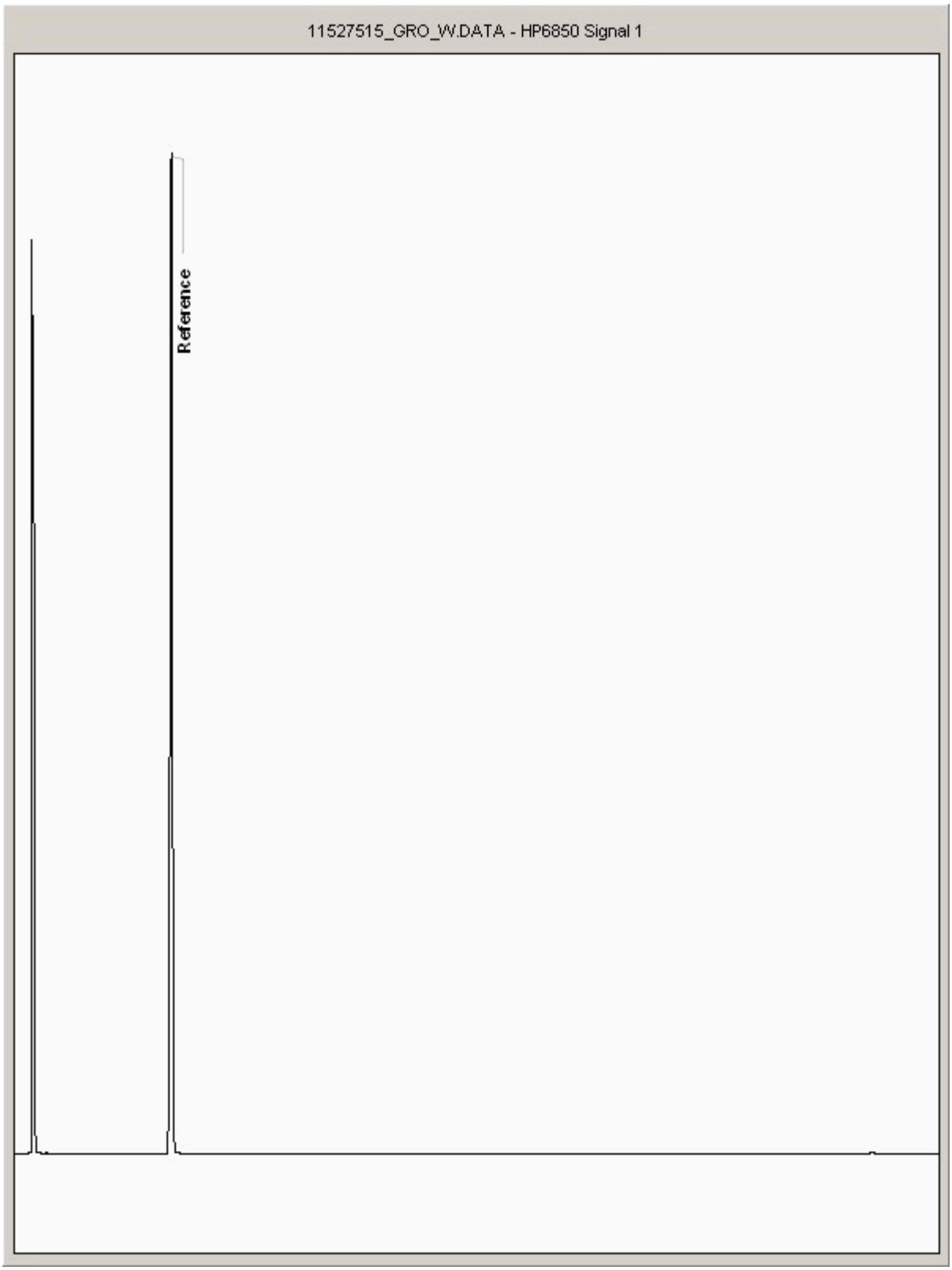
SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11527515
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

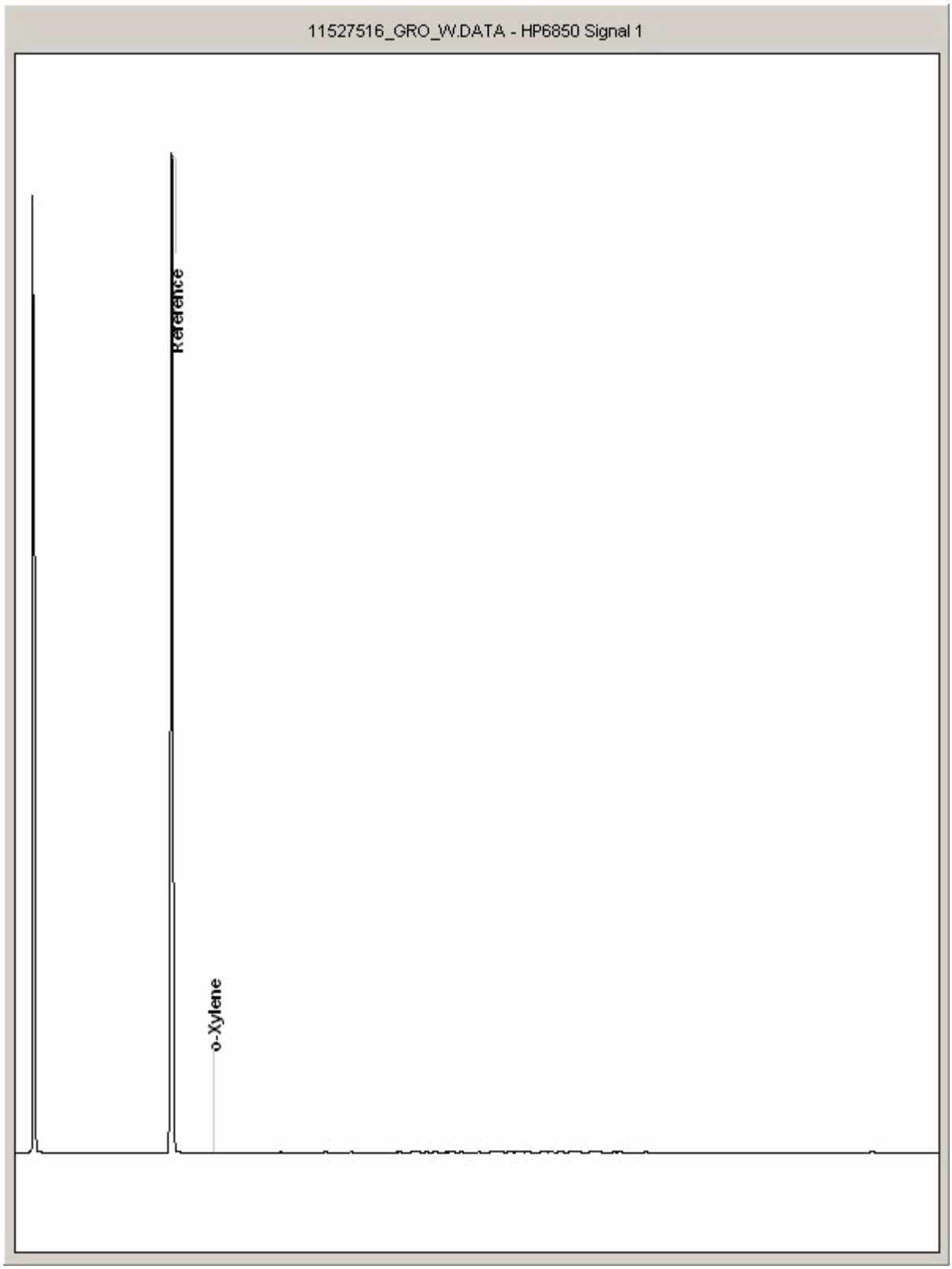
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11527516
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

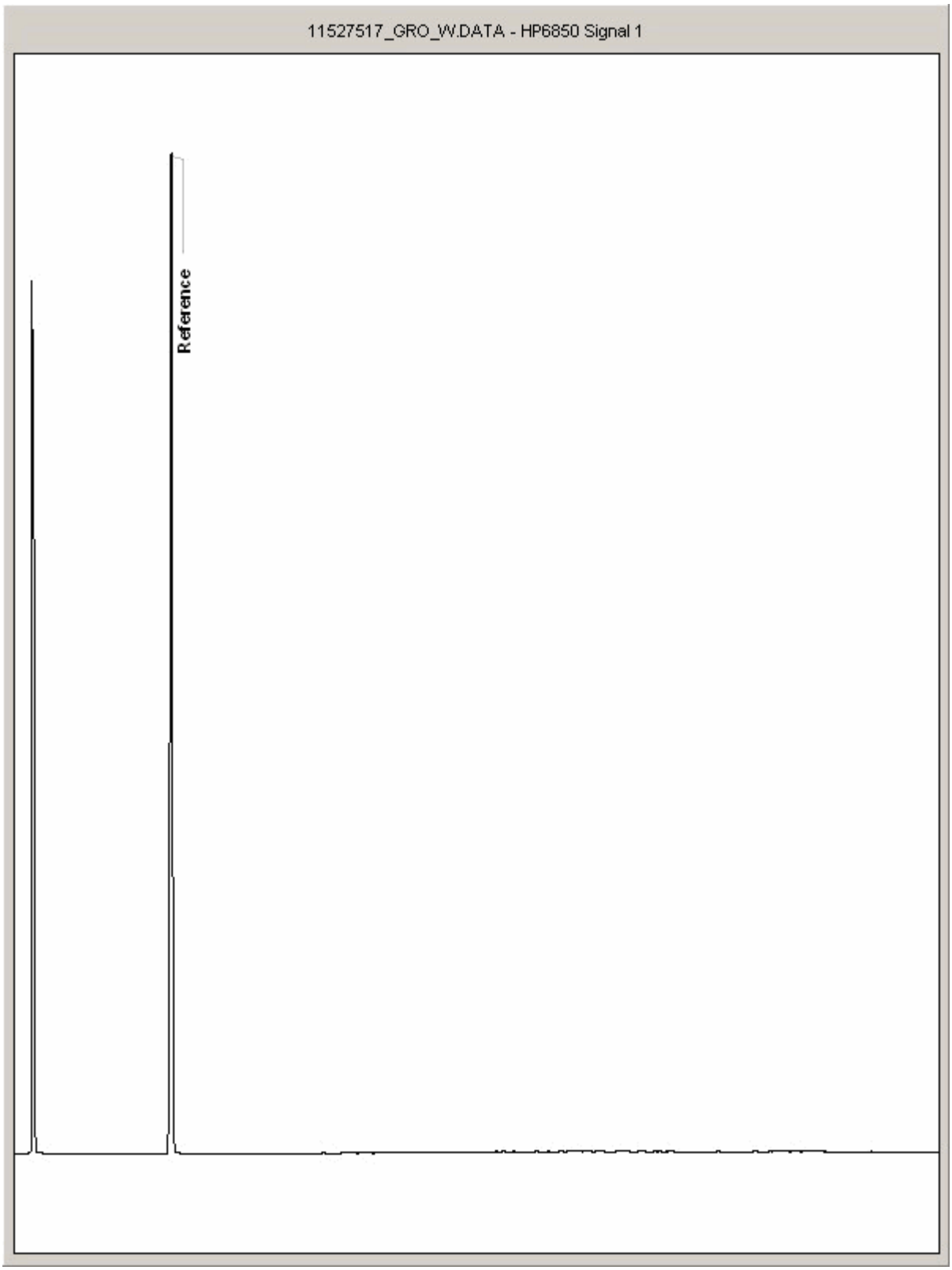
SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11527517
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

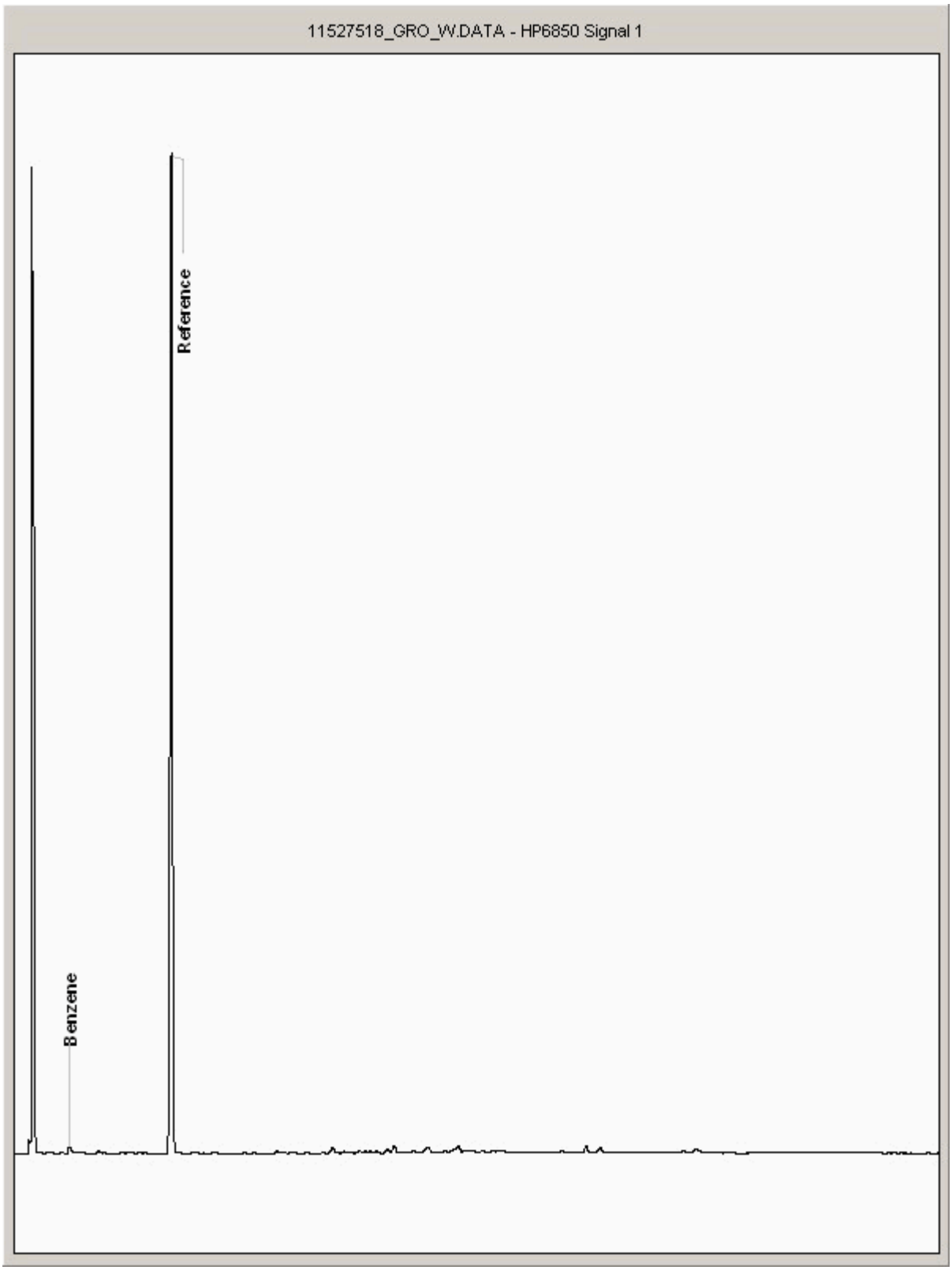
SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11527518
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150529-95	**Location:**	SHLNG	**Order Number:**	PO15-377
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	316900
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

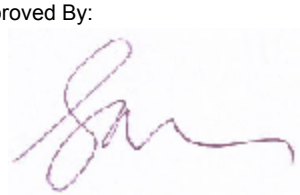
Date:	09 July 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150701-116
Your Reference:	JER5575U
Location:	SHLNG
Report No:	320258

We received 16 samples on Wednesday July 01, 2015 and 8 of these samples were scheduled for analysis which was completed on Thursday July 09, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11637225	BH06			29/06/2015
11637231	BH44			29/06/2015
11637221	BH30A			29/06/2015
11637236	BH63A			29/06/2015
11637222	BH30A DUPLICATE			29/06/2015
11637237	BH63A DUPLICATE			29/06/2015
11637229	BH45B			29/06/2015
11637230	BH45B DUPLICATE			29/06/2015
11637226	BH06 DUPLICATE			29/06/2015
11637233	BH44 DUPLICATE			29/06/2015
11637227	BHG2B			29/06/2015
11637228	BHG2B DUPLICATE			29/06/2015
11637223	MW01			29/06/2015
11637234	MW03			29/06/2015
11637224	MW01 DUPLICATE			29/06/2015
11637235	MW03 DUPLICATE			29/06/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11637225	BH06			1000ml glass bottle
			11637231	BH44			Vial (ALE297)
			11637221	BH30A			1000ml glass bottle
			11637236	BH63A			Vial (ALE297)
			11637229	BH45B			1000ml glass bottle
			11637227	BHG2B			Vial (ALE297)
			11637223	MW01			1000ml glass bottle
			11637234	MW03			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 8					
			X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 8					
			X	X	X	X	X	X	X	X	X	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2					
			X	X	X	X	X	X	X	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH44	BH30A	BH63A	BH45B	BHG2B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	29/06/2015	29/06/2015	29/06/2015	29/06/2015	29/06/2015	29/06/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	01/07/2015	01/07/2015	01/07/2015	01/07/2015	01/07/2015	01/07/2015
			SDG Ref	150701-116	150701-116	150701-116	150701-116	150701-116	150701-116
			Lab Sample No.(s)	11637225	11637231	11637221	11637236	11637229	11637227
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		108 #	<46 #	<46 #	<46 #	71.1 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		39.8	<10	<10	<10	37.9	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		68.1	<10	<10	<10	33.1	<10

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MW01	MW03
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	29/06/2015	29/06/2015
			Sampled Time	.	.
			Date Received	01/07/2015	01/07/2015
			SDG Ref	150701-116	150701-116
			Lab Sample No.(s)	11637223	11637234
			AGS Reference		
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	154 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	52.7
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	101

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH44	BH30A	BH63A	BH45B	BHG2B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	29/06/2015	29/06/2015	29/06/2015	29/06/2015	29/06/2015	29/06/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	01/07/2015	01/07/2015	01/07/2015	01/07/2015	01/07/2015	01/07/2015
			SDG Ref	150701-116	150701-116	150701-116	150701-116	150701-116	150701-116
			Lab Sample No.(s)	11637225	11637231	11637221	11637236	11637229	11637227
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MW01	MW03
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	29/06/2015	29/06/2015
			Sampled Time	.	.
			Date Received	01/07/2015	01/07/2015
			SDG Ref	150701-116	150701-116
			Lab Sample No.(s)	11637223	11637234
			AGS Reference		
GRO >C5-C6	<10 µg/l	TM245		<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MW01	MW03				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	29/06/2015	29/06/2015				
			Sampled Time	.	.				
			Date Received	01/07/2015	01/07/2015				
			SDG Ref	150701-116	150701-116				
			Lab Sample No.(s)	11637223	11637234				
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1				
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #				
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #				
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #				
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #				
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #				
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #				
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #				
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1				
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #				
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #				
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #				
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1				
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #				
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #				
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #				
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #				
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #				

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	MW01	MW03				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	29/06/2015	29/06/2015				
			Sampled Time	.	.				
			Date Received	01/07/2015	01/07/2015				
			SDG Ref	150701-116	150701-116				
			Lab Sample No.(s)	11637223	11637234				
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #				
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #				
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #				
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #				
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #				
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #				
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1				
Phenol (aq)	<1 µg/l	TM176		<1	<1				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #				
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #				
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1				
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #				
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #				

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11637225	11637231	11637221	11637236	11637229	11637227	11637223	11637234
Customer Sample Ref.	BH06	BH44	BH30A	BH63A	BH45B	BHG2B	MW01	MW03
AGS Ref.								
Depth								
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	09-Jul-2015	09-Jul-2015	09-Jul-2015	09-Jul-2015	09-Jul-2015	09-Jul-2015	09-Jul-2015	09-Jul-2015
GRO by GC-FID (W)	08-Jul-2015	08-Jul-2015	08-Jul-2015	08-Jul-2015	08-Jul-2015	08-Jul-2015	08-Jul-2015	08-Jul-2015
SVOC MS (W) - Aqueous							09-Jul-2015	09-Jul-2015

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1141	QC 1104	QC 1132
EPH (DRO) (C10-C40)	TM172	**79.0** 59.22 : 112.78	**85.0** 56.50 : 116.50	**70.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1166
Benzene by GC	TM245	**98.5** 80.84 : 115.93
Ethylbenzene by GC	TM245	**97.0** 79.81 : 116.18
m & p Xylene by GC	TM245	**98.5** 79.42 : 117.01
MTBE GC-FID	TM245	**103.0** 80.59 : 117.01
o Xylene by GC	TM245	**102.5** 79.72 : 114.71
QC	TM245	**94.0** 55.00 : 145.00
Toluene by GC	TM245	**103.0** 80.35 : 115.51

SVOC MS (W) - Aqueous

Component	Method Code	QC 1124
4-Bromophenylphenyleth er	TM176	**75.04** 65.62 : 120.95
Benzo(a)anthracene	TM176	**77.6** 62.83 : 114.26
Benzo(a)pyrene	TM176	**75.36** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**73.28** 45.10 : 118.90
Hexachlorobutadiene	TM176	**67.36** 43.12 : 110.32
Naphthalene	TM176	**80.8** 69.48 : 118.94
Nitrobenzene	TM176	**79.12** 69.13 : 107.62
Phenol	TM176	**46.0** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

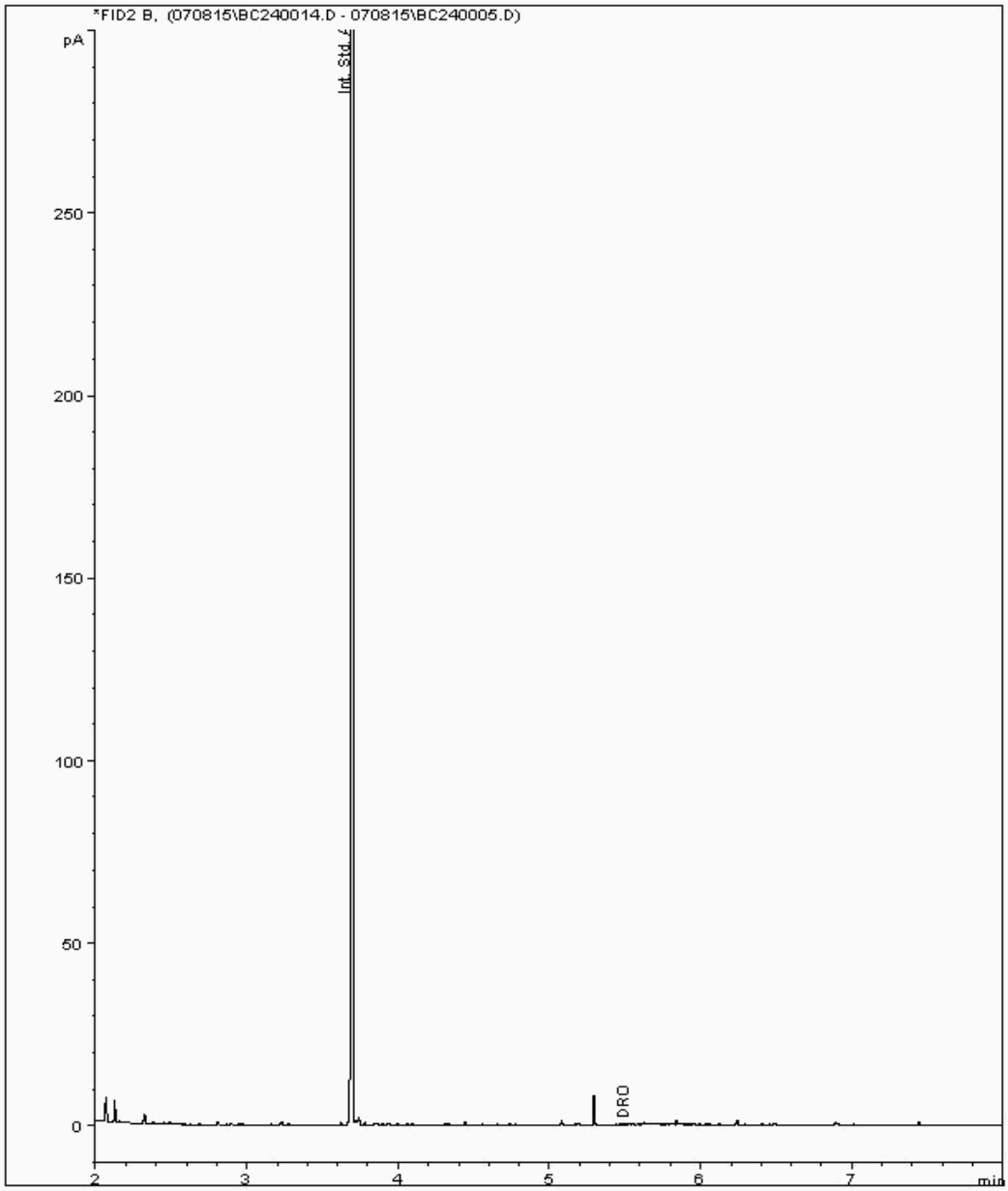
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11649887
Sample ID : BH63A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11057595-
Date Acquired : 08/07/2015 18:35:06 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

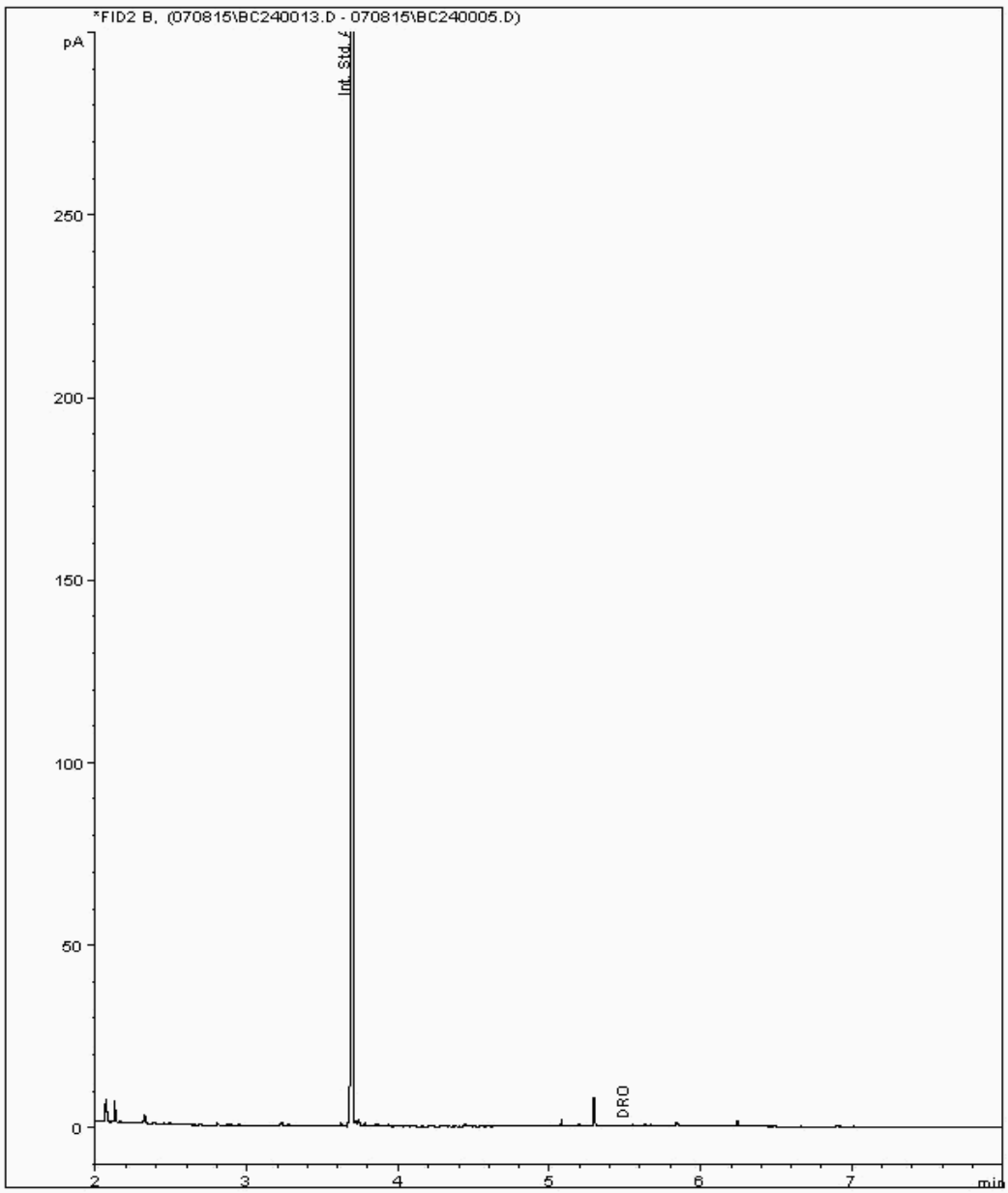
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11649945
Sample ID : MW01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11057575-
Date Acquired : 08/07/2015 18:12:55 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

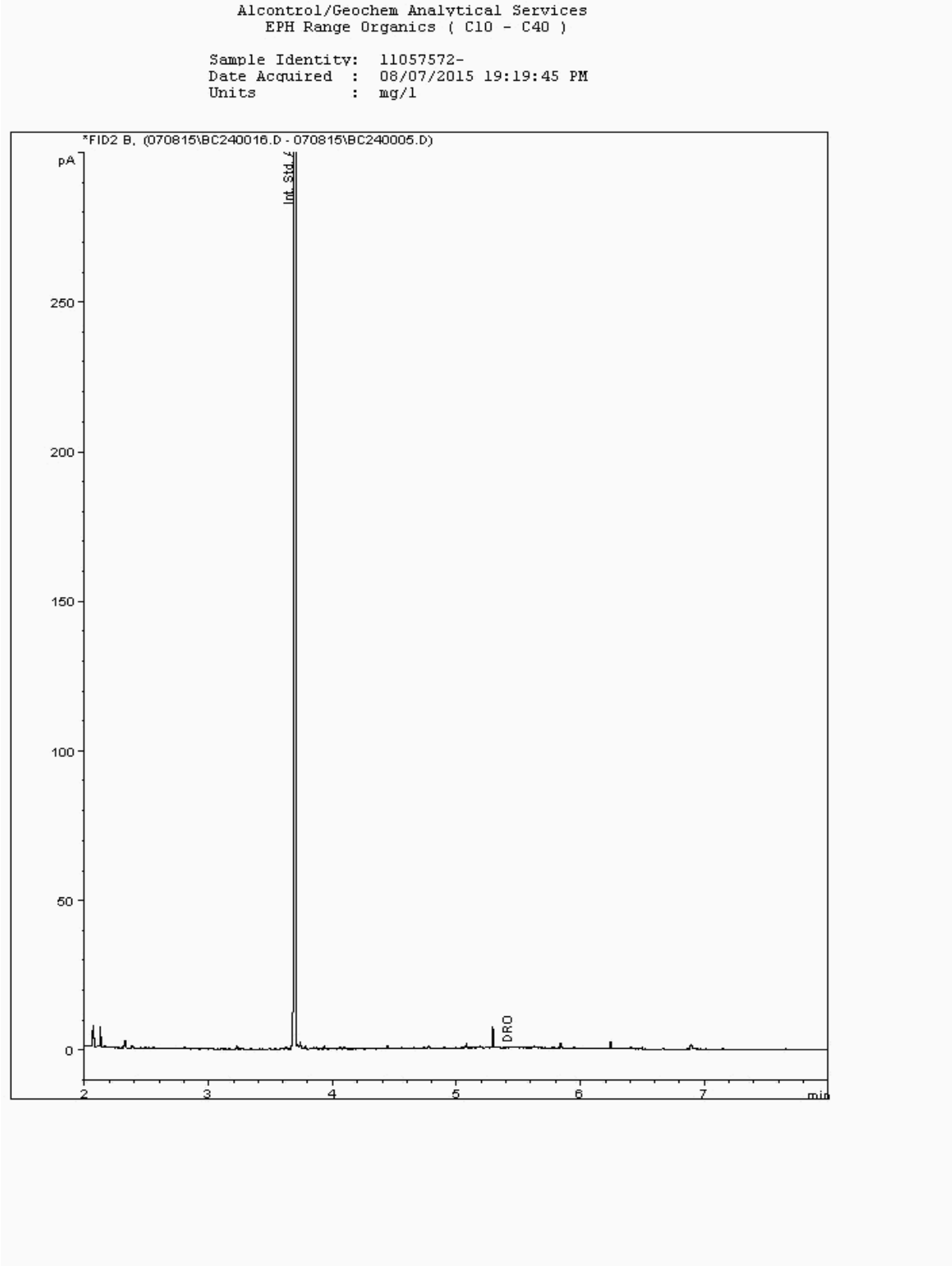
SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11649989
Sample ID : BH30A

Depth :



CERTIFICATE OF ANALYSIS

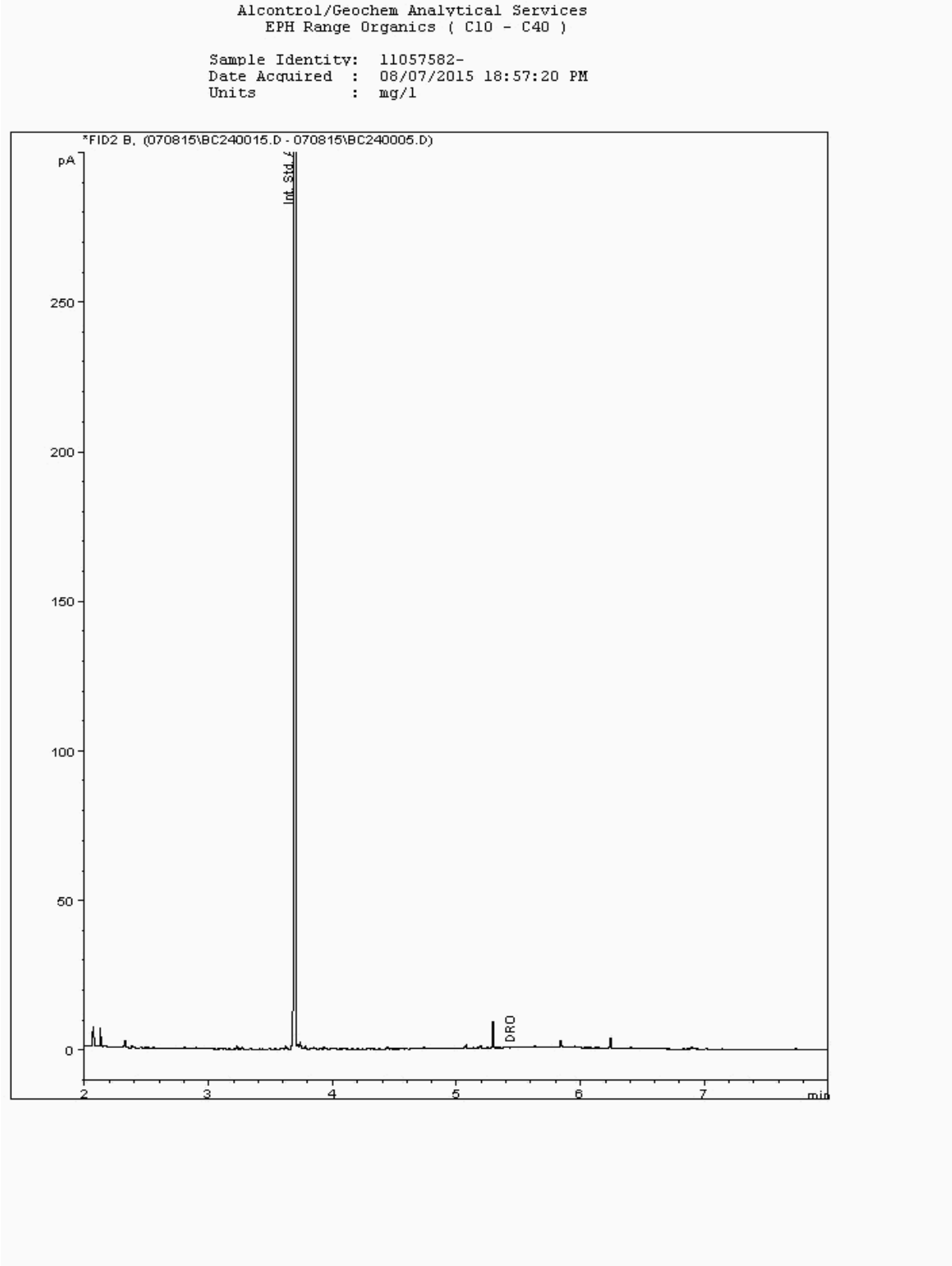
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11649996
Sample ID : BHG2B

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

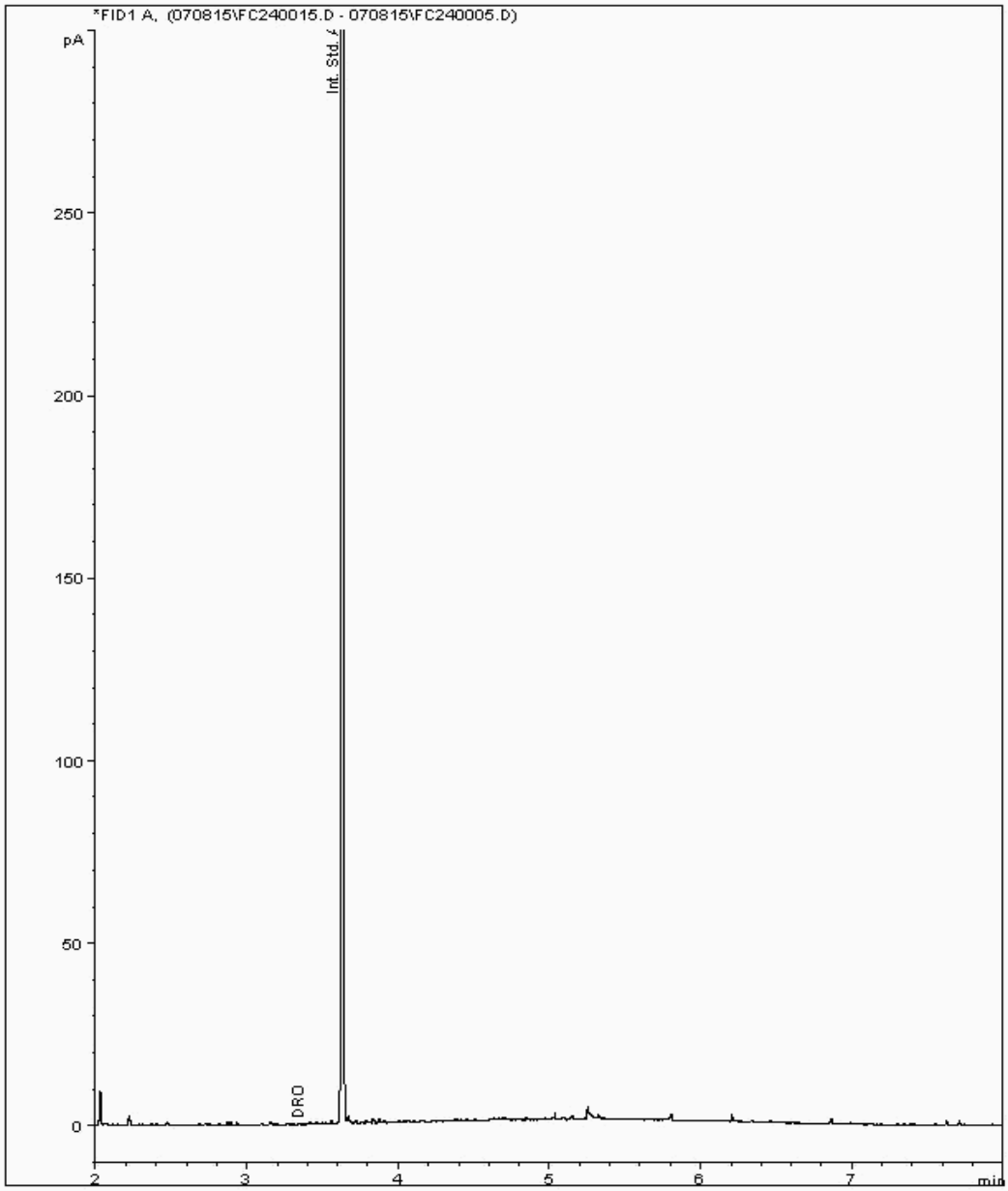
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11650062
Sample ID : MW03

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11057591-
Date Acquired : 08/07/2015 18:57:20 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

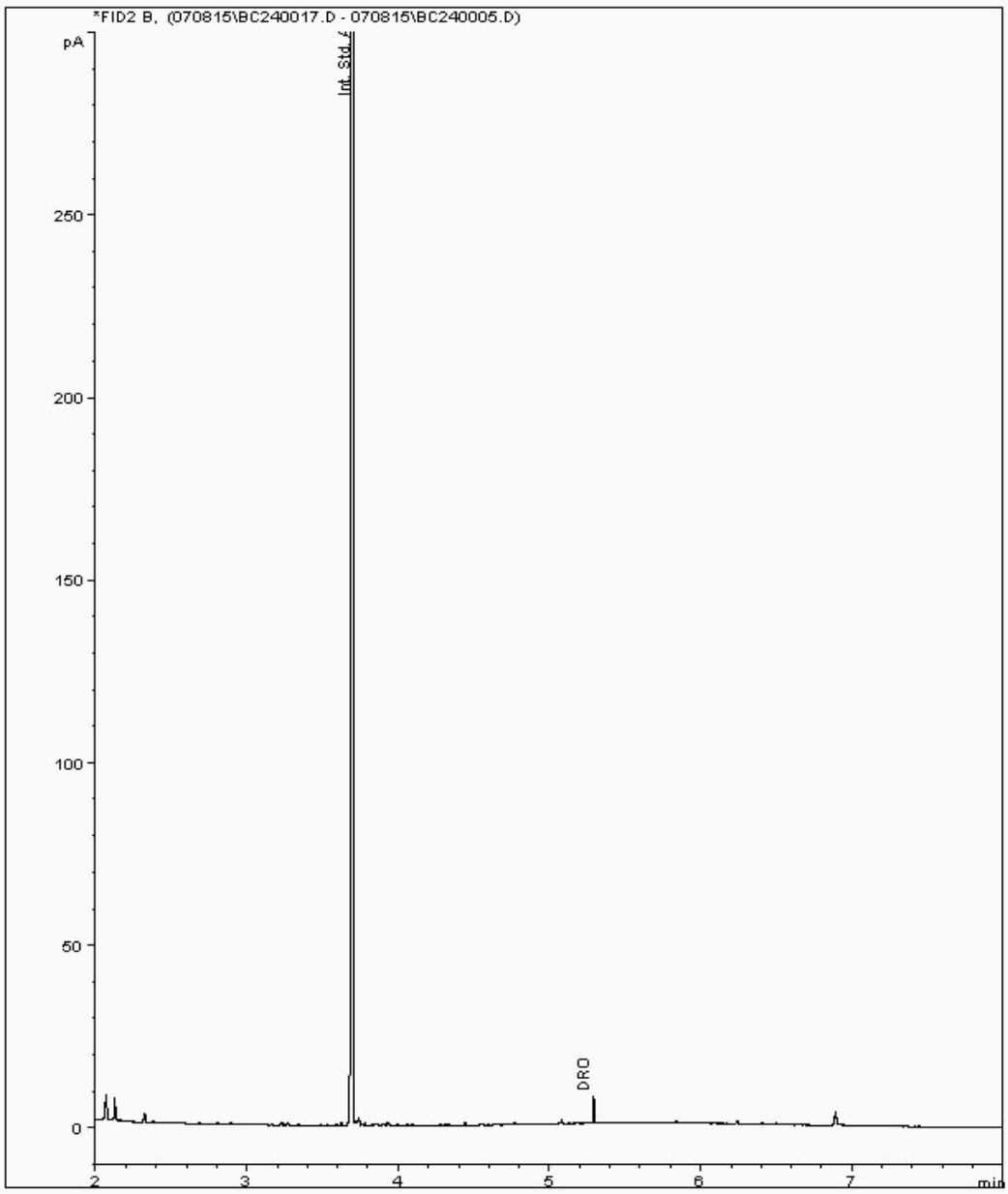
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11650113
Sample ID : BH45B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11057585-
Date Acquired : 08/07/2015 19:41:53 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

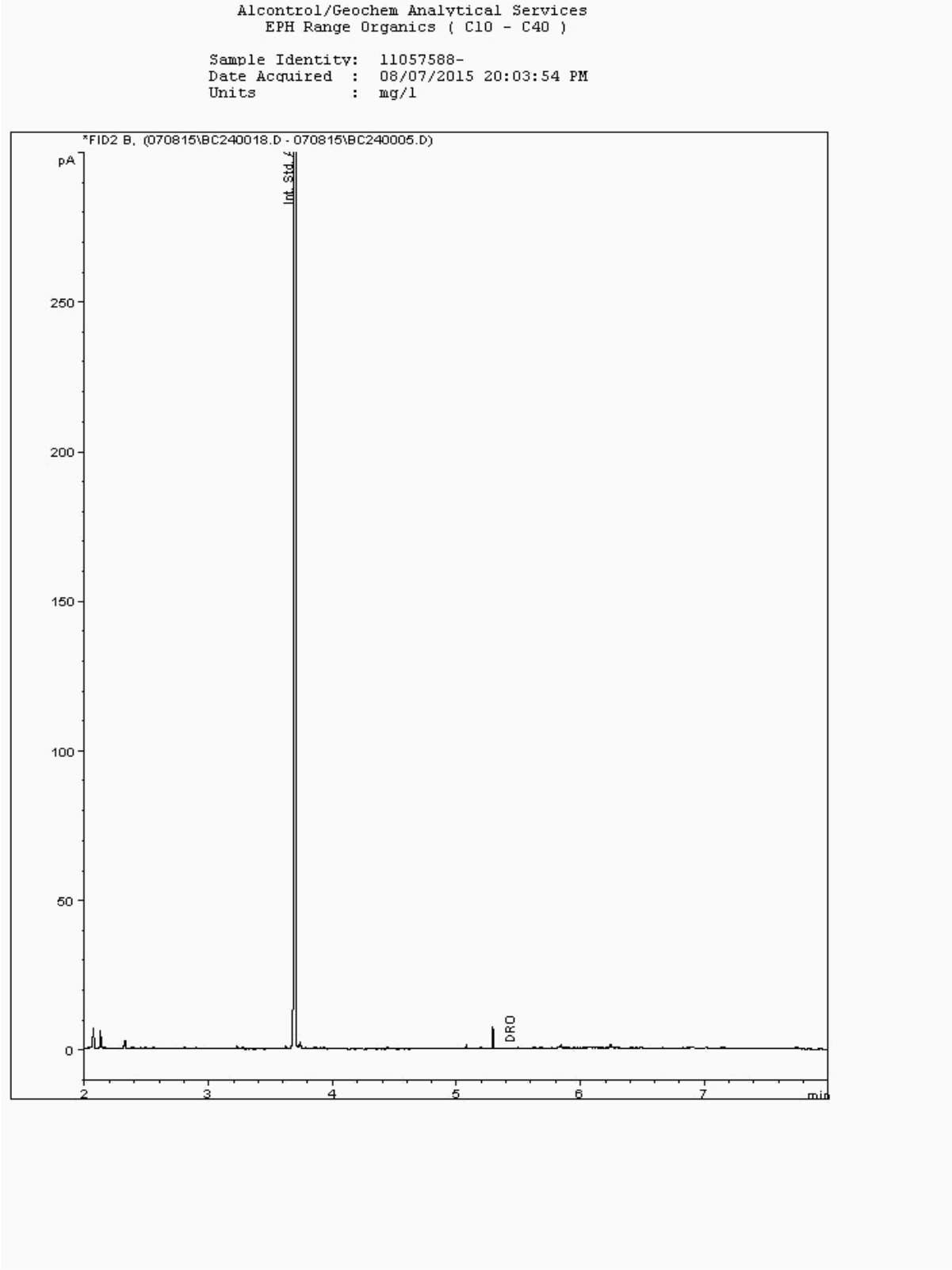
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11650133
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

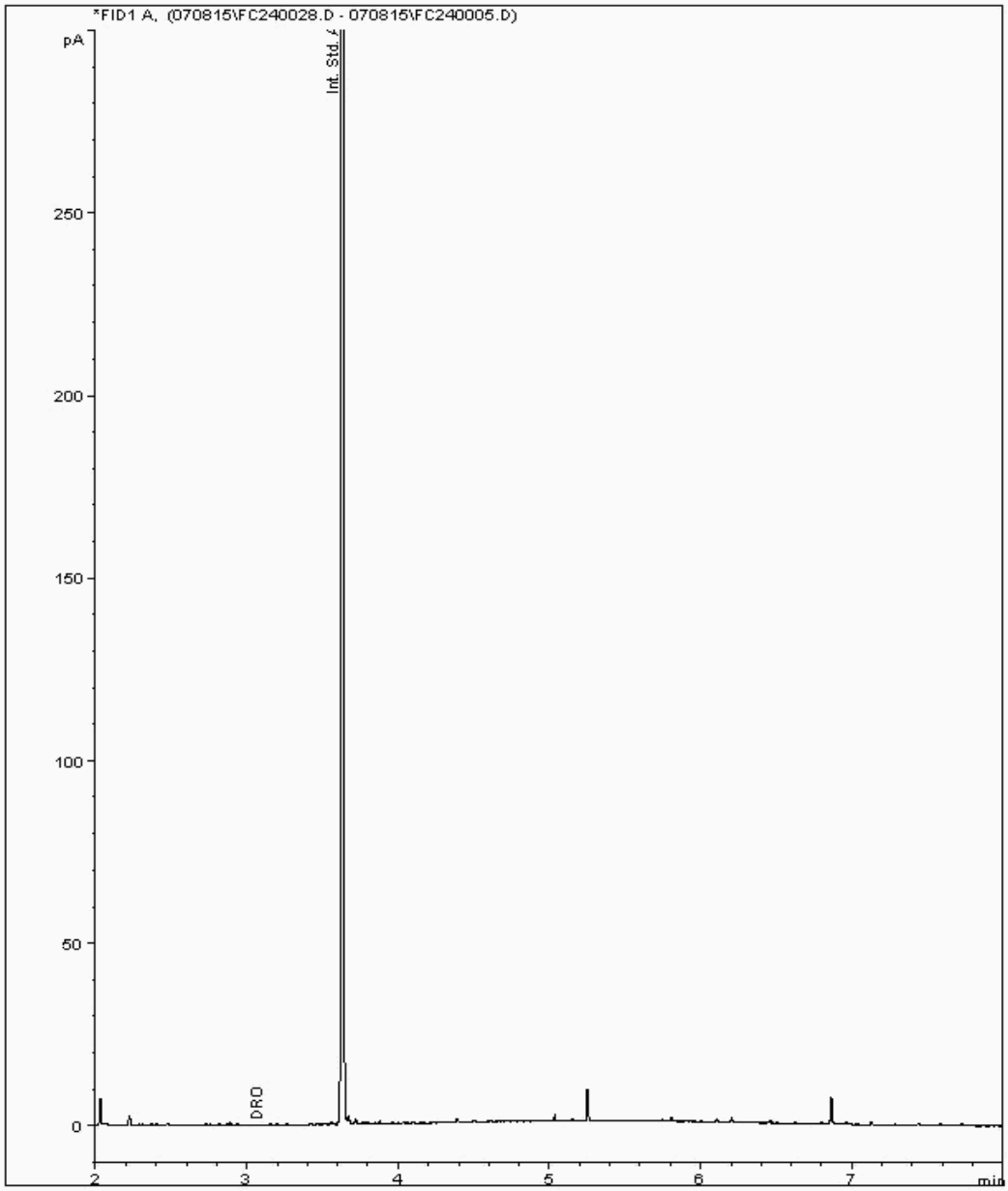
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11669517
Sample ID : BH06

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11057579-
Date Acquired : 08/07/2015 23:43:22 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

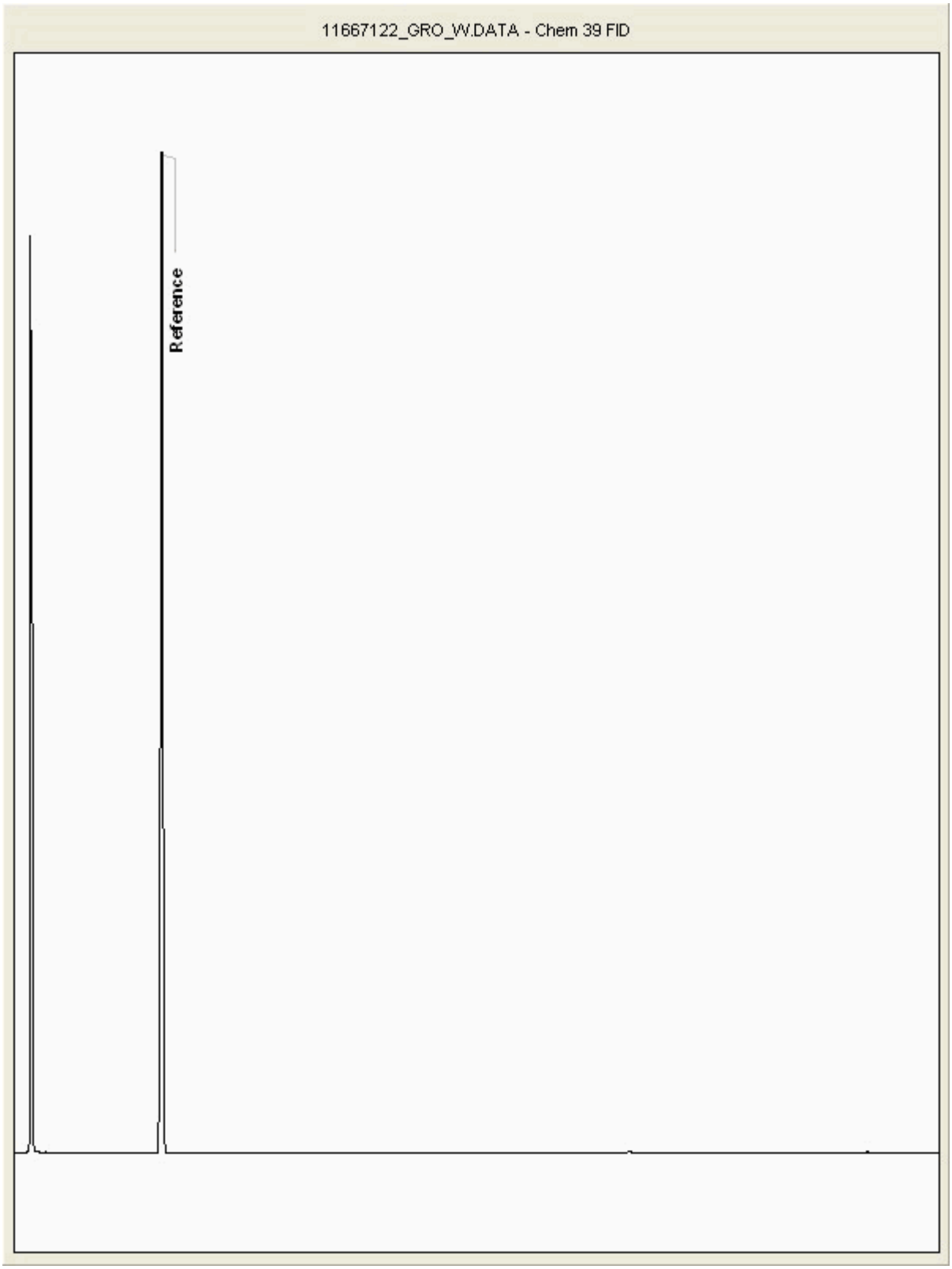
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667122
Sample ID : BH45B

Depth :



CERTIFICATE OF ANALYSIS

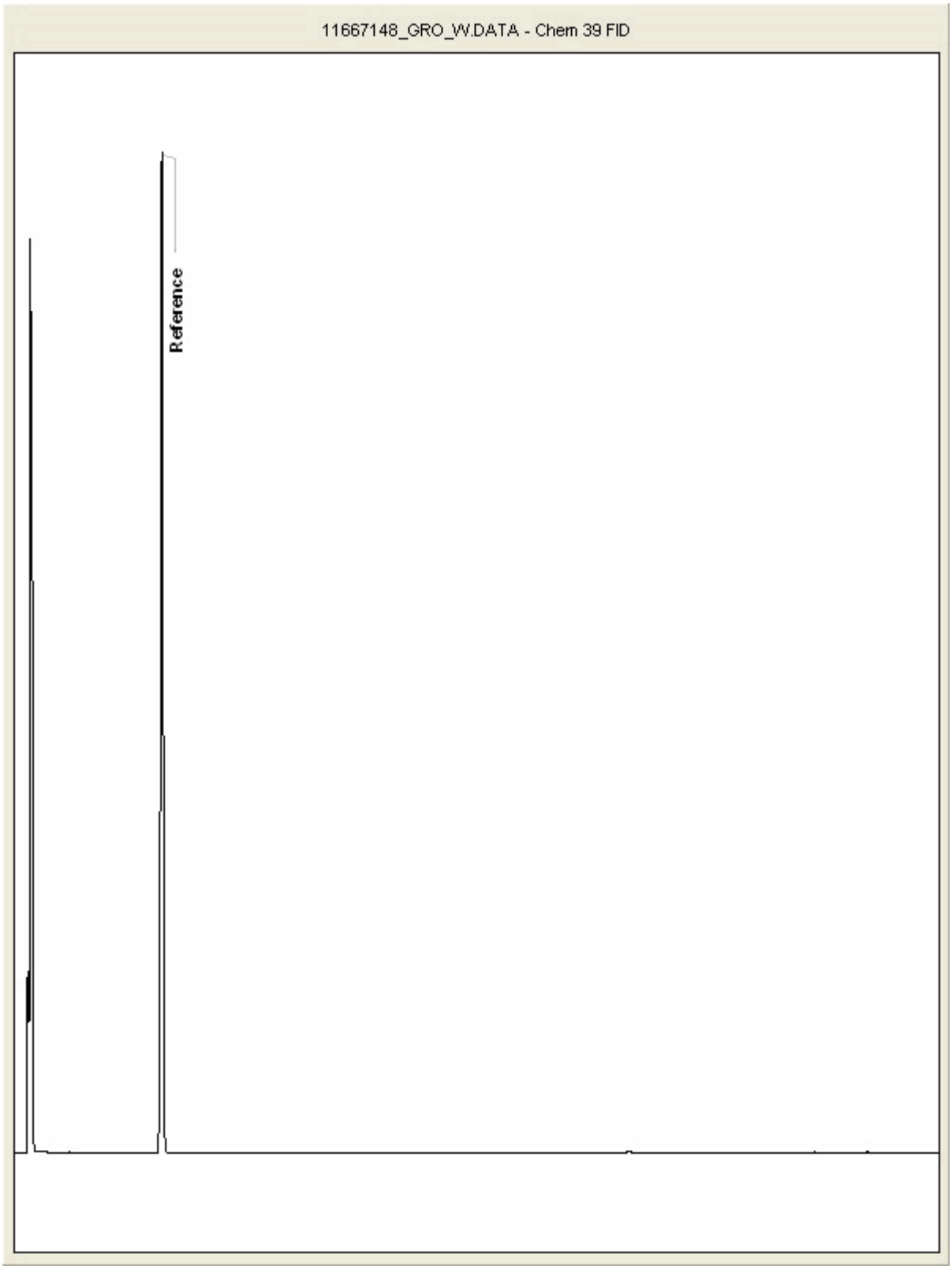
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667148
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

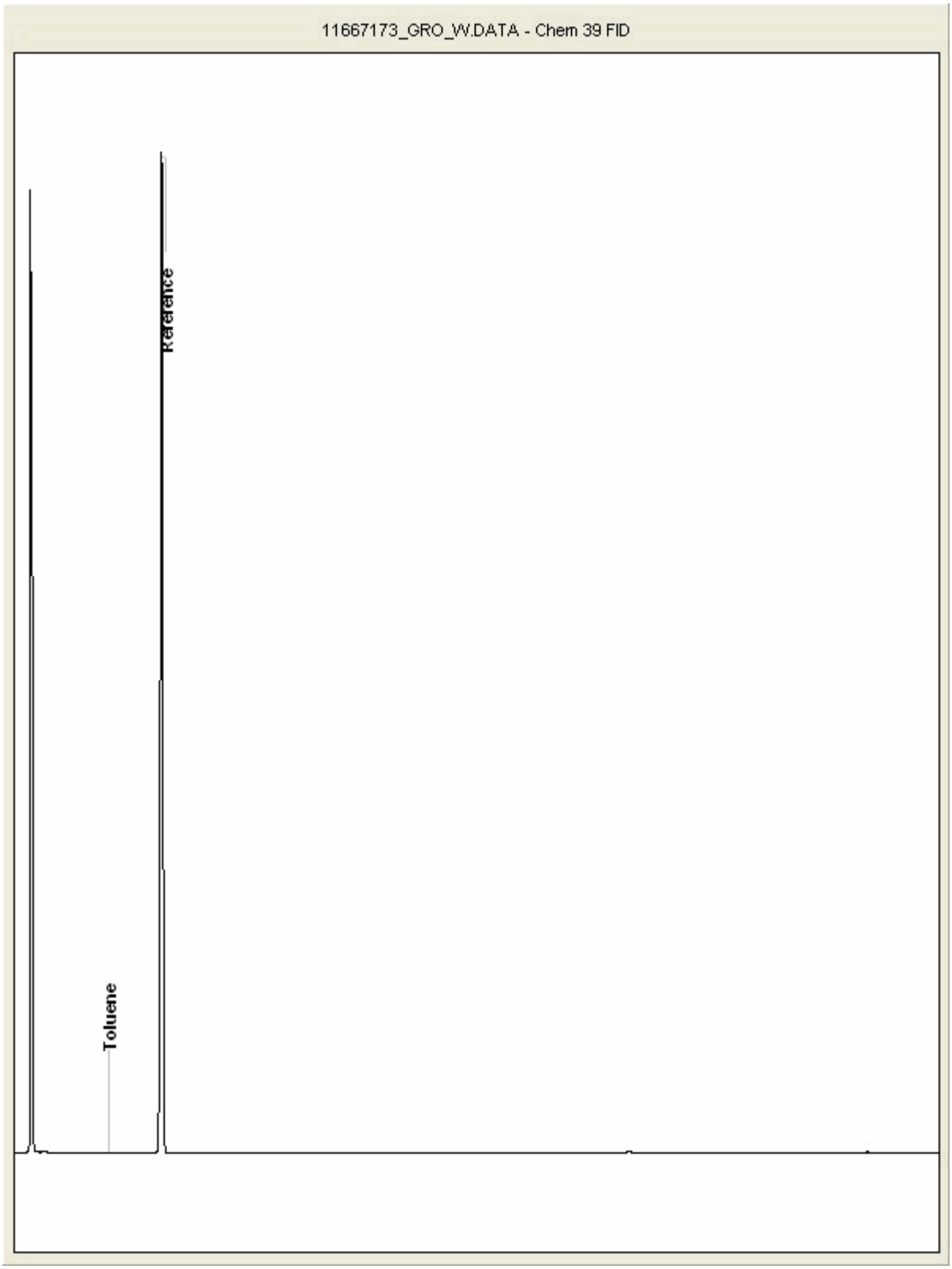
SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667173
Sample ID : BHG2B

Depth :



CERTIFICATE OF ANALYSIS

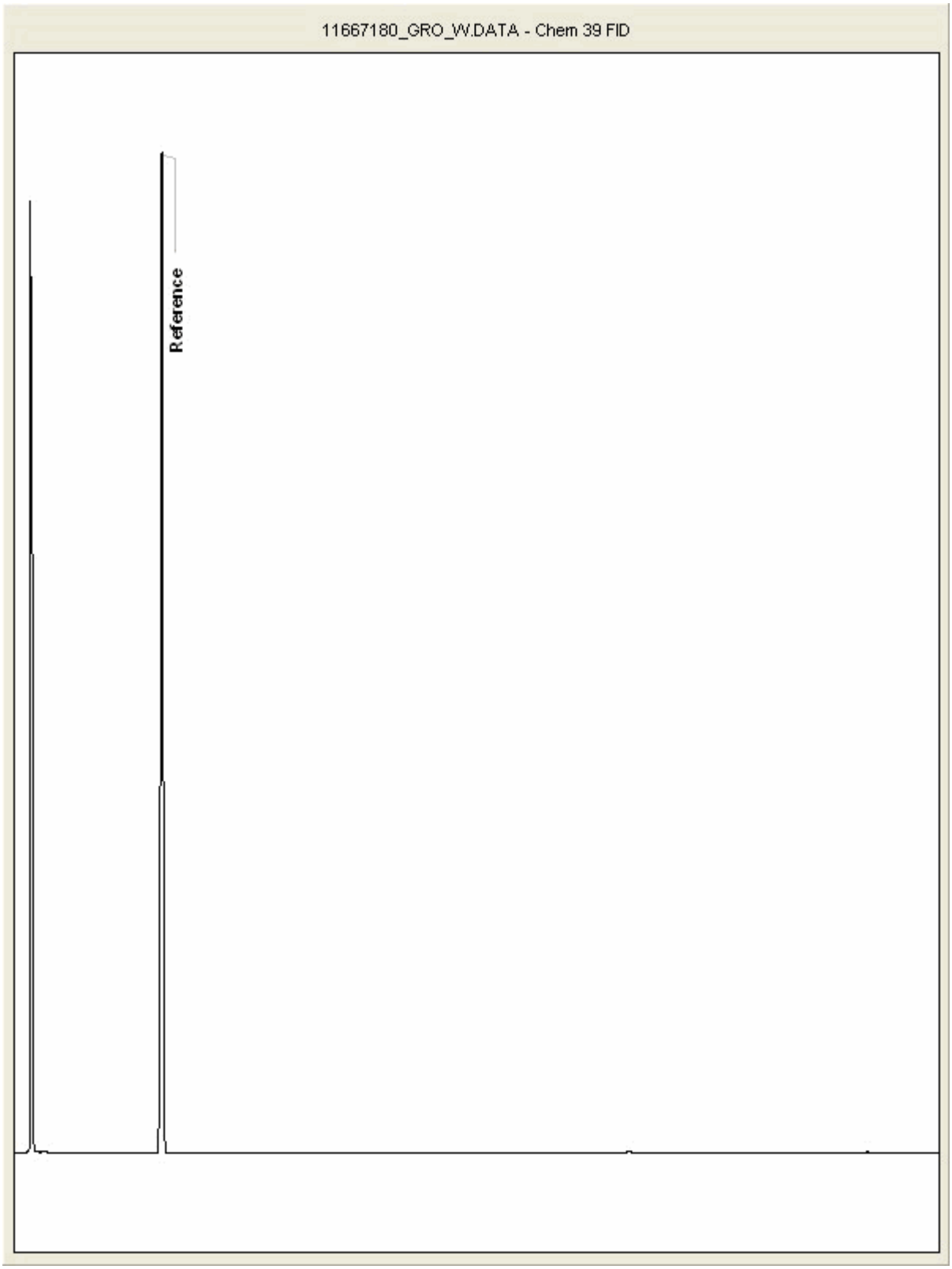
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667180
Sample ID : BH63A

Depth :



CERTIFICATE OF ANALYSIS

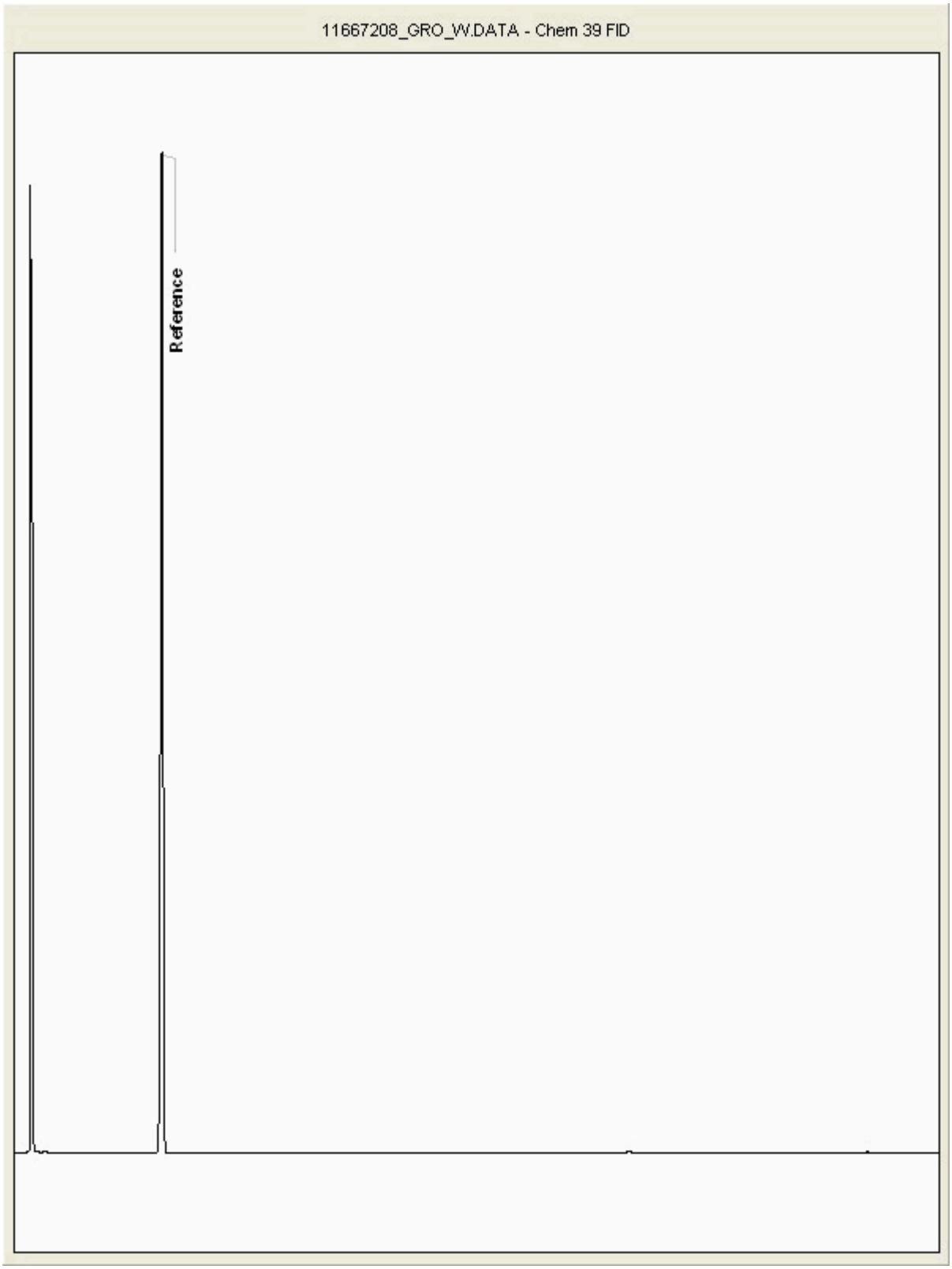
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667208
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

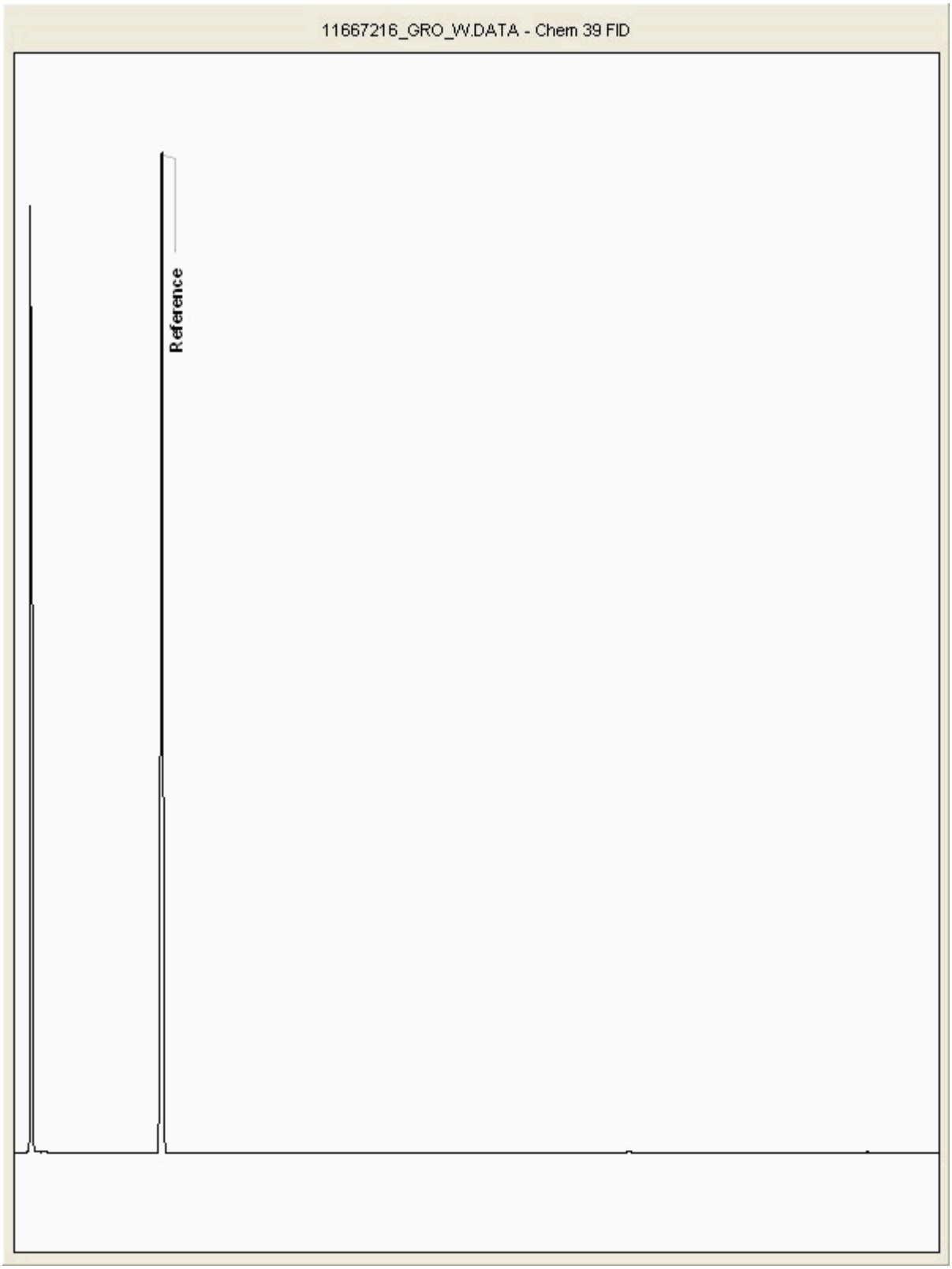
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667216
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

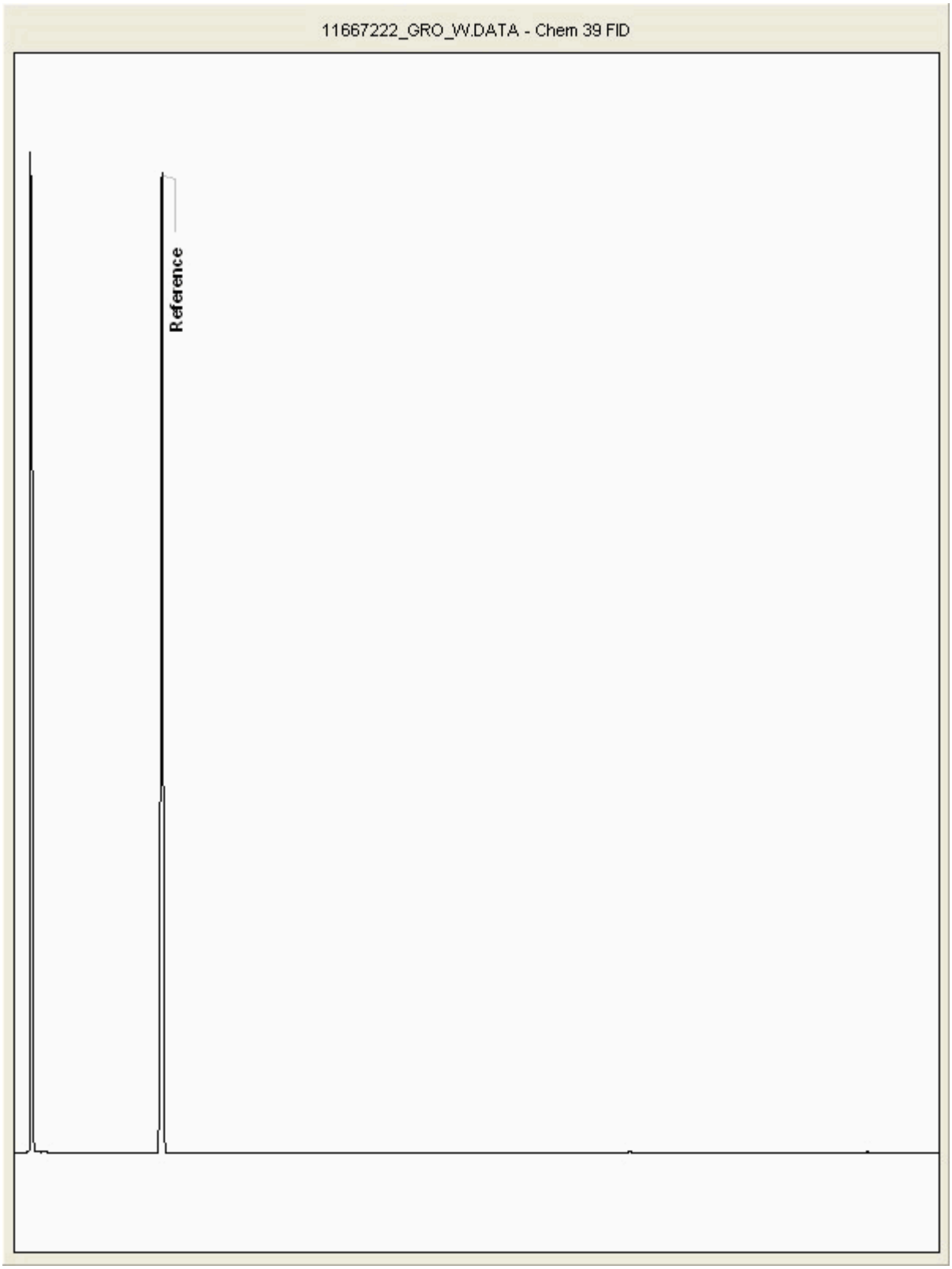
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667222
Sample ID : BH30A

Depth :



CERTIFICATE OF ANALYSIS

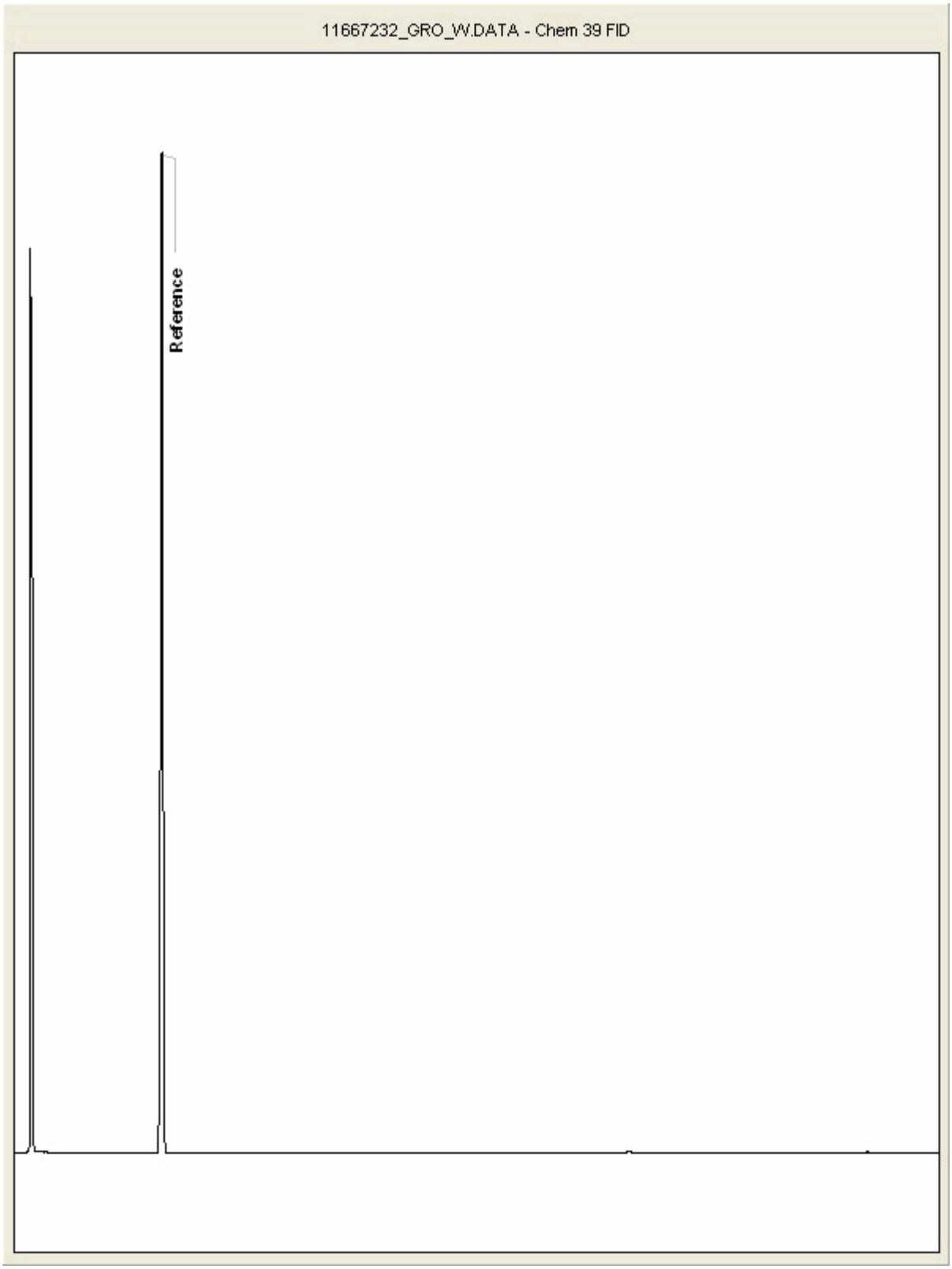
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11667232
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150701-116	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320258
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	13 July 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150702-110
Your Reference:	JER5575U
Location:	SHLNG
Report No:	320628

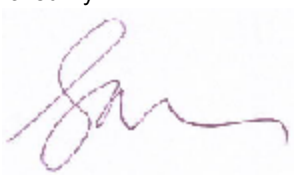
This report has been revised and directly supersedes 320523 in its entirety.

We received 17 samples on Thursday July 02, 2015 and 9 of these samples were scheduled for analysis which was completed on Saturday July 11, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan
Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11645490	BH27			30/06/2015
11645485	BH43			30/06/2015
11645492	BH55			30/06/2015
11645495	BH59			30/06/2015
11645497	BH99			30/06/2015
11645479	BH40A			30/06/2015
11645481	BH41A			30/06/2015
11645483	BH42A			30/06/2015
11645480	BH40A DUPLICATE			30/06/2015
11645482	BH41A DUPLICATE			30/06/2015
11645484	BH42A DUPLICATE			30/06/2015
11645488	BH34B			30/06/2015
11645489	BH34B DUPLICATE			30/06/2015
11645491	BH27 DUPLICATE			30/06/2015
11645487	BH43 DUPLICATE			30/06/2015
11645493	BH55 DUPLICATE			30/06/2015
11645496	BH59 DUPLICATE			30/06/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	11645490	BH27			1000ml glass bottle
			11645485	BH43			Vial (ALE297)
			11645492	BH55			1000ml glass bottle
			11645495	BH59			Vial (ALE297)
			11645497	BH99			1000ml glass bottle
			11645479	BH40A			Vial (ALE297)
			11645481	BH41A			1000ml glass bottle
			11645483	BH42A			Vial (ALE297)
			11645488	BH34B			1000ml glass bottle
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9	11645490	BH27			Vial (ALE297)
			11645485	BH43			1000ml glass bottle
			11645492	BH55			Vial (ALE297)
			11645495	BH59			1000ml glass bottle
			11645497	BH99			Vial (ALE297)
			11645479	BH40A			1000ml glass bottle
			11645481	BH41A			Vial (ALE297)
			11645483	BH42A			1000ml glass bottle
			11645488	BH34B			Vial (ALE297)
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	11645490	BH27			1000ml glass bottle
			11645485	BH43			Vial (ALE297)
			11645492	BH55			1000ml glass bottle
			11645495	BH59			Vial (ALE297)
			11645497	BH99			1000ml glass bottle
			11645479	BH40A			Vial (ALE297)
			11645481	BH41A			1000ml glass bottle
			11645483	BH42A			Vial (ALE297)
			11645488	BH34B			1000ml glass bottle

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH27	BH43	BH55	BH59	BH99	BH40A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	30/06/2015	30/06/2015	30/06/2015	30/06/2015	30/06/2015	30/06/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	02/07/2015	02/07/2015	02/07/2015	02/07/2015	02/07/2015	02/07/2015
			SDG Ref	150702-110	150702-110	150702-110	150702-110	150702-110	150702-110
			Lab Sample No.(s)	11645490	11645485	11645492	11645495	11645497	11645479
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		123 #	907 #	<46 #	<46 #	340 #	168 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		23.2	53.5	<10	<10	55.2	150
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		99.8	854	46	45.9	285	18.4

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	Depth (m)	Sample Type	Date Sampled	Sampled Time	Date Received	SDG Ref	Lab Sample No.(s)	AGS Reference
			BH41A	.	Water(GW/SW)	30/06/2015	.	02/07/2015	150702-110	11645481	
			BH42A	.	Water(GW/SW)	30/06/2015	.	02/07/2015	150702-110	11645483	
			BH34B	.	Water(GW/SW)	30/06/2015	.	02/07/2015	150702-110	11645488	
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	132 #								
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	34.2								
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	97.8								
			4460 #								
			964								
			3500								
			323 #								
			52.6								
			270								

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH27	BH43	BH55	BH59	BH99	BH40A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	30/06/2015	30/06/2015	30/06/2015	30/06/2015	30/06/2015	30/06/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	02/07/2015	02/07/2015	02/07/2015	02/07/2015	02/07/2015	02/07/2015
			SDG Ref	150702-110	150702-110	150702-110	150702-110	150702-110	150702-110
			Lab Sample No.(s)	11645490	11645485	11645492	11645495	11645497	11645479
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	67	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	86	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH41A	BH42A	BH34B			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	30/06/2015	30/06/2015	30/06/2015			
			Sampled Time	.	.	.			
			Date Received	02/07/2015	02/07/2015	02/07/2015			
			SDG Ref	150702-110	150702-110	150702-110			
			Lab Sample No.(s)	11645481	11645483	11645488			
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	56	<10			
GRO >C6-C8	<10 µg/l	TM245		<10	570	<10			
GRO >C8-C10	<10 µg/l	TM245		<10	2570	<10			
GRO >C5-C10	<10 µg/l	TM245		<10	3200	<10			

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	30/06/2015	30/06/2015	30/06/2015	30/06/2015	30/06/2015
			Sampled Time	.	.	.	.	.
			Date Received	02/07/2015	02/07/2015	02/07/2015	02/07/2015	02/07/2015
			SDG Ref	150702-110	150702-110	150702-110	150702-110	150702-110
			Lab Sample No.(s)	11645485	11645497	11645481	11645483	11645488
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	23 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	1.62 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	30/06/2015	30/06/2015	30/06/2015	30/06/2015	30/06/2015
			Sampled Time	.	.	.	.	.
			Date Received	02/07/2015	02/07/2015	02/07/2015	02/07/2015	02/07/2015
			SDG Ref	150702-110	150702-110	150702-110	150702-110	150702-110
			Lab Sample No.(s)	11645485	11645497	11645481	11645483	11645488
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	1.78 #	<1 #	3.65 #	1.64 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	8.89 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	5.55 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Test Completion Dates

Lab Sample No(s)	11645490	11645485	11645492	11645495	11645497	11645479	11645481	11645483	11645488
Customer Sample Ref.	BH27	BH43	BH55	BH59	BH99	BH40A	BH41A	BH42A	BH34B
AGS Ref.									
Depth									
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	10-Jul-2015	10-Jul-2015	09-Jul-2015	10-Jul-2015	10-Jul-2015	10-Jul-2015	10-Jul-2015	10-Jul-2015	09-Jul-2015
GRO by GC-FID (W)	10-Jul-2015	11-Jul-2015	10-Jul-2015	10-Jul-2015	10-Jul-2015	10-Jul-2015	11-Jul-2015	11-Jul-2015	11-Jul-2015
SVOC MS (W) - Aqueous		10-Jul-2015			10-Jul-2015		10-Jul-2015	10-Jul-2015	10-Jul-2015

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1100	QC 1169
EPH (DRO) (C10-C40)	TM172	**83.5** 59.47 : 106.15	**78.0** 59.22 : 112.78

GRO by GC-FID (W)

Component	Method Code	QC 1102	QC 1149
Benzene by GC	TM245	**114.0** 77.50 : 122.50	**90.5** 79.00 : 121.00
Ethylbenzene by GC	TM245	**110.5** 77.50 : 122.50	**89.0** 79.00 : 121.00
m & p Xylene by GC	TM245	**110.5** 77.50 : 122.50	**88.75** 79.00 : 121.00
MTBE GC-FID	TM245	**112.5** 77.50 : 122.50	**95.0** 79.00 : 121.00
o Xylene by GC	TM245	**111.5** 77.50 : 122.50	**93.5** 79.00 : 121.00
QC	TM245	**106.69** 74.88 : 125.54	**93.19** 77.50 : 122.50
Toluene by GC	TM245	**113.5** 77.50 : 122.50	**94.0** 79.00 : 121.00

SVOC MS (W) - Aqueous

Component	Method Code	QC 1179
4-Bromophenylphenylether	TM176	**82.4** 65.62 : 120.95
Benzo(a)anthracene	TM176	**83.2** 62.83 : 114.26
Benzo(a)pyrene	TM176	**78.96** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**78.0** 45.10 : 118.90
Hexachlorobutadiene	TM176	**69.76** 43.12 : 110.32
Naphthalene	TM176	**88.0** 69.48 : 118.94
Nitrobenzene	TM176	**86.4** 69.13 : 107.62
Phenol	TM176	**47.2** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

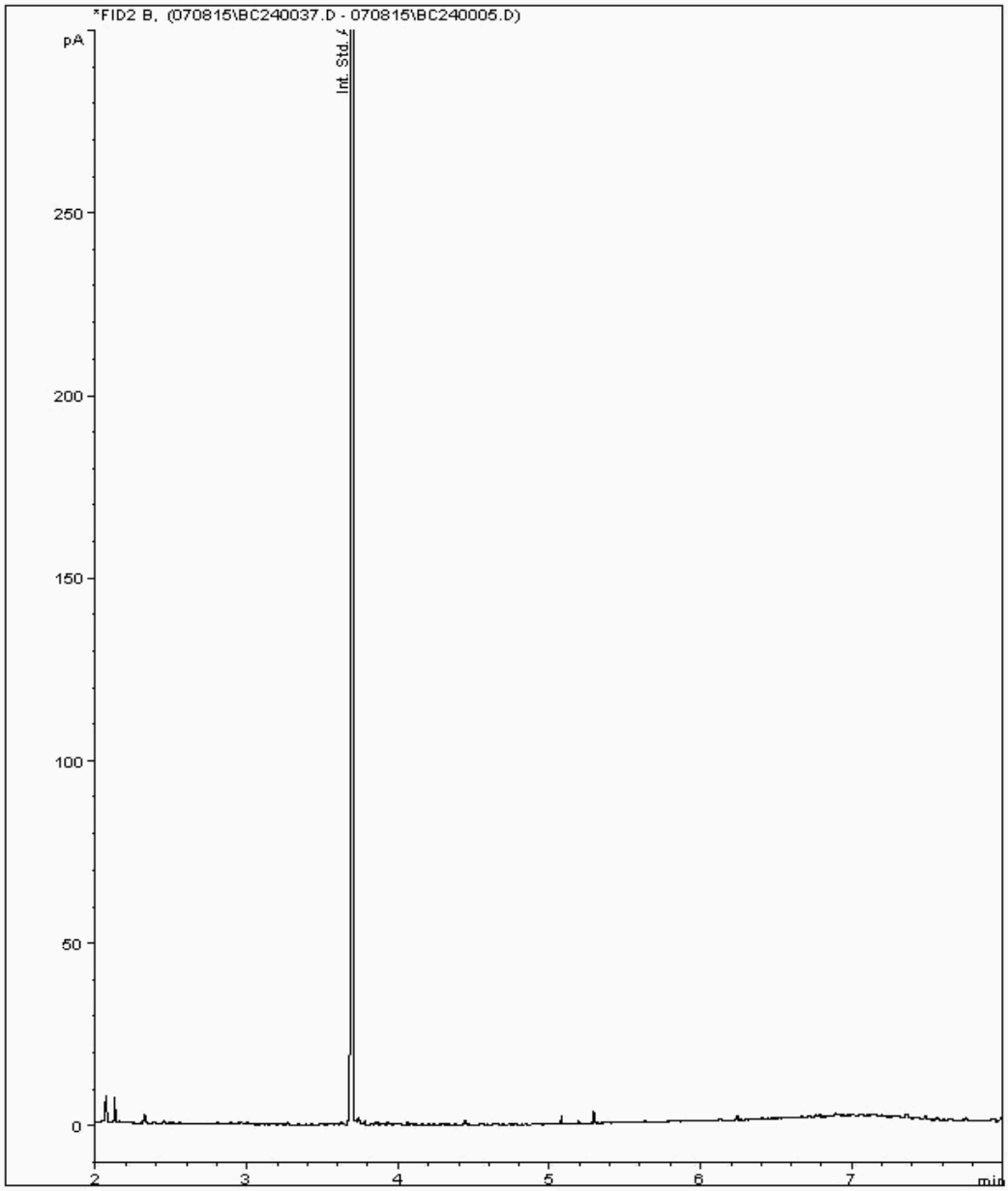
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11662034
Sample ID : BH40A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11065227-
Date Acquired : 09/07/2015 03:59:50 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

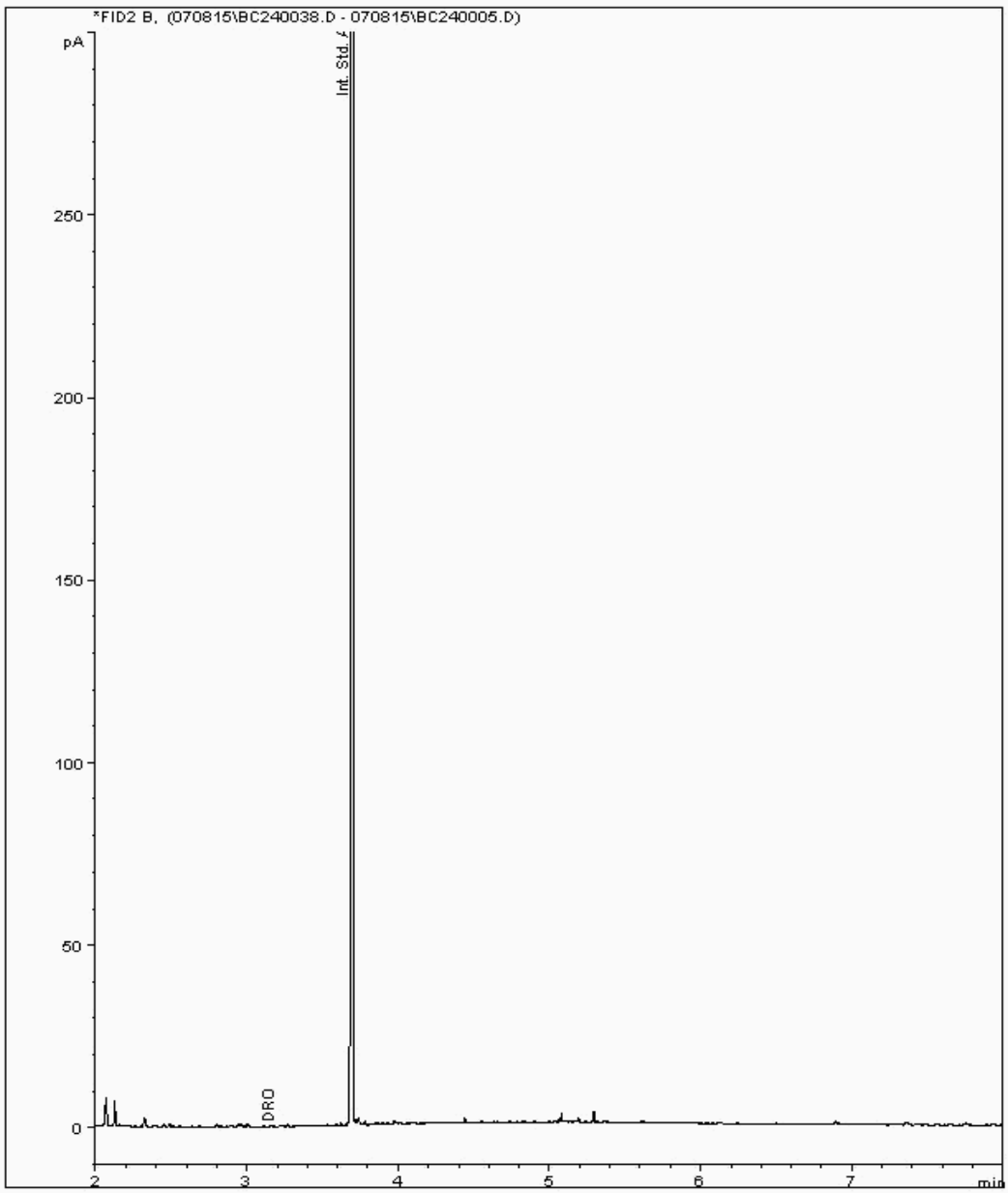
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11662046
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11065230-
Date Acquired : 09/07/2015 04:21:33 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

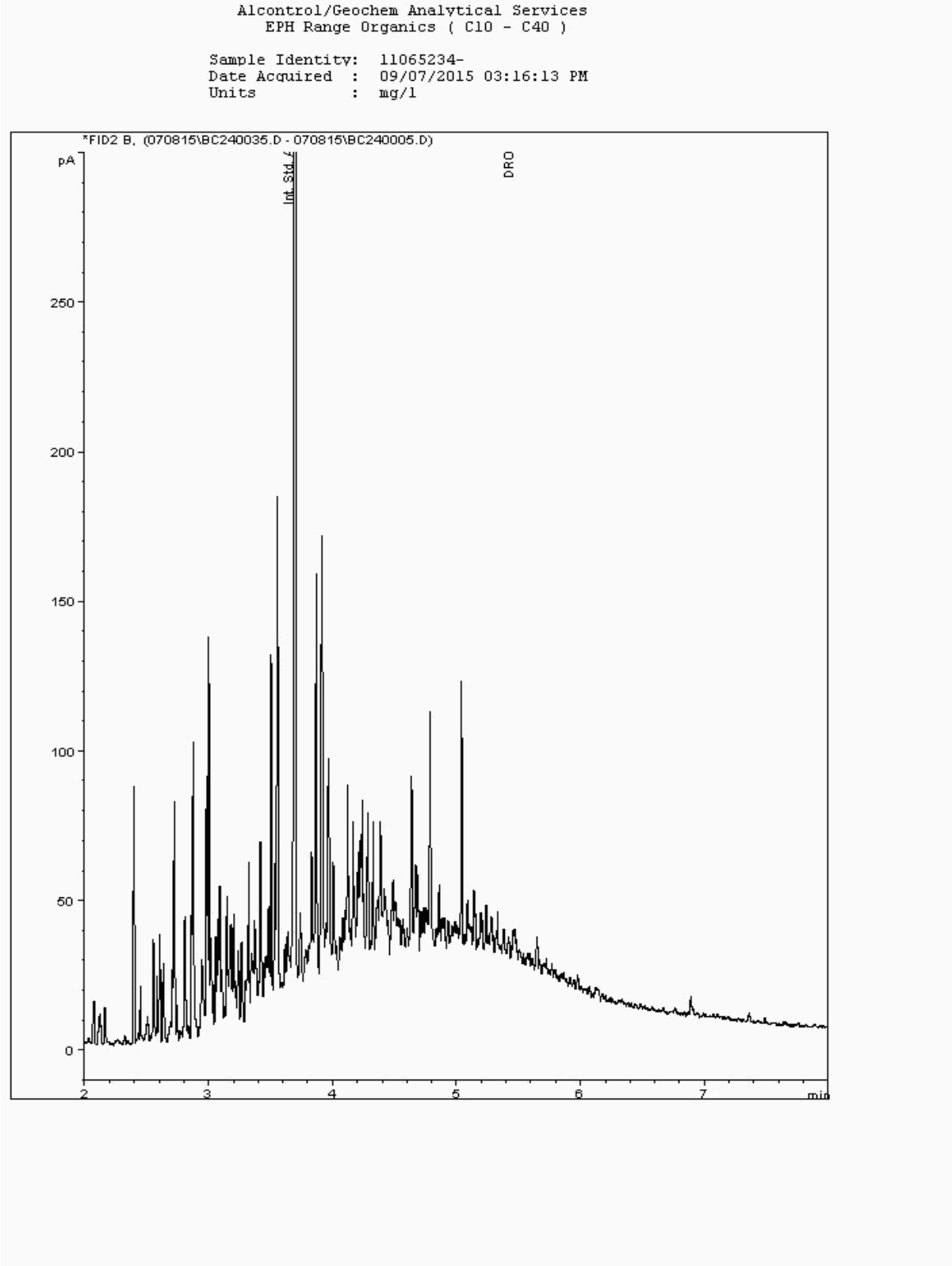
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11662061
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

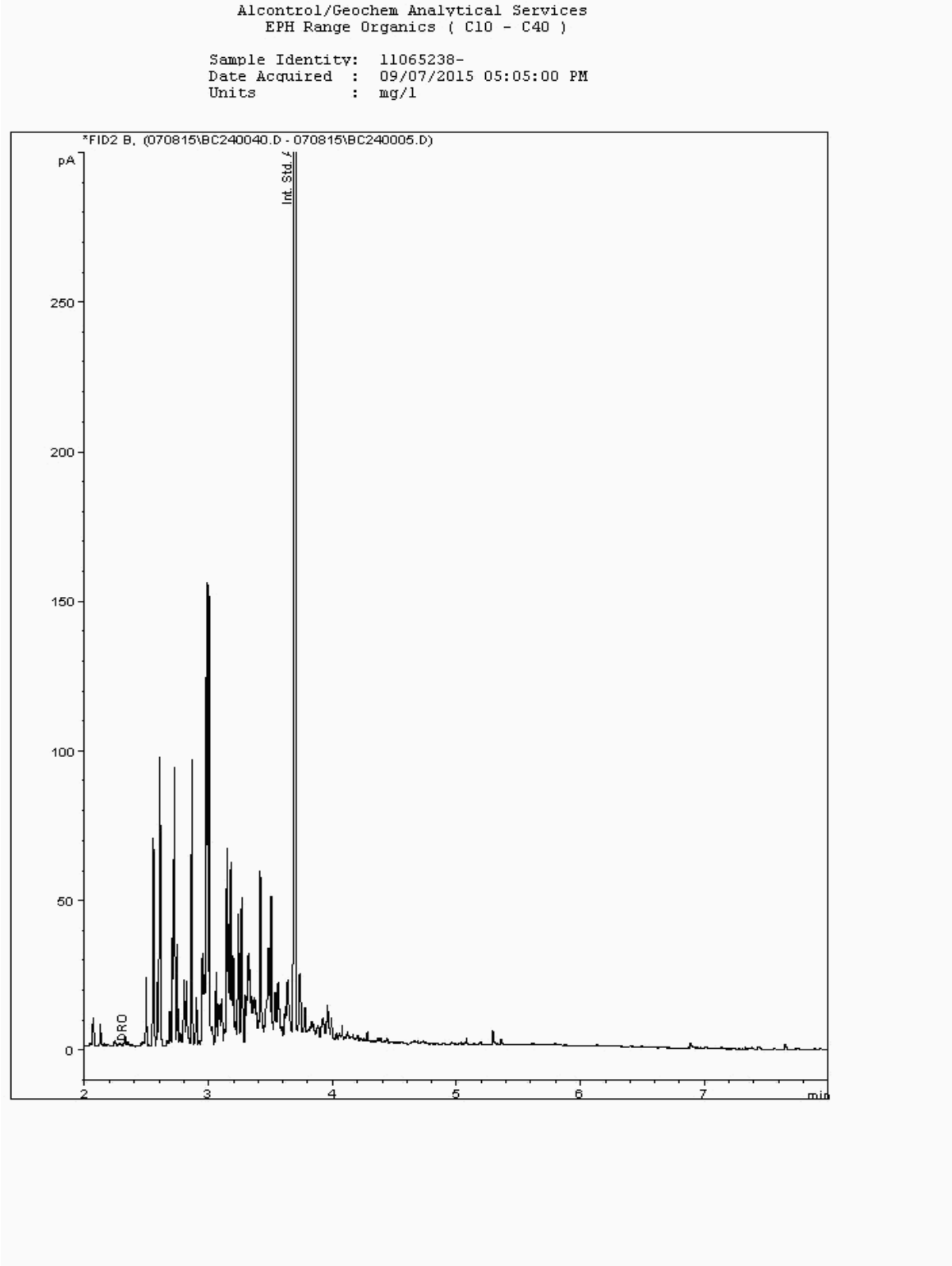
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11662075
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

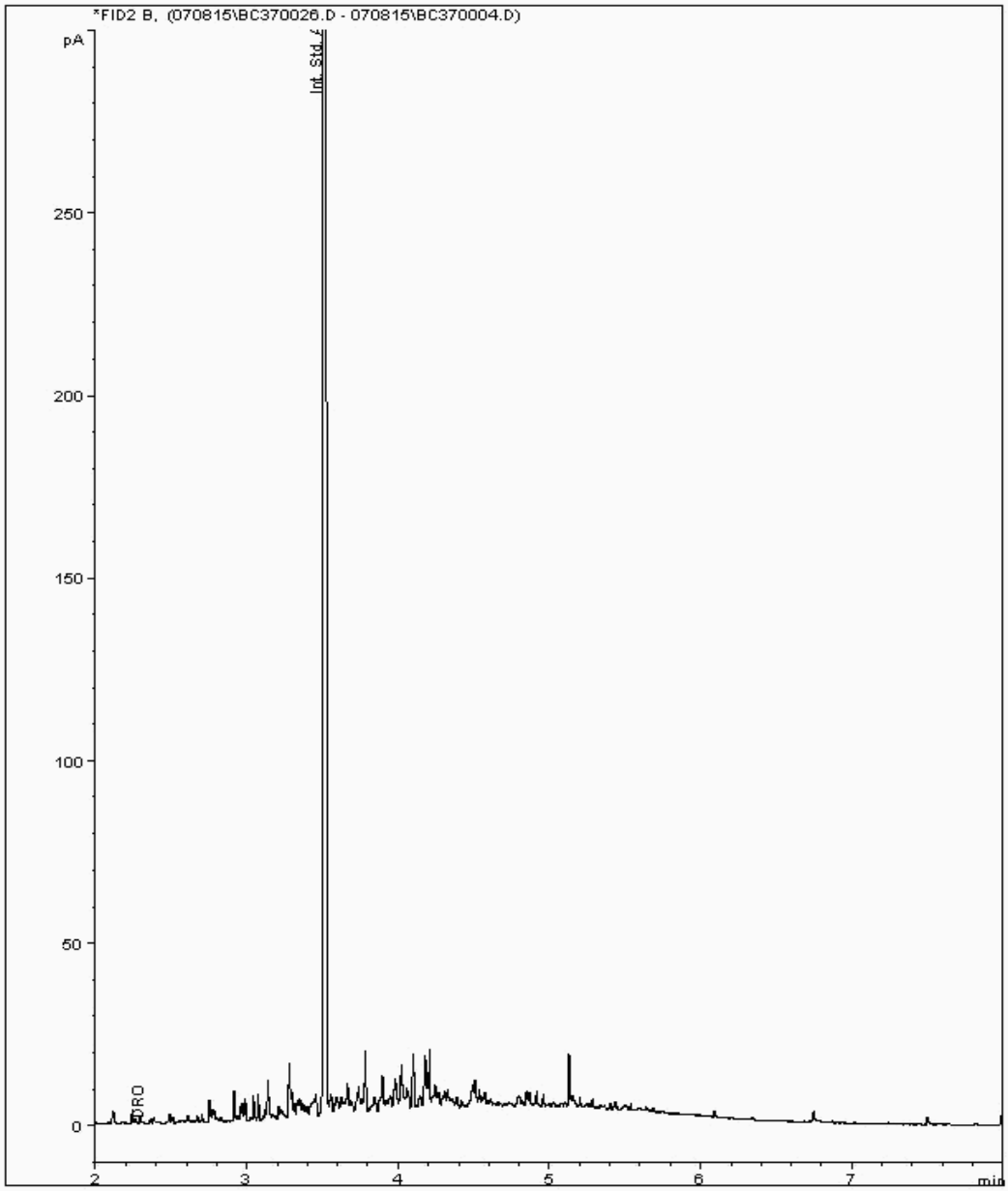
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11663600
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11065242-
Date Acquired : 09/07/2015 00:05:44 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

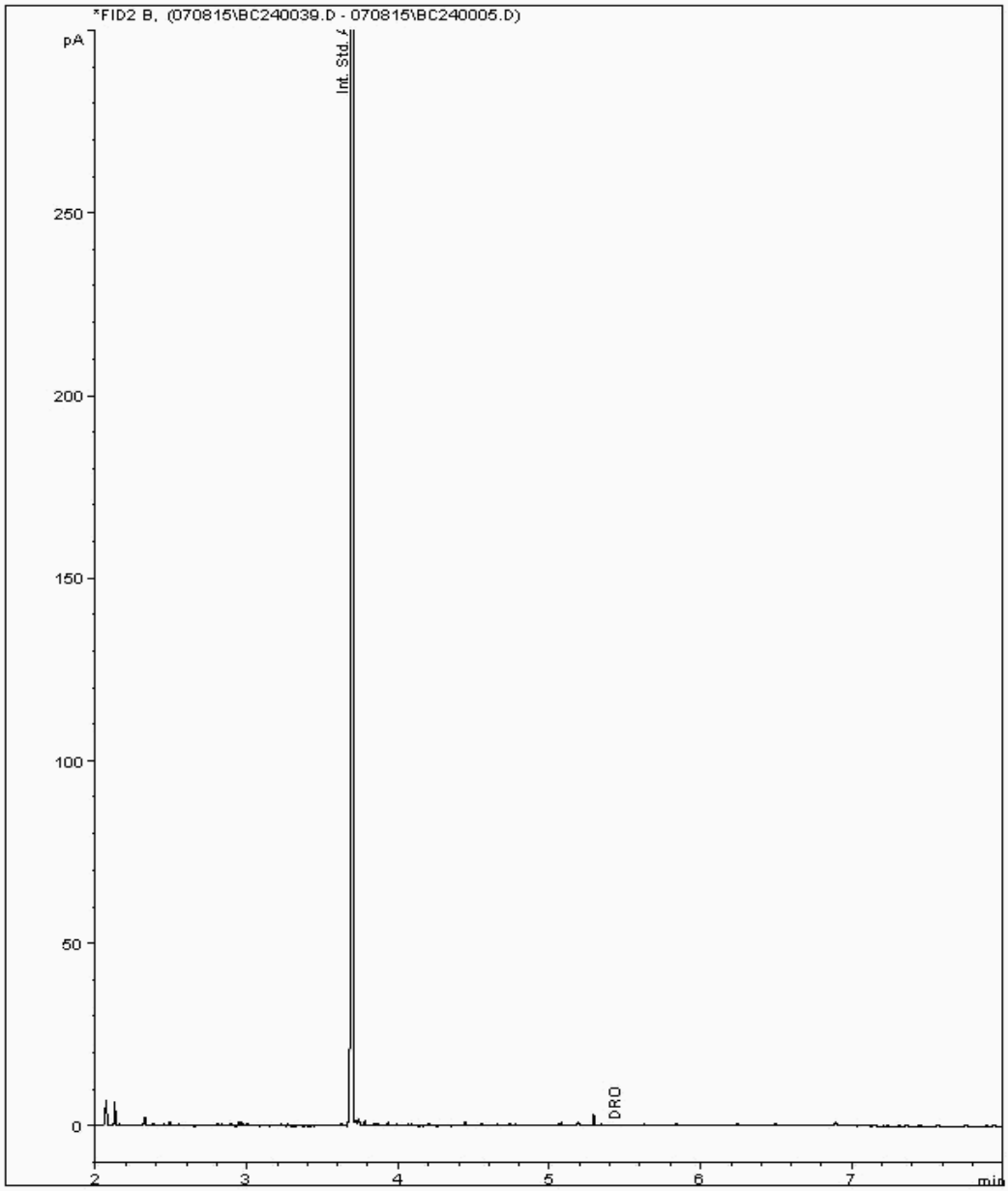
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11663638
Sample ID : BH59

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11065252-
Date Acquired : 09/07/2015 04:42:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

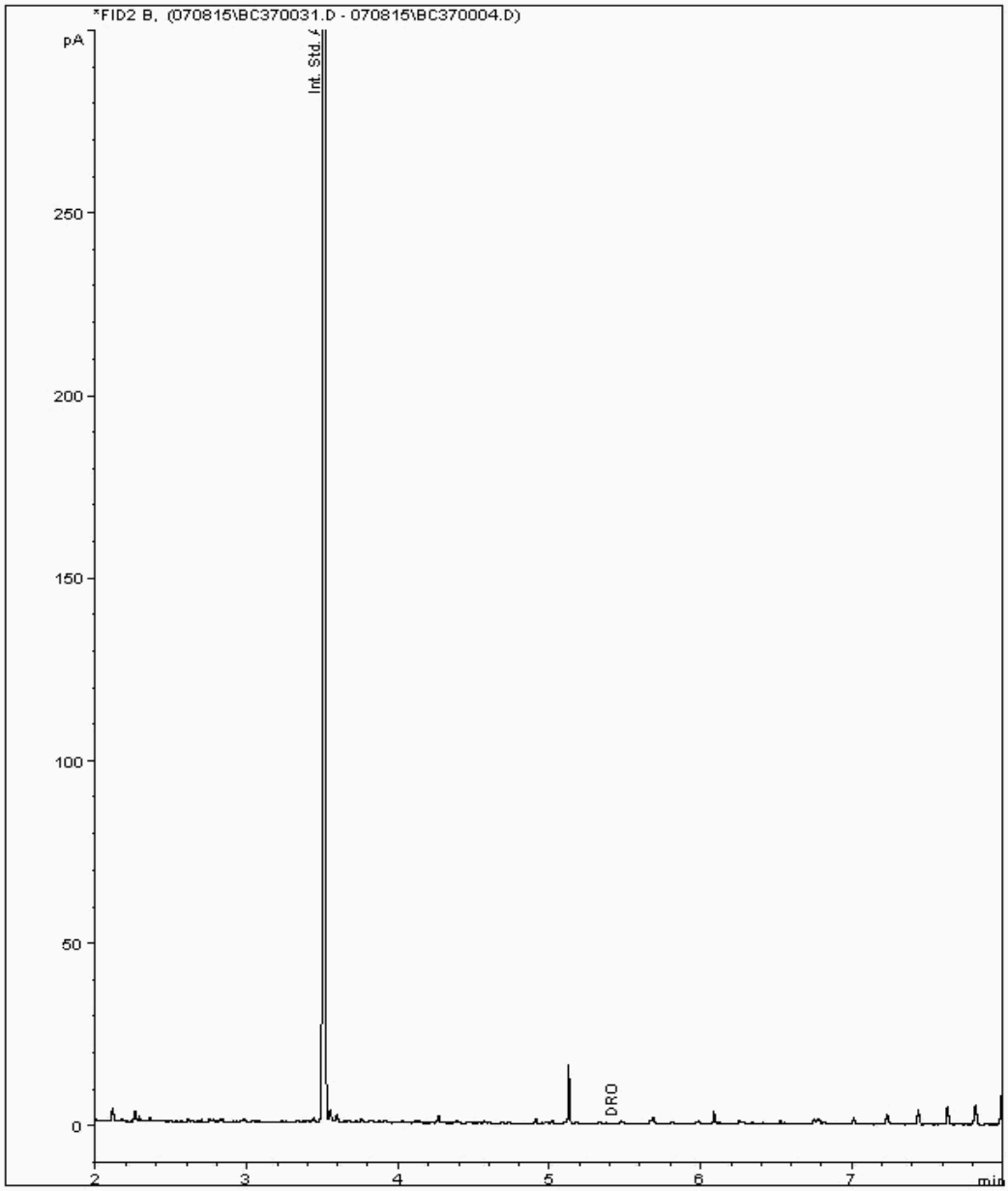
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11663651
Sample ID : BH55

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11065249-
Date Acquired : 09/07/2015 01:54:50 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

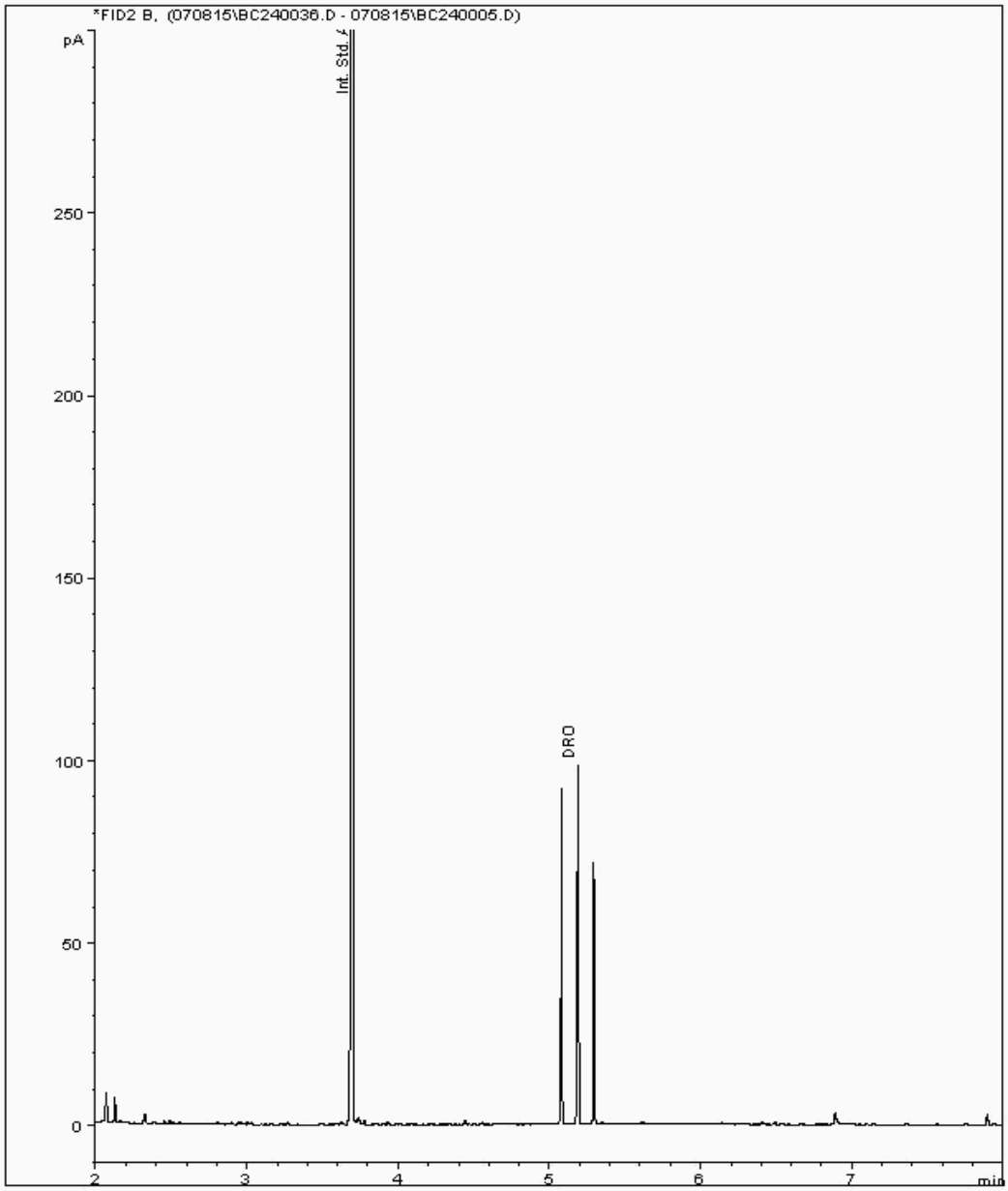
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11663655
Sample ID : BH27

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11065246-
Date Acquired : 09/07/2015 03:37:45 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

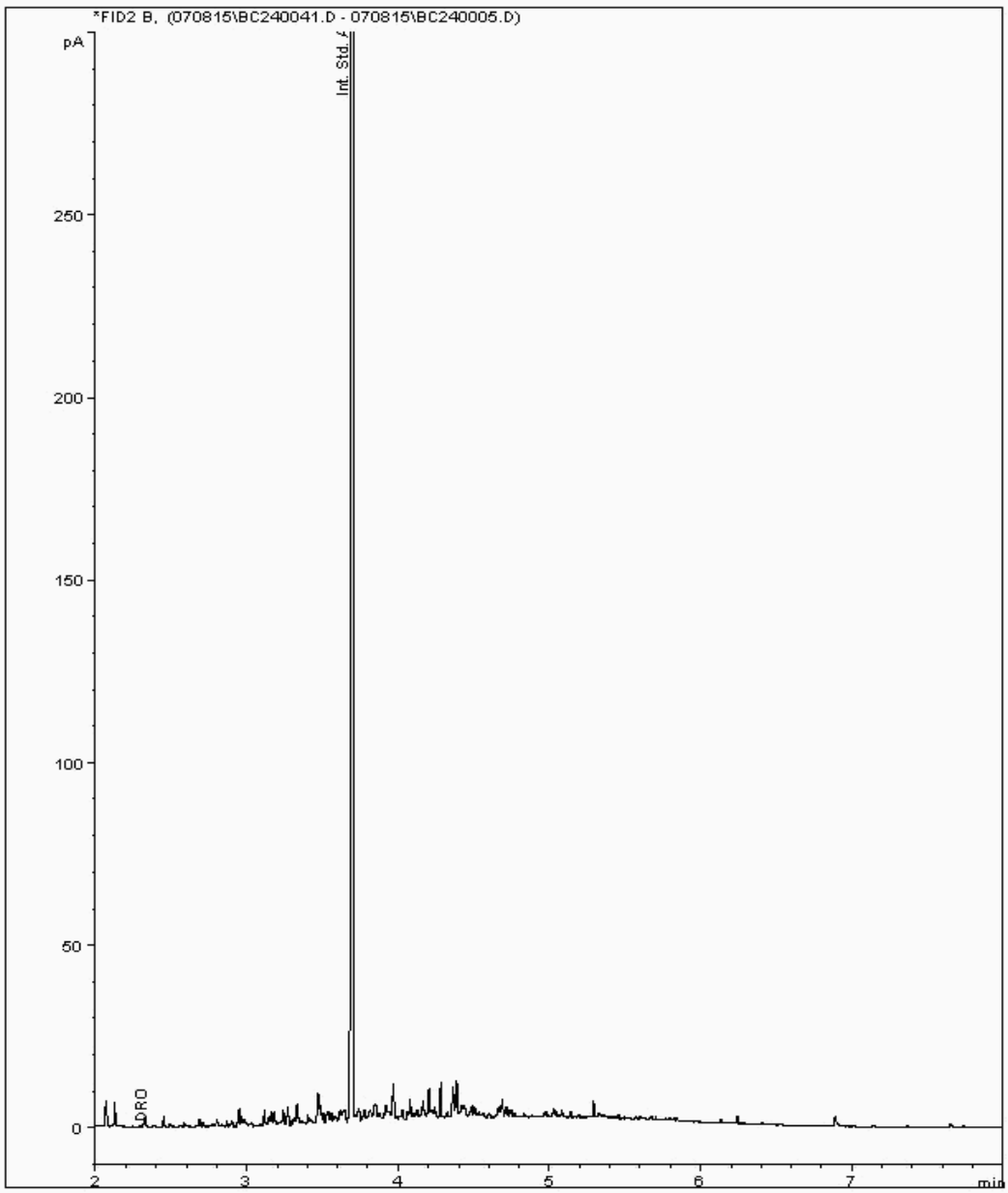
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11663667
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11065255-
Date Acquired : 09/07/2015 05:27:11 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

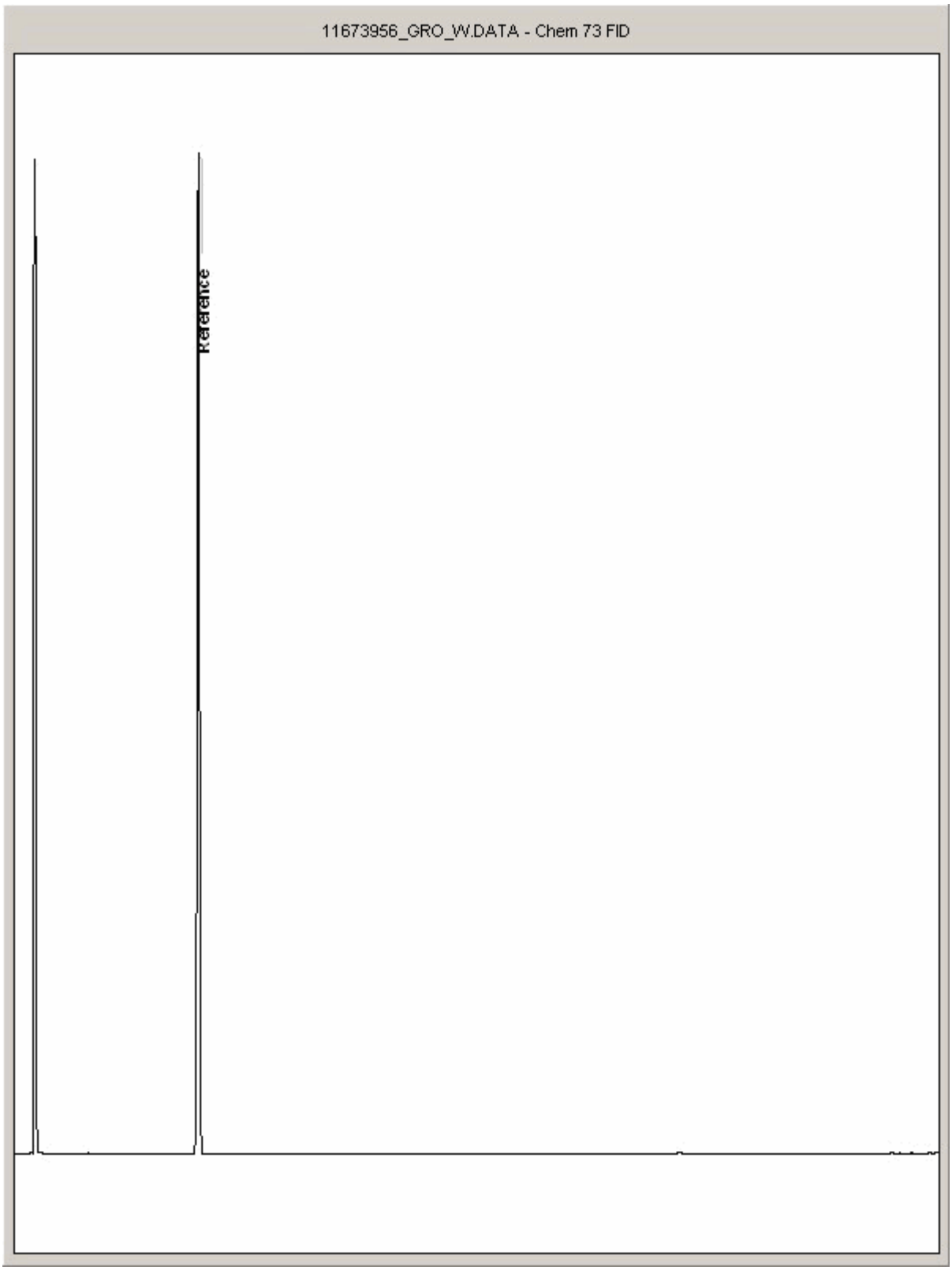
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11673956
Sample ID : BH40A

Depth :



CERTIFICATE OF ANALYSIS

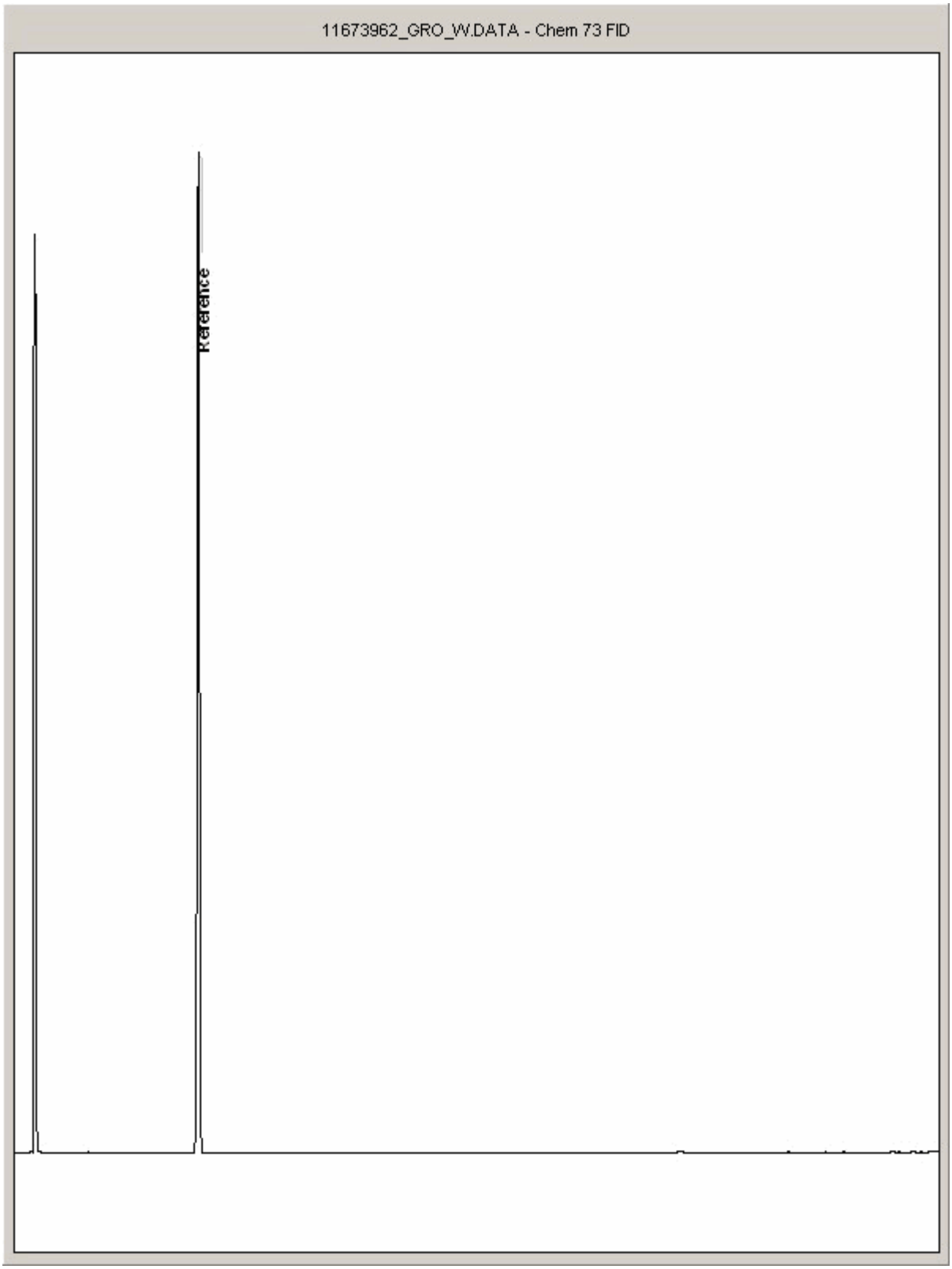
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11673962
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

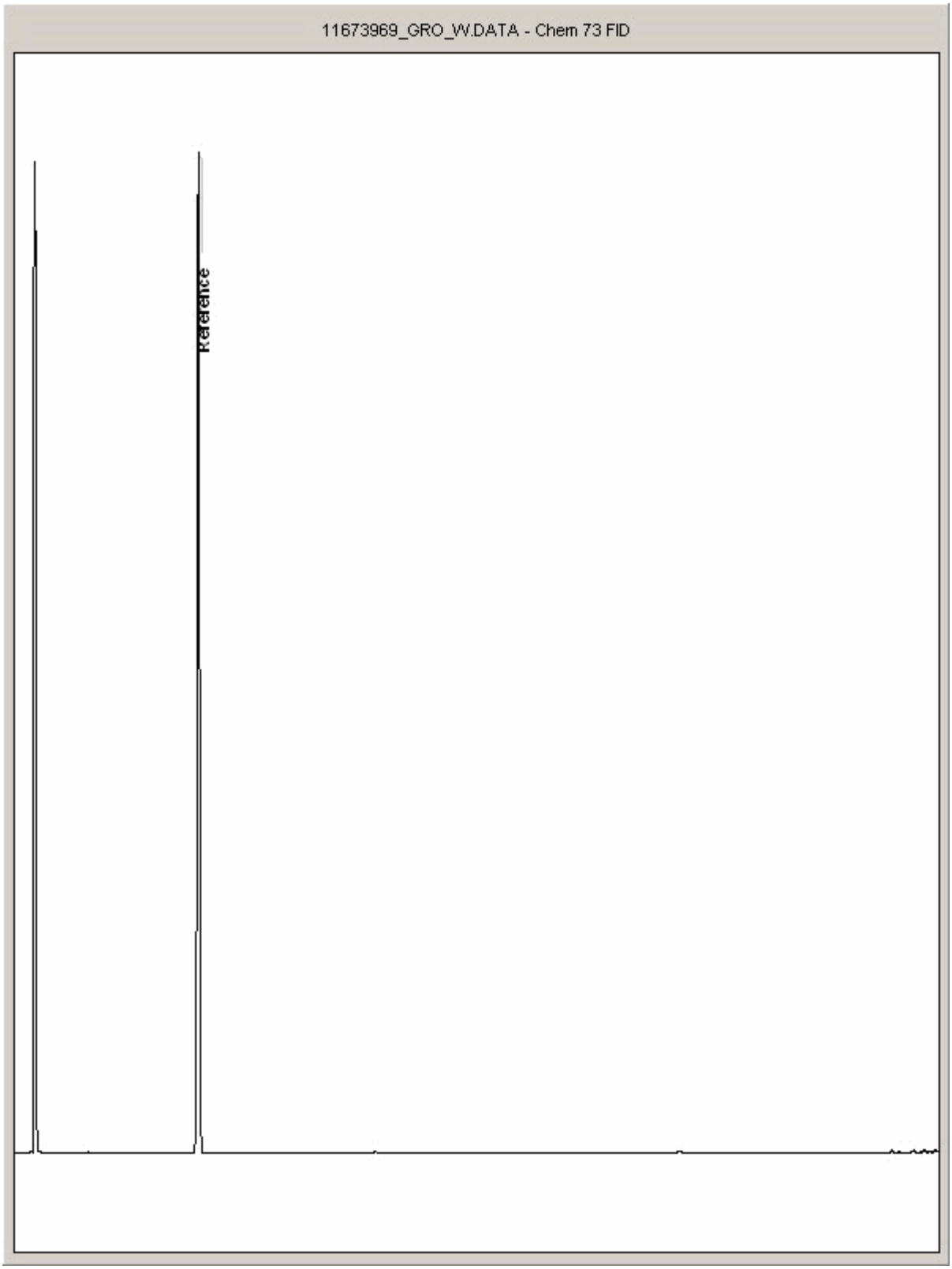
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11673969
Sample ID : BH59

Depth :



CERTIFICATE OF ANALYSIS

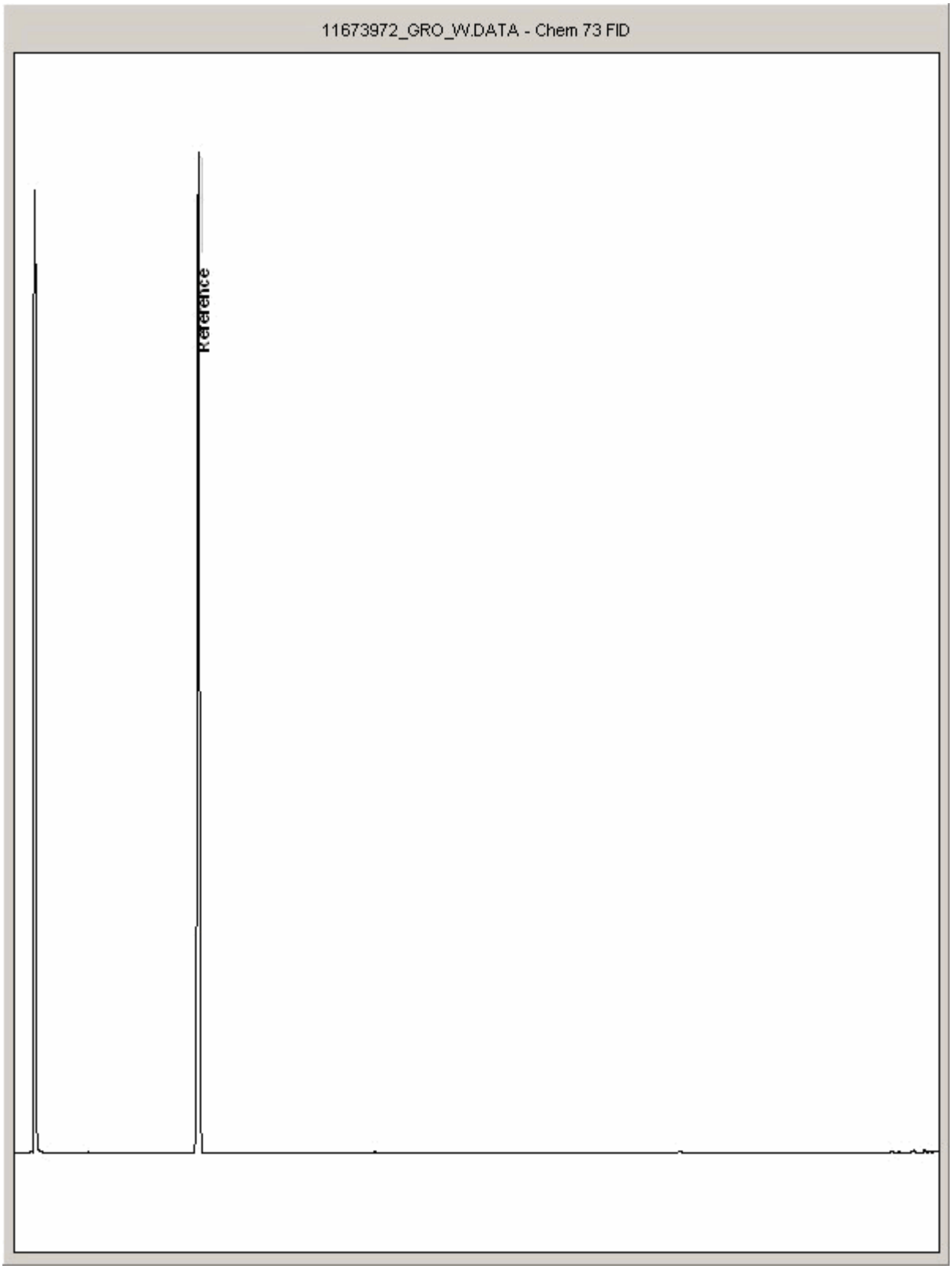
SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11673972
Sample ID : BH27

Depth :



CERTIFICATE OF ANALYSIS

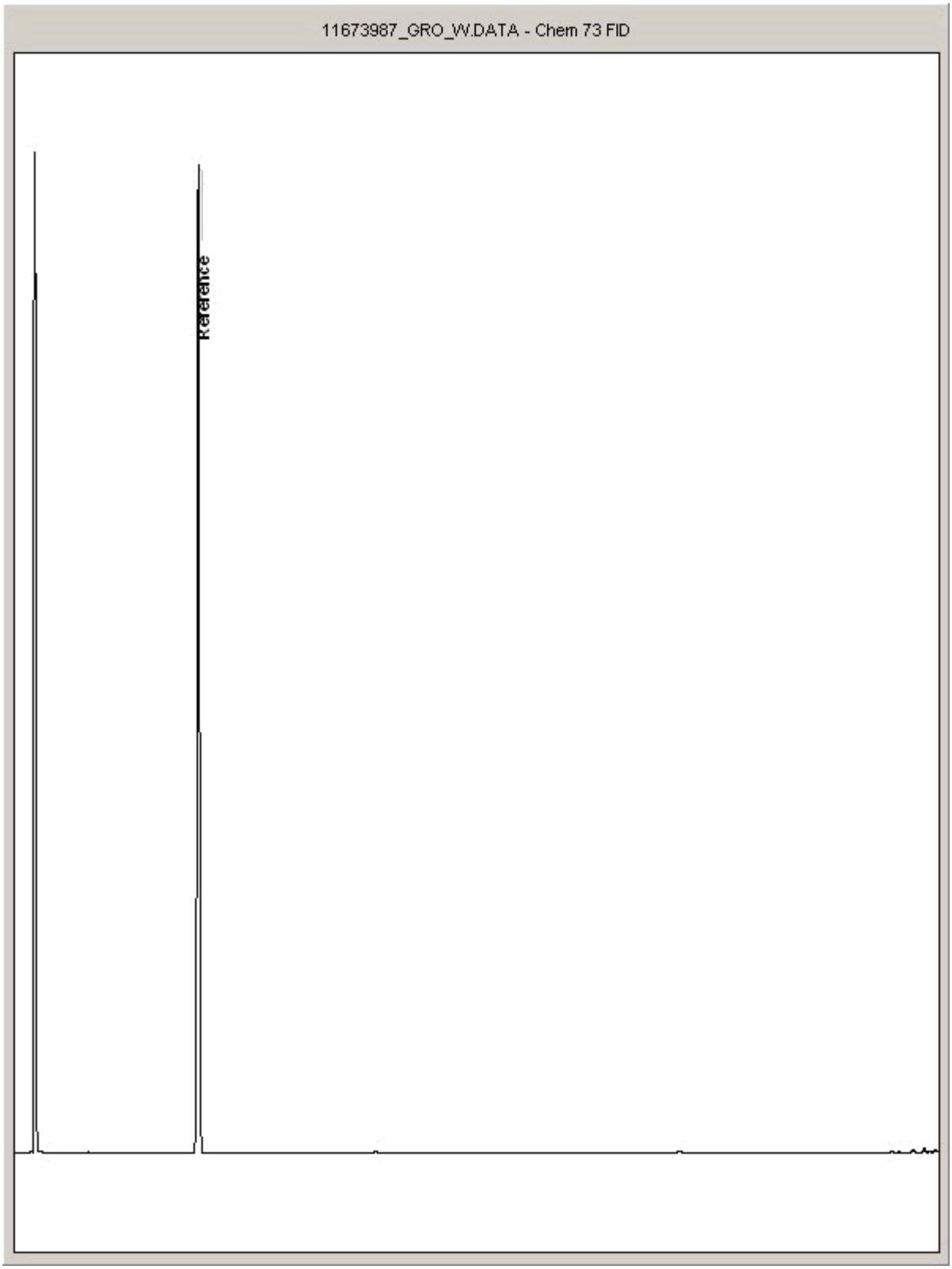
SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11673987
Sample ID : BH55

Depth :



CERTIFICATE OF ANALYSIS

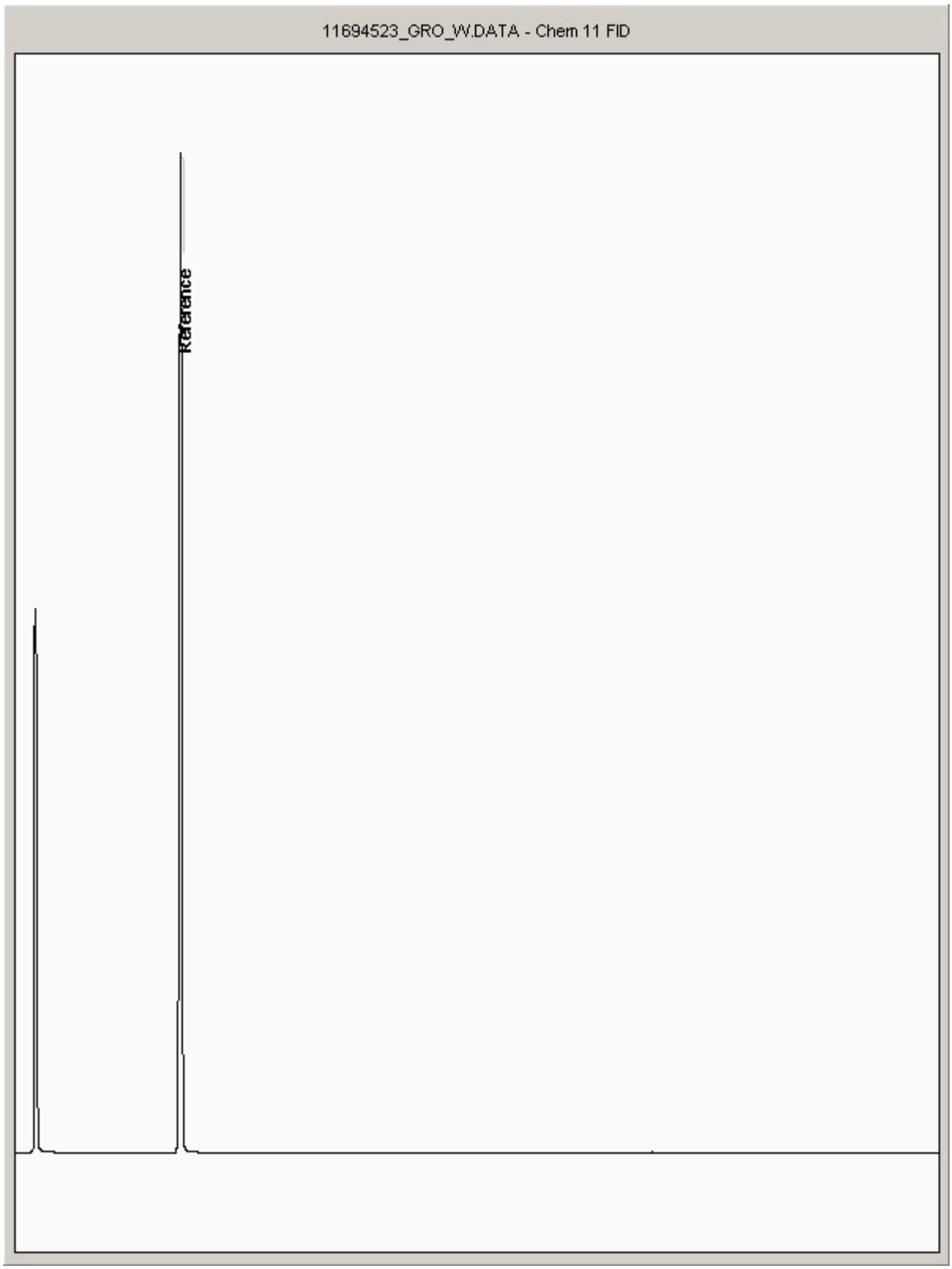
SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11694523
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

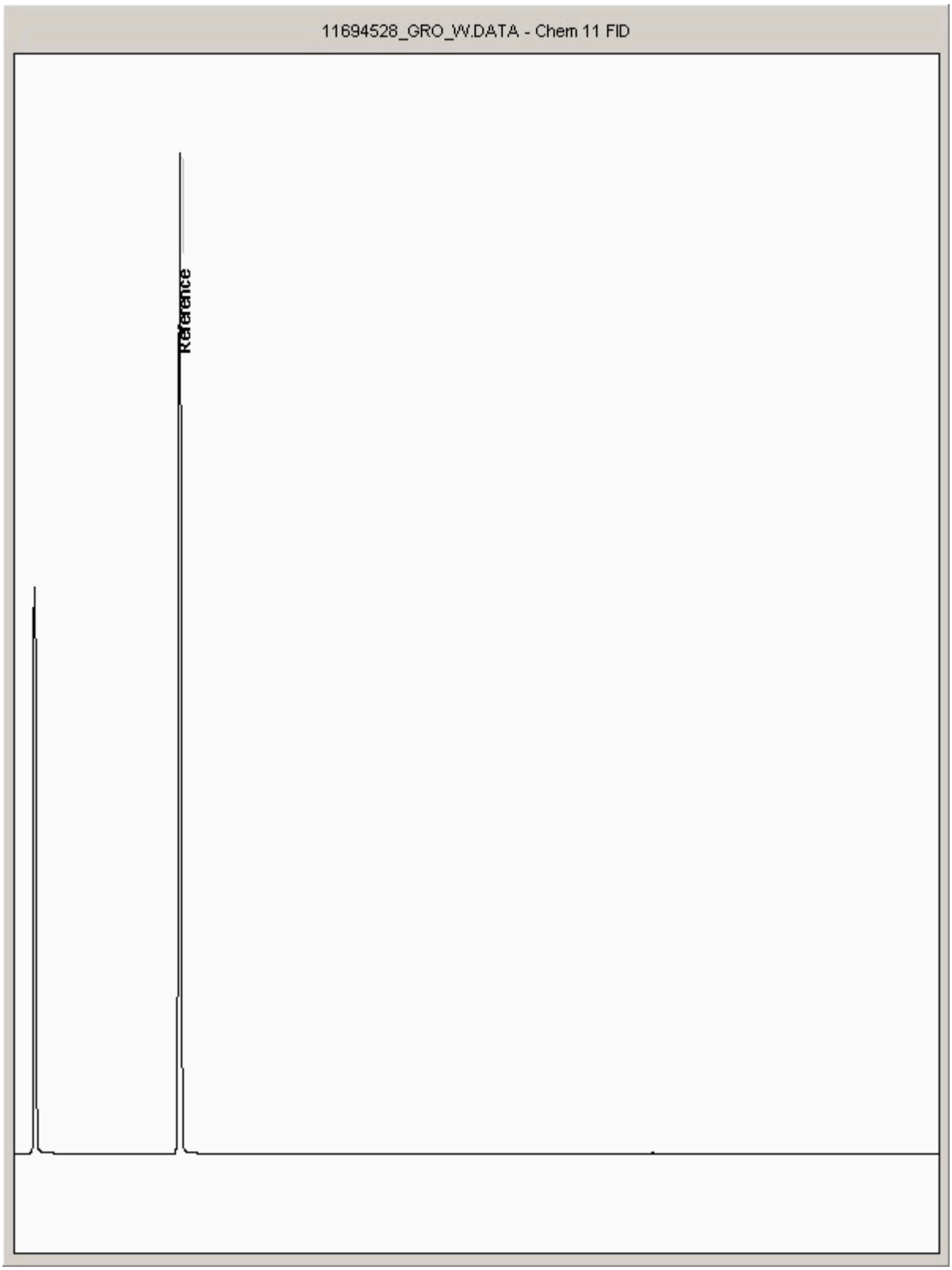
SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11694528
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

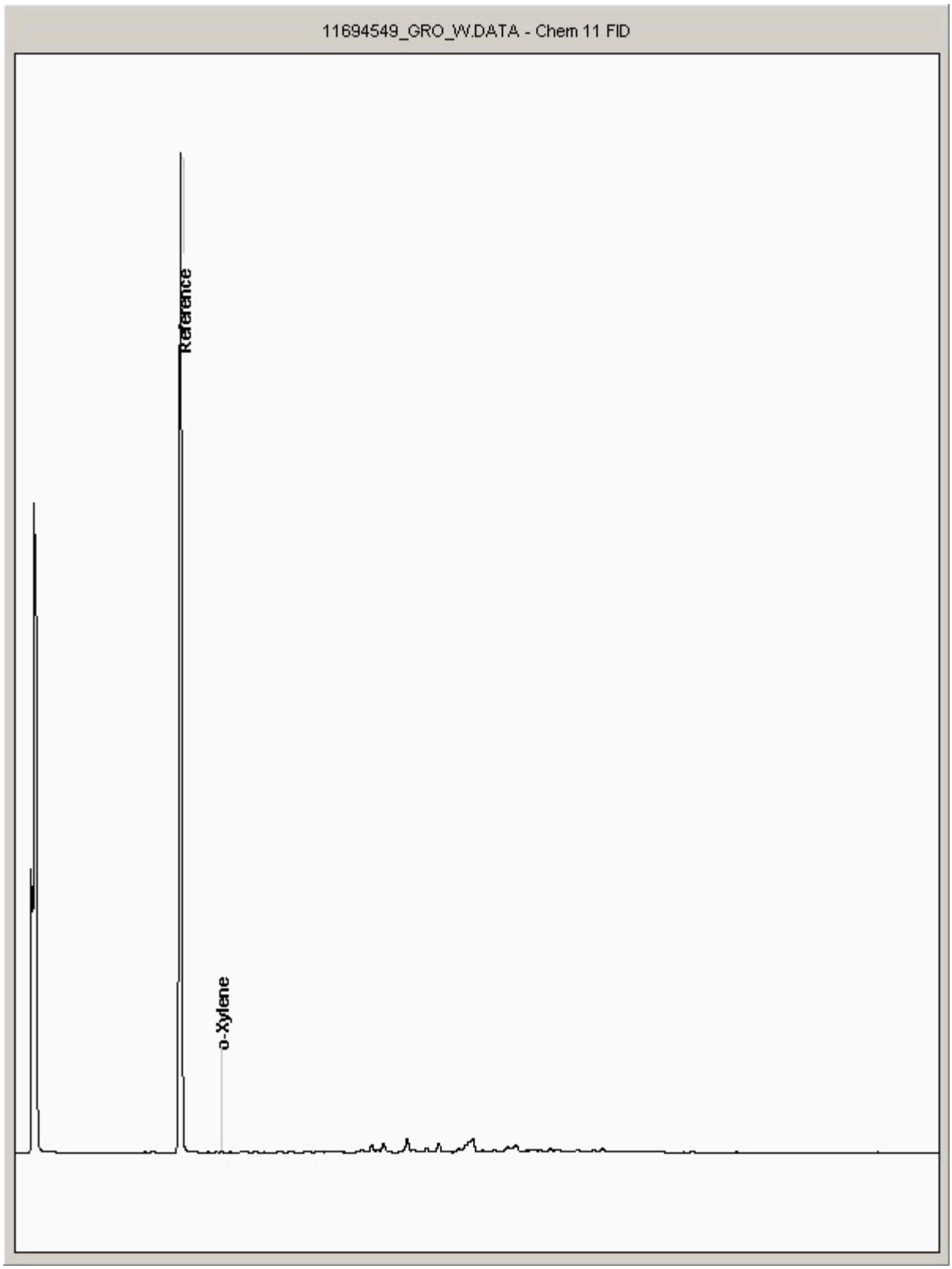
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11694549
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

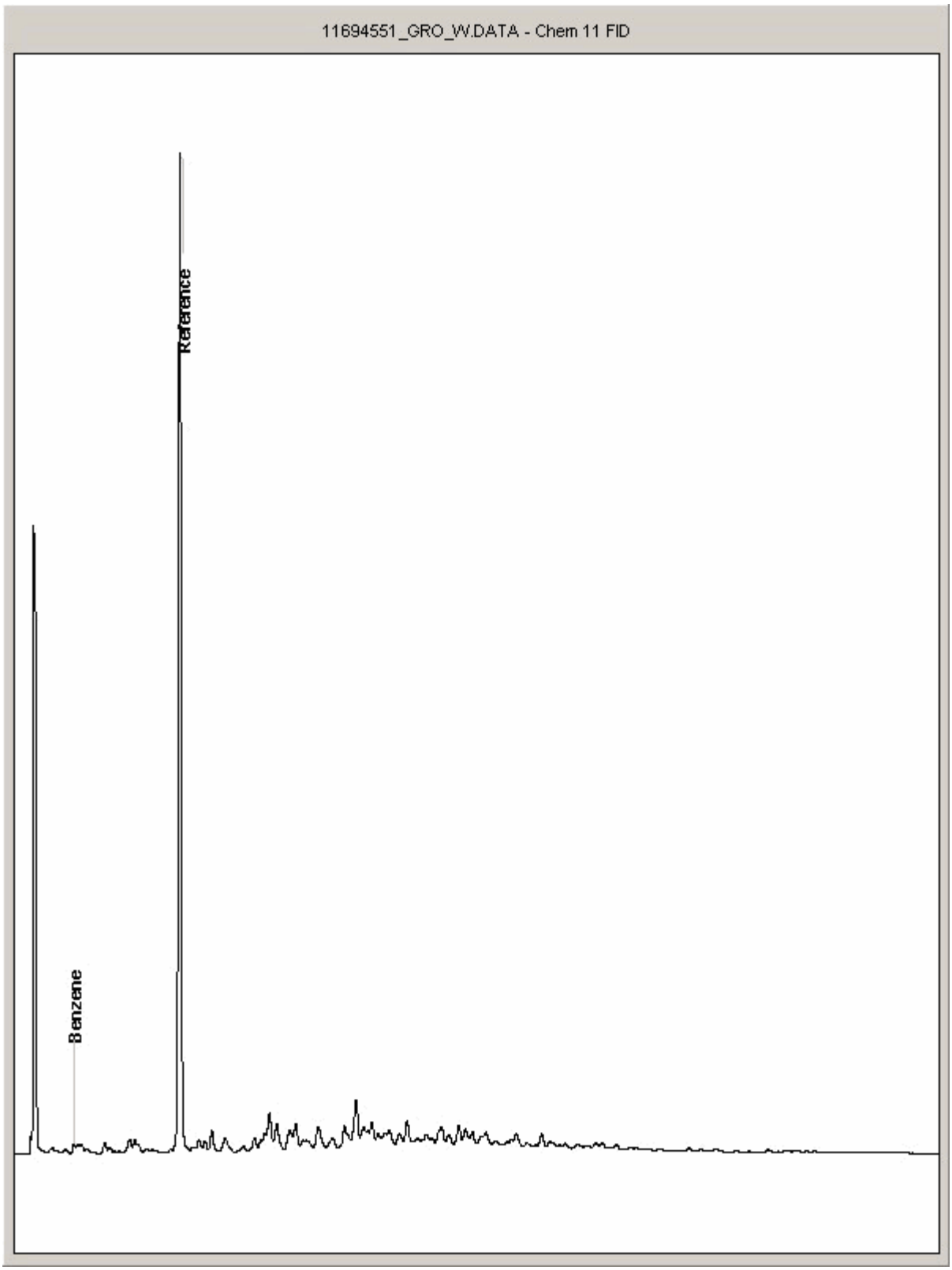
SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11694551
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH (MINOIL)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
PCB TOT/ PCB CON	D&C	HEXANE:ACETONE	END OVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150702-110	**Location:**	SHLNG	**Order Number:**	PO15-428
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320628
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	320523

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than:
- Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	21 July 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150703-101
Your Reference:	JER5575U
Location:	SHLNG
Report No:	321838

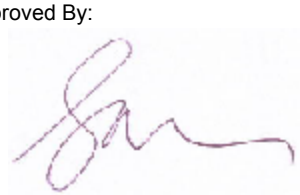
This report has been revised and directly supersedes 321794 in its entirety.

We received 17 samples on Friday July 03, 2015 and 7 of these samples were scheduled for analysis which was completed on Tuesday July 21, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11652662	BH20			27/06/2015
11652664	BH22			17/06/2015
11652671	BH26			17/06/2015
11652660	BH53			27/06/2015
11652669	BH65			17/06/2015
11652666	BH47a			27/06/2015
11652668	BH47a DUPLICATE			27/06/2015
11652677	BH 60b			27/06/2015
11652676	BH 60b DUPLICATE			27/06/2015
11652663	BH20 DUPLICATE			27/06/2015
11652665	BH22 DUPLICATE			17/06/2015
11652672	BH26 DUPLICATE			17/06/2015
11652661	BH53 DUPLICATE			27/06/2015
11652670	BH65 DUPLICATE			17/06/2015
11652673	NO ID 1			
11652674	NO ID 2			
11652675	NO ID 3			

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11652662	BH20			1000ml glass bottle
			11652664	BH22			Vial (ALE297)
			11652671	BH26			1000ml glass bottle
			11652660	BH53			Vial (ALE297)
			11652669	BH65			1000ml glass bottle
			11652666	BH47a			Vial (ALE297)
			11652677	BH 60b			1000ml glass bottle
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 7	X	X	X	X	X	X	X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7		X	X	X	X	X		X		X	X

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH20	BH22	BH26	BH53	BH65	BH47a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	27/06/2015	17/06/2015	17/06/2015	27/06/2015	17/06/2015	27/06/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/07/2015	03/07/2015	03/07/2015	03/07/2015	03/07/2015	03/07/2015
			SDG Ref	150703-101	150703-101	150703-101	150703-101	150703-101	150703-101
			Lab Sample No.(s)	11652662	11652664	11652671	11652660	11652669	11652666
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 @ #	<46 @ #	<46 #	<46 @ #	98.4 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	<10 @	<10 @	<10	<10 @	47
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	<10 @	<10 @	<10	<10 @	51.4

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	
			BH 60b	
			Depth (m)	.
			Sample Type	Water(GW/SW)
			Date Sampled	27/06/2015
			Sampled Time	.
			Date Received	03/07/2015
			SDG Ref	150703-101
			Lab Sample No.(s)	11652677
			AGS Reference	
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	180	#
EPH Band >C21-C35 (aq)	<10 µg/l	TM172	<10	
EPH Band >C10-C21 (aq)	<10 µg/l	TM172	180	

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH20	BH22	BH26	BH53	BH65	BH47a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	27/06/2015	17/06/2015	17/06/2015	27/06/2015	17/06/2015	27/06/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	03/07/2015	03/07/2015	03/07/2015	03/07/2015	03/07/2015	03/07/2015
			SDG Ref	150703-101	150703-101	150703-101	150703-101	150703-101	150703-101
			Lab Sample No.(s)	11652662	11652664	11652671	11652660	11652669	11652666
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10 @	<10 @	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10 @	<10 @	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10 @	<10 @	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10 @	<10 @	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	BH 60b
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	27/06/2015
Sampled Time	.
Date Received	03/07/2015
SDG Ref	150703-101
Lab Sample No.(s)	11652677
AGS Reference	

Component	LOD/Units	Method	
GRO >C5-C6	<10 µg/l	TM245	<10
GRO >C6-C8	<10 µg/l	TM245	<10
GRO >C8-C10	<10 µg/l	TM245	<10
GRO >C5-C10	<10 µg/l	TM245	<10

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Test Completion Dates

Lab Sample No(s)	11652662	11652664	11652671	11652660	11652669	11652677	11652666
Customer Sample Ref.	BH20	BH22	BH26	BH53	BH65	BH 60b	BH47a
AGS Ref.							
Depth							
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	13-Jul-2015	21-Jul-2015	13-Jul-2015	13-Jul-2015	21-Jul-2015	13-Jul-2015	13-Jul-2015
GRO by GC-FID (W)	10-Jul-2015	10-Jul-2015	10-Jul-2015	13-Jul-2015		10-Jul-2015	10-Jul-2015

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1112	QC 1120
EPH (DRO) (C10-C40)	TM172	**77.0** 56.50 : 116.50	**64.5** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1170	QC 1152	QC 1174
Benzene by GC	TM245	77.50 : 122.50	**97.5** 77.50 : 122.50	**111.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	77.50 : 122.50	**95.5** 77.50 : 122.50	**112.5** 77.50 : 122.50
m & p Xylene by GC	TM245	77.50 : 122.50	**95.5** 77.50 : 122.50	**113.25** 77.50 : 122.50
MTBE GC-FID	TM245	77.50 : 122.50	**96.0** 77.50 : 122.50	**107.5** 77.50 : 122.50
o Xylene by GC	TM245	77.50 : 122.50	**96.0** 77.50 : 122.50	**114.5** 77.50 : 122.50
QC	TM245	74.88 : 125.54	**107.01** 74.88 : 125.54	**100.21** 74.88 : 125.54
Toluene by GC	TM245	77.50 : 122.50	**97.5** 77.50 : 122.50	**112.5** 77.50 : 122.50

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

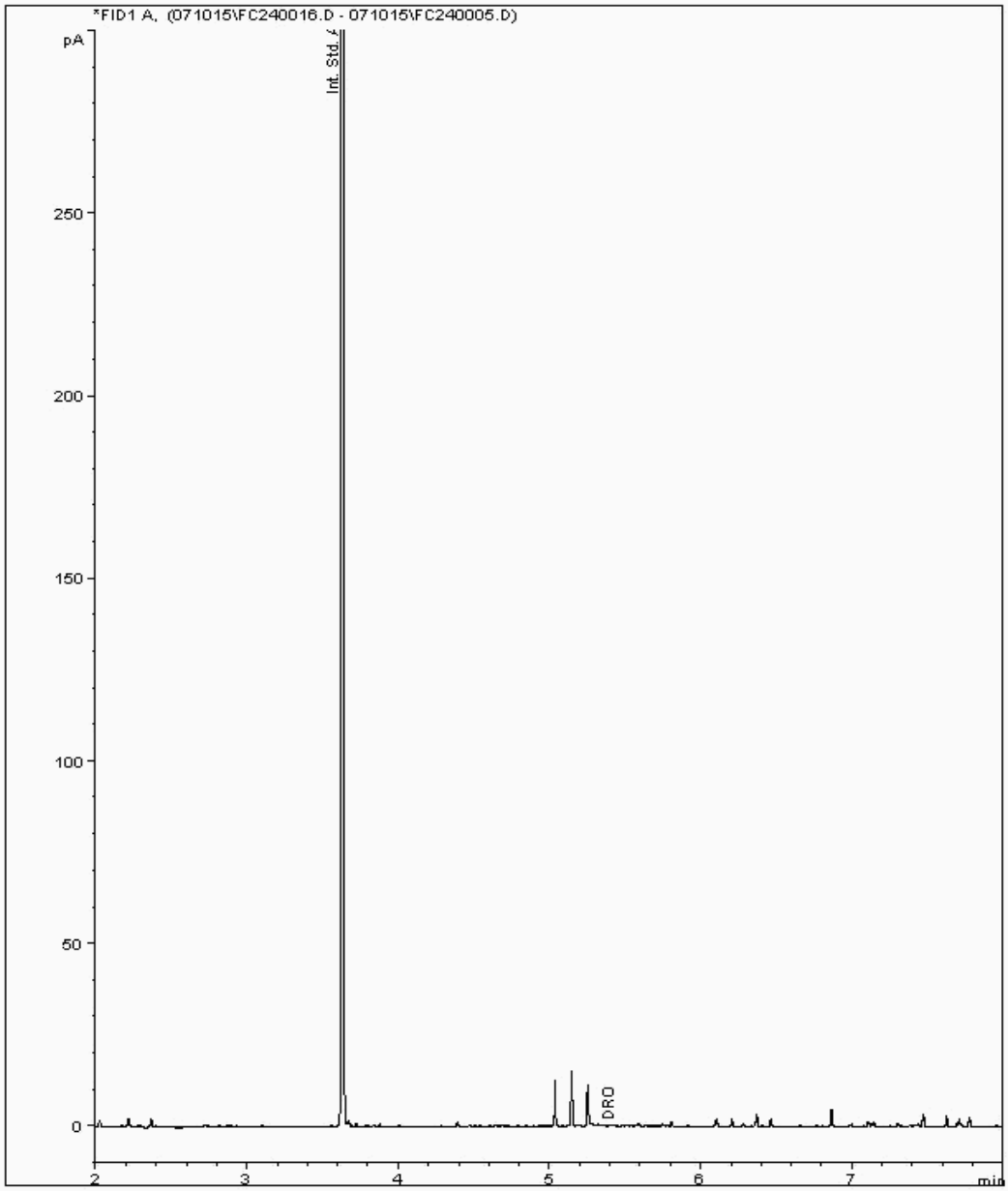
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11665277
Sample ID : BH53

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11071293-
Date Acquired : 10/07/2015 21:46:38 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

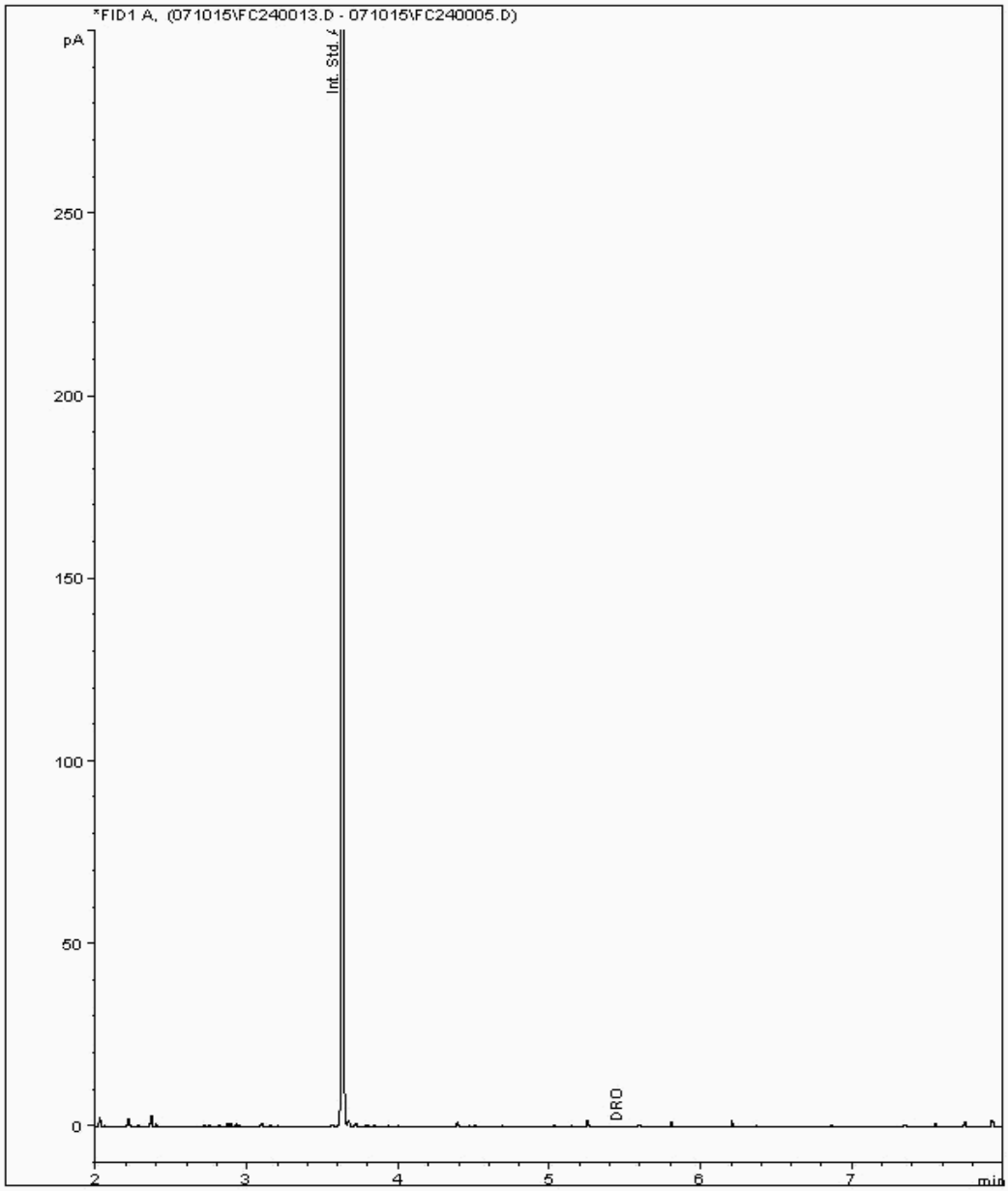
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11665278
Sample ID : BH22

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: l1071302-
Date Acquired : 10/07/2015 20:38:55 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

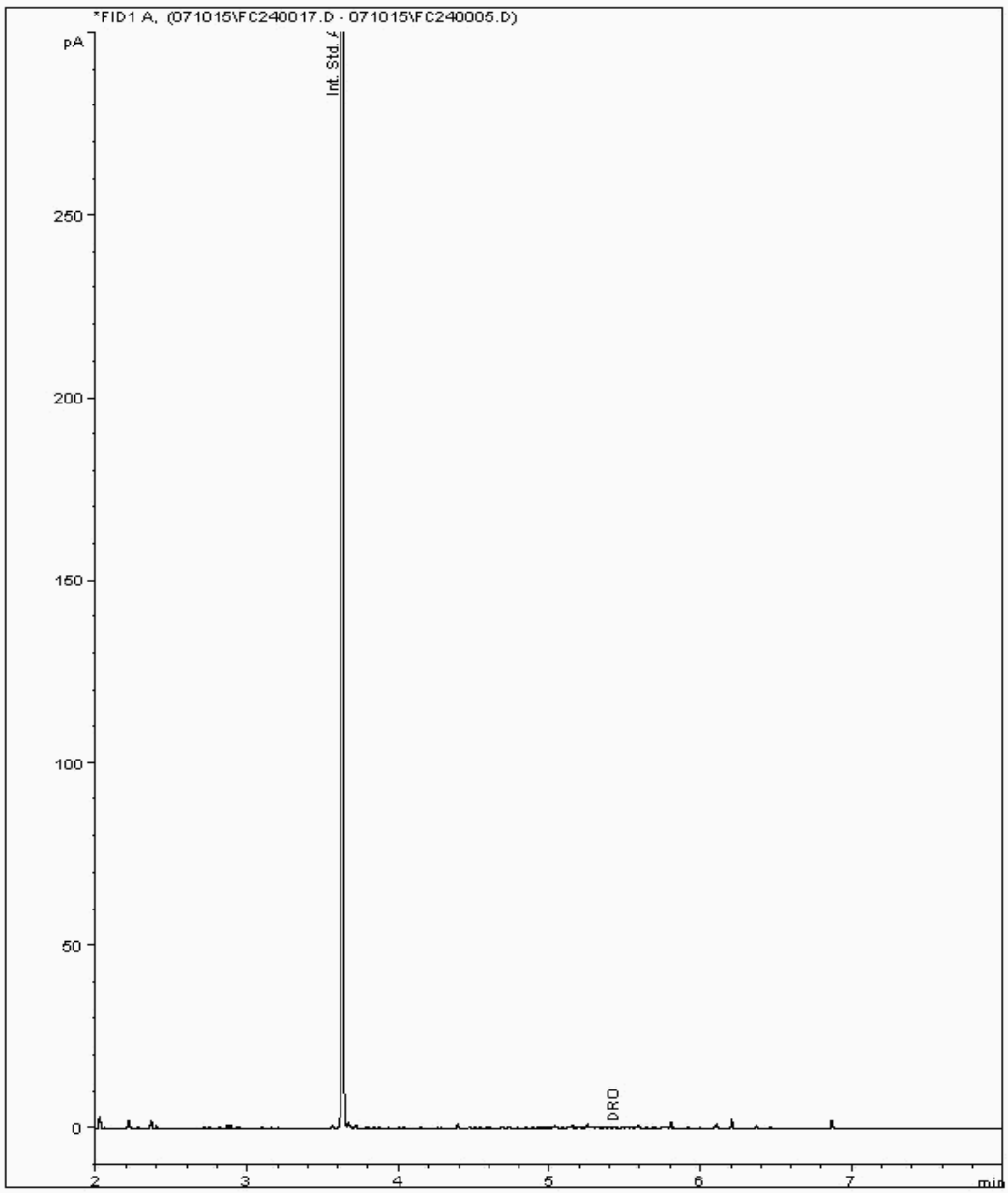
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11665279
Sample ID : BH20

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11071299-
Date Acquired : 10/07/2015 22:09:07 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

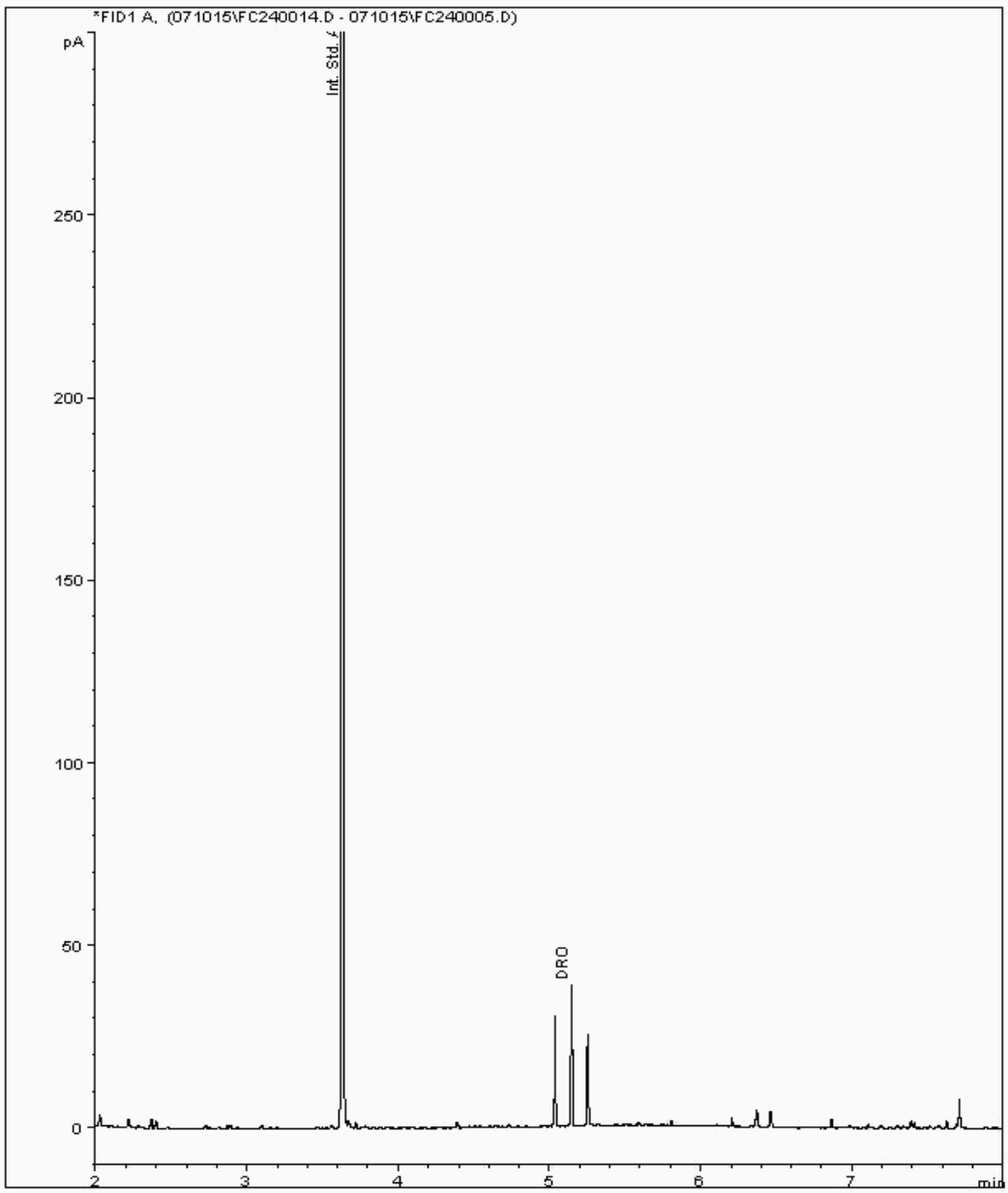
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11665490
Sample ID : BH47a

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11071305-
Date Acquired : 10/07/2015 21:01:25 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

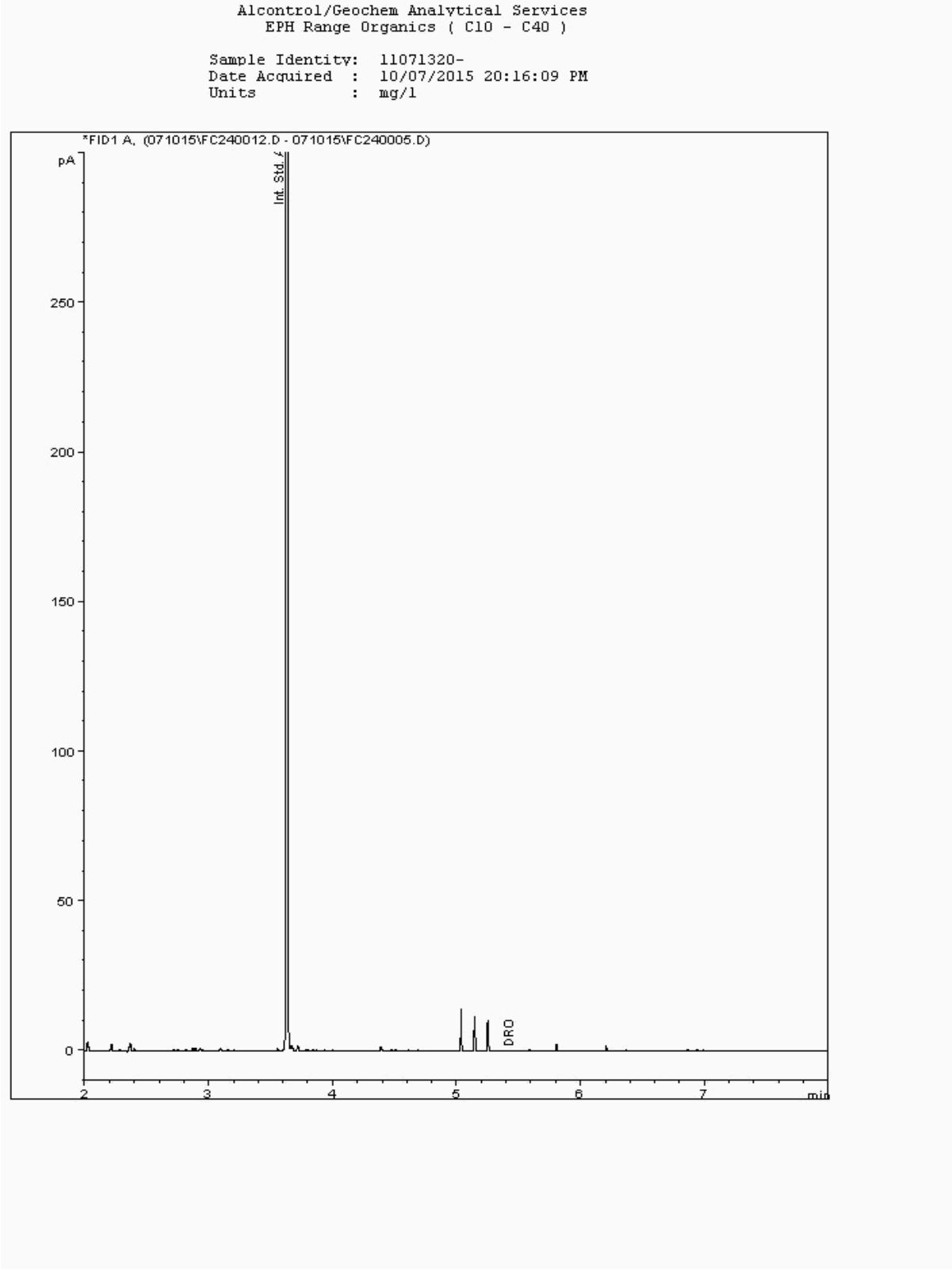
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11665491
Sample ID : BH26

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

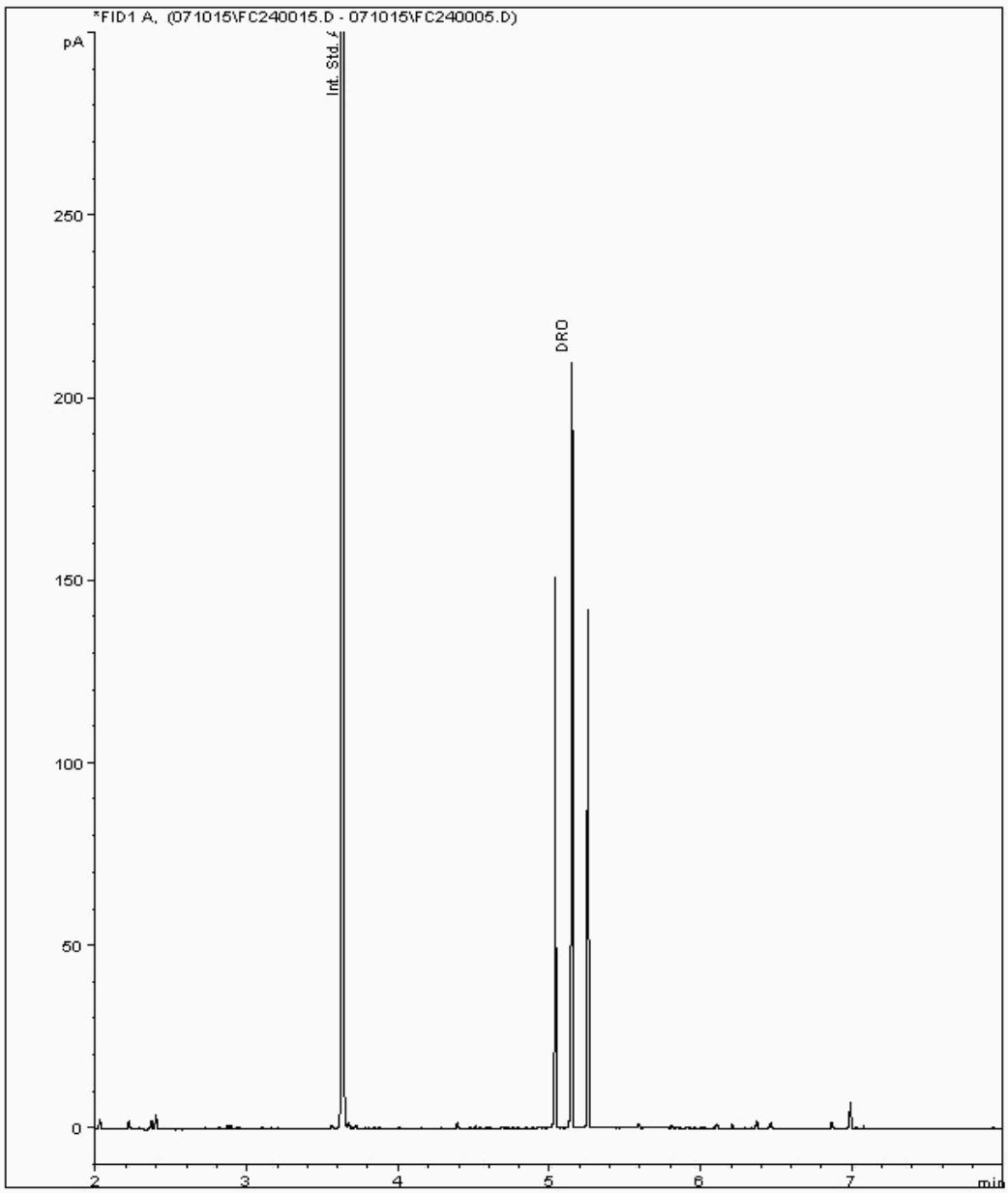
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11665492
Sample ID : BH 60b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11071333-
Date Acquired : 10/07/2015 21:23:57 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

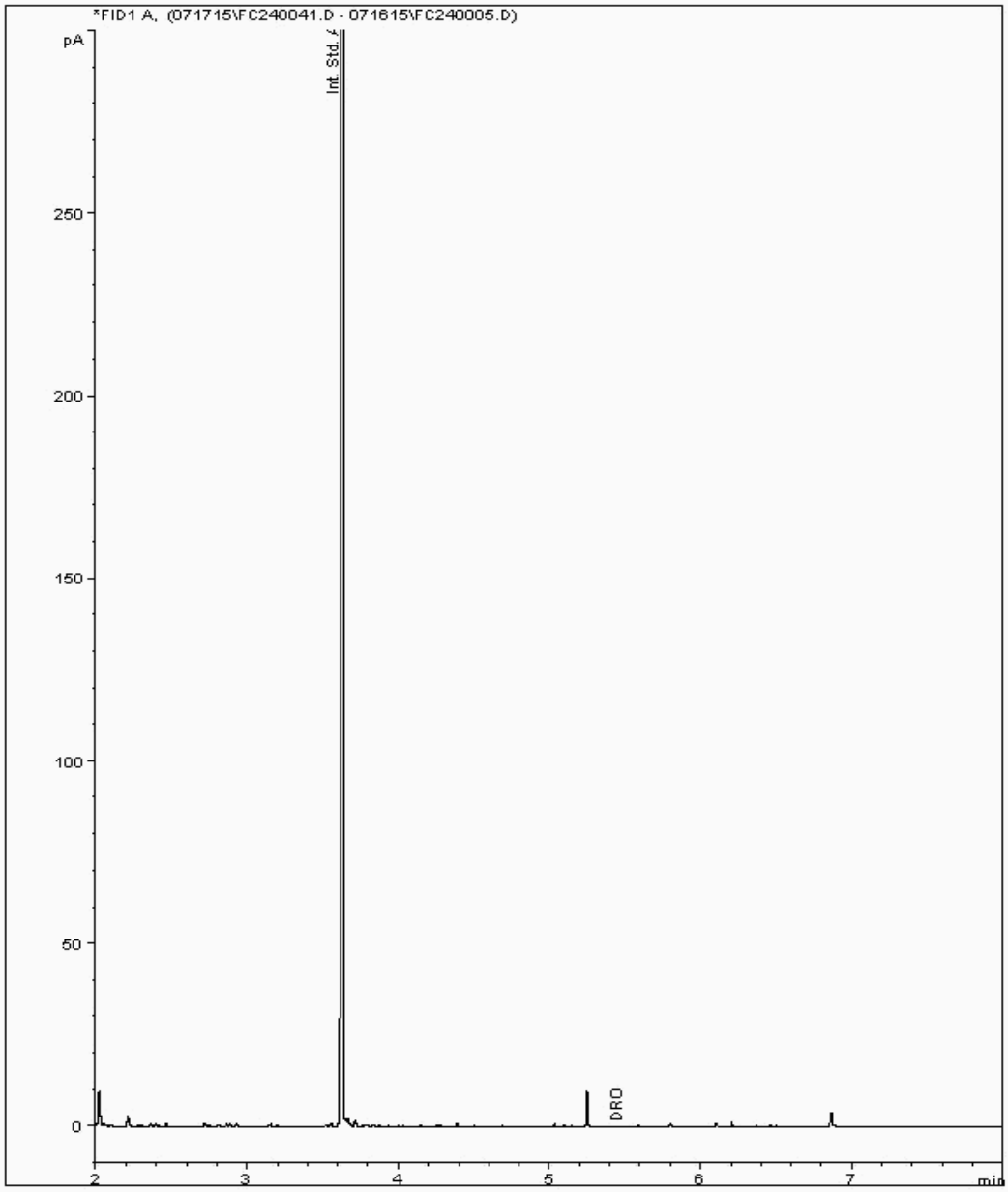
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11731844
Sample ID : BH65

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11124497-
Date Acquired : 18/07/2015 08:55:30 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

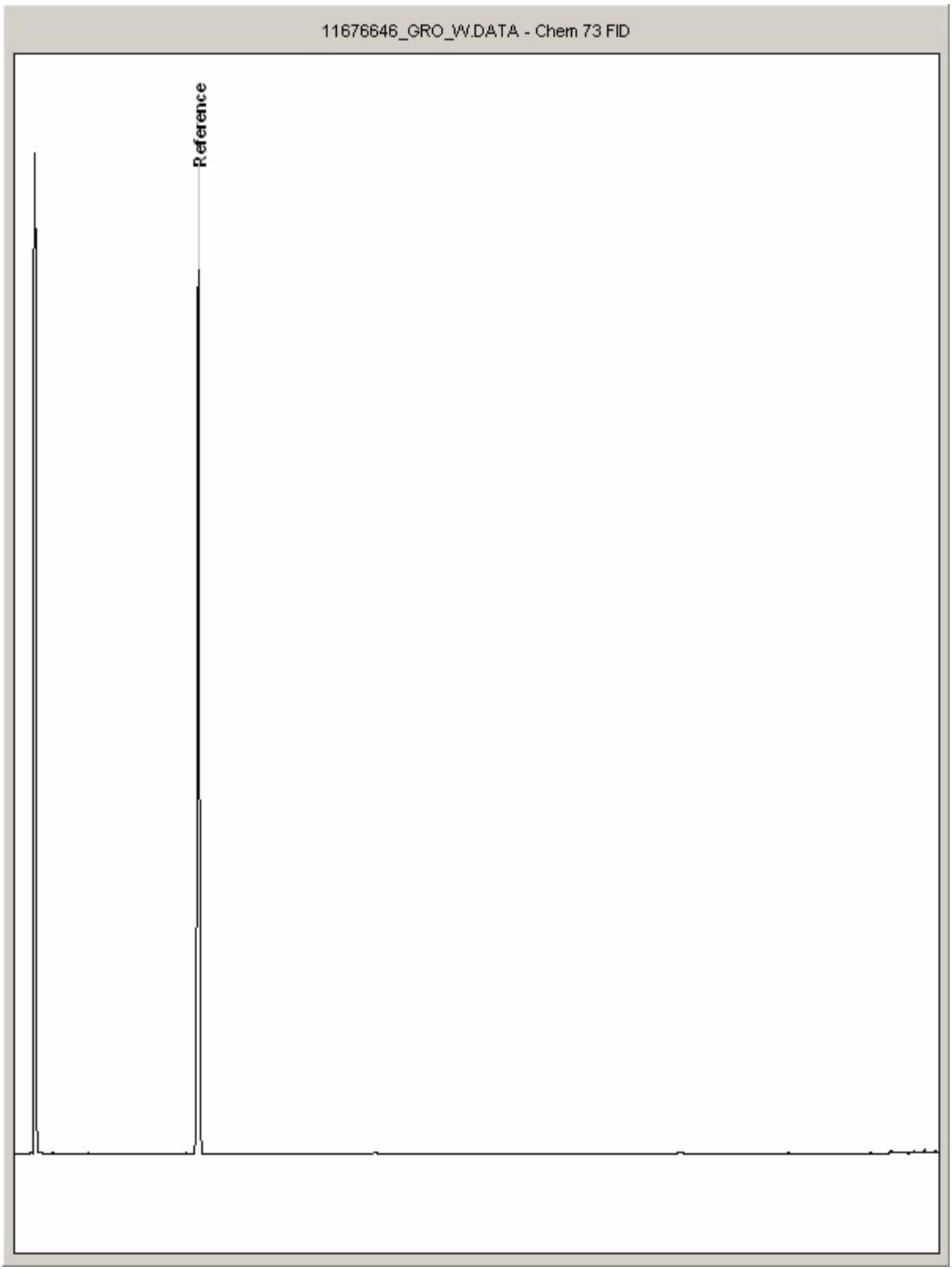
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11676646
Sample ID : BH26

Depth :



CERTIFICATE OF ANALYSIS

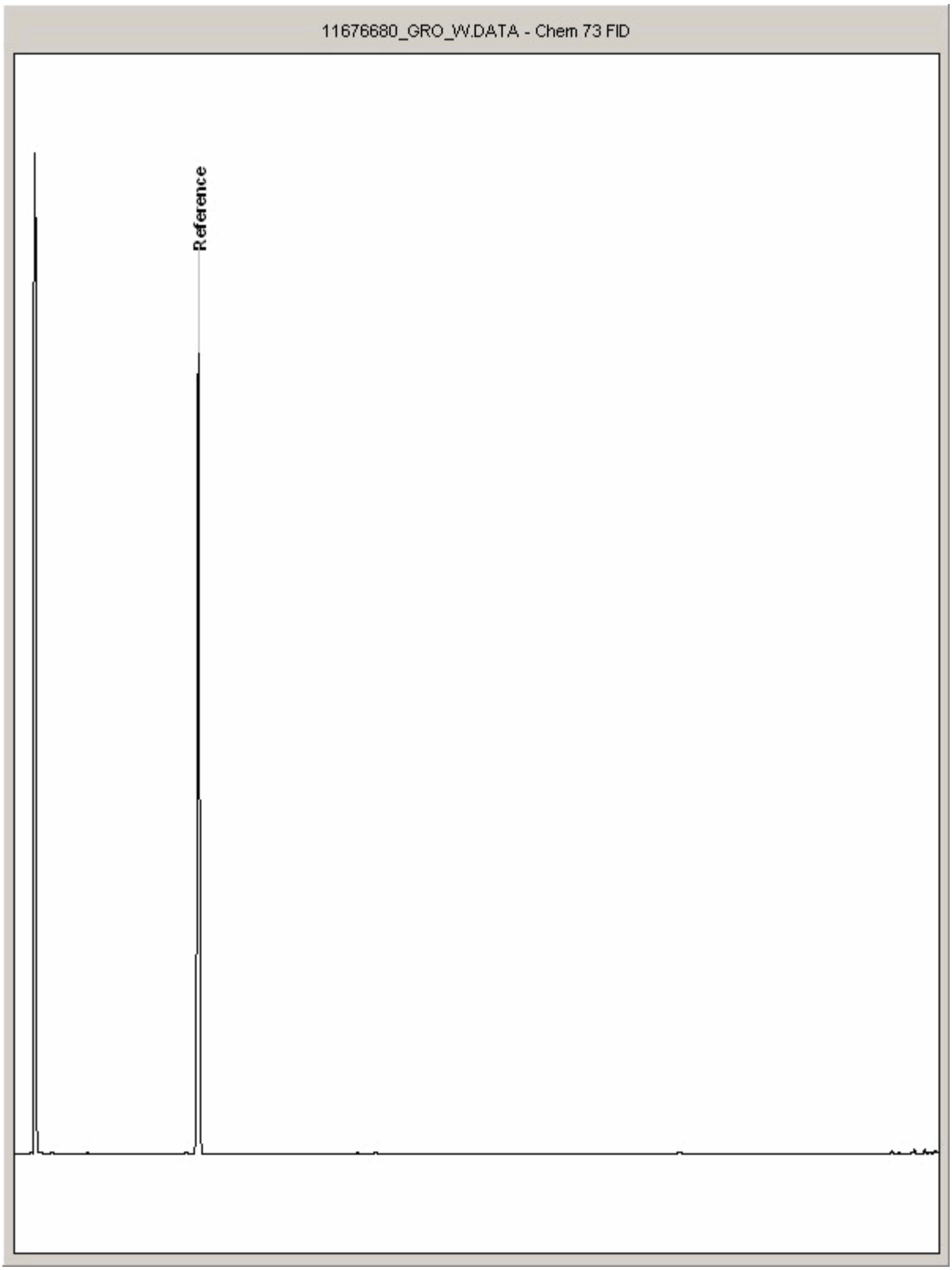
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11676680
Sample ID : BH 60b

Depth :



CERTIFICATE OF ANALYSIS

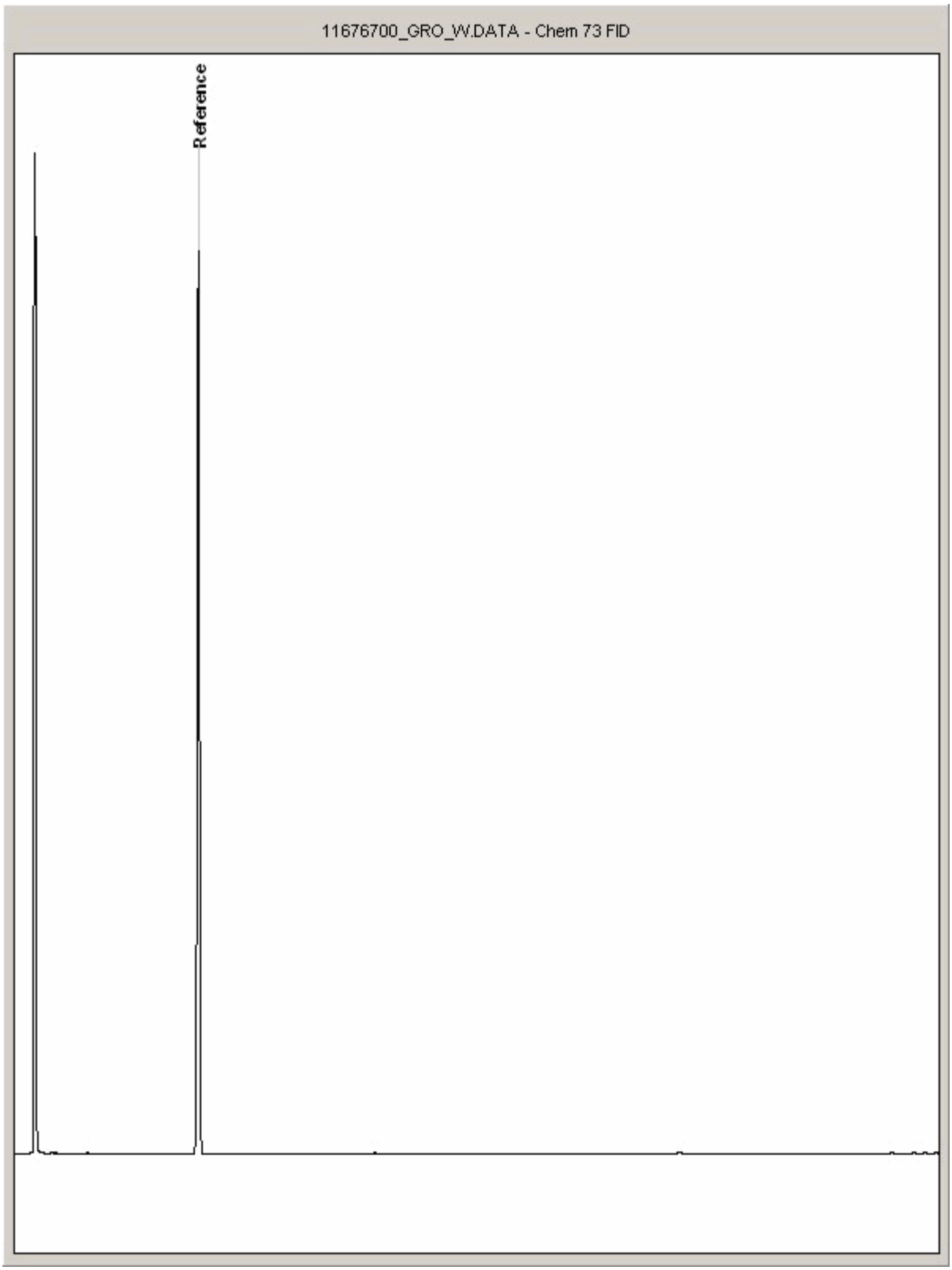
SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11676700
Sample ID : BH47a

Depth :



CERTIFICATE OF ANALYSIS

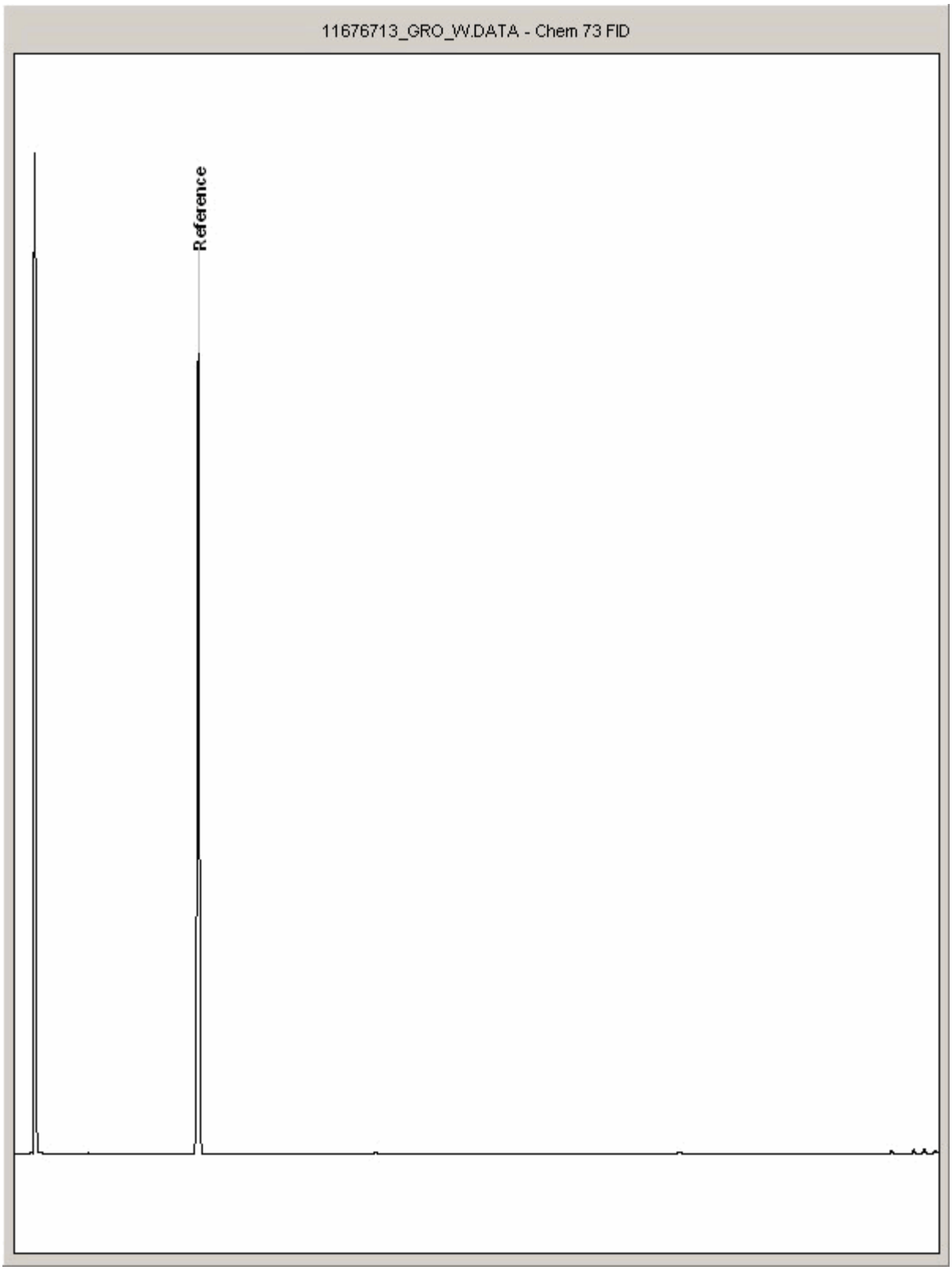
SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11676713
Sample ID : BH20

Depth :



CERTIFICATE OF ANALYSIS

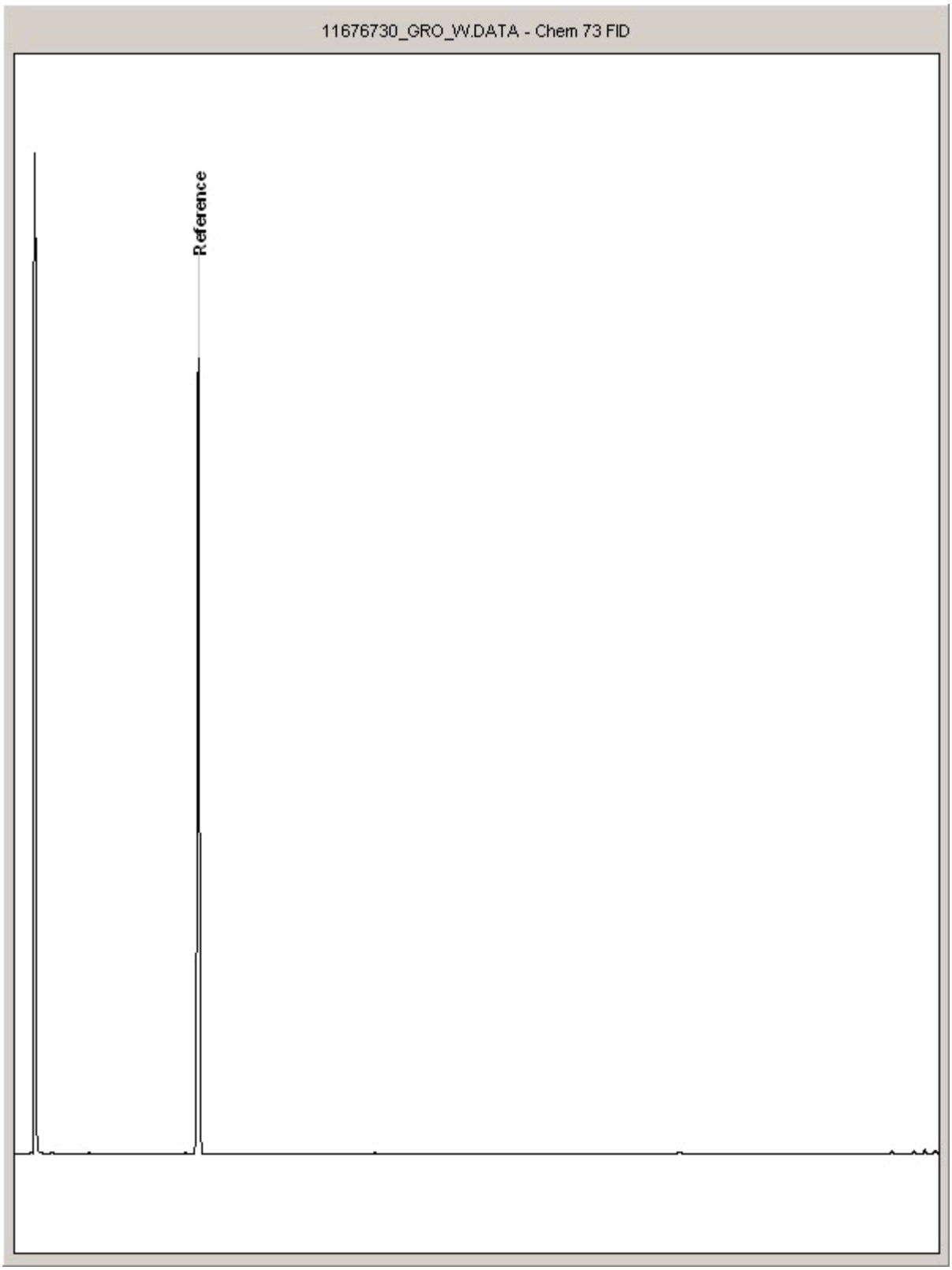
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11676730
Sample ID : BH22

Depth :



CERTIFICATE OF ANALYSIS

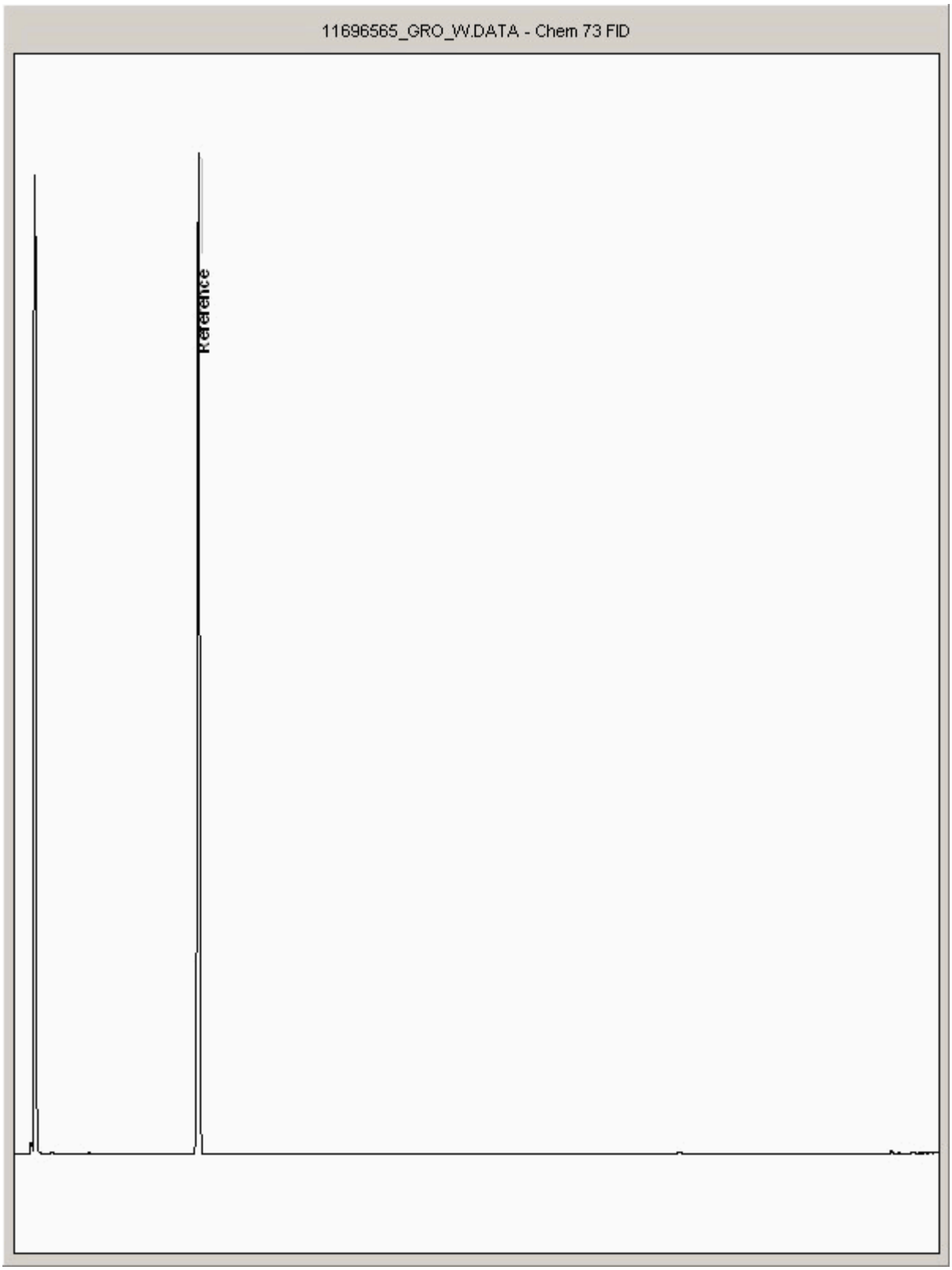
SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11696565
Sample ID : BH53

Depth :



CERTIFICATE OF ANALYSIS

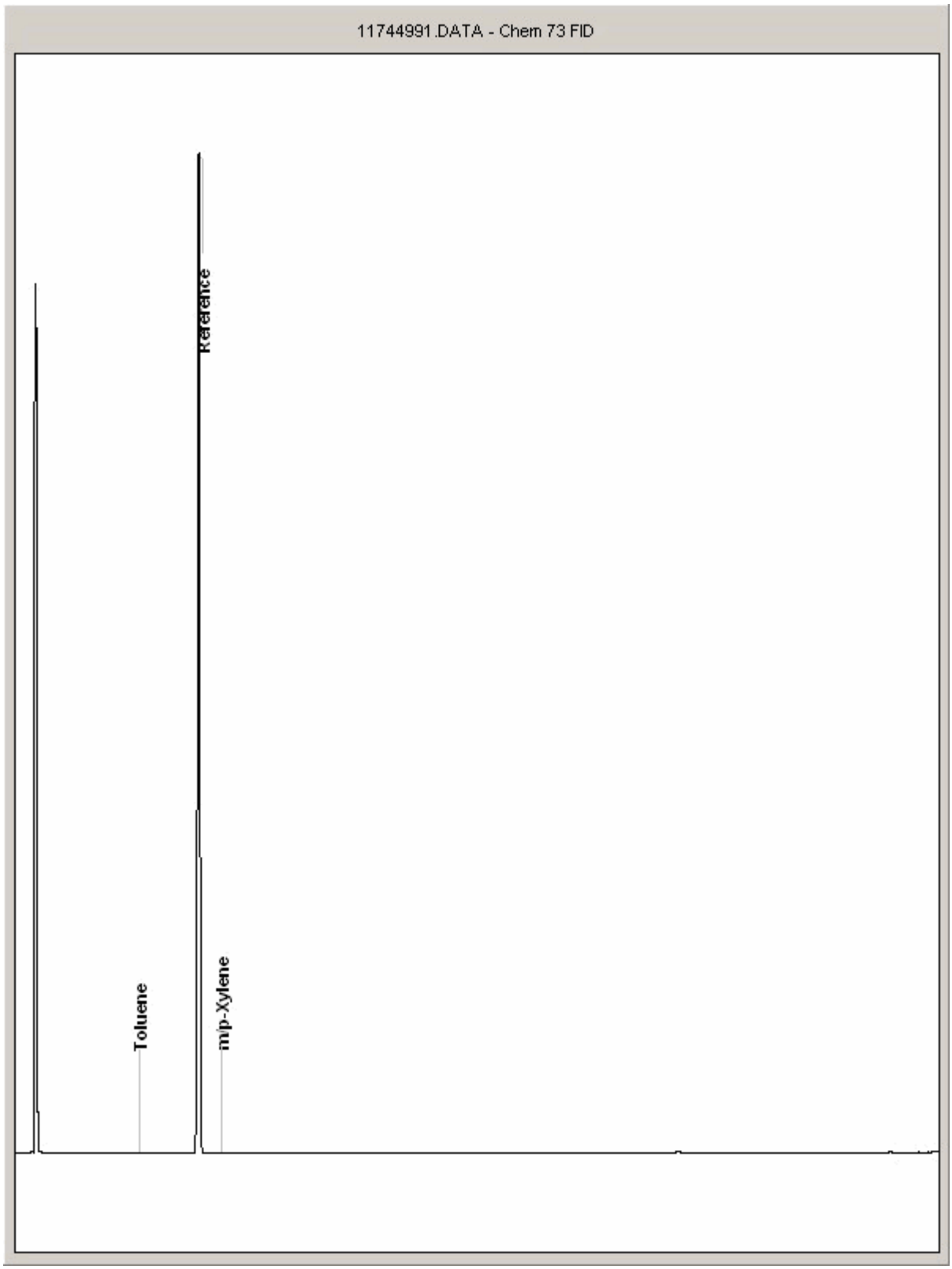
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11744991
Sample ID : BH65

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150703-101	**Location:**	SHLNG	**Order Number:**	PO15-432
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	321838
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	321794

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

Unit 7-8 Hawarden Business Park
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Hawarden
Deeside
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Tel: (01244) 528700
Fax: (01244) 528701
email: mkt@alcontrol.com
Website: www.alcontrol.com

RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

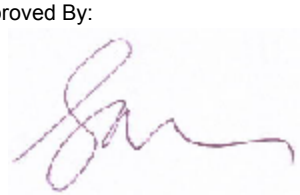
Date:	14 July 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150704-64
Your Reference:	JER5575U
Location:	SHLNG
Report No:	320820

We received 14 samples on Saturday July 04, 2015 and 7 of these samples were scheduled for analysis which was completed on Tuesday July 14, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11657372	BH01			27/06/2015
11657374	BH18			27/06/2015
11657376	BH19			27/06/2015
11657370	BH49			17/06/2015
11657383	BH50			02/07/2015
11657381	BH61a			27/06/2015
11657382	BH61a DUPLICATE			27/06/2015
11657379	BH36b			27/06/2015
11657380	BH36b DUPLICATE			27/06/2015
11657373	BH01 DUPLICATE			27/06/2015
11657375	BH18 DUPLICATE			27/06/2015
11657377	BH19 DUPLICATE			27/06/2015
11657371	BH49 DUPLICATE			17/06/2015
11657384	BH50 DUPLICATE			02/07/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11657372	BH01			1000ml glass bottle
			11657372	BH01			Vial (ALE297)
			11657374	BH18			1000ml glass bottle
			11657374	BH18			Vial (ALE297)
			11657376	BH19			1000ml glass bottle
			11657376	BH19			Vial (ALE297)
			11657370	BH49			1000ml glass bottle
			11657370	BH49			Vial (ALE297)
			11657383	BH50			1000ml glass bottle
			11657383	BH50			Vial (ALE297)
			11657381	BH61a			1000ml glass bottle
			11657381	BH61a			Vial (ALE297)
			11657379	BH36b			1000ml glass bottle
			11657379	BH36b			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 7	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 7	X	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH01	BH18	BH19	BH49	BH50	BH61a
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	27/06/2015	27/06/2015	27/06/2015	17/06/2015	02/07/2015	27/06/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	04/07/2015	04/07/2015	04/07/2015	04/07/2015	04/07/2015	04/07/2015
			SDG Ref	150704-64	150704-64	150704-64	150704-64	150704-64	150704-64
			Lab Sample No.(s)	11657372	11657374	11657376	11657370	11657383	11657381
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	282 #	<46 @ #	<46 @ #	2130 #	799 @ #

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Customer Sample R			BH36b
Depth (m)			.
Sample Type			Water(GW/SW)
Date Sampled			27/06/2015
Sampled Time			.
Date Received			04/07/2015
SDG Ref			150704-64
Lab Sample No.(s)			11657379
AGS Reference			
Component	**LOD/Units**	**Method**	
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172	<46 @ #

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	BH01	BH18	BH19	BH49	BH50	BH61a
#	ISO17025 accredited.							
M	*m*CERTS accredited.							
aq	Aqueous / settled sample.	Depth (m)	.	.	.	.	.	.
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
tot.unfilt	Total / unfiltered sample.	Date Sampled	27/06/2015	27/06/2015	27/06/2015	17/06/2015	02/07/2015	27/06/2015
*	Subcontracted test.	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	04/07/2015	04/07/2015	04/07/2015	04/07/2015	04/07/2015	04/07/2015
		SDG Ref	150704-64	150704-64	150704-64	150704-64	150704-64	150704-64
(F)	Trigger breach confirmed	Lab Sample No.(s)	11657372	11657374	11657376	11657370	11657383	11657381
1-5&+§@	Sample deviation (see appendix)	AGS Reference						

Component	LOD/Units	Method						
GRO Surrogate % recovery**	%	TM245	94 1 @	95 @	92 @	93 @	94 1	89 1 @
GRO >C5-C12	<50 µg/l	TM245	<50 1 @ #	<50 @ #	<50 @ #	<50 @ #	3670 1 #	<50 1 @ #

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	BH36b
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	27/06/2015
Sampled Time	.
Date Received	04/07/2015
SDG Ref	150704-64
Lab Sample No.(s)	11657379
AGS Reference	

Component	LOD/Units	Method	
GRO Surrogate % recovery**	%	TM245	82
GRO >C5-C12	<50 µg/l	TM245	<50 #

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11657372	11657374	11657376	11657370	11657383	11657381	11657379
Customer Sample Ref.	BH01	BH18	BH19	BH49	BH50	BH61a	BH36b
AGS Ref.							
Depth							
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	13-Jul-2015	13-Jul-2015	14-Jul-2015	14-Jul-2015	14-Jul-2015	14-Jul-2015	14-Jul-2015
GRO by GC-FID (W)	14-Jul-2015	14-Jul-2015	14-Jul-2015	14-Jul-2015	14-Jul-2015	14-Jul-2015	13-Jul-2015

CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1161	QC 1106	QC 1120
EPH (DRO) (C10-C40)	TM172	**74.5** 59.25 : 105.75	**72.0** 56.50 : 116.50	**75.0** 59.22 : 112.78

GRO by GC-FID (W)

Component	Method Code	QC 1199	QC 1144
Benzene by GC	TM245	**104.5** 77.50 : 122.50	**109.0** 79.00 : 121.00
Ethylbenzene by GC	TM245	**101.0** 77.50 : 122.50	**98.5** 79.00 : 121.00
m & p Xylene by GC	TM245	**100.25** 77.50 : 122.50	**98.0** 79.00 : 121.00
MTBE GC-FID	TM245	**107.5** 77.50 : 122.50	**100.0** 79.00 : 121.00
o Xylene by GC	TM245	**102.5** 77.50 : 122.50	**97.5** 79.00 : 121.00
QC	TM245	**98.16** 74.88 : 125.54	**111.71** 77.50 : 122.50
Toluene by GC	TM245	**103.5** 77.50 : 122.50	**99.5** 79.00 : 121.00

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

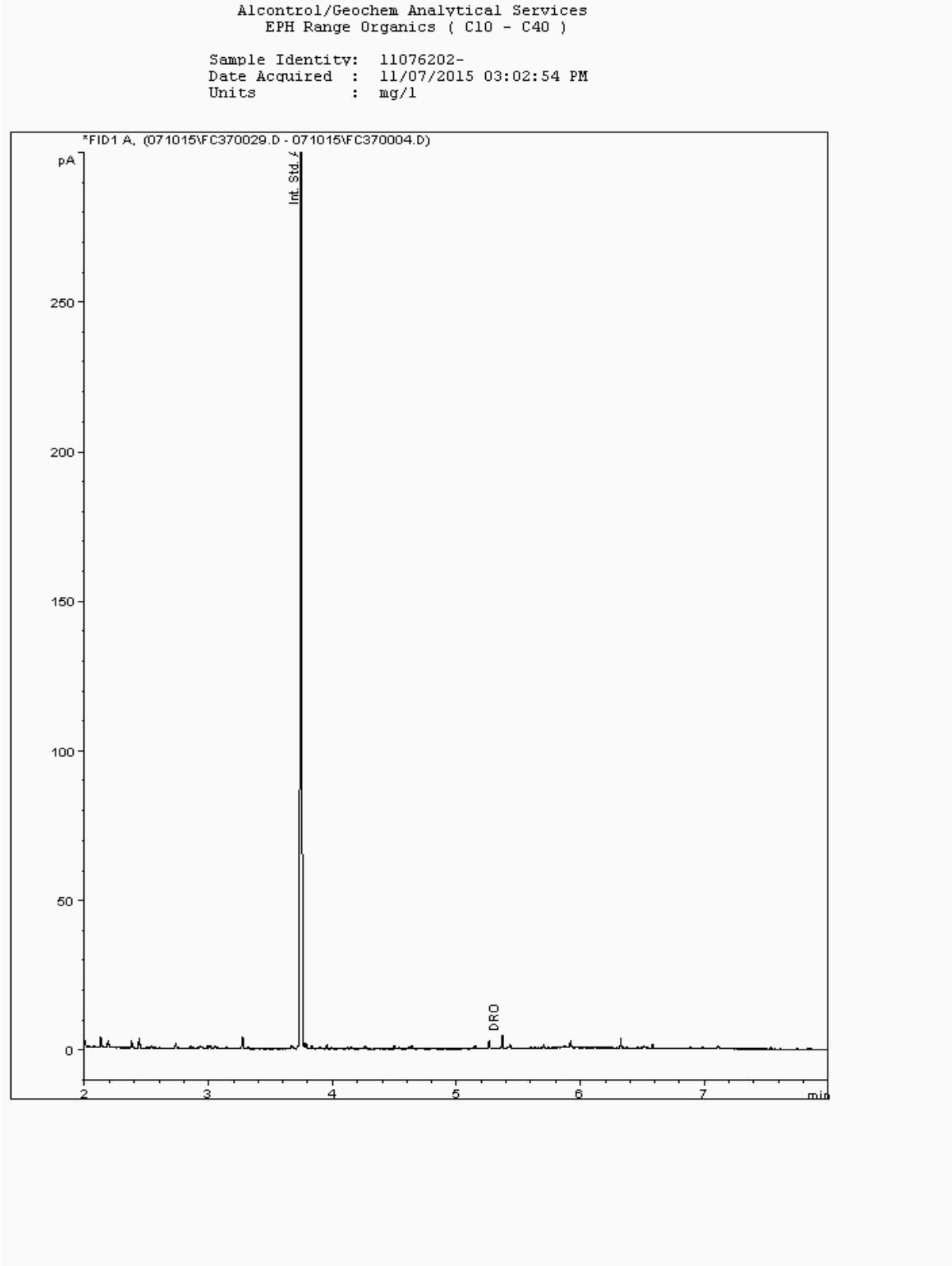
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11660132
Sample ID : BH01

Depth :



CERTIFICATE OF ANALYSIS

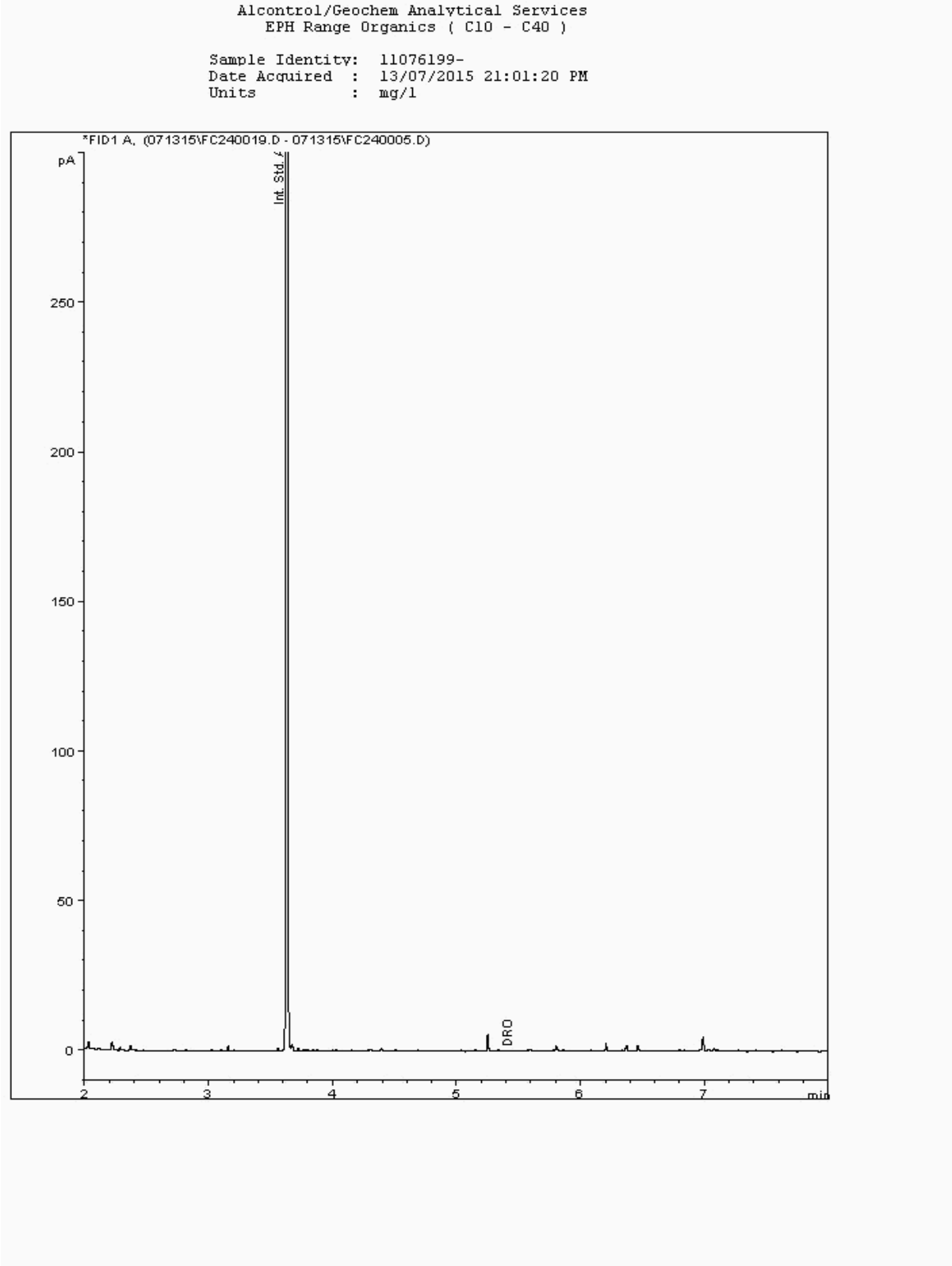
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11660146
Sample ID : BH49

Depth :



CERTIFICATE OF ANALYSIS

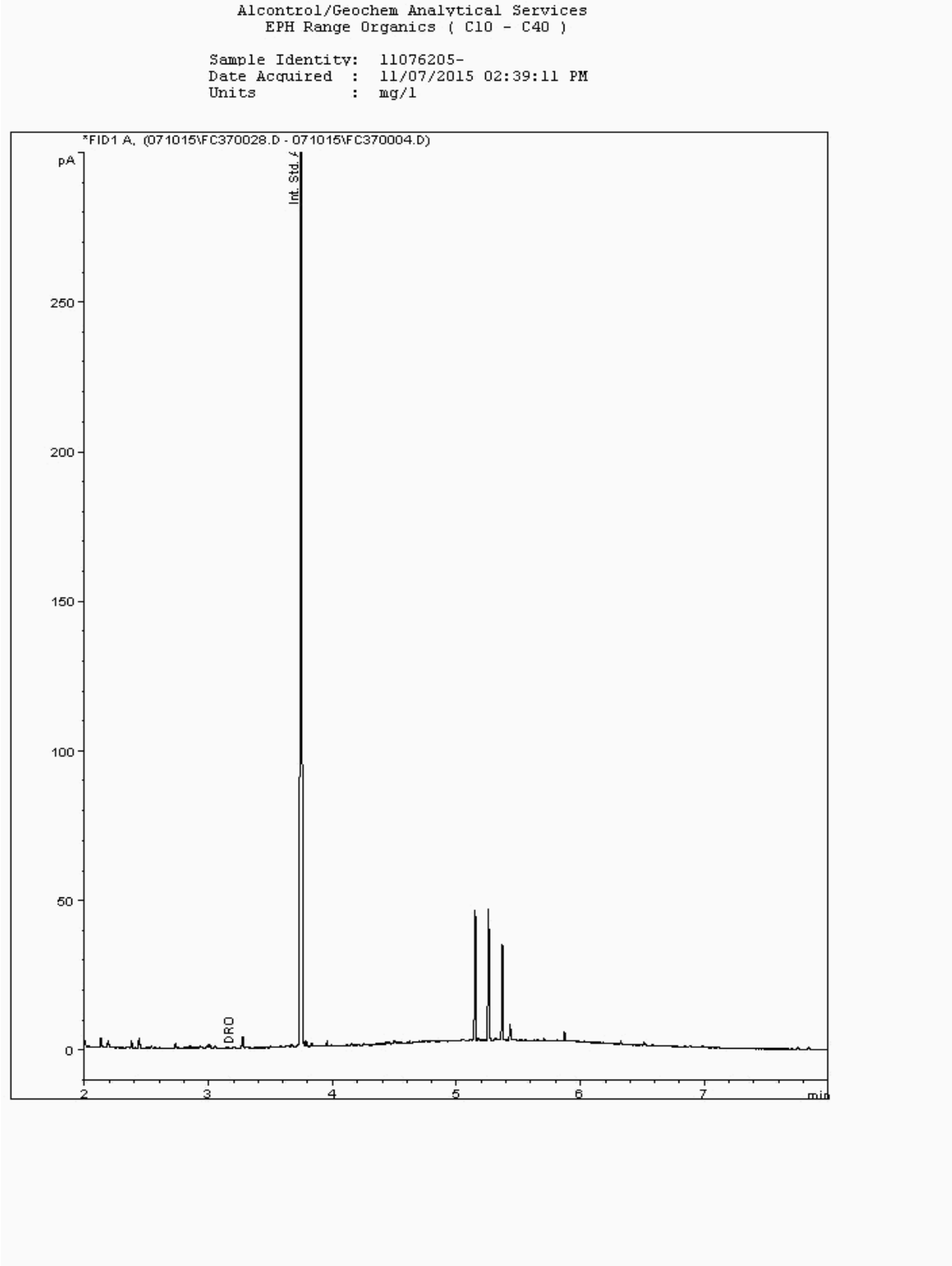
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11660158
Sample ID : BH18

Depth :



CERTIFICATE OF ANALYSIS

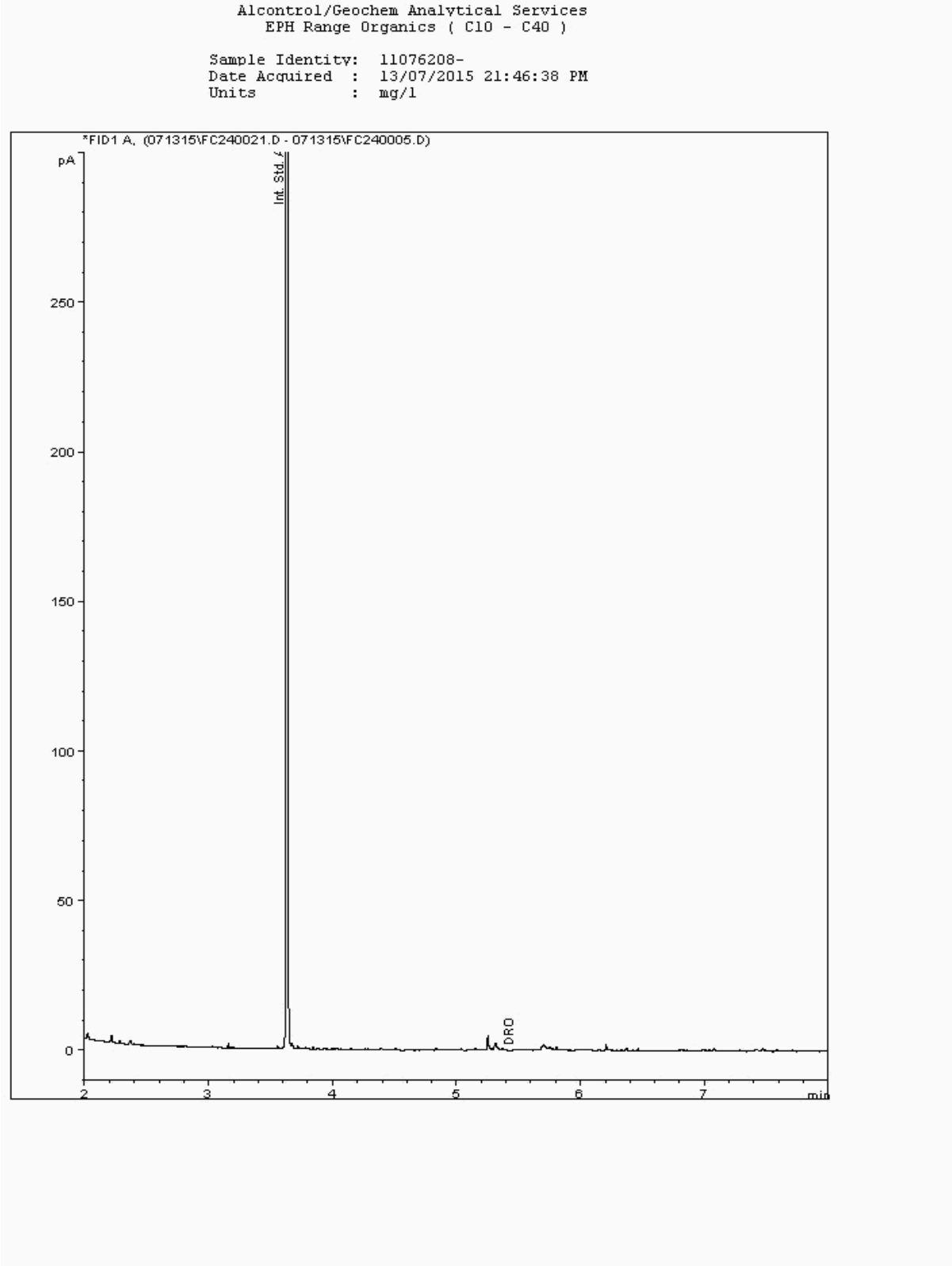
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11667416
Sample ID : BH19

Depth :



CERTIFICATE OF ANALYSIS

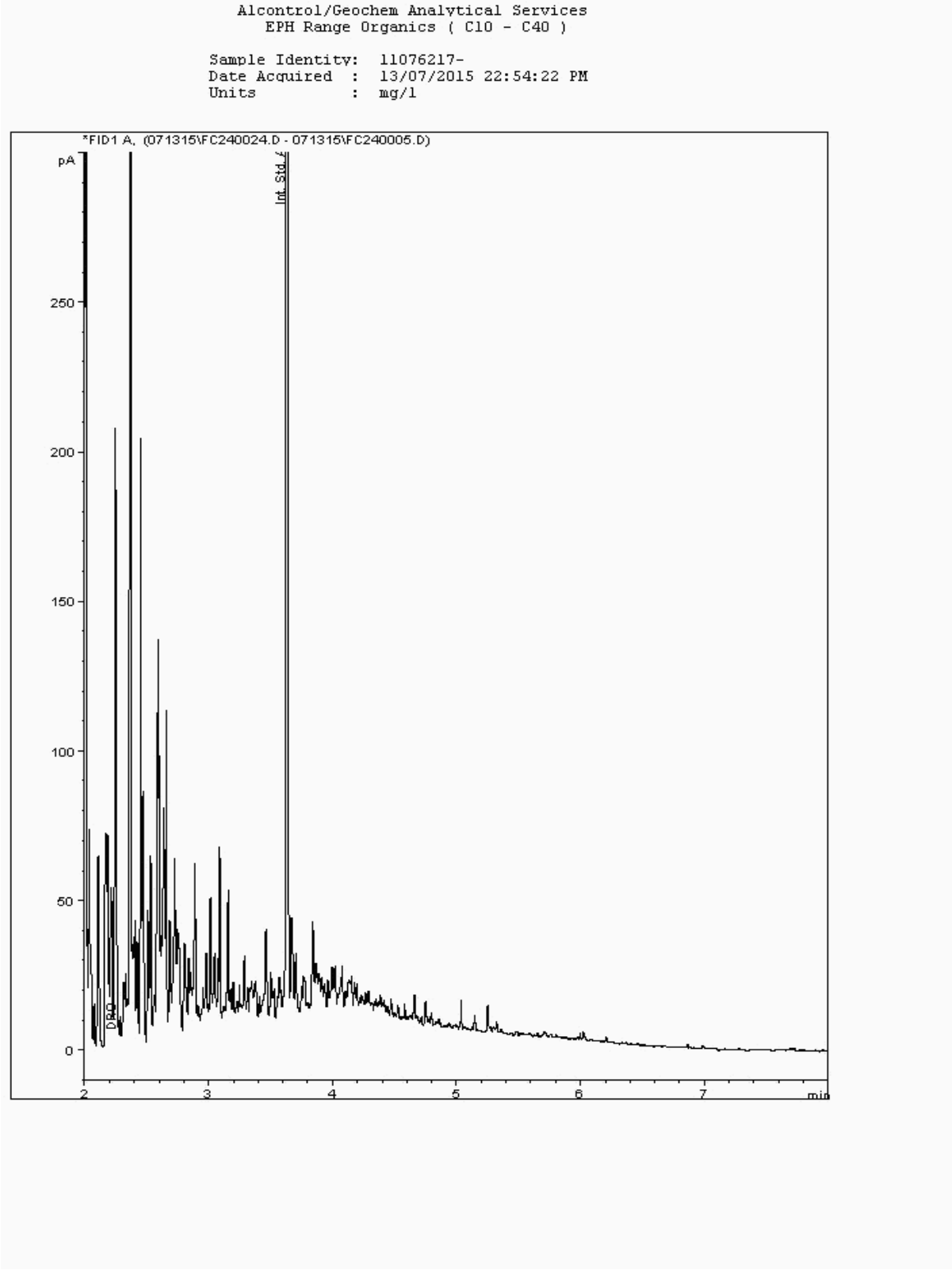
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11667430
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

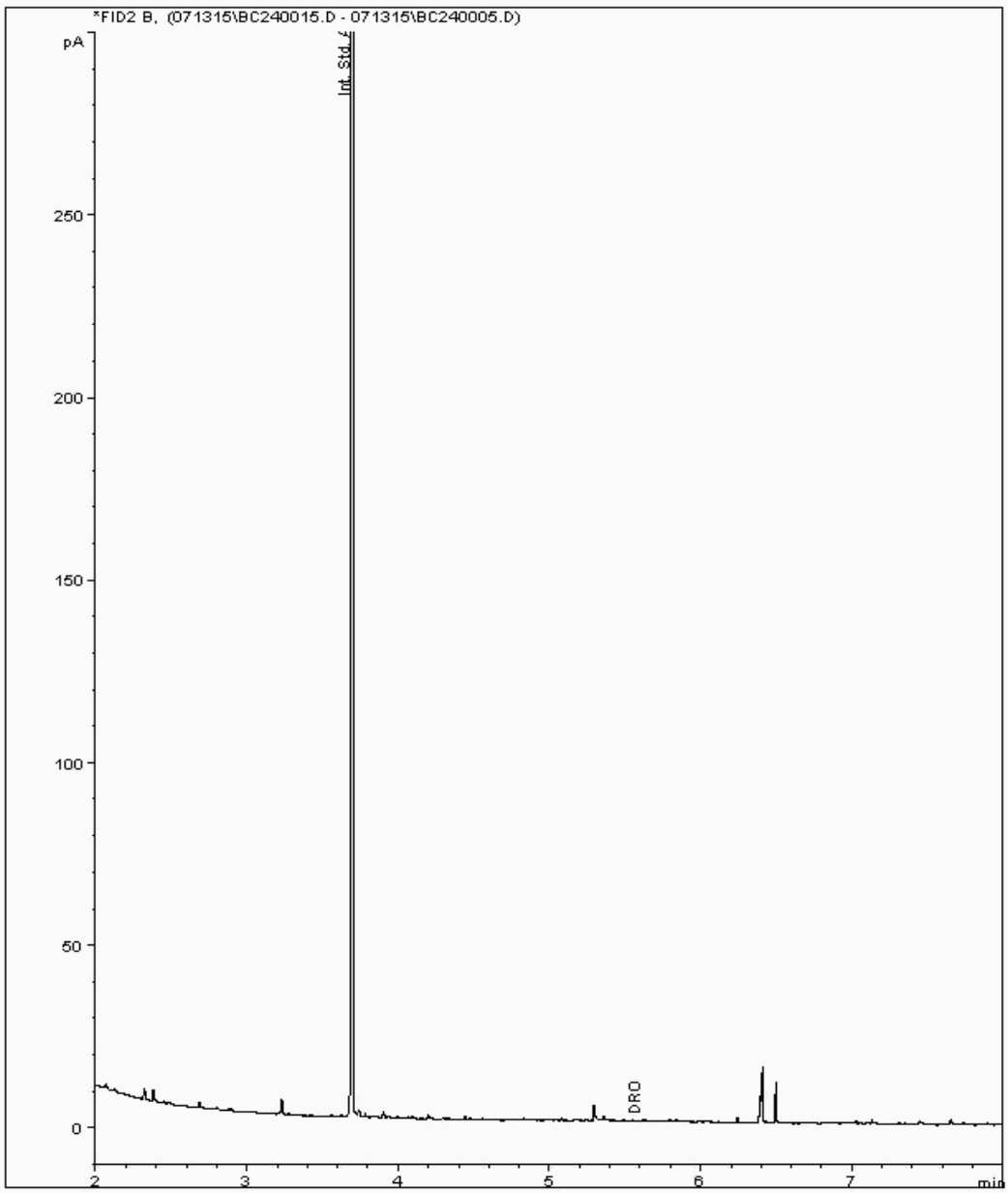
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11667439
Sample ID : BH36b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11076211-
Date Acquired : 13/07/2015 19:30:45 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

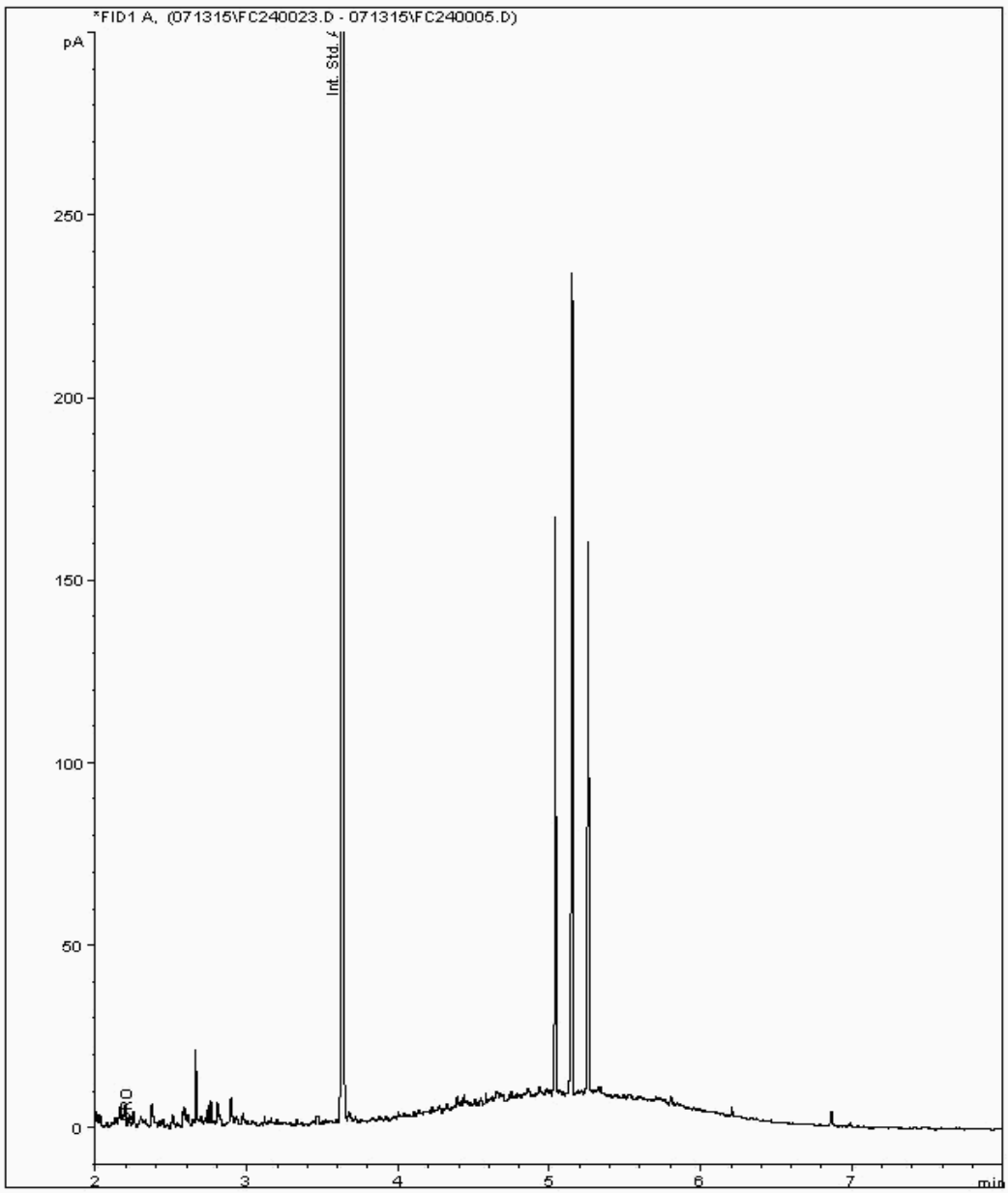
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11667450
Sample ID : BH61a

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11076214-
Date Acquired : 13/07/2015 22:31:37 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

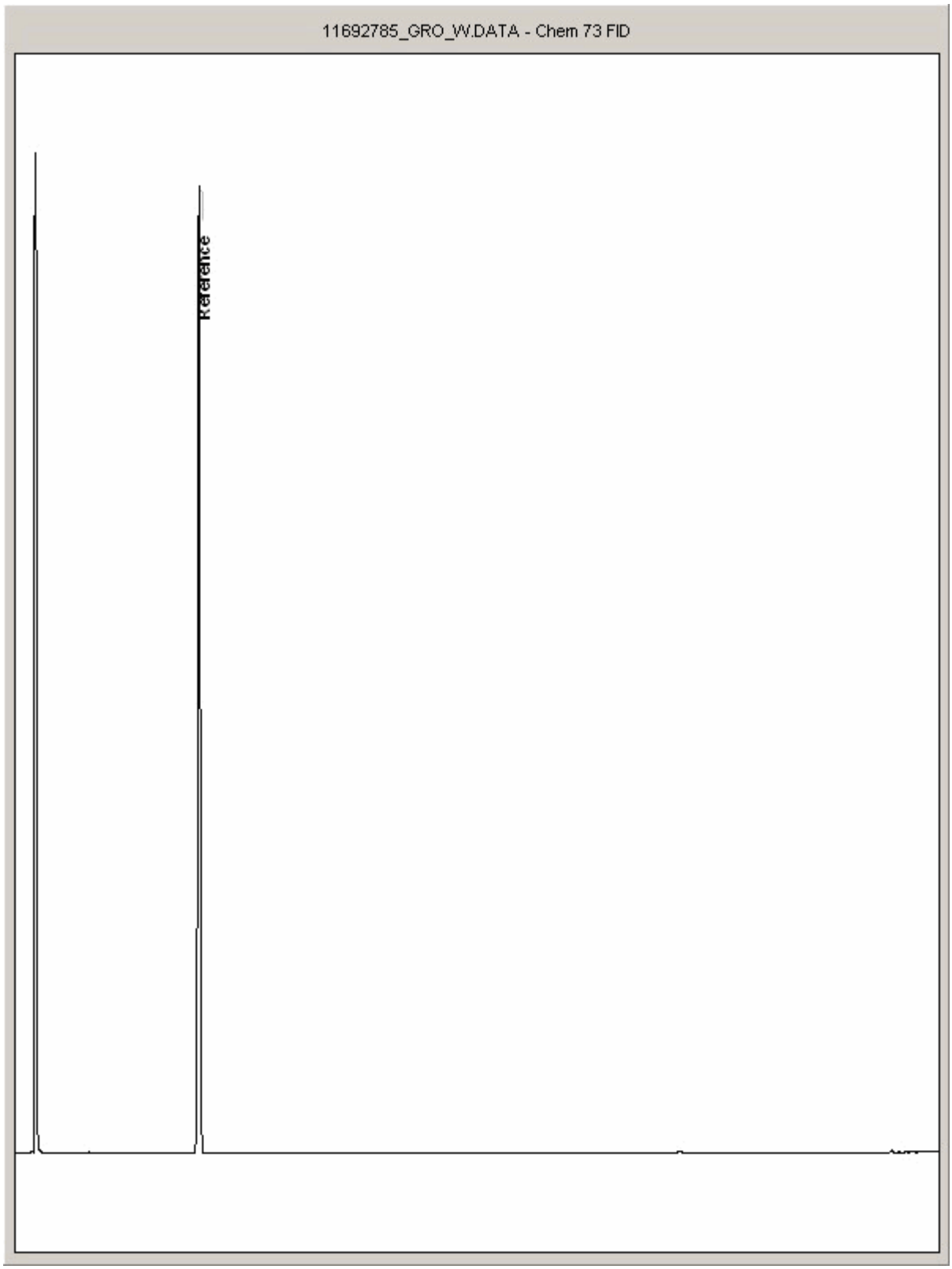
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11692785
Sample ID : BH36b

Depth :



CERTIFICATE OF ANALYSIS

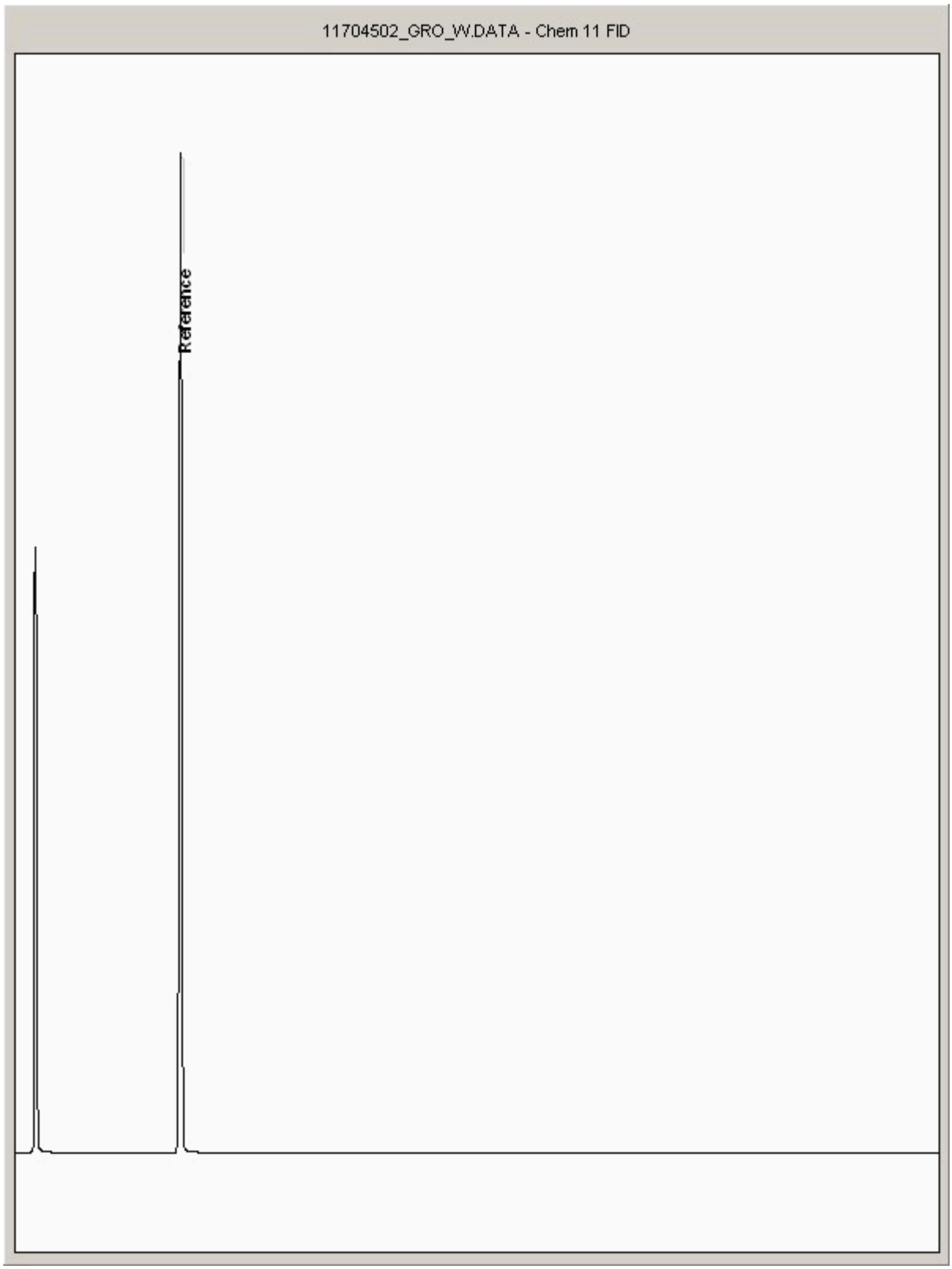
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11704502
Sample ID : BH19

Depth :



CERTIFICATE OF ANALYSIS

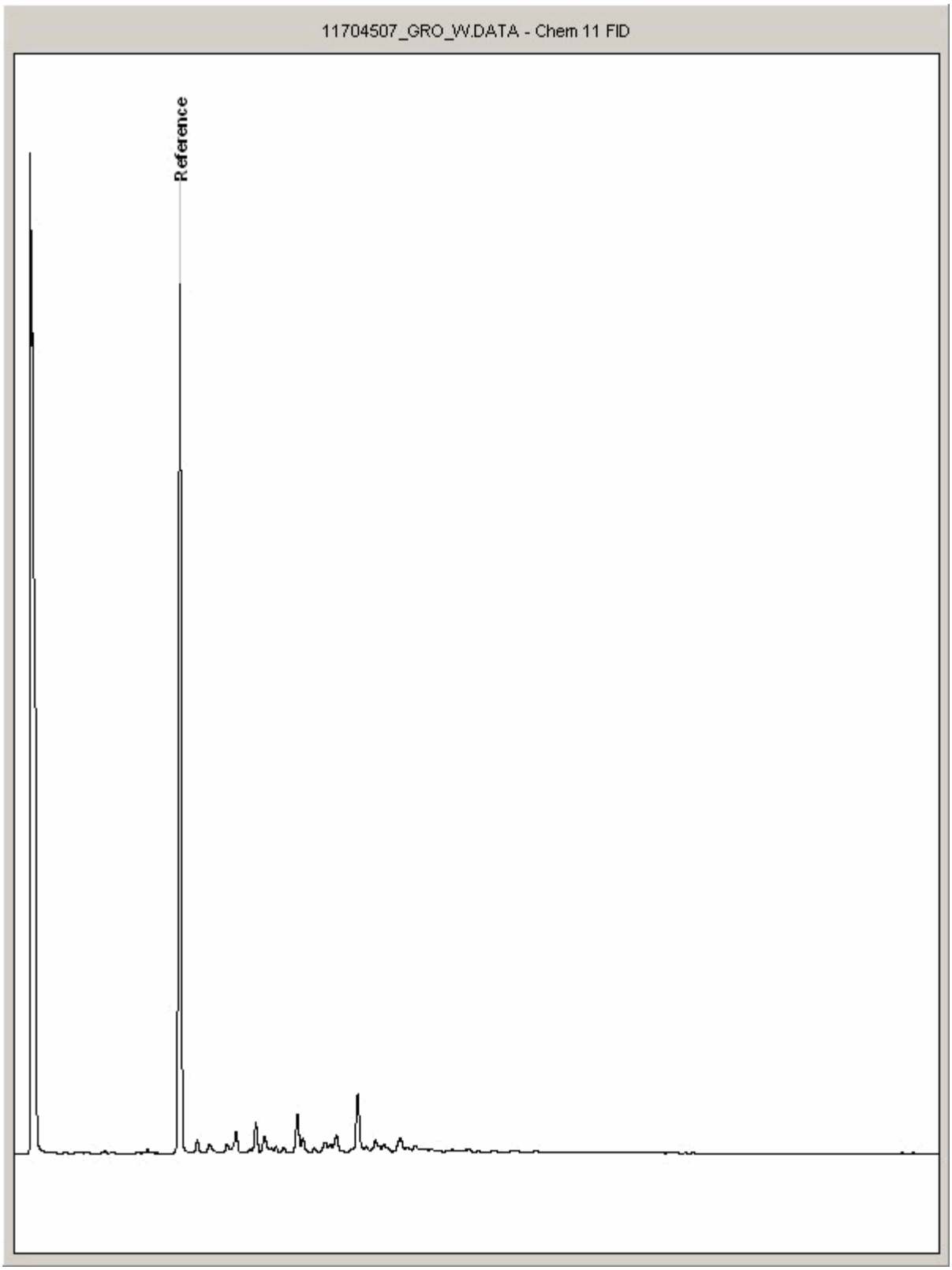
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11704507
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

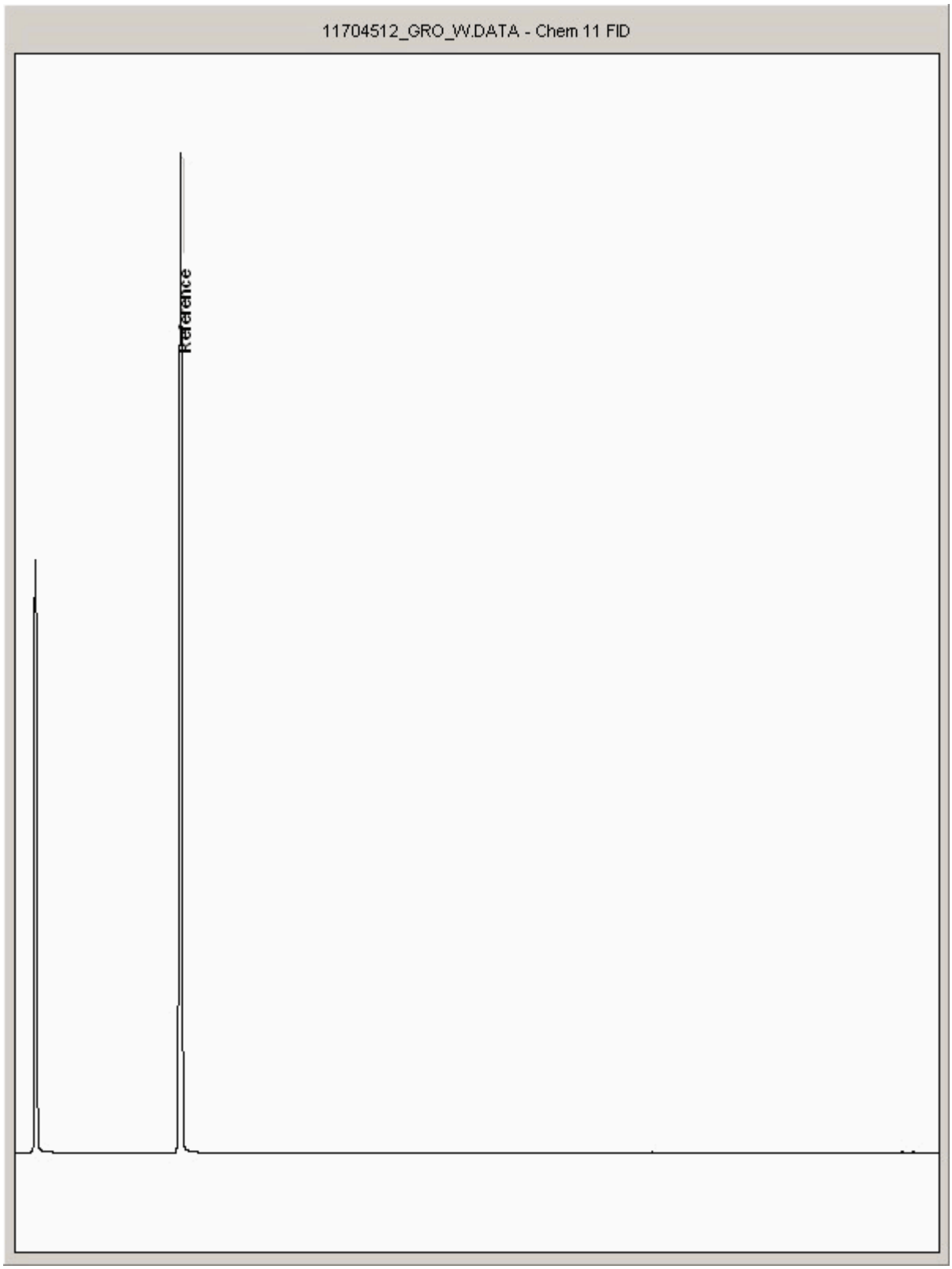
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11704512
Sample ID : BH18

Depth :



CERTIFICATE OF ANALYSIS

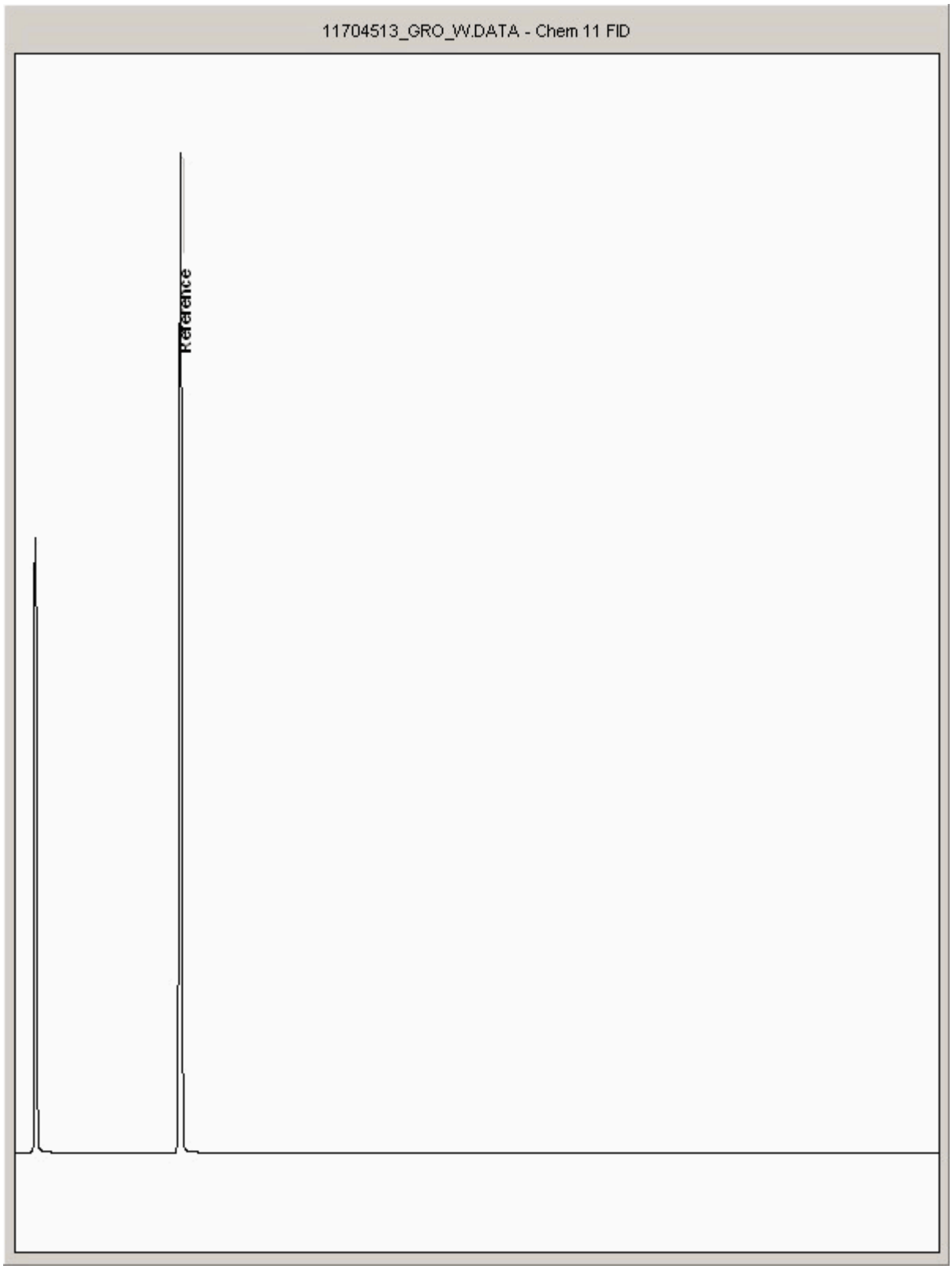
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11704513
Sample ID : BH01

Depth :



CERTIFICATE OF ANALYSIS

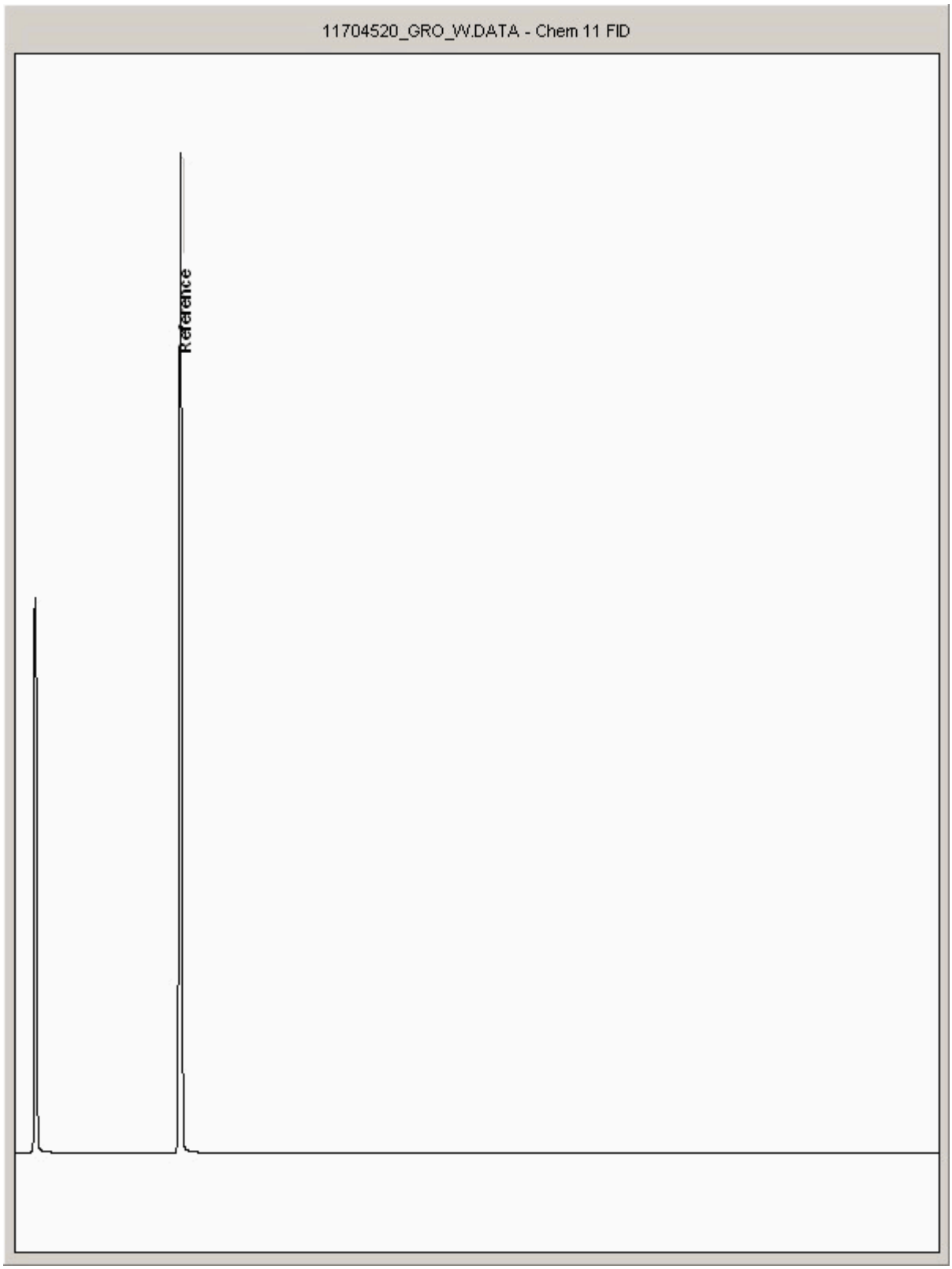
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11704520
Sample ID : BH49

Depth :



CERTIFICATE OF ANALYSIS

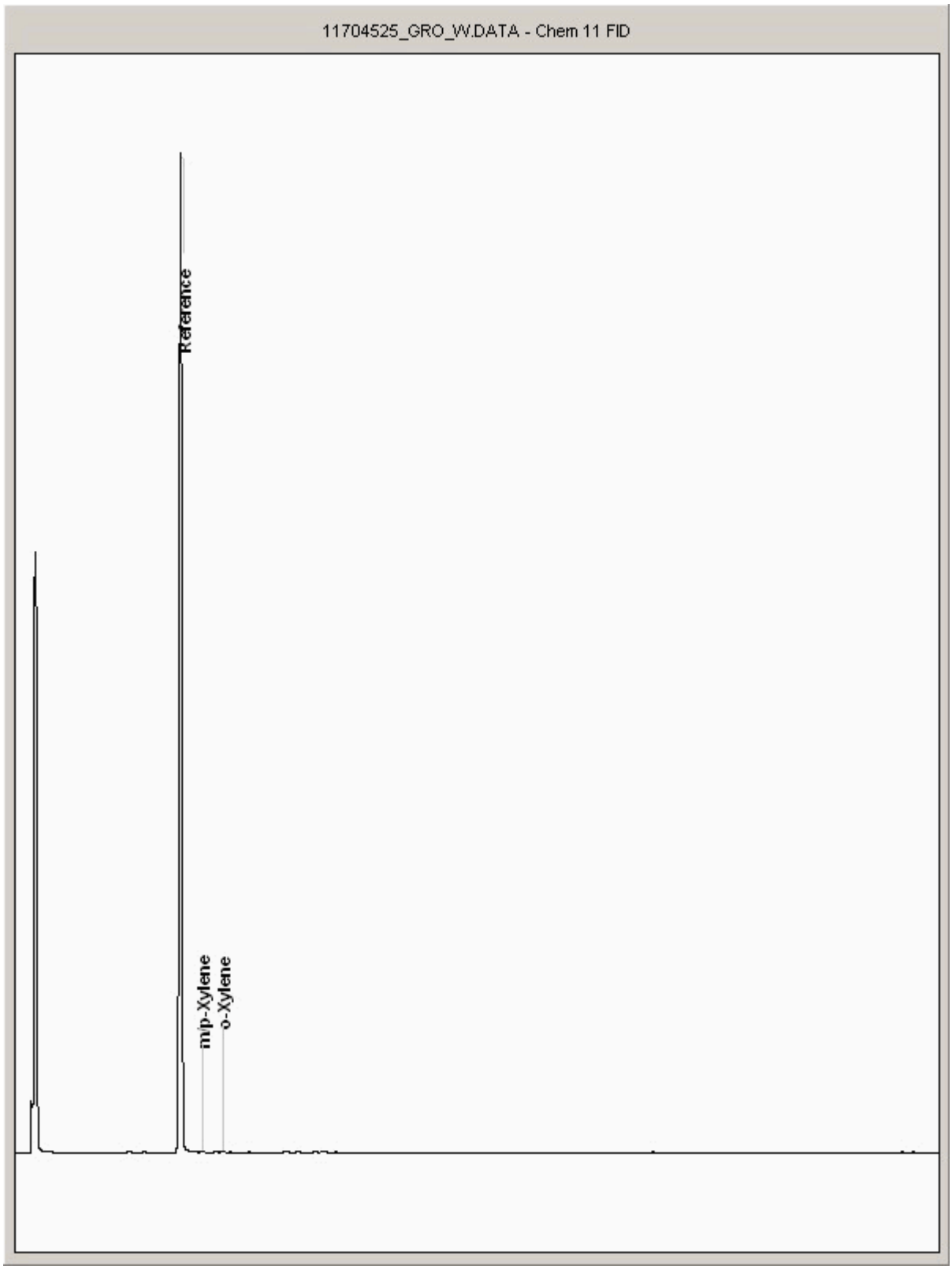
SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11704525
Sample ID : BH61a

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150704-64	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	320820
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
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Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

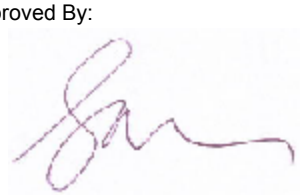
Date:	06 August 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150728-57
Your Reference:	JER5575U
Location:	SHLNG
Report No:	324384

We received 9 samples on Tuesday July 28, 2015 and 5 of these samples were scheduled for analysis which was completed on Thursday August 06, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11791397	BH 43			27/07/2015
11791400	BH 99			27/07/2015
11791398	BH 41A			27/07/2015
11791399	BH 42A			27/07/2015
11791404	BH 41A DUPLICATE			27/07/2015
11791406	BH 42A DUPLICATE			27/07/2015
11791396	BH 34B			27/07/2015
11791401	BH 34B DUPLICATE			27/07/2015
11791402	BH 43 DUPLICATE			27/07/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11791397	BH 43			1000ml glass bottle
			11791397	BH 43			Vial (ALE297)
			11791400	BH 99			1000ml glass bottle
			11791400	BH 99			Vial (ALE297)
			11791398	BH 41A			1000ml glass bottle
			11791398	BH 41A			Vial (ALE297)
			11791399	BH 42A			1000ml glass bottle
			11791399	BH 42A			Vial (ALE297)
			11791396	BH 34B			1000ml glass bottle
			11791396	BH 34B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH 43	BH 99	BH 41A	BH 42A	BH 34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	27/07/2015	27/07/2015	27/07/2015	27/07/2015	27/07/2015
			Sampled Time	.	.	.	.	.
			Date Received	28/07/2015	28/07/2015	28/07/2015	28/07/2015	28/07/2015
			SDG Ref	150728-57	150728-57	150728-57	150728-57	150728-57
			Lab Sample No.(s)	11791397	11791400	11791398	11791399	11791396
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		439 #	131 #	2310 #	101000 #	129 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		75.2	14.3	995	25400	63.5
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		366	14.5	1320	75600	65.6

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH 43	BH 99	BH 41A	BH 42A	BH 34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	27/07/2015	27/07/2015	27/07/2015	27/07/2015	27/07/2015
			Sampled Time	.	.	.	.	.
			Date Received	28/07/2015	28/07/2015	28/07/2015	28/07/2015	28/07/2015
			SDG Ref	150728-57	150728-57	150728-57	150728-57	150728-57
			Lab Sample No.(s)	11791397	11791400	11791398	11791399	11791396
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	35	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	192	<10
GRO >C8-C10	<10 µg/l	TM245		48	<10	10	254	<10
GRO >C5-C10	<10 µg/l	TM245		50	<10	11	481	<10

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH 43	BH 99	BH 41A	BH 42A	BH 34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	27/07/2015	27/07/2015	27/07/2015	27/07/2015	27/07/2015
			Sampled Time	.	.	.	.	.
			Date Received	28/07/2015	28/07/2015	28/07/2015	28/07/2015	28/07/2015
			SDG Ref	150728-57	150728-57	150728-57	150728-57	150728-57
			Lab Sample No.(s)	11791397	11791400	11791398	11791399	11791396
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	11.2 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	219 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	11.2 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<20 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH 43	BH 99	BH 41A	BH 42A	BH 34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	27/07/2015	27/07/2015	27/07/2015	27/07/2015	27/07/2015
			Sampled Time	.	.	.	.	.
			Date Received	28/07/2015	28/07/2015	28/07/2015	28/07/2015	28/07/2015
			SDG Ref	150728-57	150728-57	150728-57	150728-57	150728-57
			Lab Sample No.(s)	11791397	11791400	11791398	11791399	11791396
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<50 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	47.4 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<2 #	<1 #	<10 #	<2 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<10	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	46.7 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<10 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	11791397	11791400	11791398	11791399	11791396
Customer Sample Ref.	BH 43	BH 99	BH 41A	BH 42A	BH 34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	06-Aug-2015	06-Aug-2015	06-Aug-2015	06-Aug-2015	06-Aug-2015
GRO by GC-FID (W)	05-Aug-2015	05-Aug-2015	05-Aug-2015	05-Aug-2015	05-Aug-2015
SVOC MS (W) - Aqueous	06-Aug-2015	05-Aug-2015	06-Aug-2015	05-Aug-2015	05-Aug-2015

CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1172	QC 1129
EPH (DRO) (C10-C40)	TM172	**89.0** 59.47 : 106.15	**85.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1133
Benzene by GC	TM245	**101.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	**98.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**98.75** 77.50 : 122.50
MTBE GC-FID	TM245	**99.5** 77.50 : 122.50
o Xylene by GC	TM245	**100.5** 77.50 : 122.50
QC	TM245	**96.49** 74.88 : 125.54
Toluene by GC	TM245	**100.5** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1154	QC 1105
4-Bromophenylphenyleth er	TM176	**84.0** 65.62 : 120.95	**78.08** 65.62 : 120.95
Benzo(a)anthracene	TM176	**82.4** 62.83 : 114.26	**77.84** 62.83 : 114.26
Benzo(a)pyrene	TM176	**73.44** 54.19 : 105.67	**73.2** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**72.24** 45.10 : 118.90	**69.12** 45.10 : 118.90
Hexachlorobutadiene	TM176	**76.0** 43.12 : 110.32	**73.84** 43.12 : 110.32
Naphthalene	TM176	**92.8** 69.48 : 118.94	**84.8** 69.48 : 118.94
Nitrobenzene	TM176	**84.8** 69.13 : 107.62	**78.96** 69.13 : 107.62
Phenol	TM176	**49.6** 30.92 : 74.19	**47.12** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

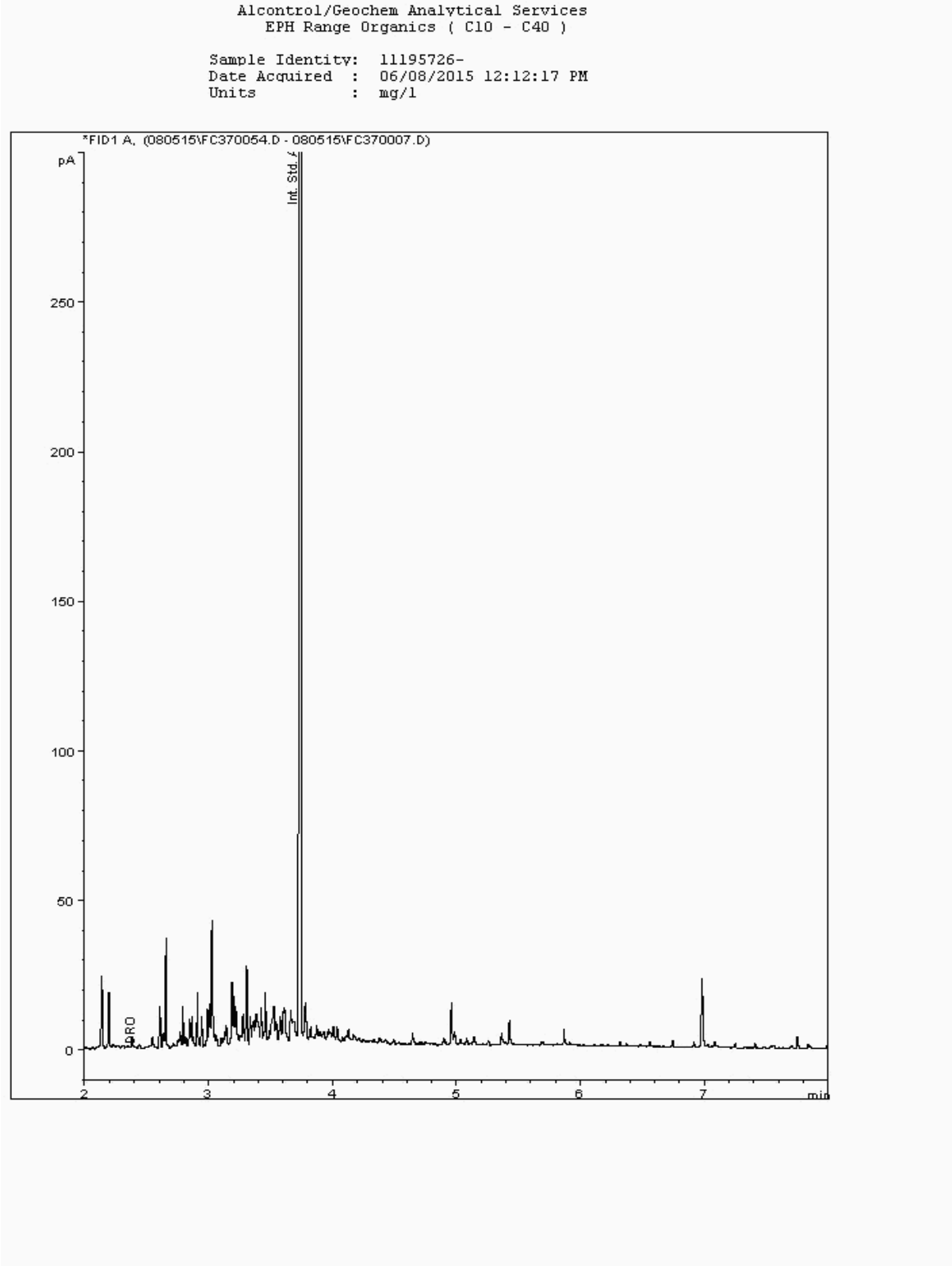
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11794385
Sample ID : BH 43

Depth :



CERTIFICATE OF ANALYSIS

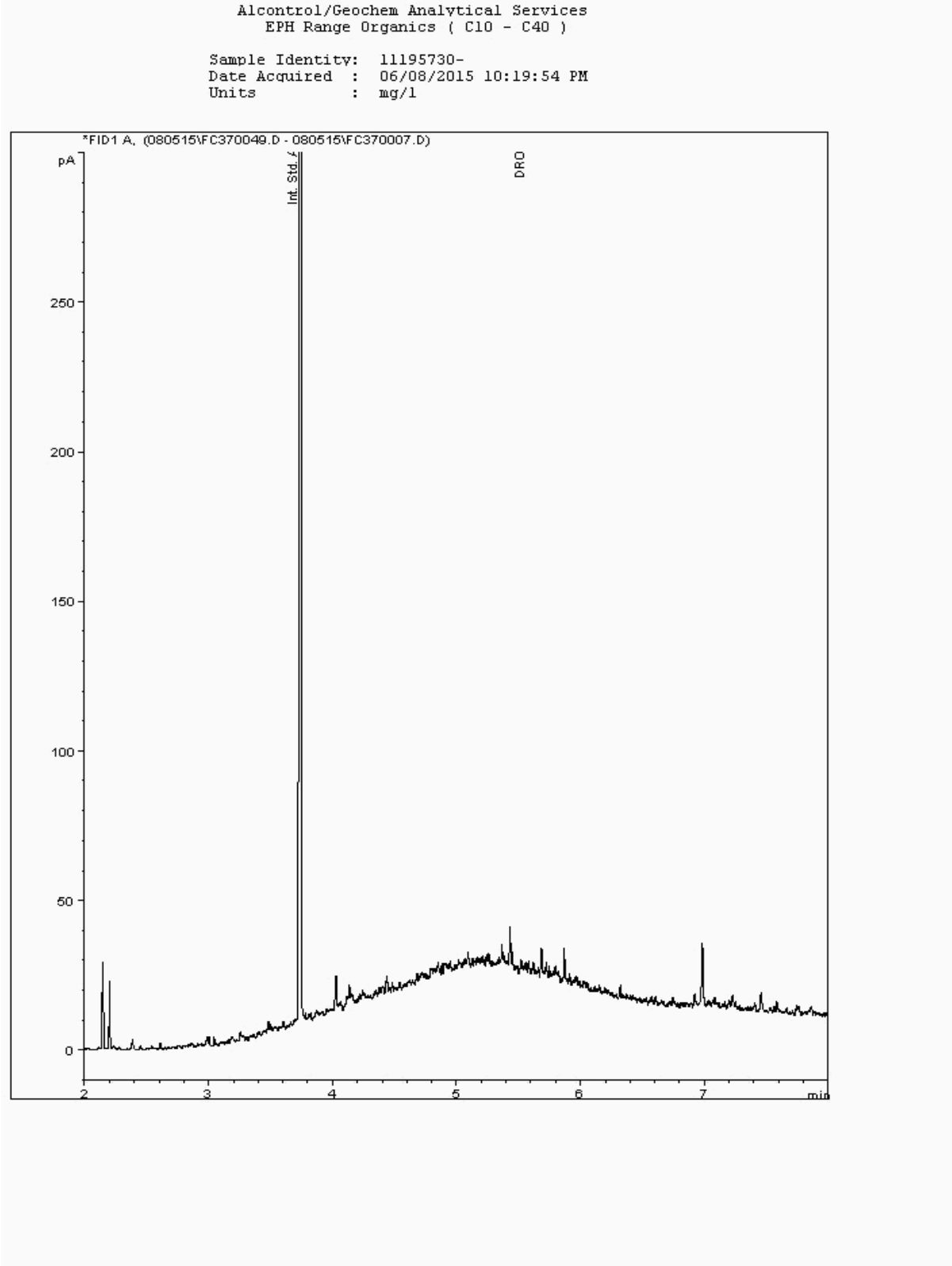
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11794411
Sample ID : BH 41A

Depth :



CERTIFICATE OF ANALYSIS

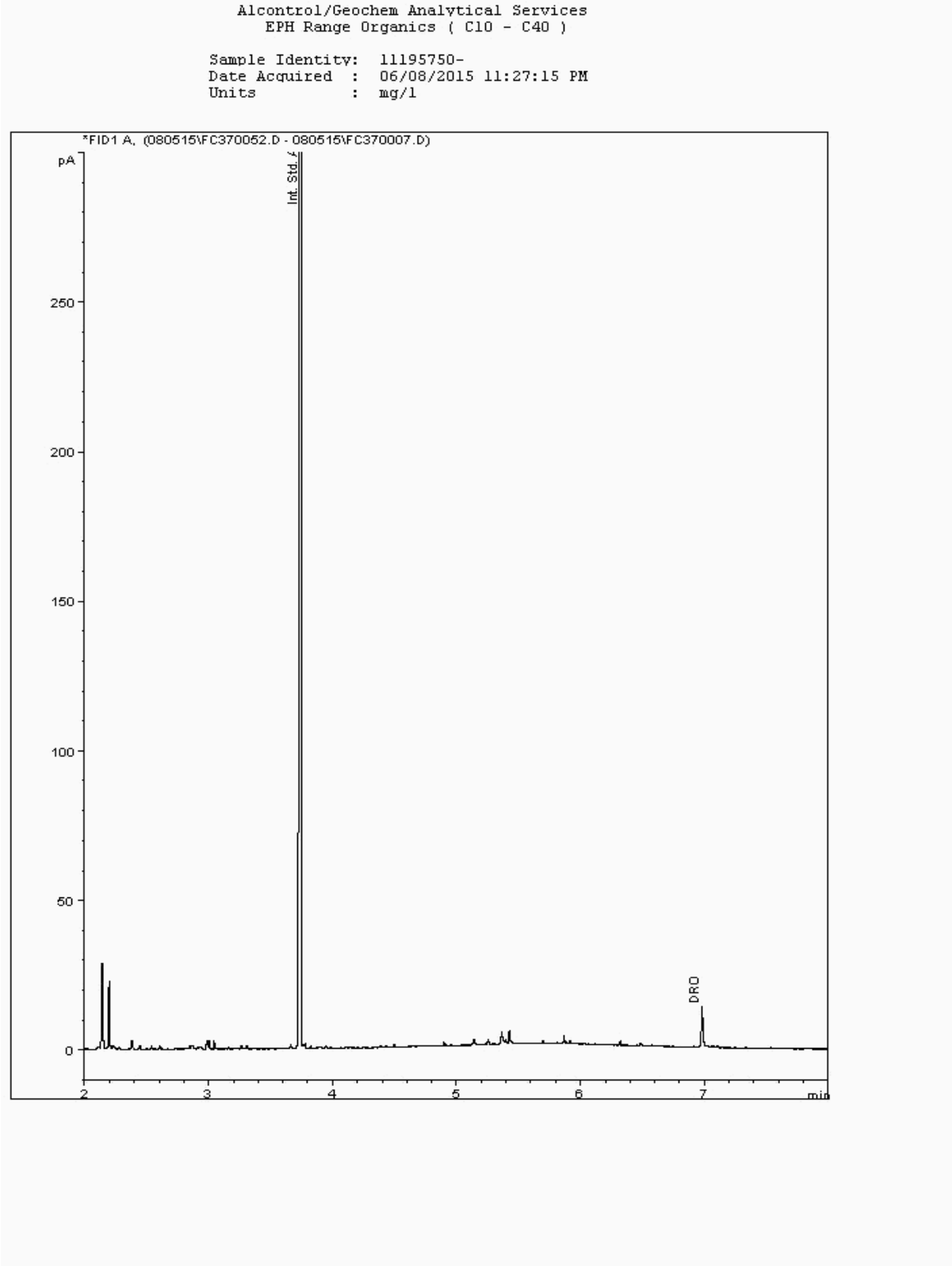
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11824449
Sample ID : BH 99

Depth :



CERTIFICATE OF ANALYSIS

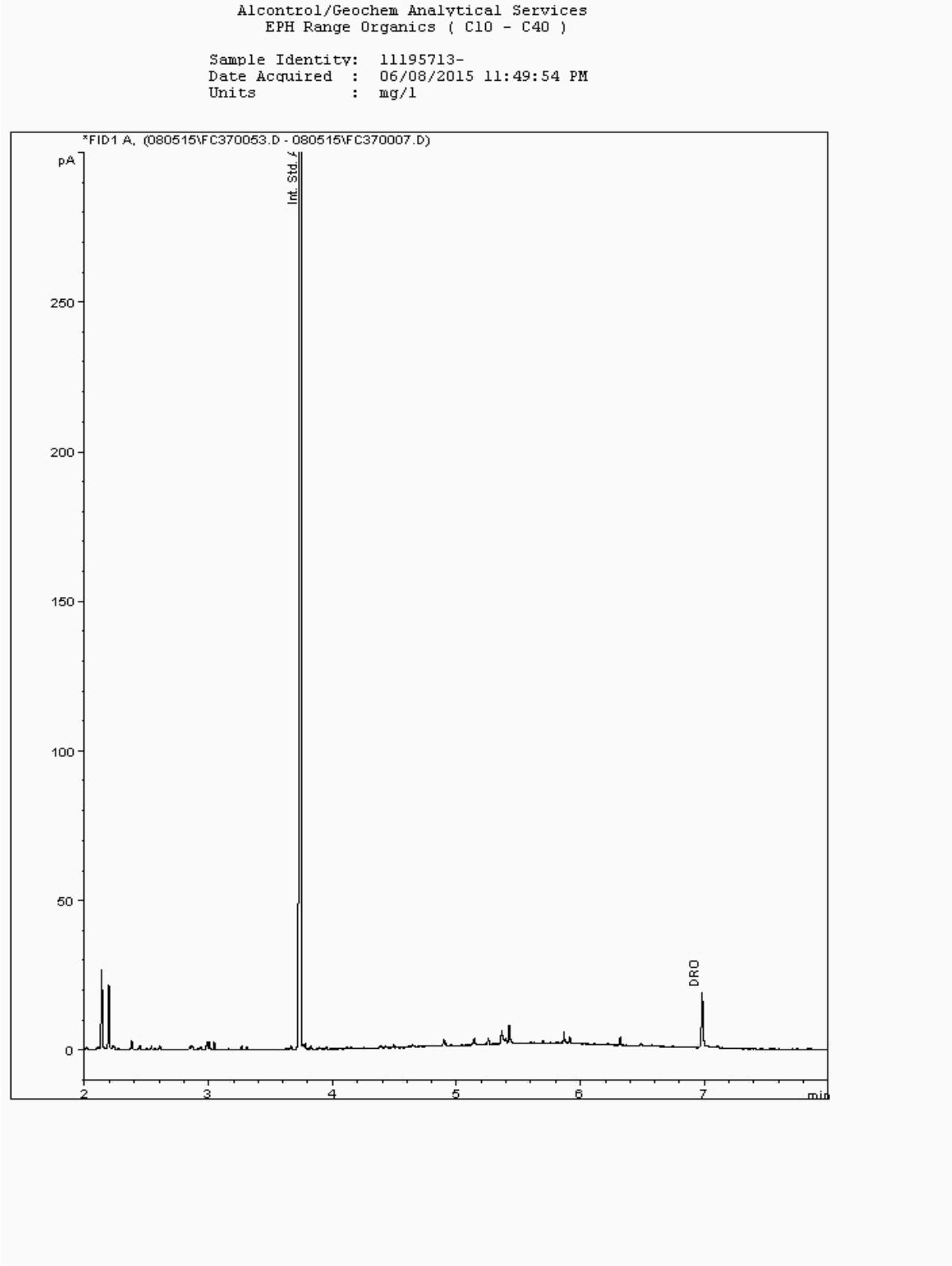
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11824469
Sample ID : BH 34B

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

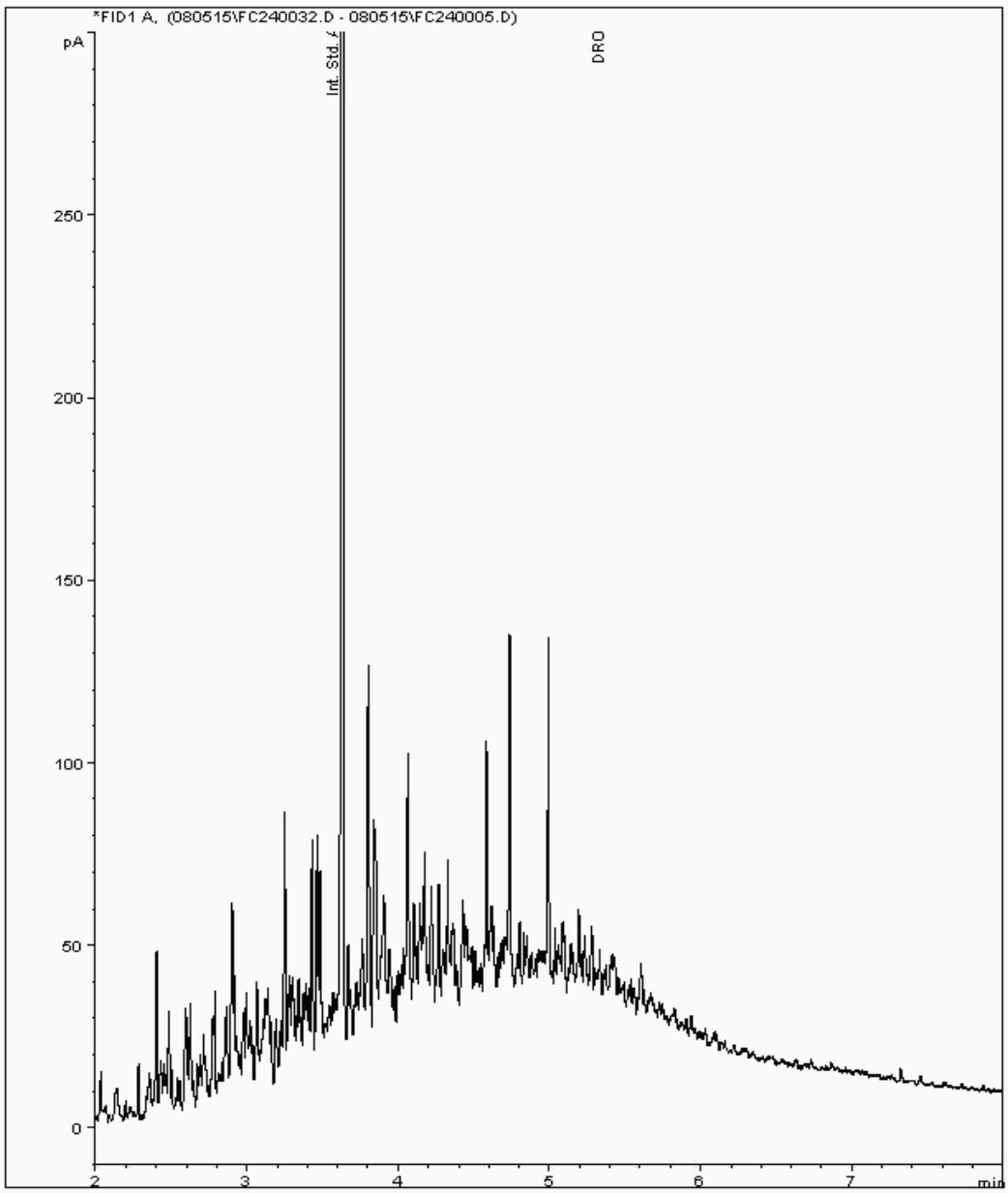
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11824496
Sample ID : BH 42A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11195745-
Date Acquired : 06/08/2015 13:51:10 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

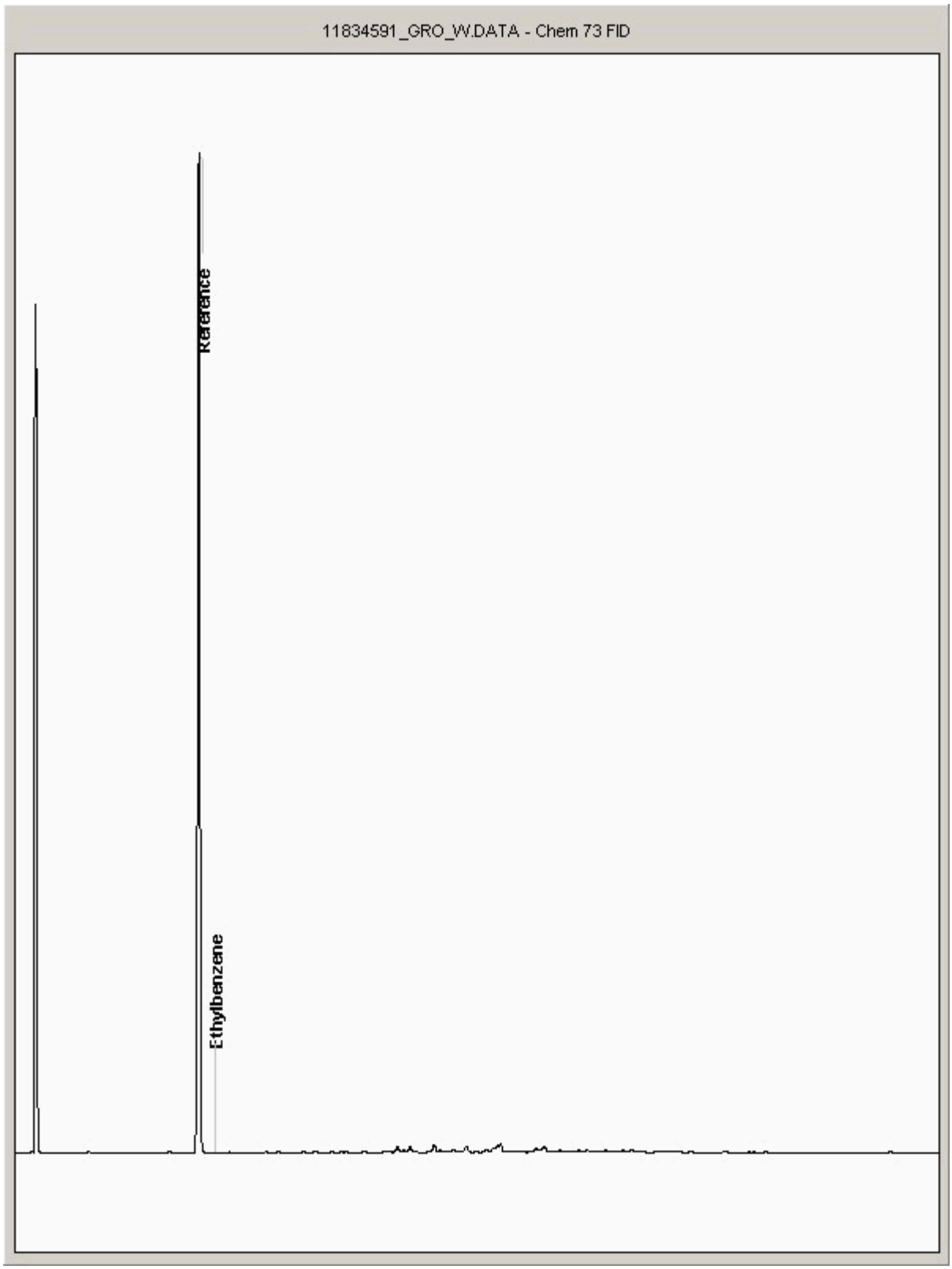
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11834591
Sample ID : BH 43

Depth :



CERTIFICATE OF ANALYSIS

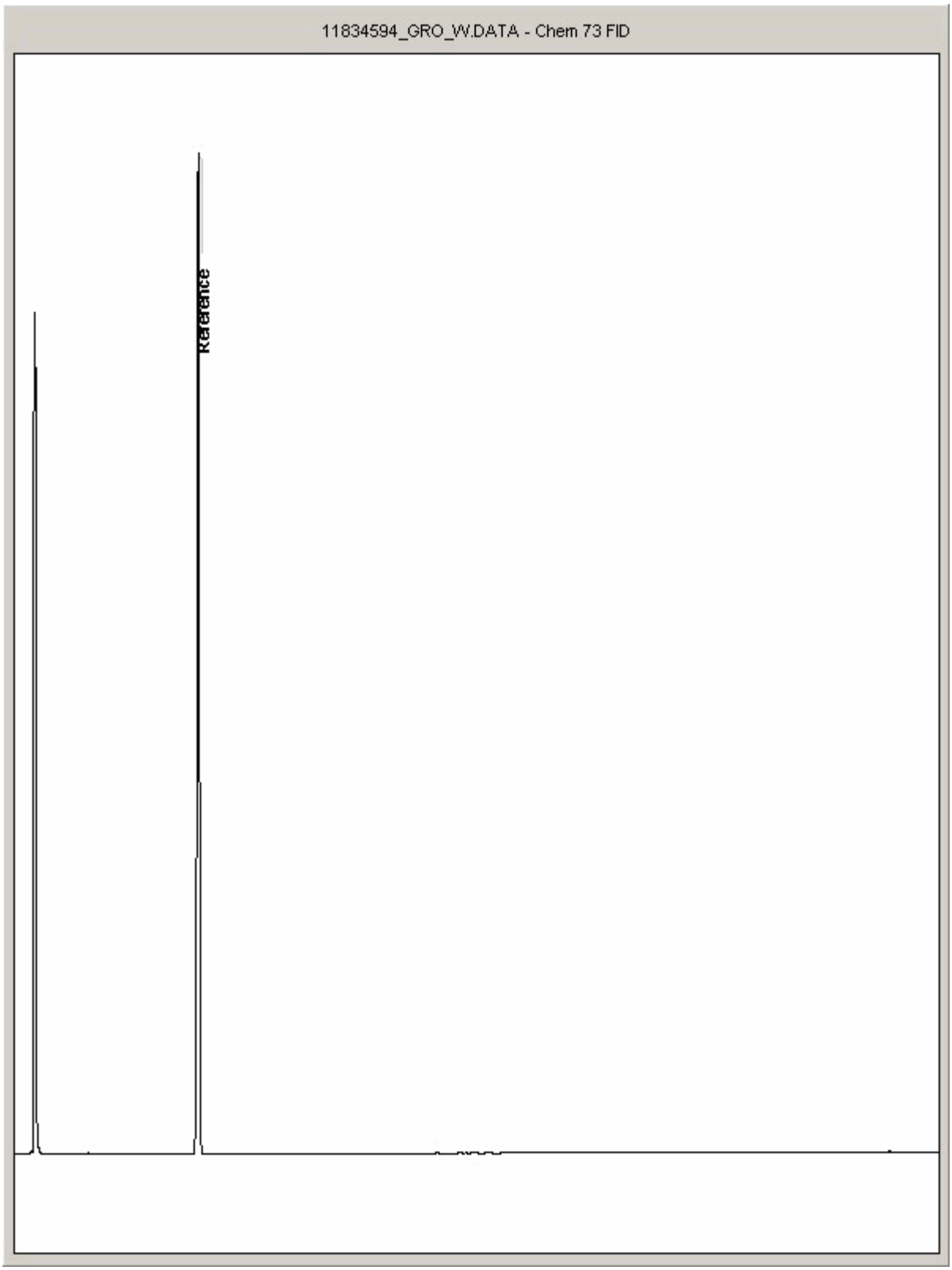
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11834594
Sample ID : BH 41A

Depth :



CERTIFICATE OF ANALYSIS

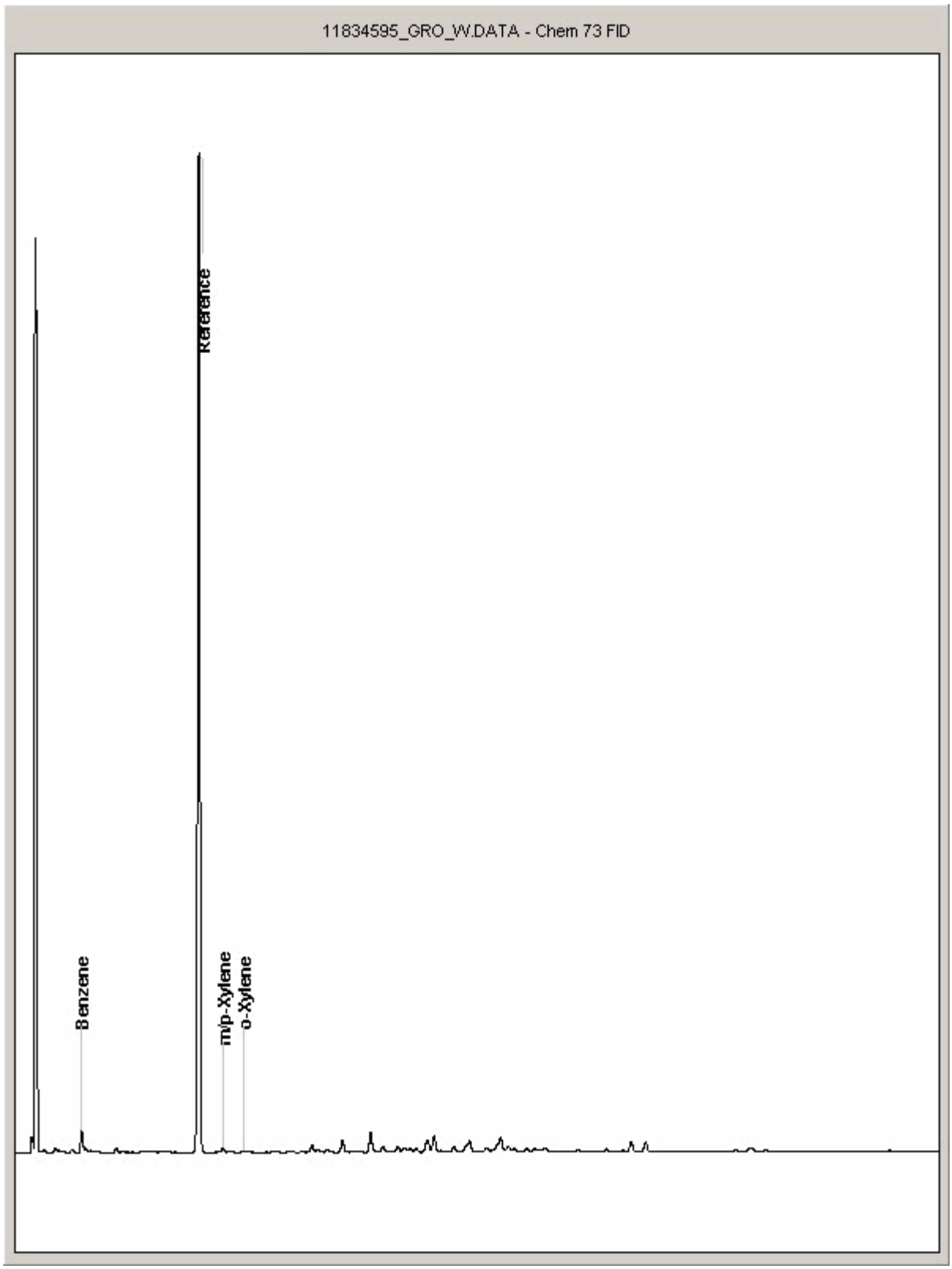
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11834595
Sample ID : BH 42A

Depth :



CERTIFICATE OF ANALYSIS

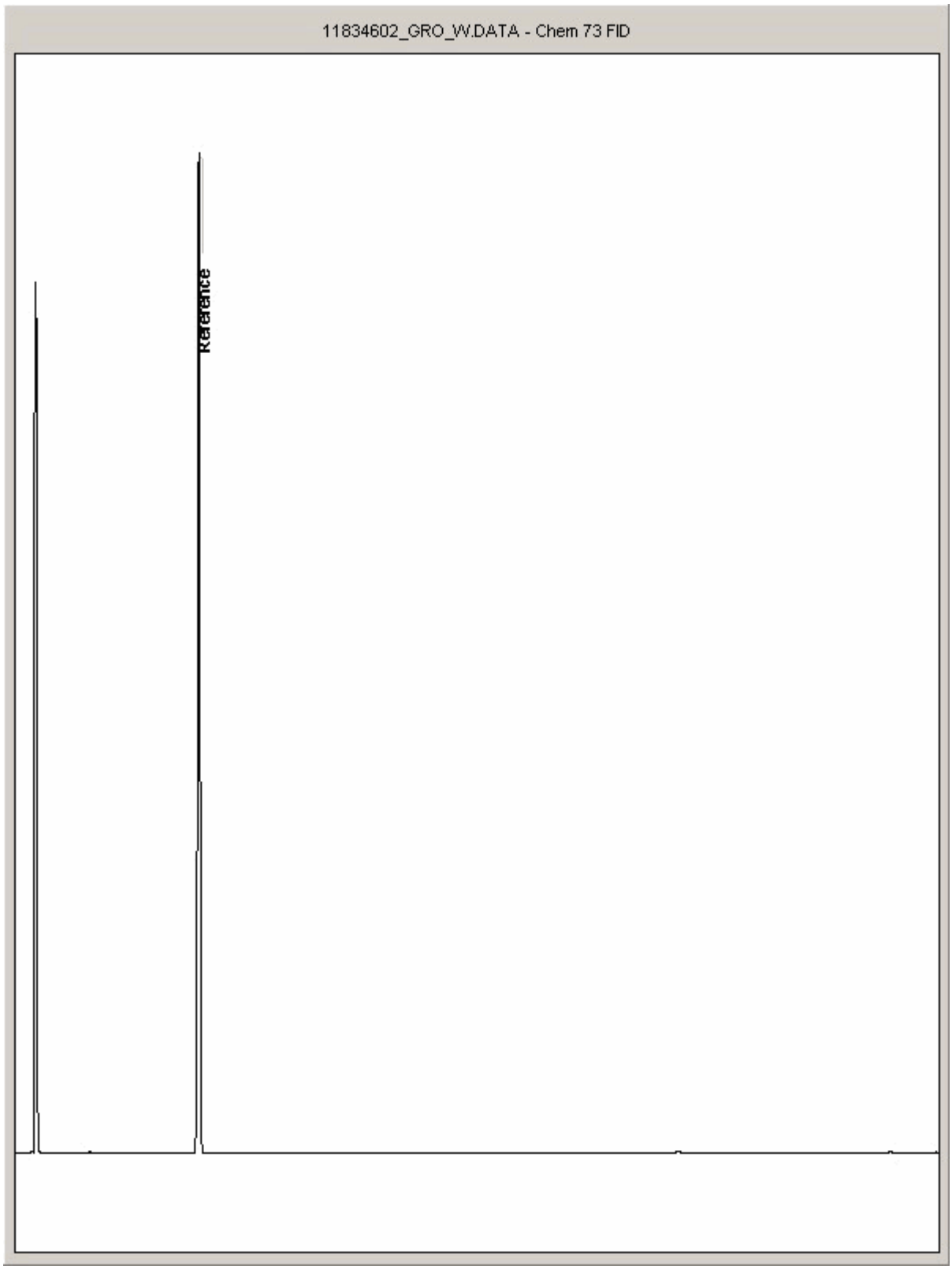
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11834602
Sample ID : BH 34B

Depth :



CERTIFICATE OF ANALYSIS

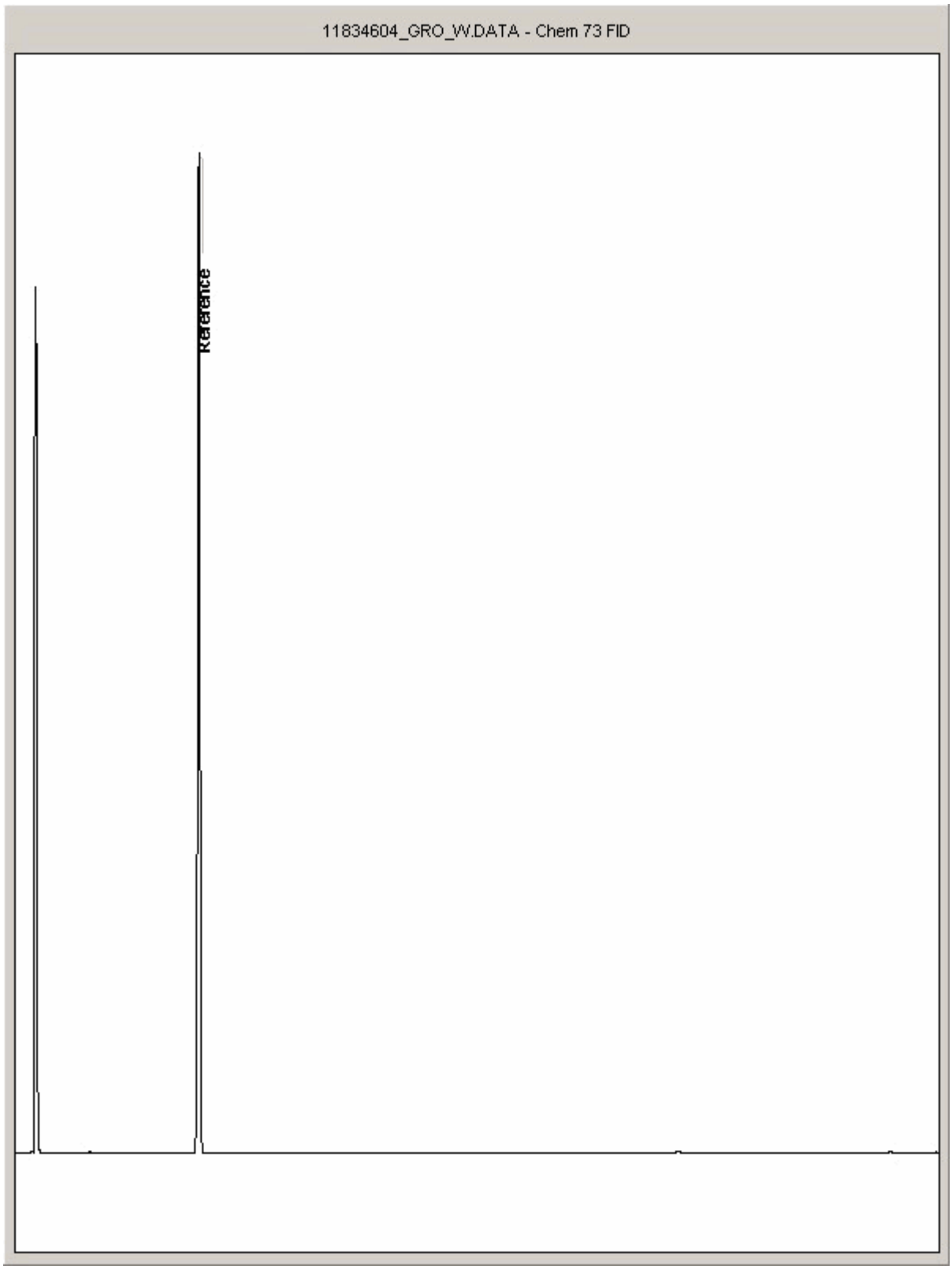
SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11834604
Sample ID : BH 99

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150728-57	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	324384
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	27 August 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150814-146
Your Reference:	JER5575U
Location:	SHLNG
Report No:	327326

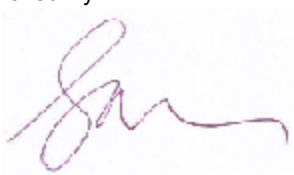
This report has been revised and directly supersedes 327145 in its entirety.

We received 9 samples on Friday August 14, 2015 and 5 of these samples were scheduled for analysis which was completed on Wednesday August 26, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan
Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
11899935	BH43			13/08/2015
11899933	BH99			13/08/2015
11899934	BH41a			13/08/2015
11899937	BH42a			13/08/2015
11899939	BH41a DUPLICATE			13/08/2015
11899940	BH42a DUPLICATE			13/08/2015
11899932	BH34b			13/08/2015
11899938	BH34b DUPLICATE			13/08/2015
11899941	BH43 DUPLICATE			13/08/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			11899935	BH43			1000ml glass bottle
							Vial (ALE297)
			11899933	BH99			1000ml glass bottle
							Vial (ALE297)
			11899934	BH41a			1000ml glass bottle
							Vial (ALE297)
			11899937	BH42a			1000ml glass bottle
							Vial (ALE297)
			11899932	BH34b			1000ml glass bottle
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
			Sampled Time	.	.	.	.	.
			Date Received	14/08/2015	14/08/2015	14/08/2015	14/08/2015	14/08/2015
			SDG Ref	150814-146	150814-146	150814-146	150814-146	150814-146
			Lab Sample No.(s)	11899935	11899933	11899934	11899937	11899932
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		391 #	153 #	281 #	22500 #	<46 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		54.7	52.2	130	5210	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		336	101	151	17300	<10

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
			Sampled Time	.	.	.	.	.
			Date Received	14/08/2015	14/08/2015	14/08/2015	14/08/2015	14/08/2015
			SDG Ref	150814-146	150814-146	150814-146	150814-146	150814-146
			Lab Sample No.(s)	11899935	11899933	11899934	11899937	11899932
			AGS Reference					
GRO Surrogate % recovery**	%	TM245		82	86	81	76	79
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	35	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	182	<10
GRO >C8-C10	<10 µg/l	TM245		38	<10	<10	355	<10
GRO >C5-C10	<10 µg/l	TM245		42	<10	<10	572	<10

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
			Sampled Time	.	.	.	.	.
			Date Received	14/08/2015	14/08/2015	14/08/2015	14/08/2015	14/08/2015
			SDG Ref	150814-146	150814-146	150814-146	150814-146	150814-146
			Lab Sample No.(s)	11899935	11899933	11899934	11899937	11899932
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1 ♦	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	8.33 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	1.4 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 ♦ #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	13/08/2015	13/08/2015	13/08/2015	13/08/2015	13/08/2015
			Sampled Time	.	.	.	.	.
			Date Received	14/08/2015	14/08/2015	14/08/2015	14/08/2015	14/08/2015
			SDG Ref	150814-146	150814-146	150814-146	150814-146	150814-146
			Lab Sample No.(s)	11899935	11899933	11899934	11899937	11899932
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		1.07 #	<1 ♦ #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 ♦ #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	2.43 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	2.52	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	2.78 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	3.46 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 ♦ #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Test Completion Dates

Lab Sample No(s)	11899935	11899933	11899934	11899937	11899932
Customer Sample Ref.	BH43	BH99	BH41a	BH42a	BH34b
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	25-Aug-2015	25-Aug-2015	26-Aug-2015	26-Aug-2015	25-Aug-2015
GRO by GC-FID (W)	25-Aug-2015	25-Aug-2015	25-Aug-2015	25-Aug-2015	25-Aug-2015
SVOC MS (W) - Aqueous	25-Aug-2015	25-Aug-2015	25-Aug-2015	25-Aug-2015	25-Aug-2015

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1170	QC 1141	QC 1182
EPH (DRO) (C10-C40)	TM172	**74.0** 59.25 : 105.75	**75.5** 59.47 : 106.15	**87.0** 59.22 : 112.78

GRO by GC-FID (W)

Component	Method Code	QC 1158
Benzene by GC	TM245	**93.0** 77.50 : 122.50
Ethylbenzene by GC	TM245	**91.0** 77.50 : 122.50
m & p Xylene by GC	TM245	**90.75** 77.50 : 122.50
MTBE GC-FID	TM245	**98.0** 77.50 : 122.50
o Xylene by GC	TM245	**91.0** 77.50 : 122.50
QC	TM245	**105.79** 74.88 : 125.54
Toluene by GC	TM245	**92.5** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1139	QC 1103
4-Bromophenylphenylether	TM176	**89.6** 55.04 : 128.00	**70.32** 55.04 : 128.00
Benzo(a)anthracene	TM176	**90.4** 52.64 : 123.68	**71.92** 52.64 : 123.68
Benzo(a)pyrene	TM176	**79.28** 49.60 : 114.40	**66.64** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**88.0** 49.04 : 127.76	**69.76** 49.04 : 127.76
Hexachlorobutadiene	TM176	**77.76** 42.80 : 108.20	**63.84** 42.80 : 108.20
Naphthalene	TM176	**92.8** 47.20 : 116.80	**76.64** 47.20 : 116.80
Nitrobenzene	TM176	**91.2** 58.70 : 110.90	**74.32** 58.70 : 110.90
Phenol	TM176	**50.88** 30.25 : 79.75	**43.12** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

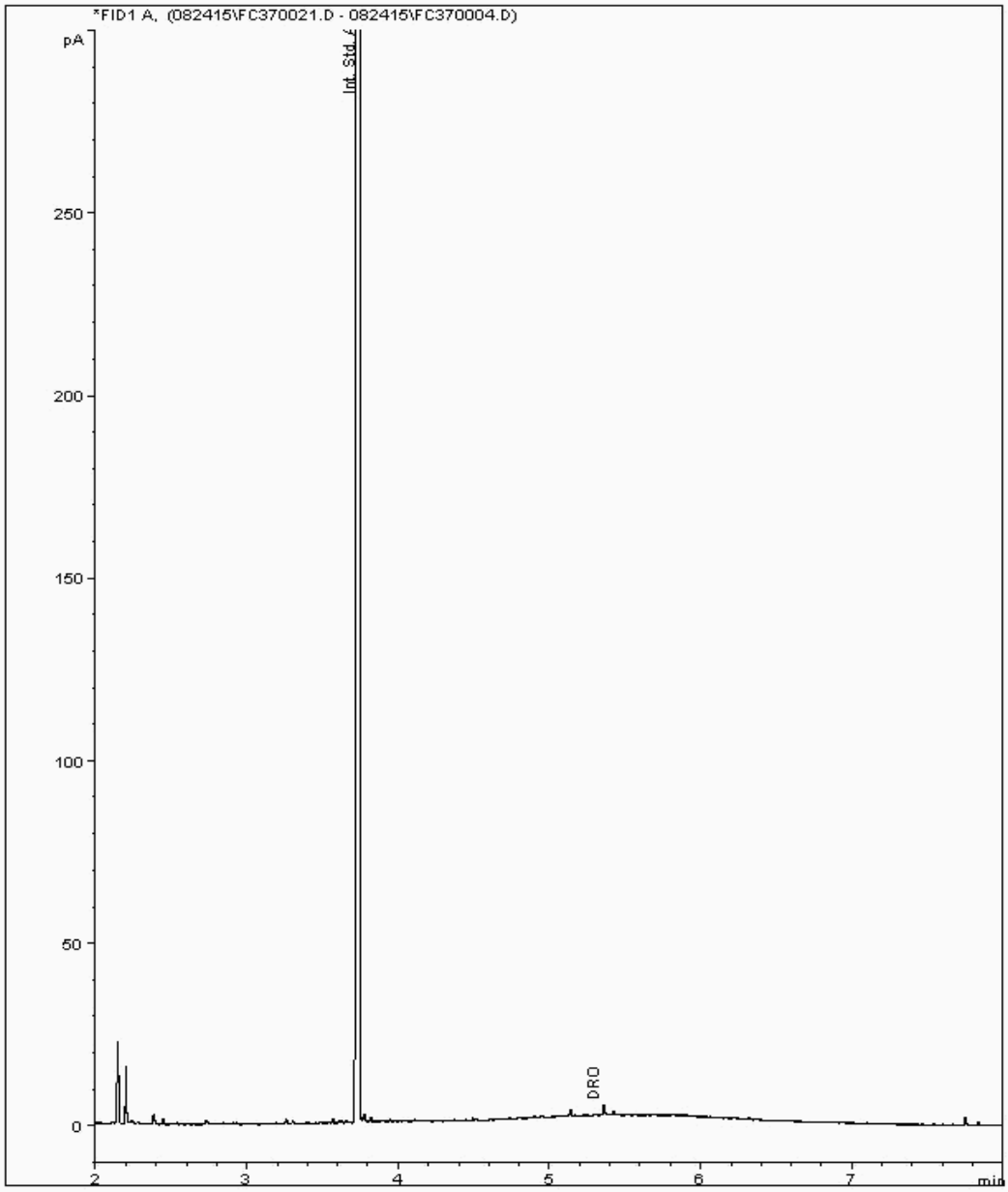
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11929344
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11296831-
Date Acquired : 25/08/2015 14:14:57 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

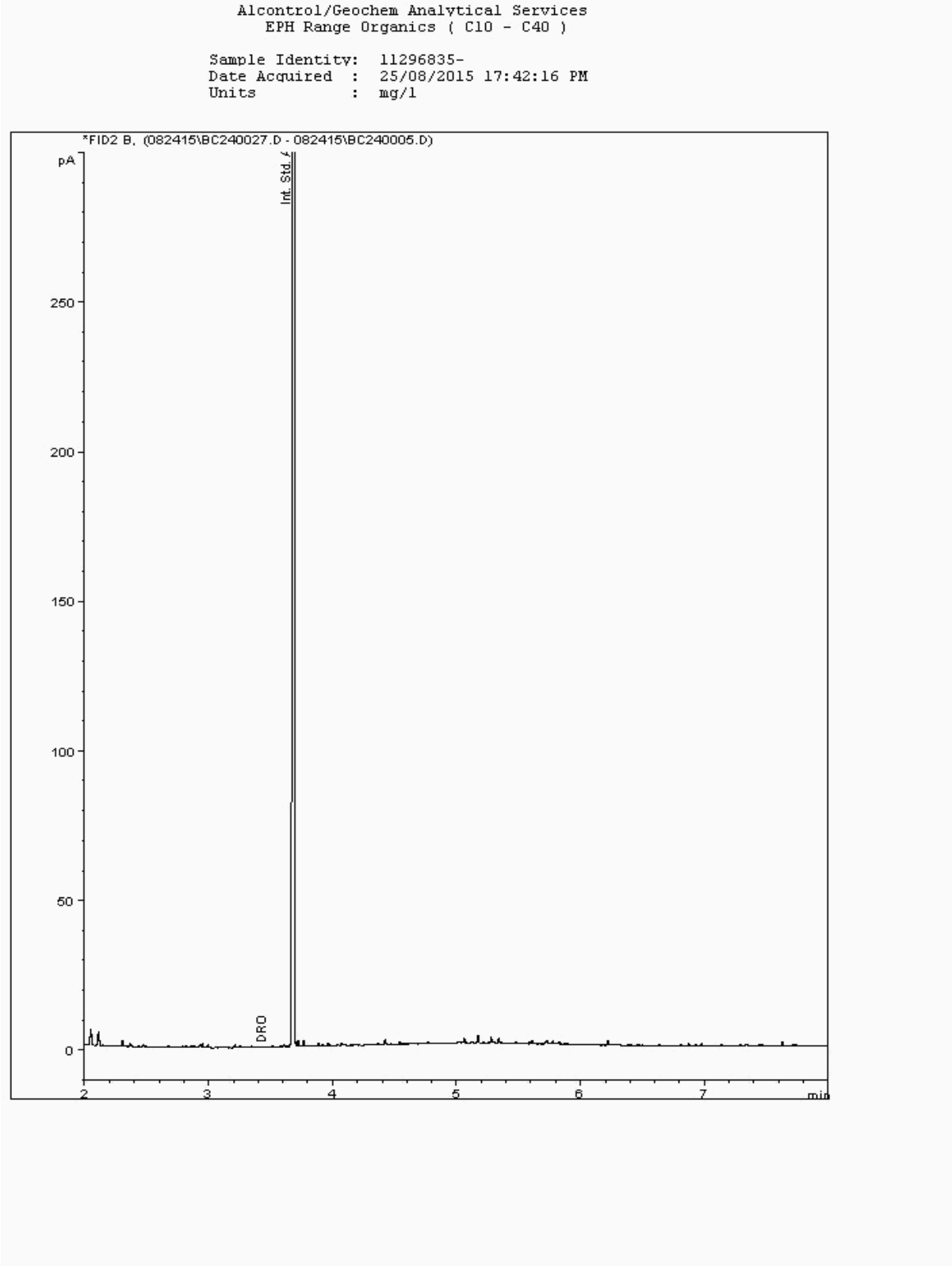
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11929360
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

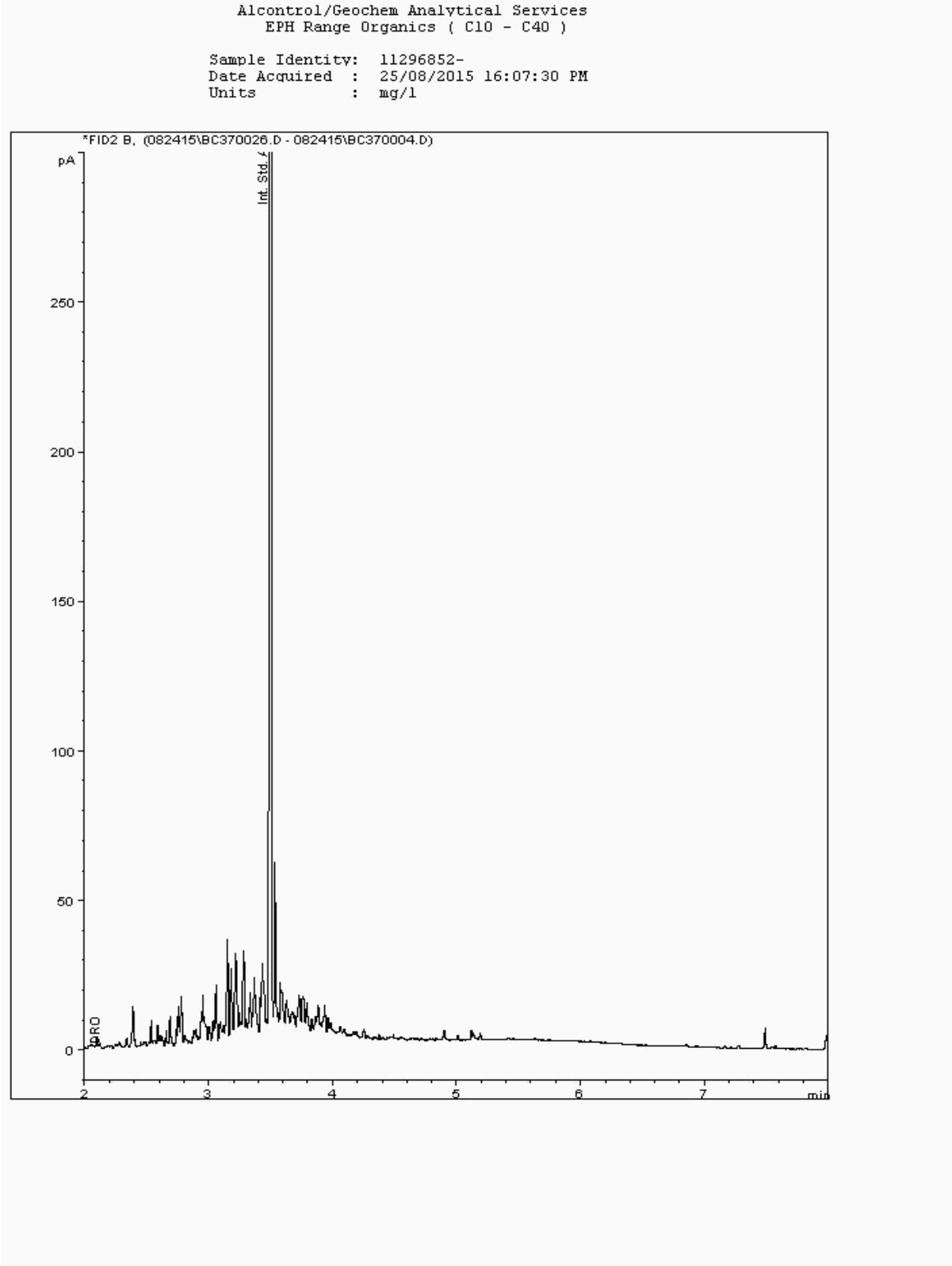
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11929387
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

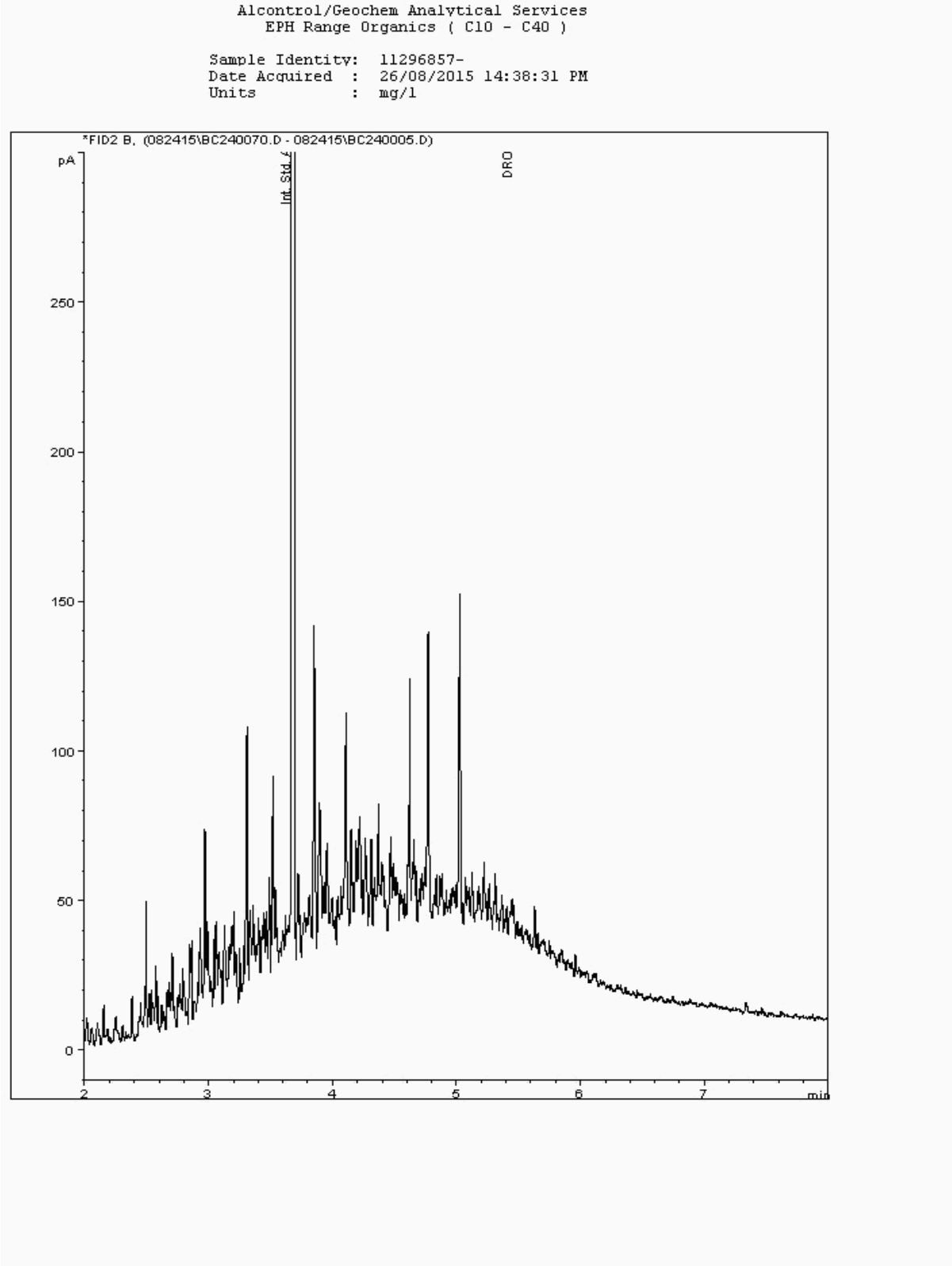
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11929427
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

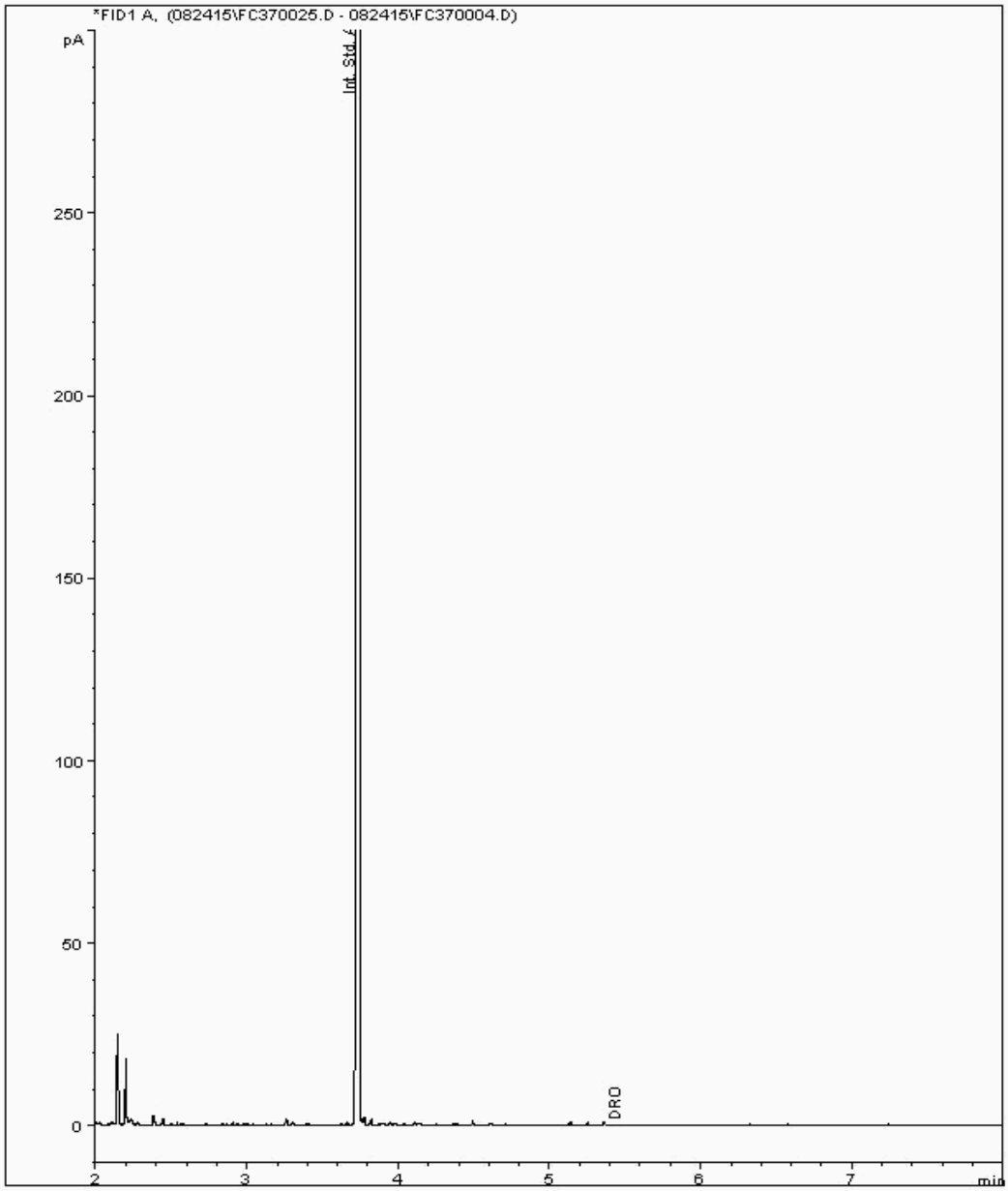
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 11941760
Sample ID : BH34b

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11296825-
Date Acquired : 25/08/2015 15:45:03 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

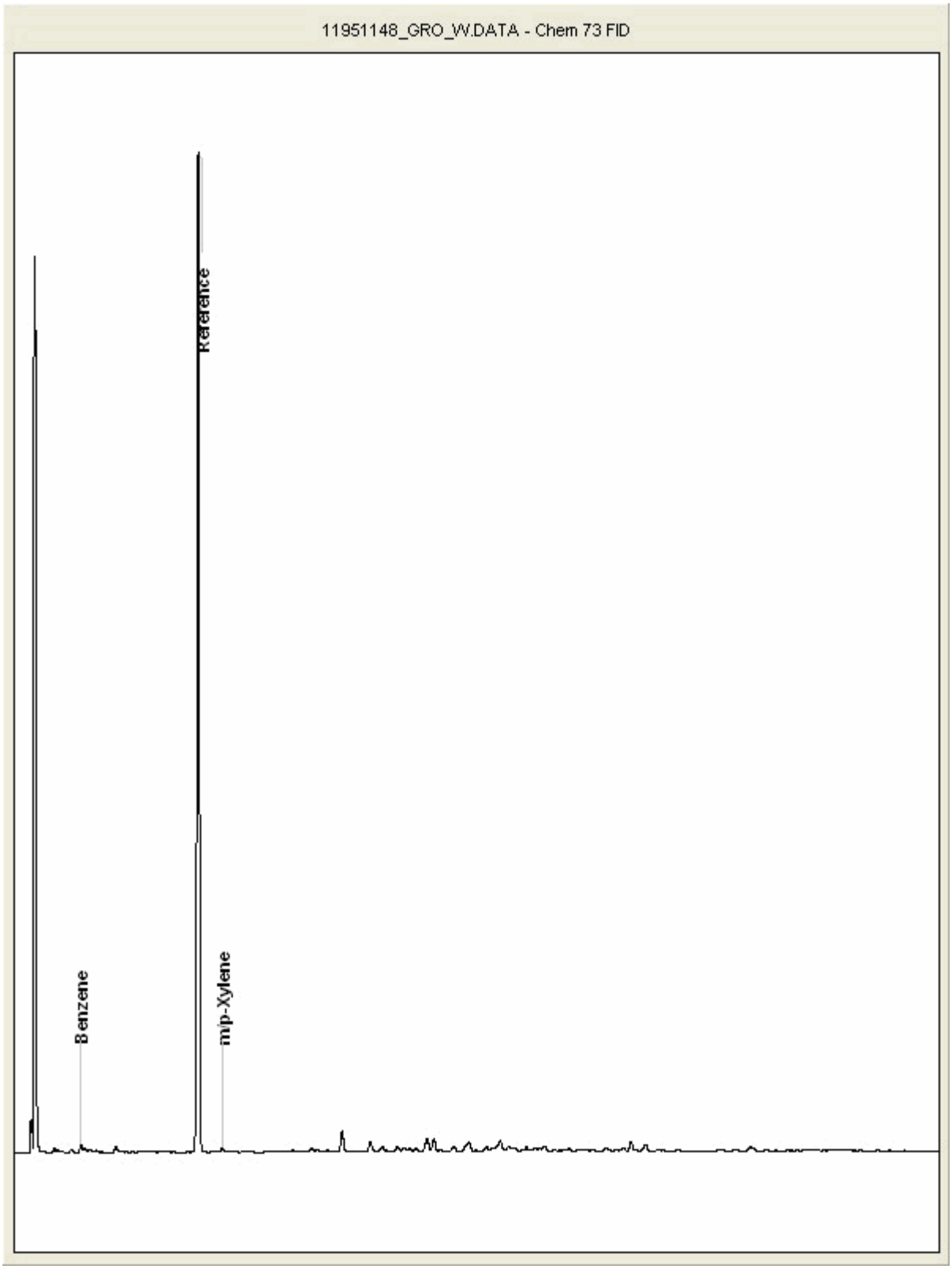
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11951148
Sample ID : BH42a

Depth :



CERTIFICATE OF ANALYSIS

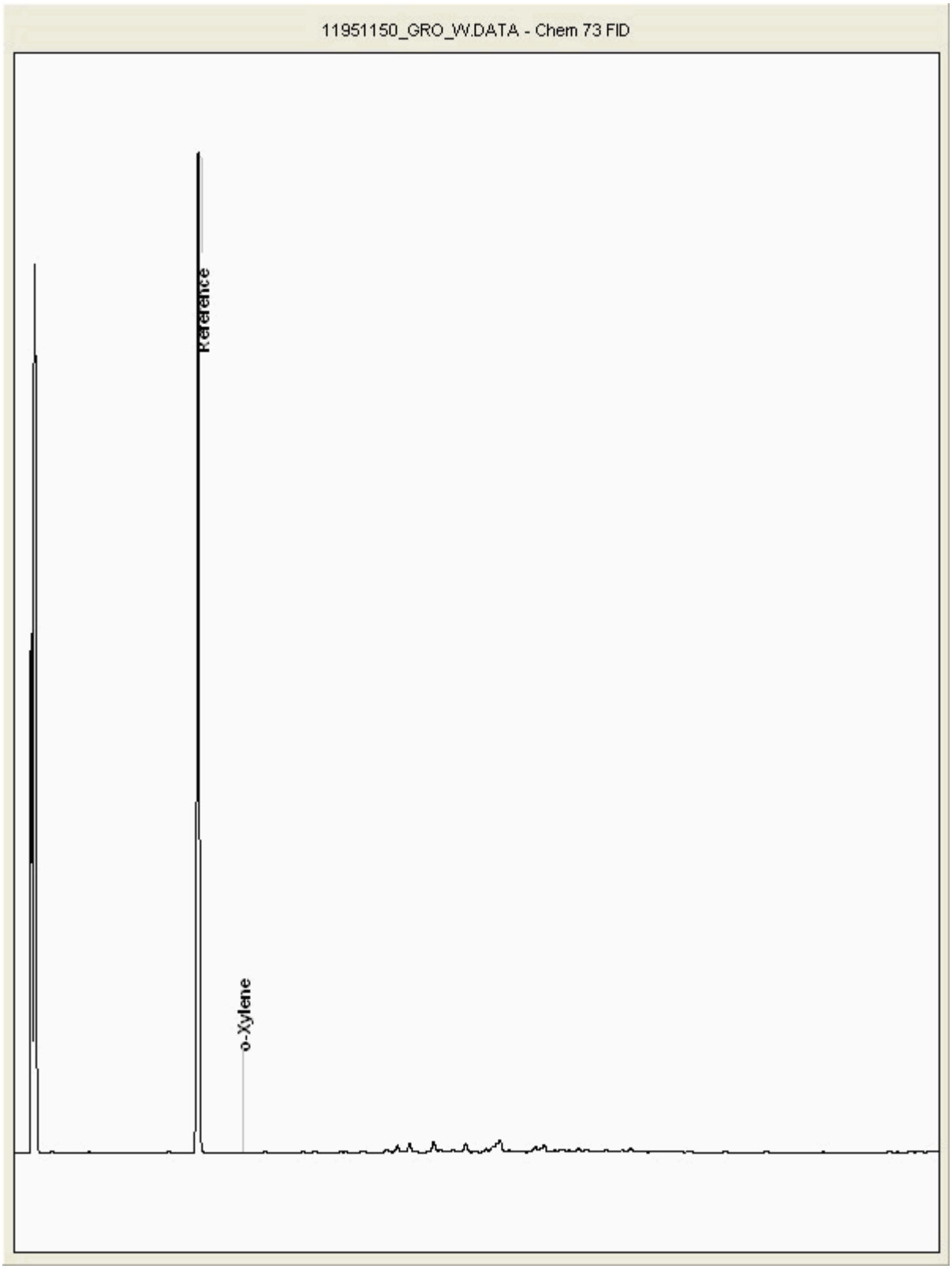
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11951150
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

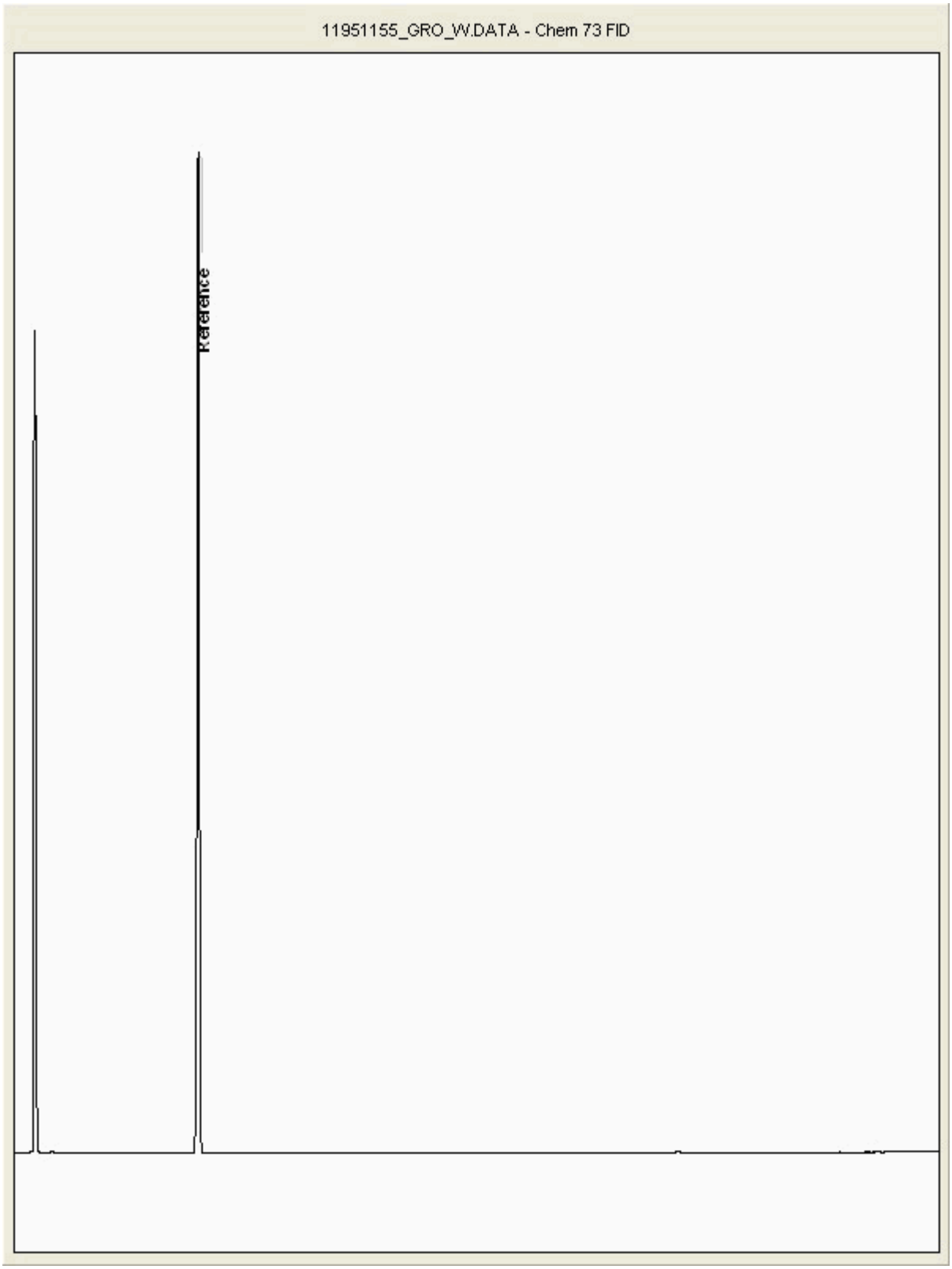
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11951155
Sample ID : BH41a

Depth :



CERTIFICATE OF ANALYSIS

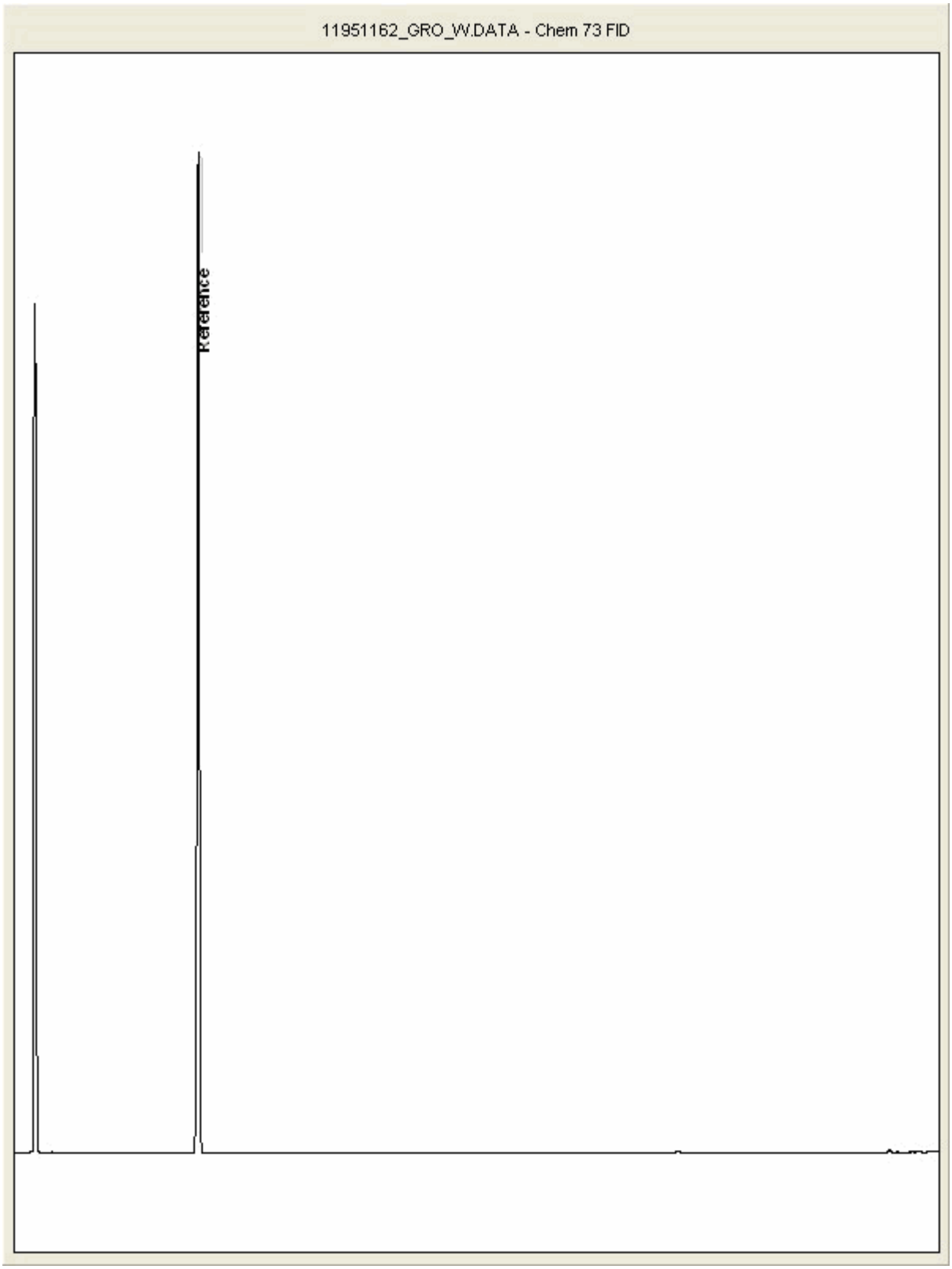
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11951162
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

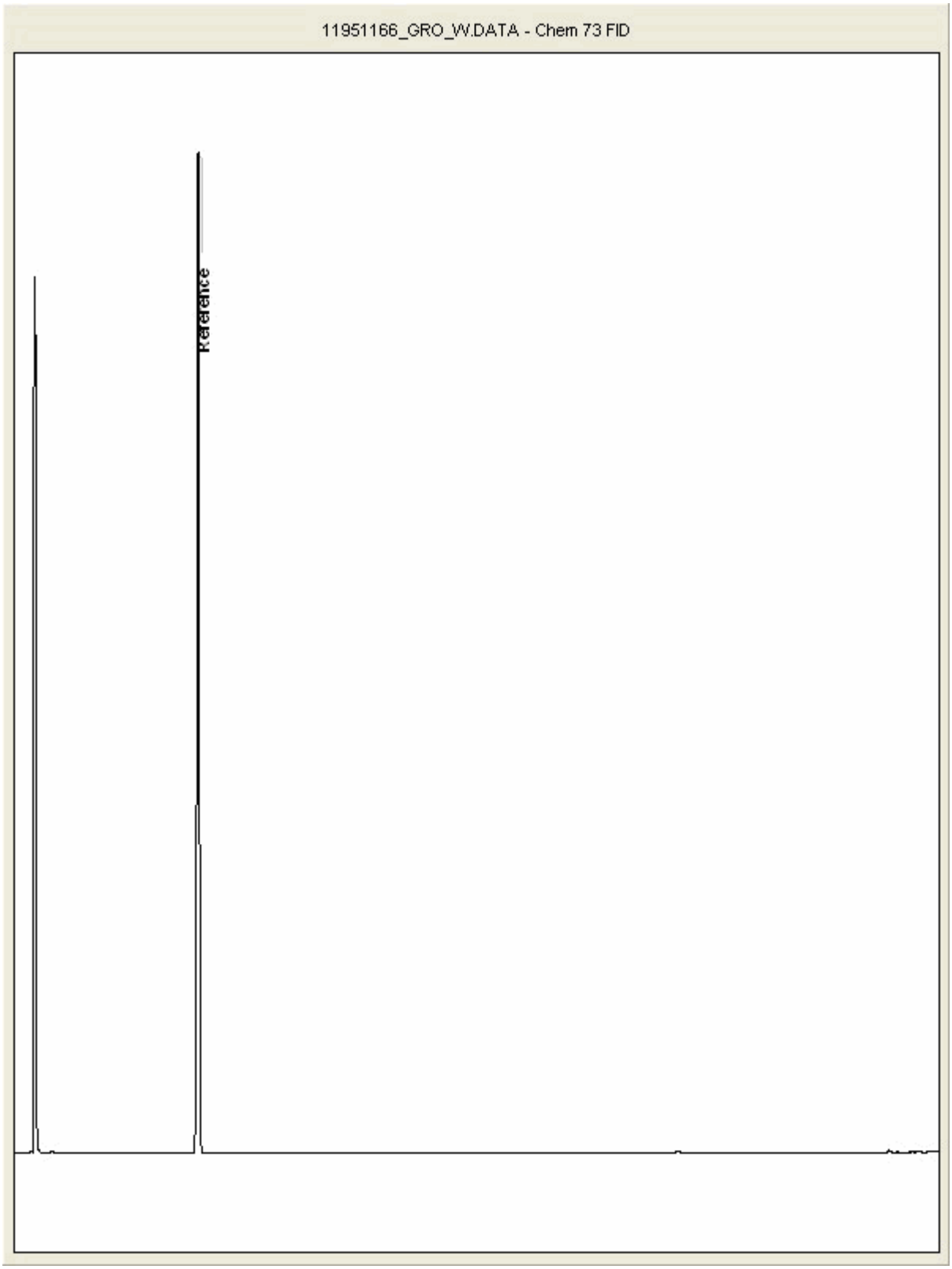
SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 11951166
Sample ID : BH34b

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH (MINOIL)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
PCB TOT/ PCB CON	D&C	HEXANE:ACETONE	END OVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150814-146	**Location:**	SHLNG	**Order Number:**	PO15-523
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	327326
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	327145

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

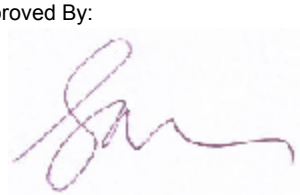
Date:	08 October 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150930-127
Your Reference:	JER5575U
Location:	SHLNG
Report No:	332705

We received 17 samples on Wednesday September 30, 2015 and 11 of these samples were scheduled for analysis which was completed on Thursday October 08, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12154248	BH06			28/09/2015
12154253	BH43			28/09/2015
12154245	BH44			28/09/2015
12154260	BH50			29/09/2015
12154252	BH99			28/09/2015
12154255	BH41A			29/09/2015
12154258	BH42A			29/09/2015
12154256	BH41A DUPLICATE			29/09/2015
12154259	BH42A DUPLICATE			29/09/2015
12154250	BH34B			28/09/2015
12154251	BH34B DUPLICATE			28/09/2015
12154249	BH06 DUPLICATE			28/09/2015
12154254	BH43 DUPLICATE			28/09/2015
12154247	BH44 DUPLICATE			28/09/2015
12154261	BH50 DUPLICATE			29/09/2015
12154243	MW01			28/09/2015
12154244	MW03			28/09/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			12154248	BH06			1000ml glass bottle
			12154253	BH43			Vial (ALE297)
			12154245	BH44			1000ml glass bottle
			12154260	BH50			Vial (ALE297)
			12154252	BH99			1000ml glass bottle
			12154255	BH41A			1000ml glass bottle
			12154258	BH42A			Vial (ALE297)
			12154250	BH34B			1000ml glass bottle
			12154261	BH50 DUPLICATE			Vial (ALE297)
			12154243	MW01			1000ml glass bottle
			12154244	MW03			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 10	X	X	X	X	X X X X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 11	X	X	X	X	X X X X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 7	X	X	X	X	X X X X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	28/09/2015	28/09/2015	28/09/2015	29/09/2015	28/09/2015	29/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015
			SDG Ref	150930-127	150930-127	150930-127	150930-127	150930-127	150930-127
			Lab Sample No.(s)	12154248	12154253	12154245	12154260	12154252	12154255
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		137 #	277 #	75.1 #	2080 #	155 #	5520 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		50.1	50.1	60.7	201	53	1790
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		86.8	227	14.1	1880	102	3730

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42A	BH34B	MW01	MW03		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	29/09/2015	28/09/2015	28/09/2015	28/09/2015		
			Sampled Time	.	.	.	.		
			Date Received	30/09/2015	30/09/2015	30/09/2015	30/09/2015		
			SDG Ref	150930-127	150930-127	150930-127	150930-127		
			Lab Sample No.(s)	12154258	12154250	12154243	12154244		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		36700 #	209 #	<46 #	170 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		10400	60.9	<10	56.4		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		26300	148	<10	114		

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH06	BH43	BH44	BH50	BH99	BH41A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	28/09/2015	28/09/2015	28/09/2015	29/09/2015	28/09/2015	29/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015
			SDG Ref	150930-127	150930-127	150930-127	150930-127	150930-127	150930-127
			Lab Sample No.(s)	12154248	12154253	12154245	12154260	12154252	12154255
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	12	<10 1	<10
GRO >C6-C8	<10 µg/l	TM245		<10	12	<10	92	<10 1	<10
GRO >C8-C10	<10 µg/l	TM245		<10	58	<10	1700	<10 1	19
GRO >C5-C10	<10 µg/l	TM245		<10	73	<10	1810	<10 1	22

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH42A	BH34B	BH50 DUPLICATE	MW01	MW03
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	29/09/2015	28/09/2015	29/09/2015	28/09/2015	28/09/2015
			Sampled Time	.	.	.	.	.
			Date Received	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015
			SDG Ref	150930-127	150930-127	150930-127	150930-127	150930-127
			Lab Sample No.(s)	12154258	12154250	12154261	12154243	12154244
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		12	<10	12	<10	<10
GRO >C6-C8	<10 µg/l	TM245		87	<10	91	<10	<10
GRO >C8-C10	<10 µg/l	TM245		248	<10	1670	<10	<10
GRO >C5-C10	<10 µg/l	TM245		347	<10	1770	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	28/09/2015	28/09/2015	29/09/2015	29/09/2015	28/09/2015	28/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015
			SDG Ref	150930-127	150930-127	150930-127	150930-127	150930-127	150930-127
			Lab Sample No.(s)	12154253	12154252	12154255	12154258	12154250	12154243
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	1.71 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	1.07 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B	MW01
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	28/09/2015	28/09/2015	29/09/2015	29/09/2015	28/09/2015	28/09/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015	30/09/2015
			SDG Ref	150930-127	150930-127	150930-127	150930-127	150930-127	150930-127
			Lab Sample No.(s)	12154253	12154252	12154255	12154258	12154250	12154243
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		1.36 #	<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	2.07 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	2.65 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	MW03
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	28/09/2015
Sampled Time	.
Date Received	30/09/2015
SDG Ref	150930-127
Lab Sample No.(s)	12154244
AGS Reference	

Component	LOD/Units	Method	
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176	<1
Azobenzene (aq)	<1 µg/l	TM176	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176	<1 #
Acenaphthene (aq)	<1 µg/l	TM176	<1 #
Anthracene (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	MW03
Depth (m)	.
Sample Type	Water(GW/SW)
Date Sampled	28/09/2015
Sampled Time	.
Date Received	30/09/2015
SDG Ref	150930-127
Lab Sample No.(s)	12154244
AGS Reference	

Component	LOD/Units	Method	
Benzo(a)anthracene (aq)	<1 µg/l	TM176	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176	<1 #
Carbazole (aq)	<1 µg/l	TM176	<1 #
Chrysene (aq)	<1 µg/l	TM176	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176	<5 #
Fluoranthene (aq)	<1 µg/l	TM176	<1 #
Fluorene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176	<1
Phenol (aq)	<1 µg/l	TM176	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176	<1 #
Naphthalene (aq)	<1 µg/l	TM176	<1 #
Isophorone (aq)	<1 µg/l	TM176	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176	<1
Phenanthrene (aq)	<1 µg/l	TM176	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176	<1 #
Pyrene (aq)	<1 µg/l	TM176	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	12154248	12154253	12154245	12154260	12154252	12154261	12154255	12154258	12154250	12154243
Customer Sample Ref.	BH06	BH43	BH44	BH50	BH99	BH50 DUPLICATE	BH41A	BH42A	BH34B	MW01
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	06-Oct-2015	06-Oct-2015	06-Oct-2015	07-Oct-2015	06-Oct-2015		06-Oct-2015	08-Oct-2015	06-Oct-2015	06-Oct-2015
GRO by GC-FID (W)	05-Oct-2015	05-Oct-2015	05-Oct-2015	05-Oct-2015	08-Oct-2015	05-Oct-2015	05-Oct-2015	05-Oct-2015	05-Oct-2015	05-Oct-2015
SVOC MS (W) - Aqueous		07-Oct-2015			07-Oct-2015		07-Oct-2015	07-Oct-2015	07-Oct-2015	07-Oct-2015

Lab Sample No(s)	12154244
Customer Sample Ref.	MW03
AGS Ref.	
Depth	
Type	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	06-Oct-2015
GRO by GC-FID (W)	05-Oct-2015
SVOC MS (W) - Aqueous	07-Oct-2015

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1273	QC 1264	QC 1252
EPH (DRO) (C10-C40)	TM172	**74.5** 59.25 : 105.75	**81.5** 56.50 : 116.50	**97.0** 59.25 : 105.75

GRO by GC-FID (W)

Component	Method Code	QC 1206	QC 1267
Benzene by GC	TM245	**99.0** 80.84 : 115.93	**101.0** 77.50 : 122.50
Ethylbenzene by GC	TM245	**99.0** 79.81 : 116.18	**99.0** 77.50 : 122.50
m & p Xylene by GC	TM245	**99.0** 79.42 : 117.01	**99.75** 77.50 : 122.50
MTBE GC-FID	TM245	**99.5** 80.59 : 117.01	**101.5** 77.50 : 122.50
o Xylene by GC	TM245	**99.5** 79.72 : 114.71	**100.5** 77.50 : 122.50
QC	TM245	**102.32** 72.98 : 133.81	**100.57** 74.88 : 125.54
Toluene by GC	TM245	**99.0** 80.35 : 115.51	**100.5** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1270
4-Bromophenylphenyleth er	TM176	**91.2** 55.04 : 128.00
Benzo(a)anthracene	TM176	**84.8** 52.64 : 123.68
Benzo(a)pyrene	TM176	**88.0** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**87.2** 49.04 : 127.76
Hexachlorobutadiene	TM176	**70.4** 42.80 : 108.20
Naphthalene	TM176	**89.6** 47.20 : 116.80
Nitrobenzene	TM176	**85.6** 58.70 : 110.90
Phenol	TM176	**50.8** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

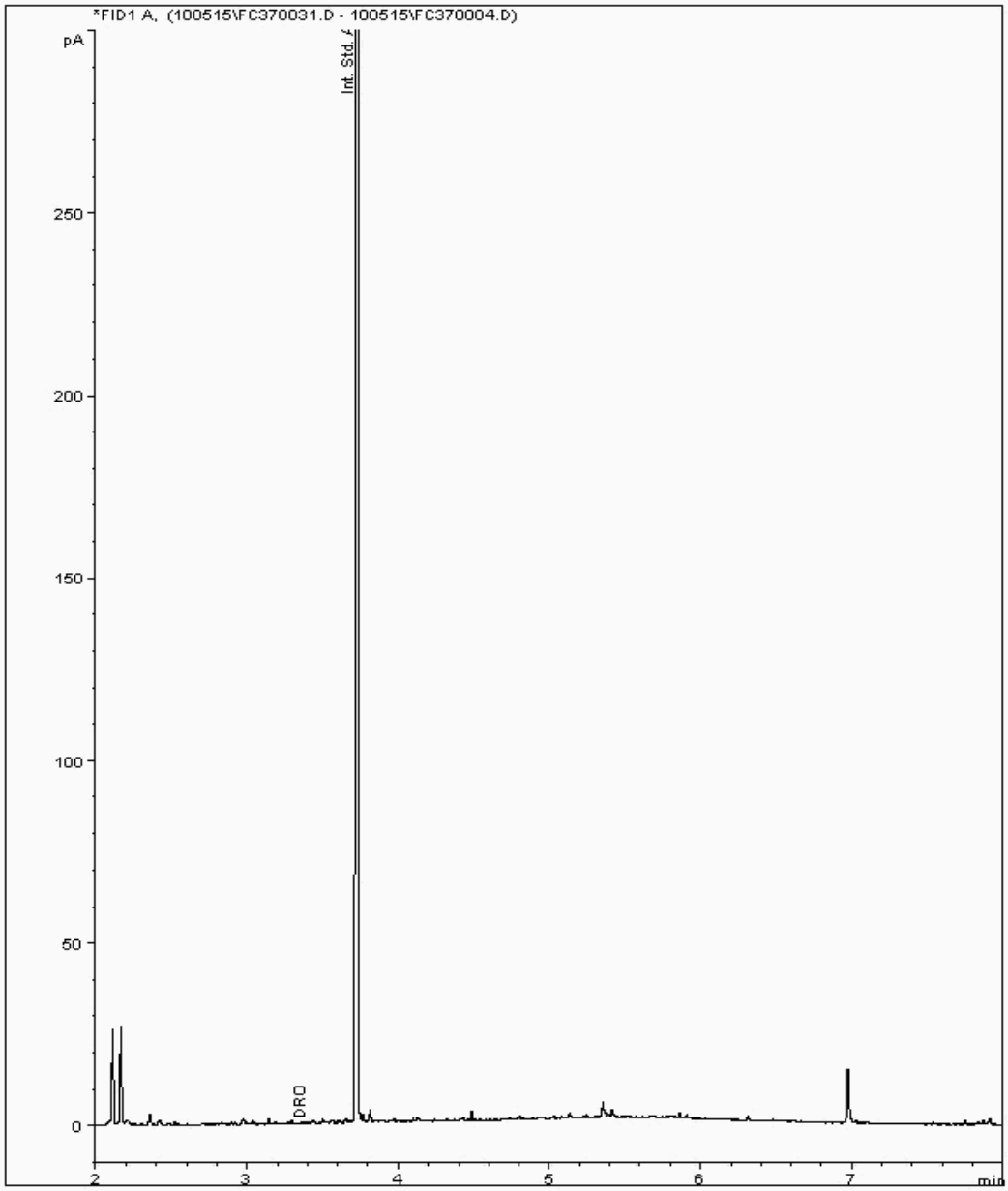
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166688
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: l1521903-
Date Acquired : 06/10/2015 02:58:37 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

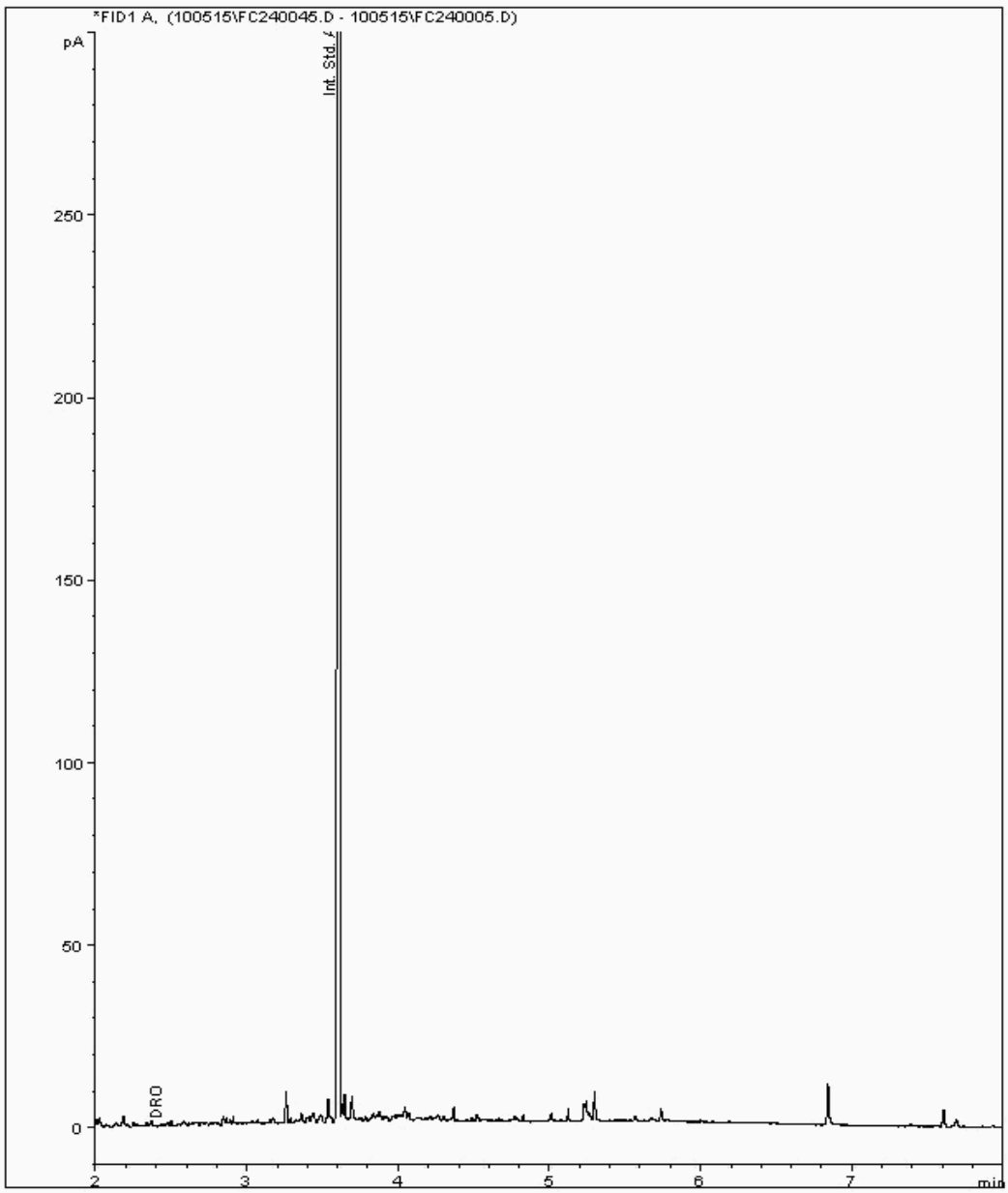
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166695
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: l1521933-
Date Acquired : 06/10/2015 14:20:42 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

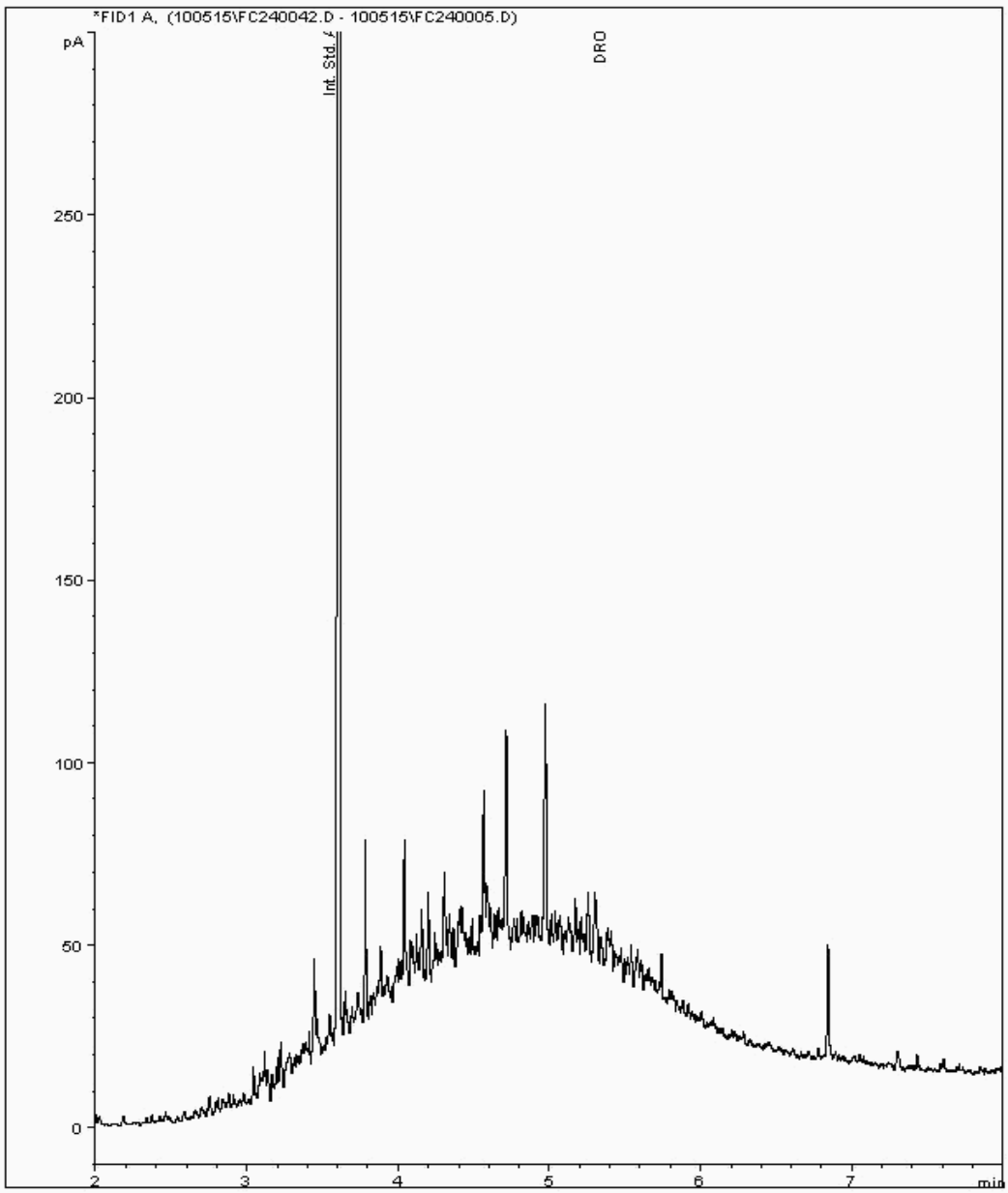
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166709
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: l1521940-
Date Acquired : 06/10/2015 13:12:41 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

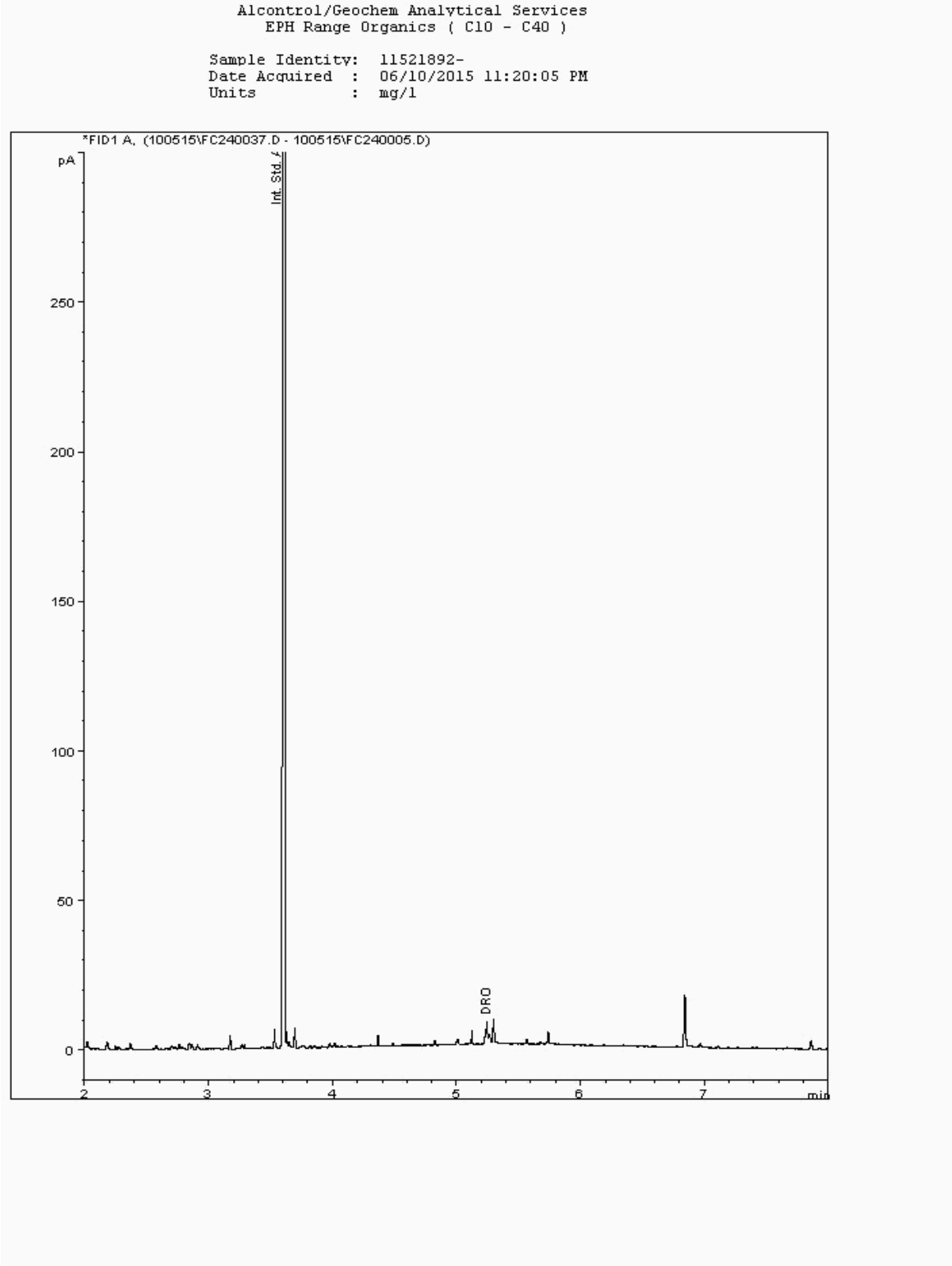
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166755
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

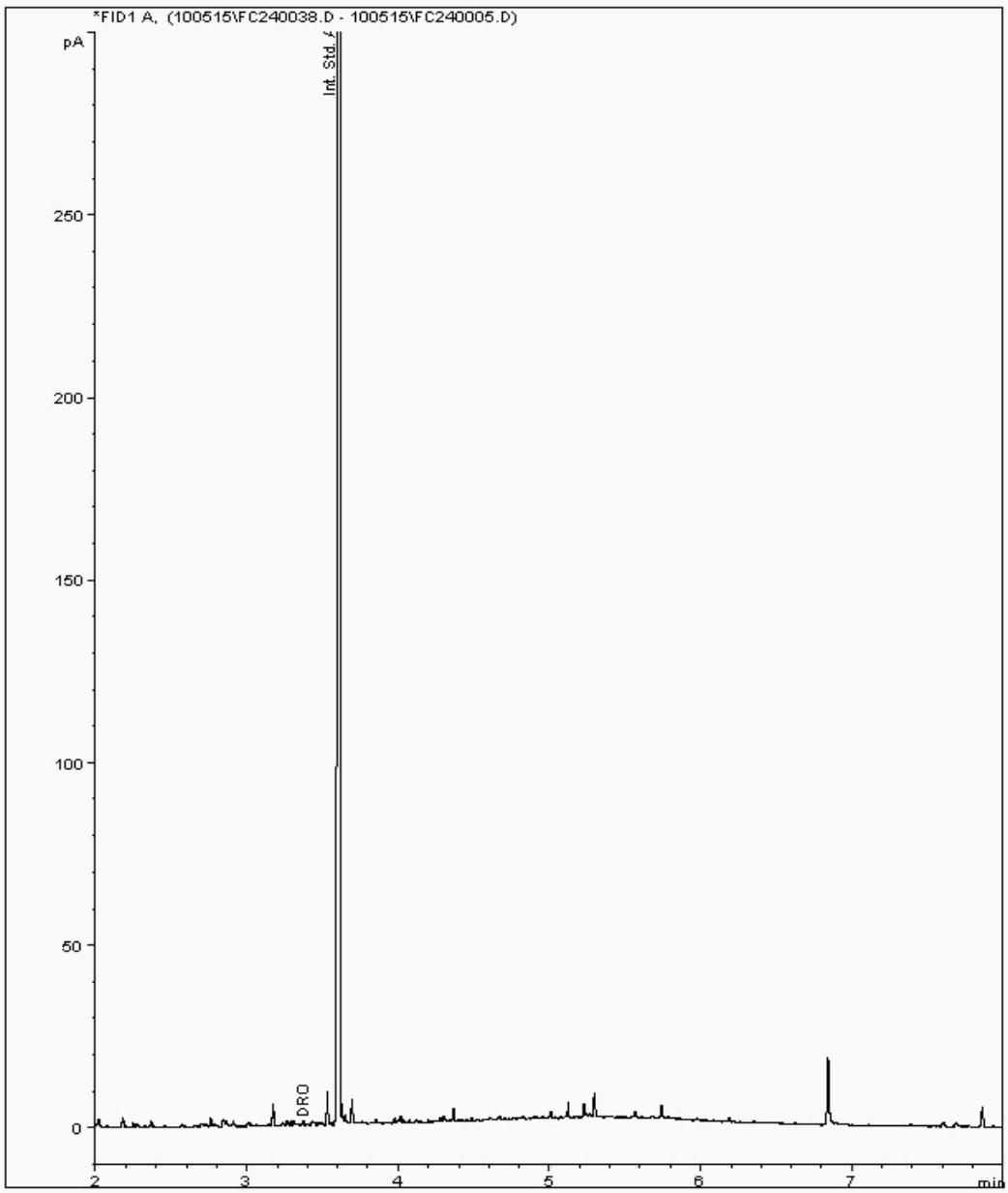
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166772
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: l1521897-
Date Acquired : 06/10/2015 11:42:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

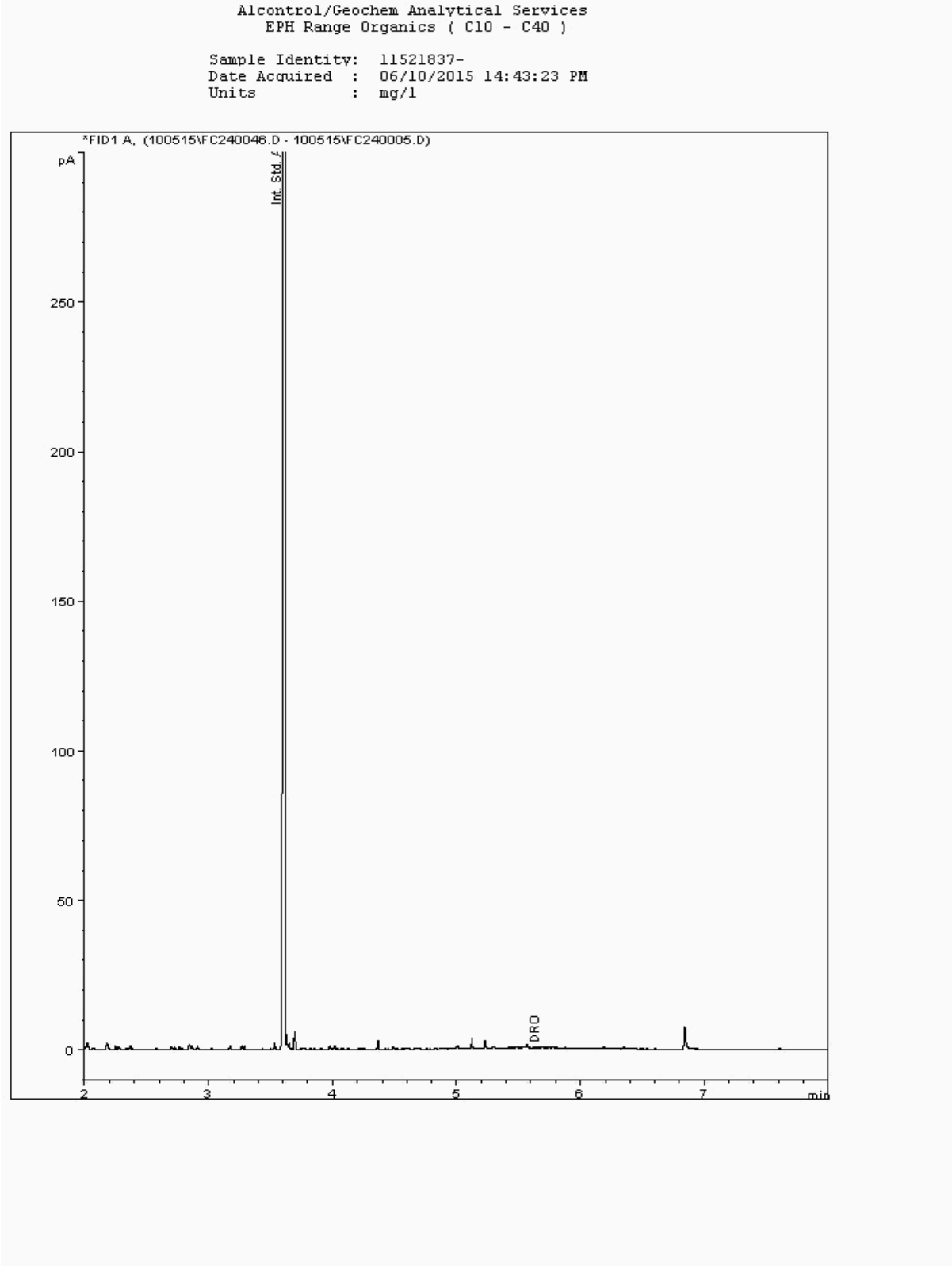
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166841
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

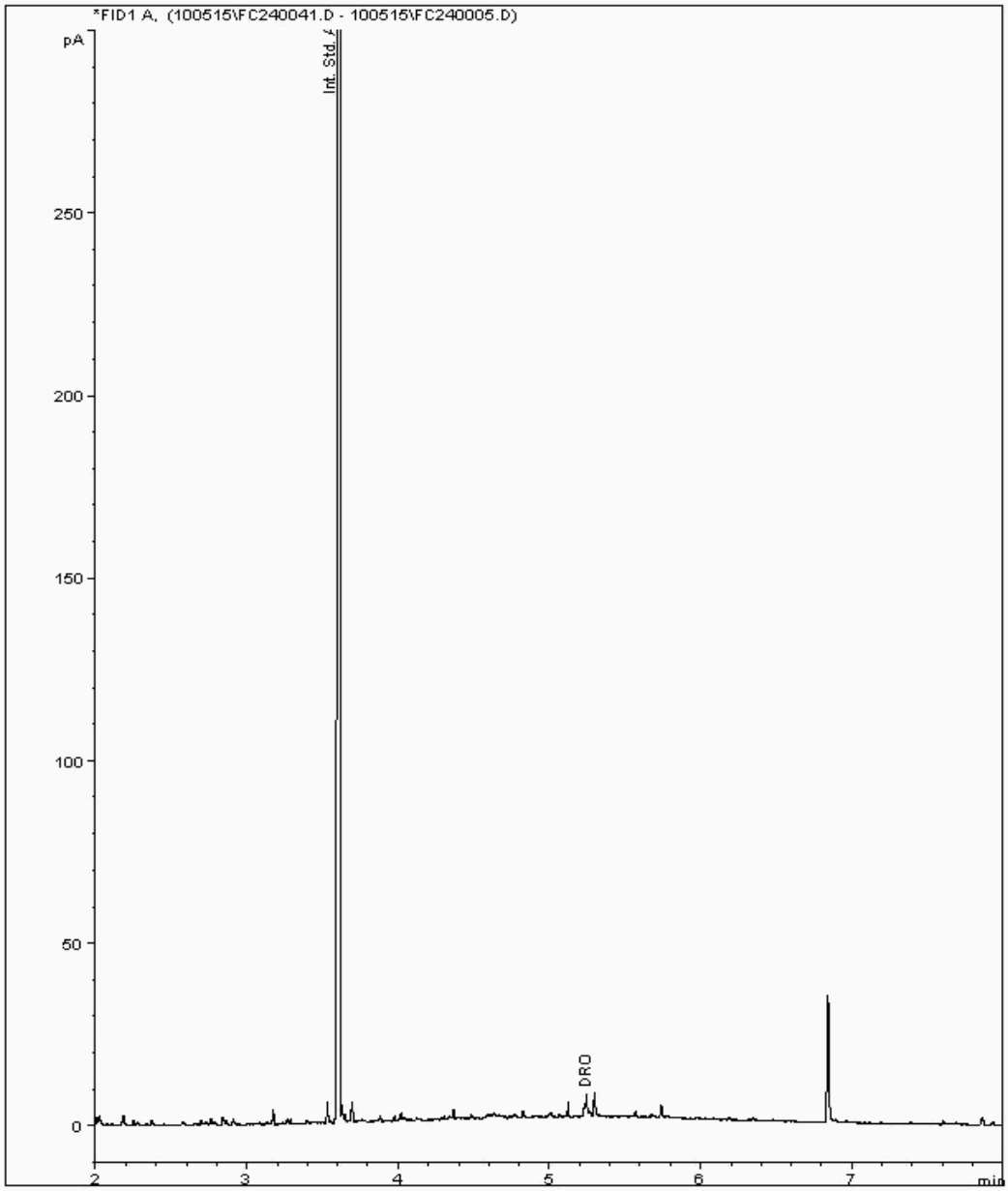
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166906
Sample ID : MW03

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: l1521876-
Date Acquired : 06/10/2015 12:50:10 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

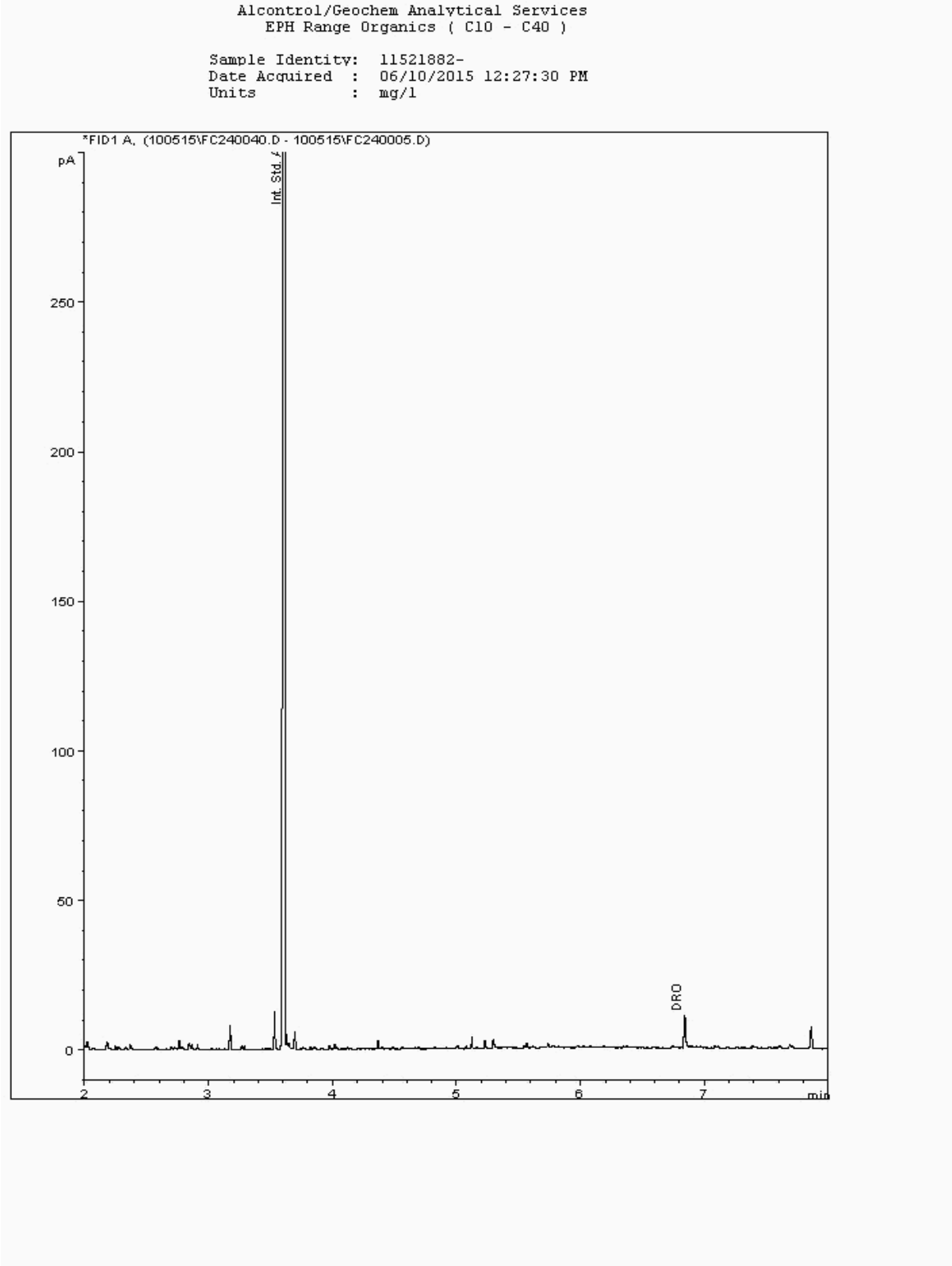
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12166933
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

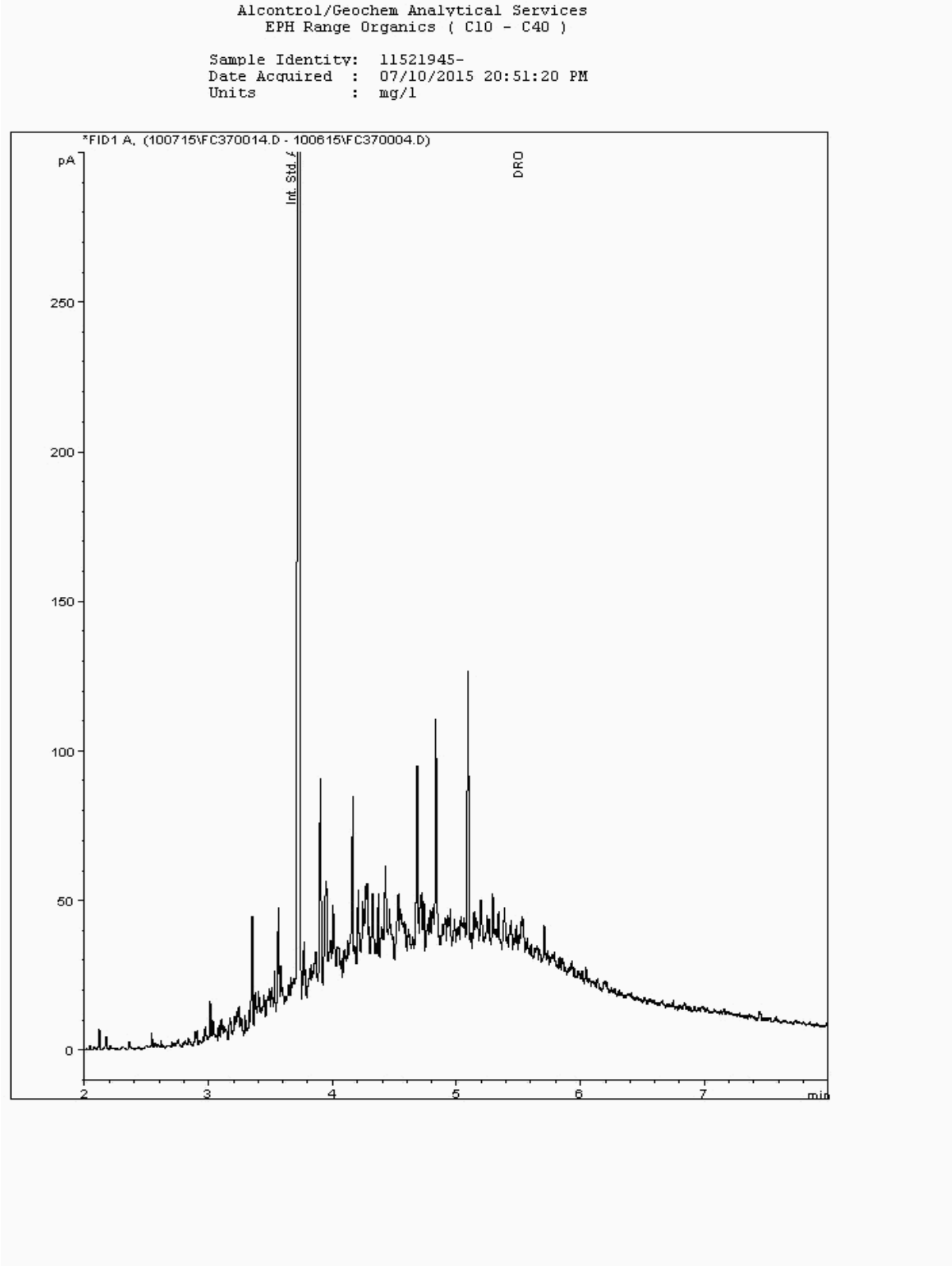
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12168108
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

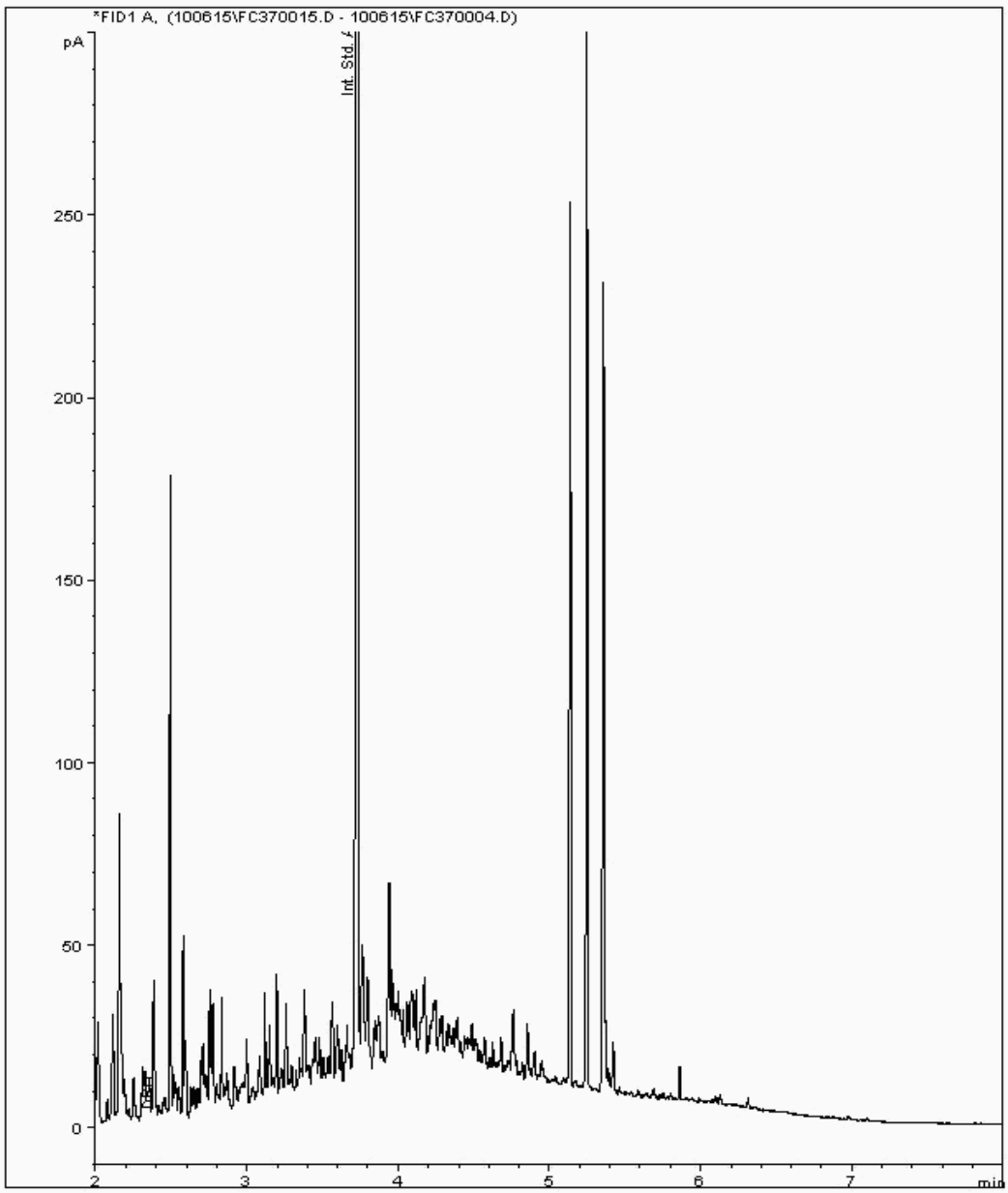
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12168142
Sample ID : BH50

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: l1521955-
Date Acquired : 06/10/2015 20:47:20 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

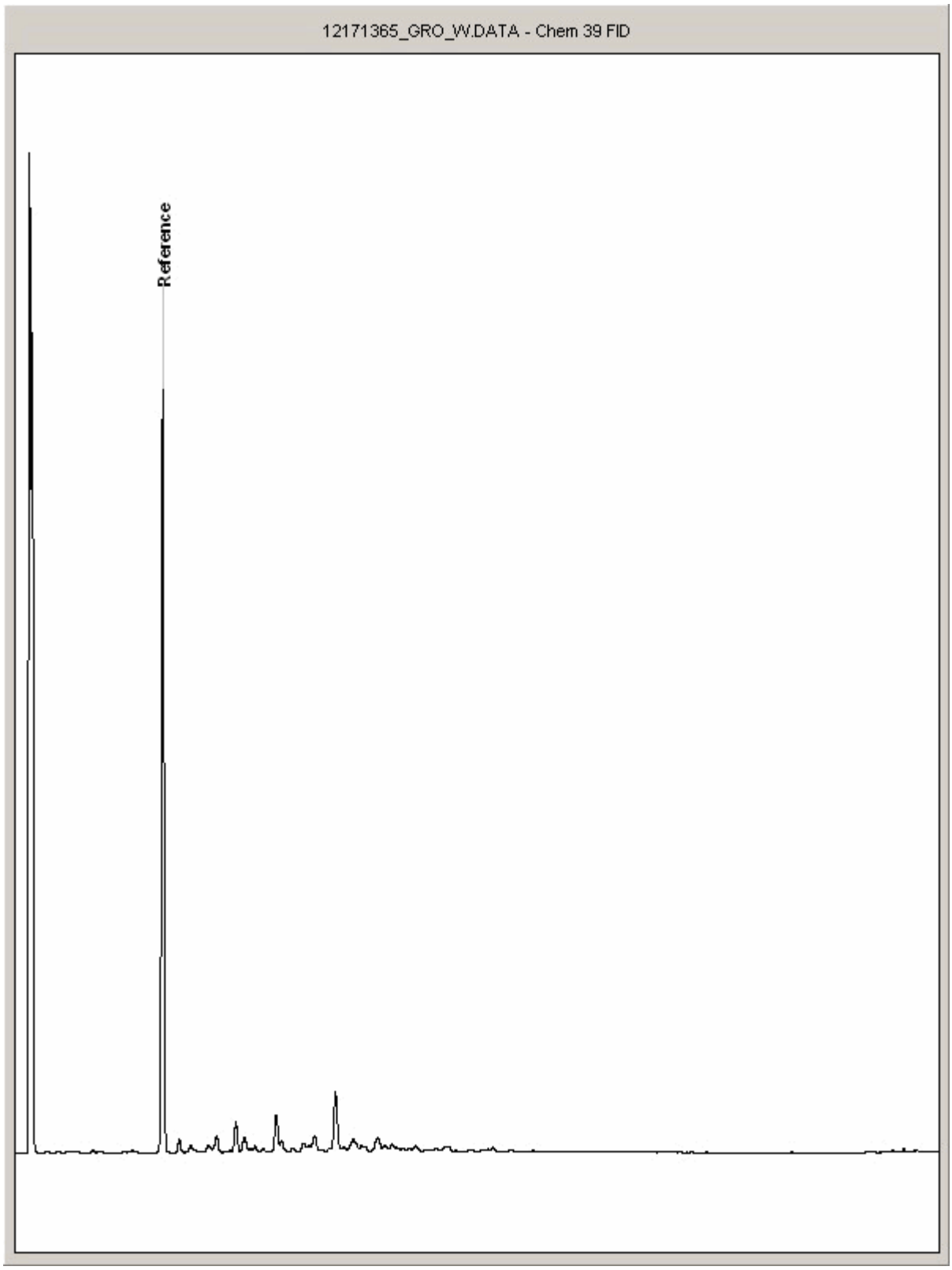
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171365
Sample ID : BH50

Depth :



CERTIFICATE OF ANALYSIS

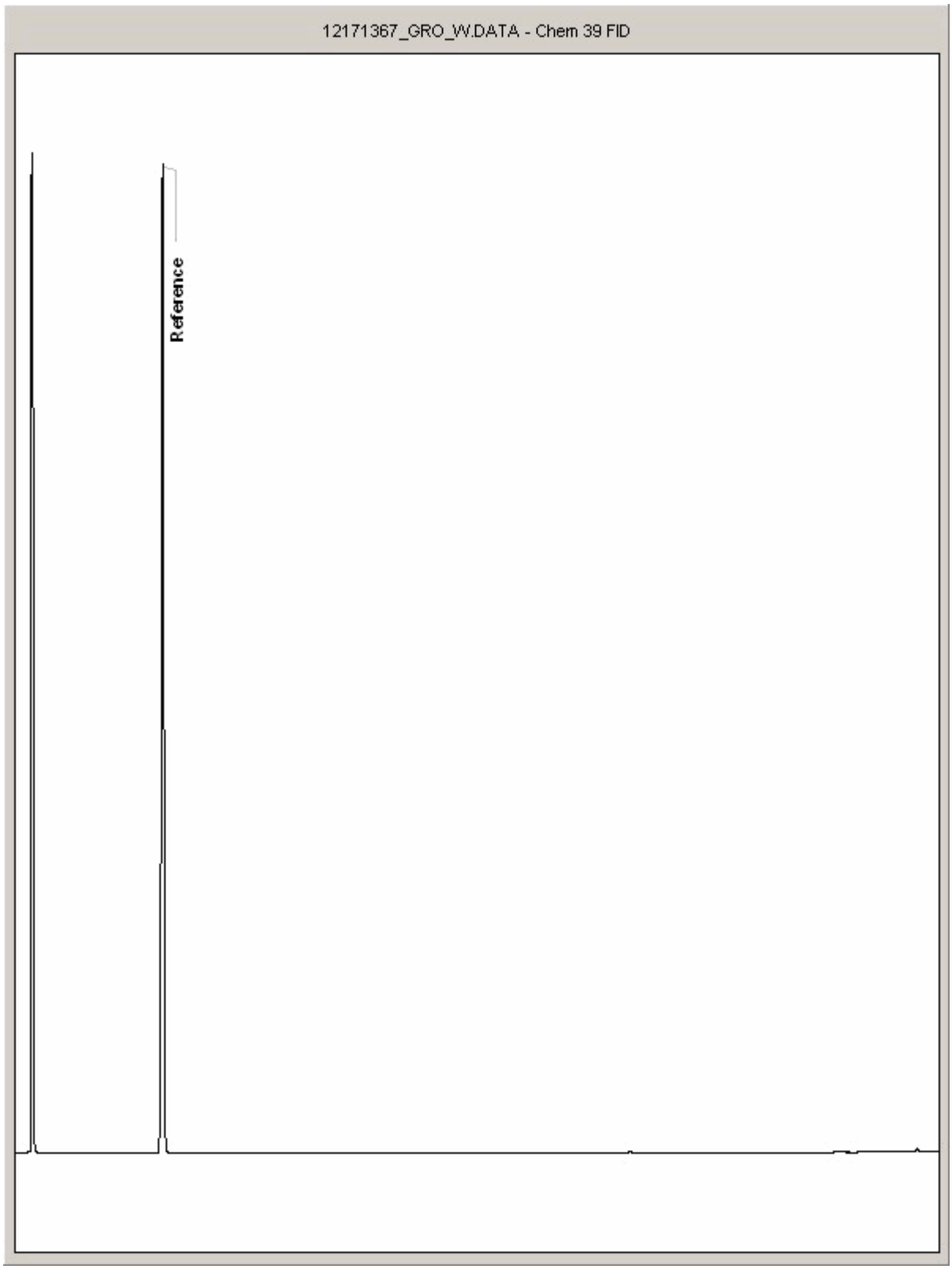
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171367
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

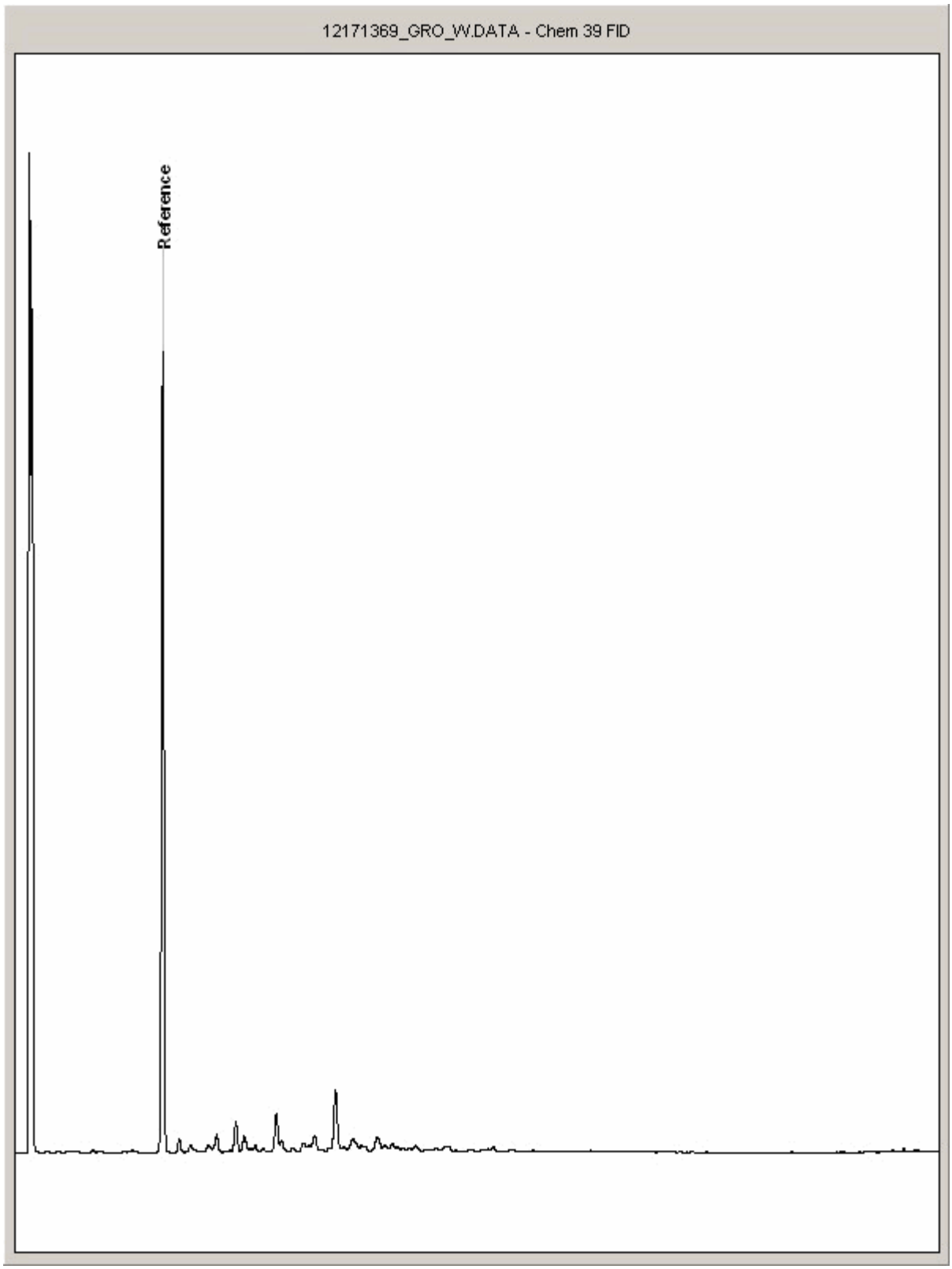
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171369
Sample ID : BH50 DUPLICATE

Depth :



CERTIFICATE OF ANALYSIS

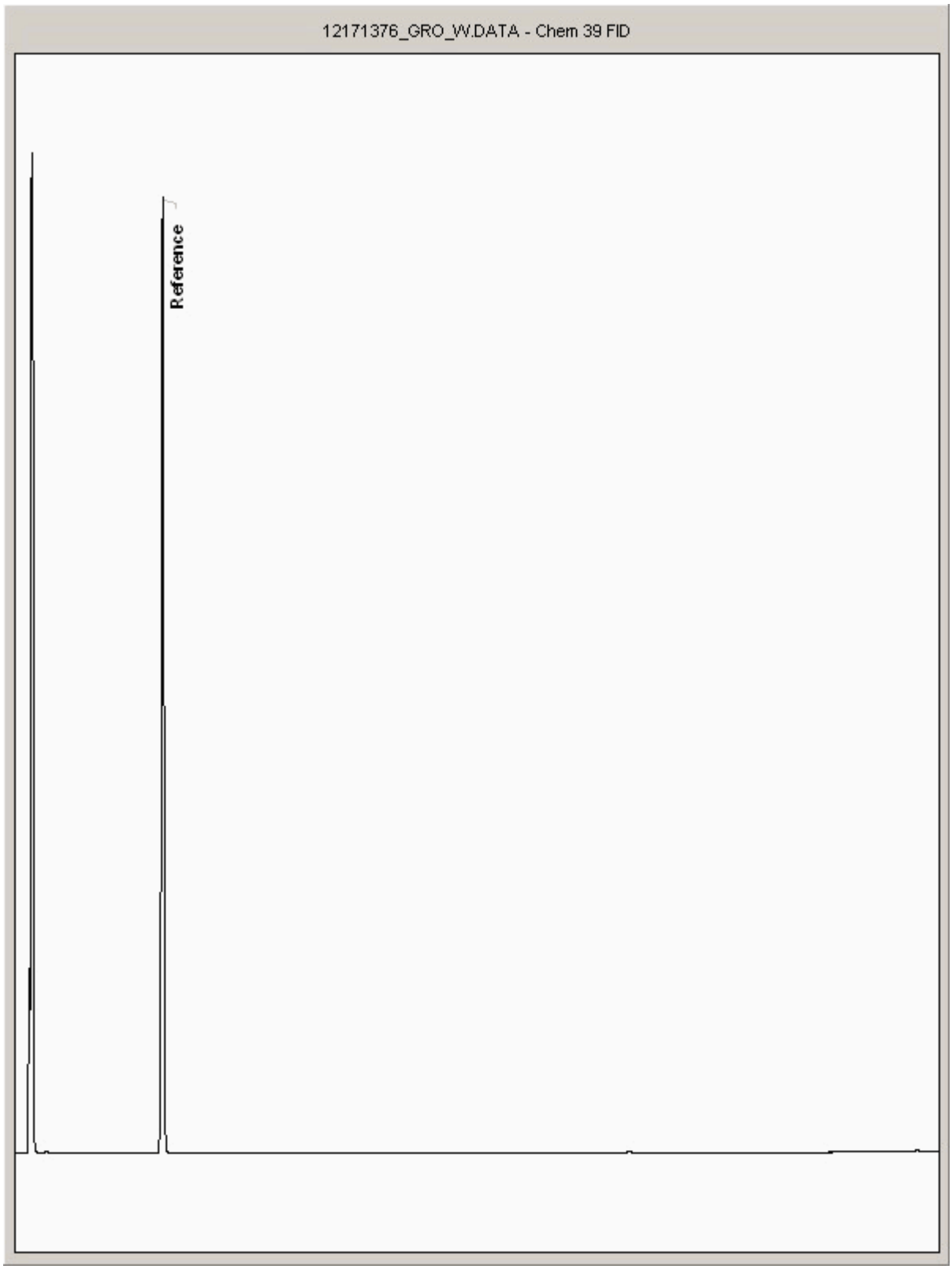
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171376
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

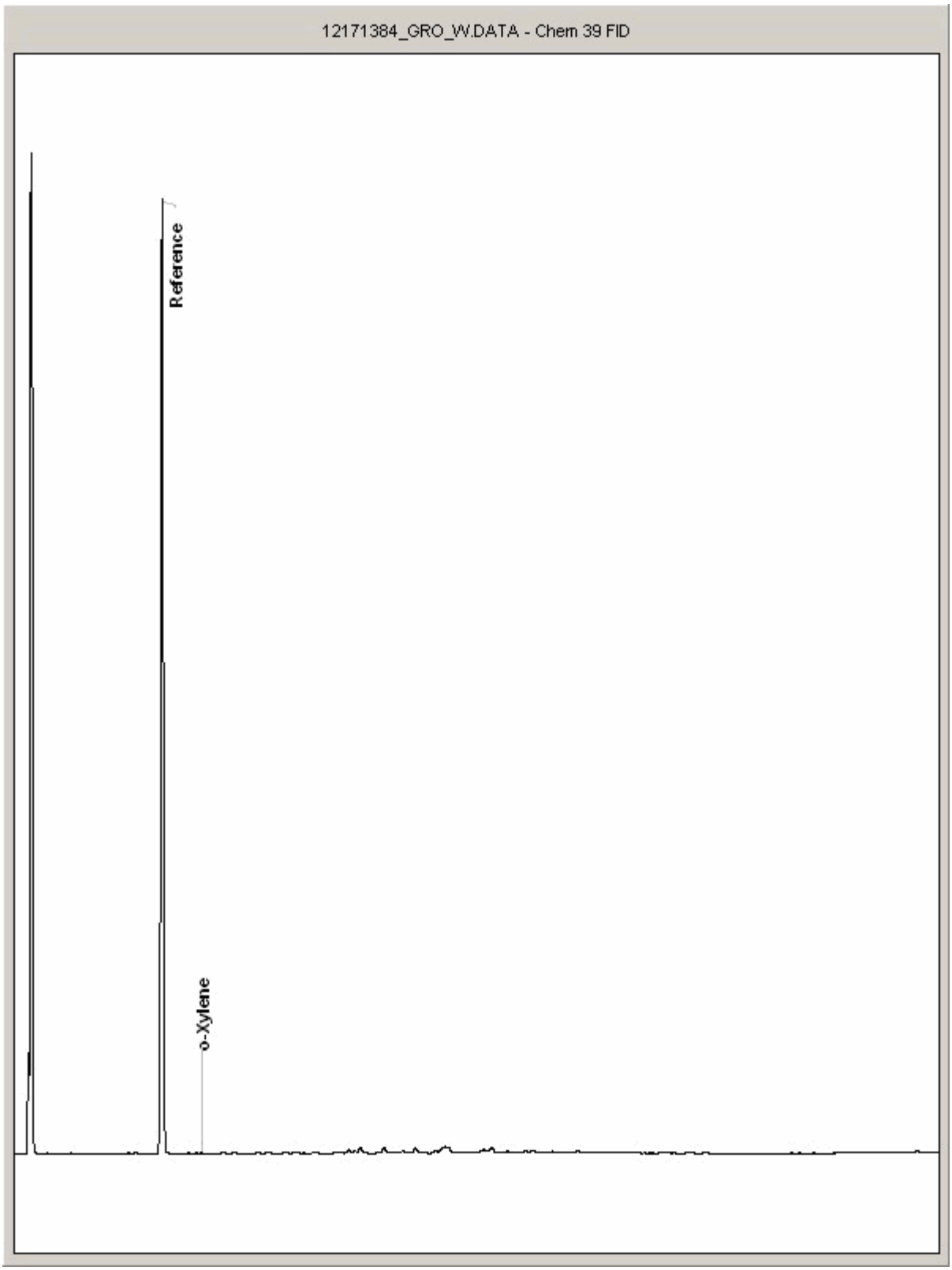
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171384
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

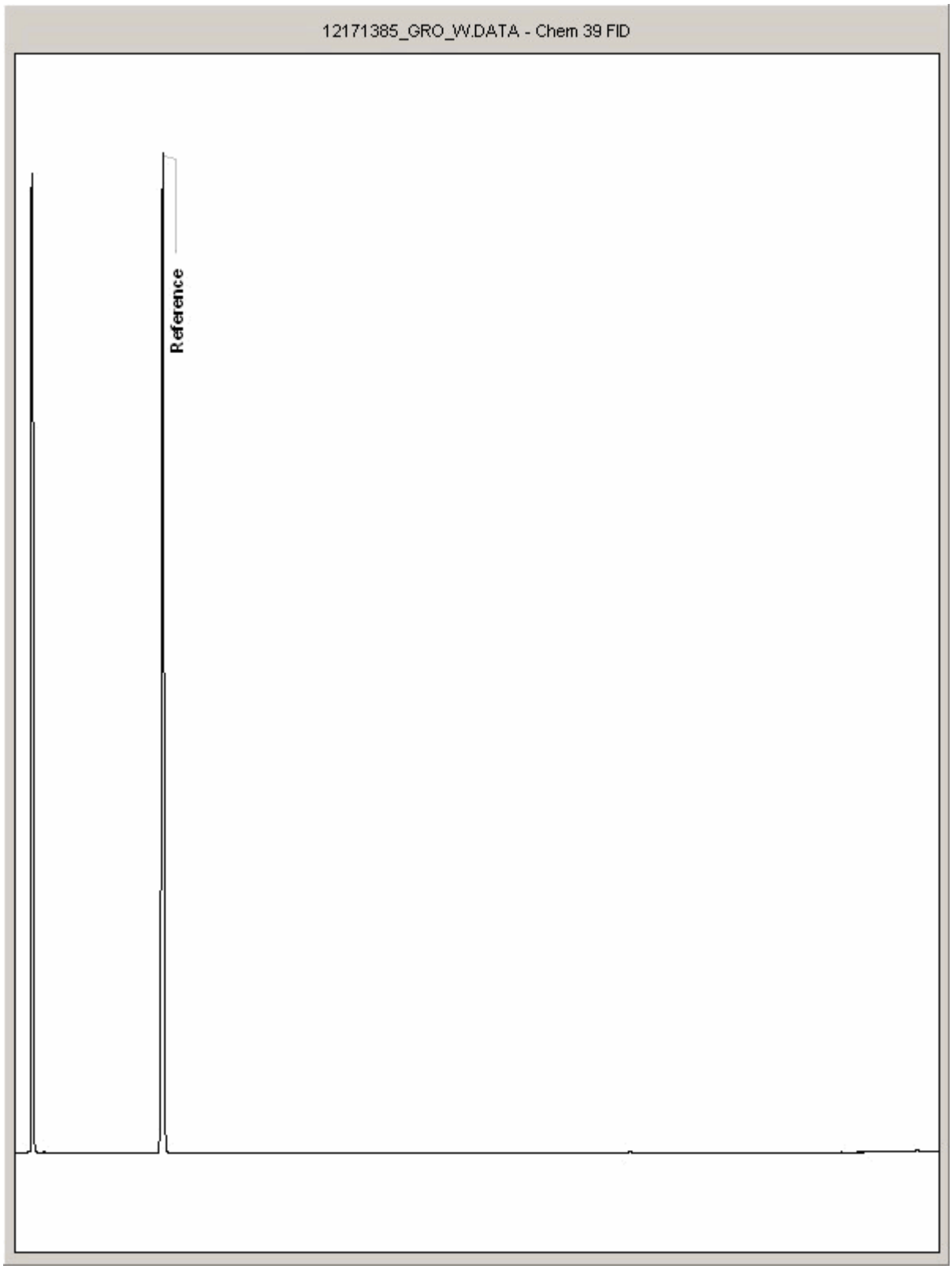
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171385
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

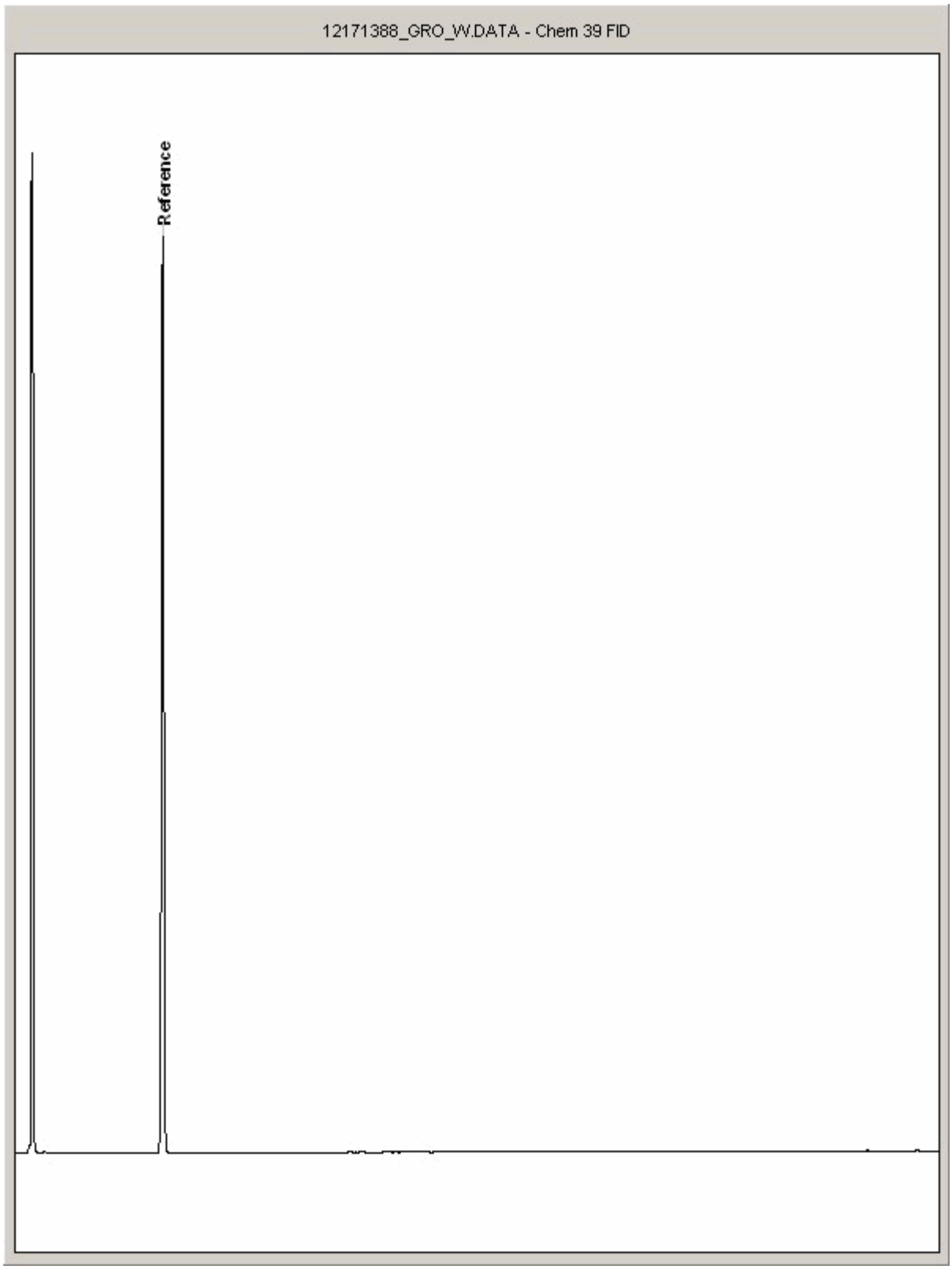
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171388
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

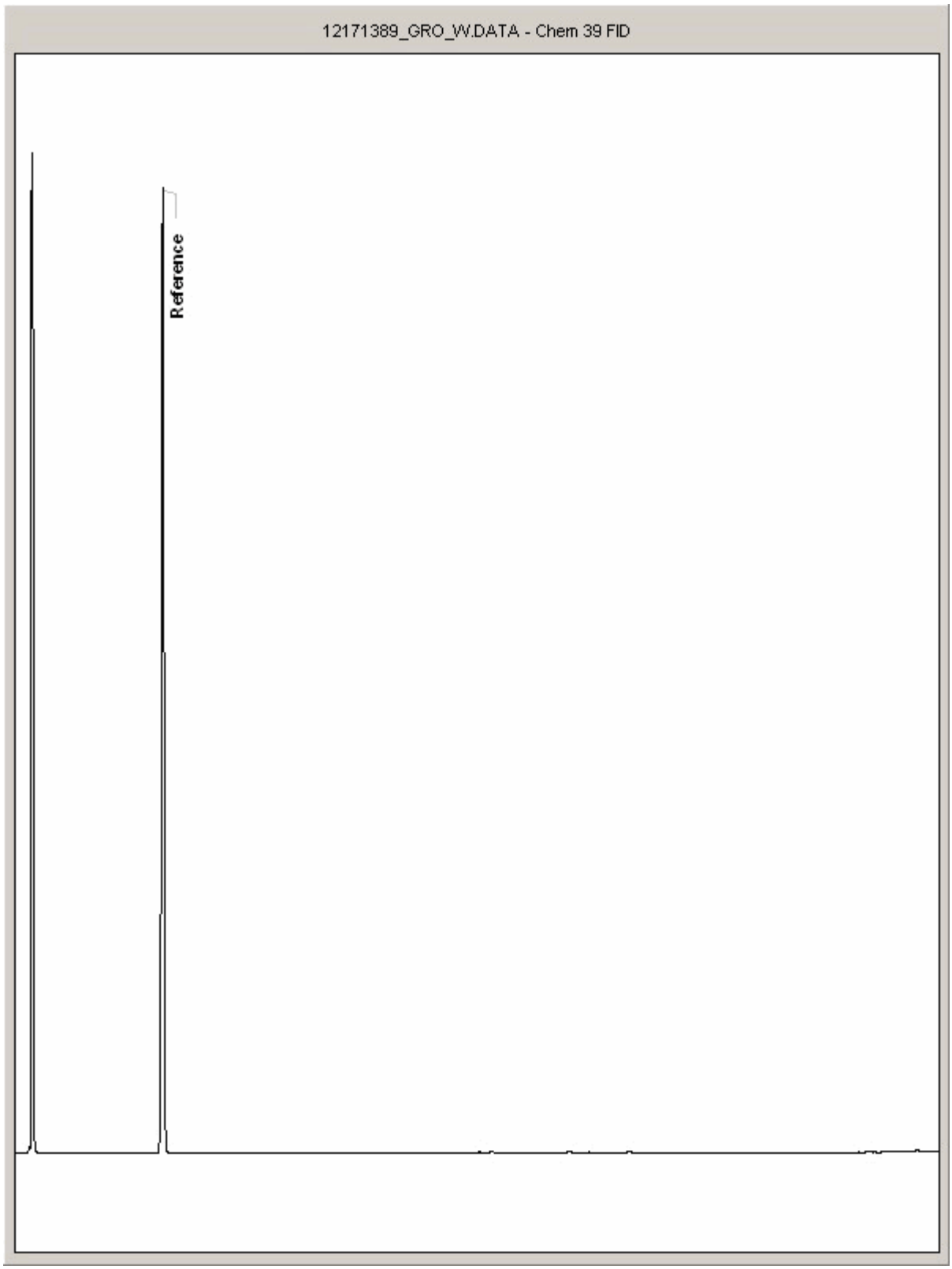
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171389
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

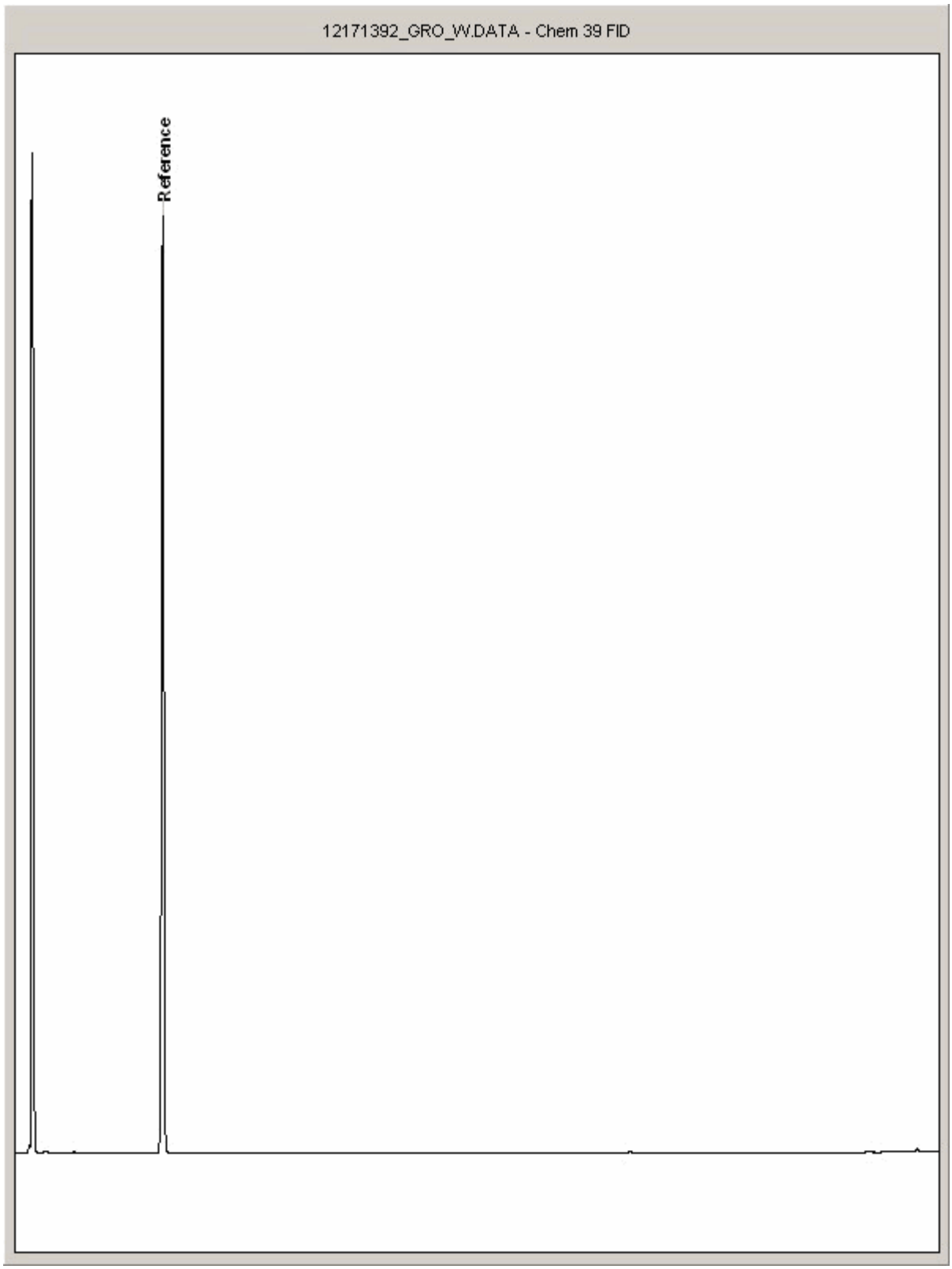
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171392
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

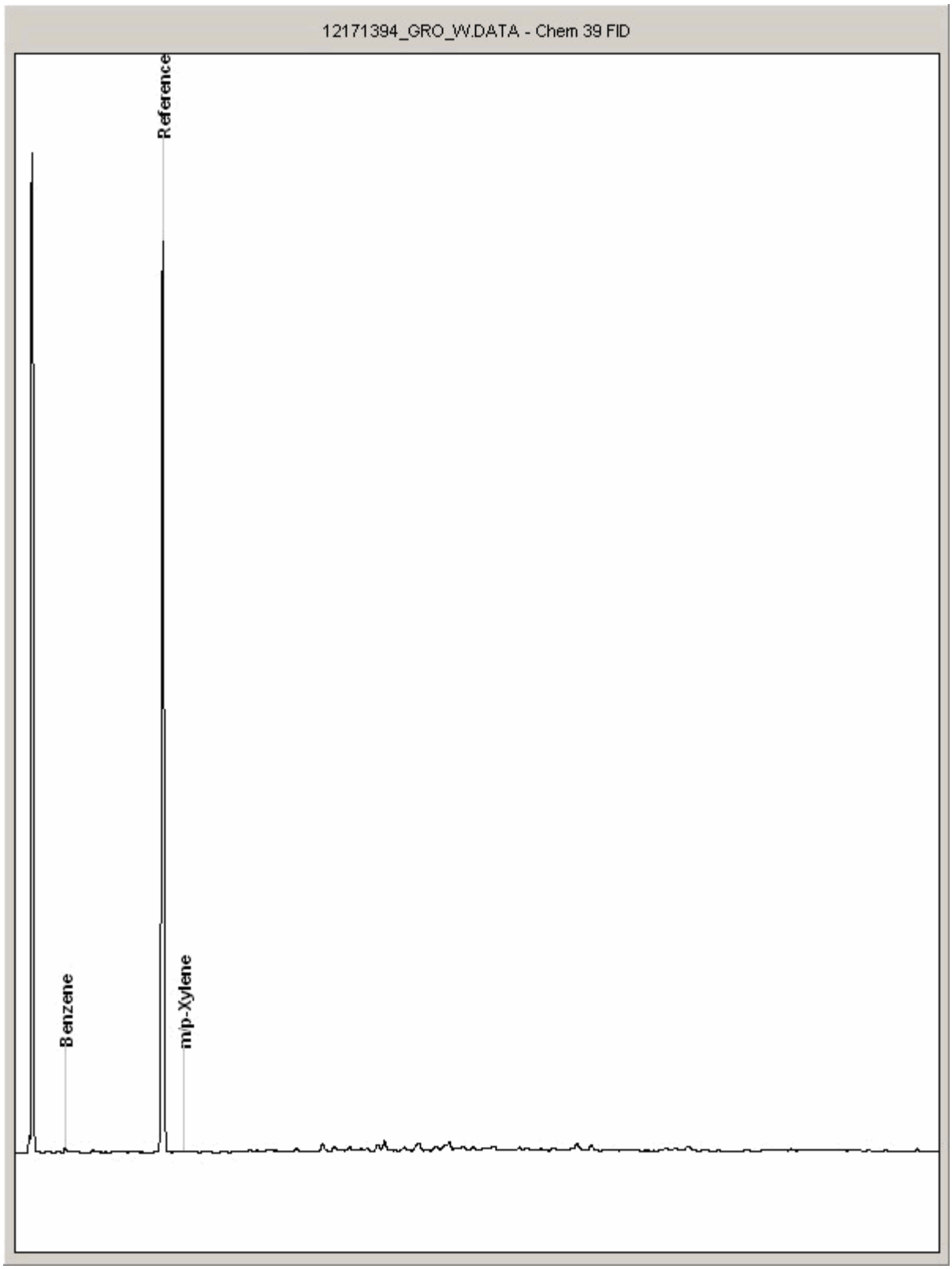
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12171394
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

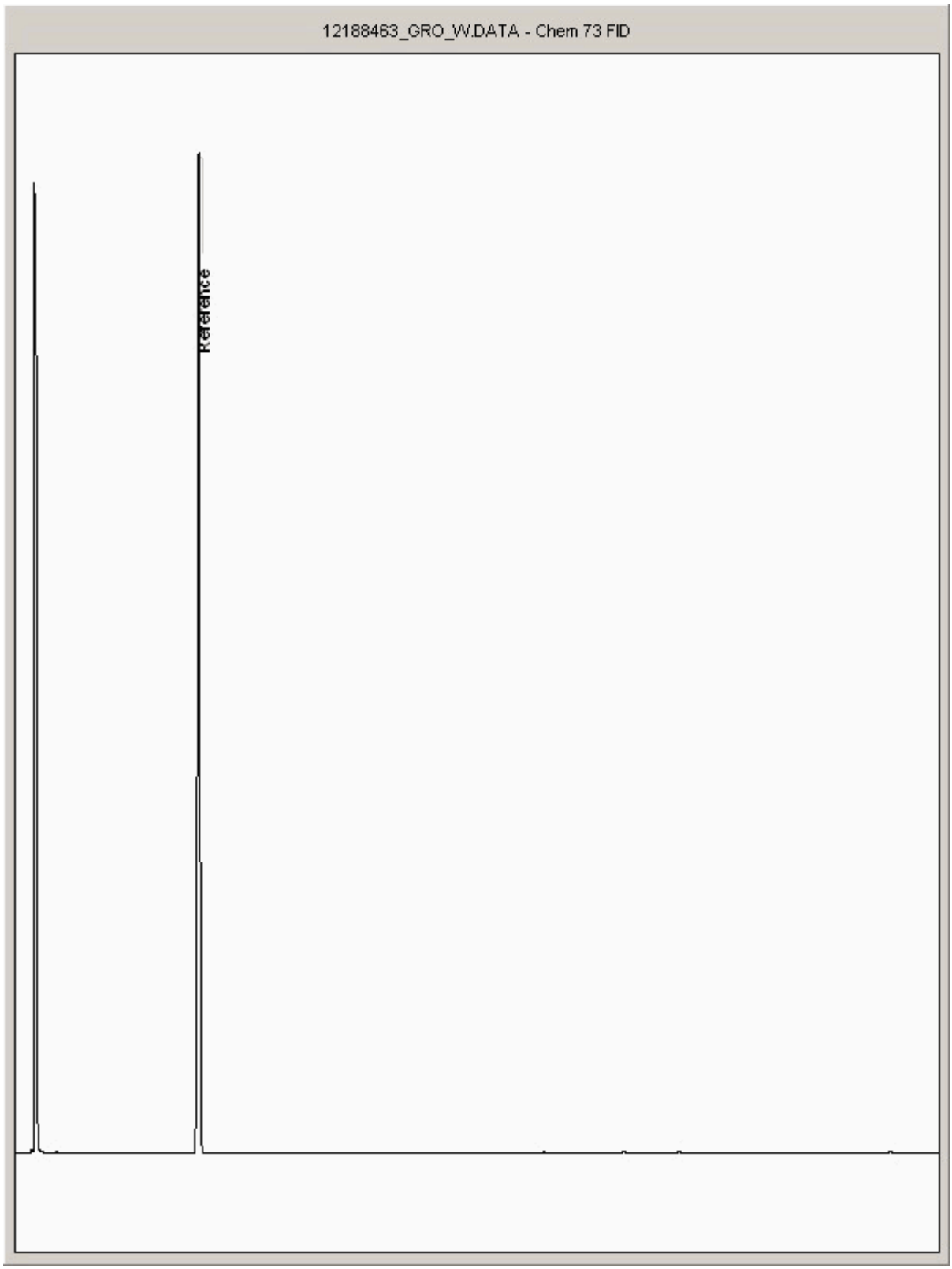
SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12188463
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MINOIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS-MS	DCM	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC-MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150930-127	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	332705
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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2420 The Quadrant
Aztec West
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

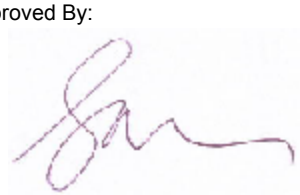
Date:	21 January 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	150114-4
Your Reference:	JER5575U
Location:	SHLNG
Report No:	299319

We received 10 samples on Monday January 12, 2015 and 5 of these samples were scheduled for analysis which was completed on Wednesday January 21, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
10665763	BH43			12/01/2015
10665761	BH99			12/01/2015
10665766	BH41A			12/01/2015
10665768	BH42A			12/01/2015
10665767	BH41ADUPLICATE			12/01/2015
10665769	BH42ADUPLICATE			12/01/2015
10665759	BH34B			12/01/2015
10665760	BH34B DUPLICATE			12/01/2015
10665765	BH43DUPLICATE			12/01/2015
10665762	BH99DUPLICATE			12/01/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			10665763	BH43			1l Glass bottle (ALE
							Vial (ALE297)
			10665761	BH99			1l Glass bottle (ALE
							Vial (ALE297)
			10665766	BH41A			1l Glass bottle (ALE
							Vial (ALE297)
			10665768	BH42A			1l Glass bottle (ALE
							Vial (ALE297)
			10665759	BH34B			1l Glass bottle (ALE
							Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5	X	X	X	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	46.9 #	4560 #	7470 #	52.1 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		29.2	21.5	1640	5840	21.4
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		16.9	25.6	2900	1640	30.7

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	23	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	119	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	387	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	10	529	<10

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	72.5 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<4 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			Sampled Time	.	.	.	.	.
			Date Received	12/01/2015	12/01/2015	12/01/2015	12/01/2015	12/01/2015
			SDG Ref	150114-4	150114-4	150114-4	150114-4	150114-4
			Lab Sample No.(s)	10665763	10665761	10665766	10665768	10665759
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.14 #	<2 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<10 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	20.7 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<2	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	11.2 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<2 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.38 #	<2 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	10665763	10665761	10665766	10665768	10665759
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015
GRO by GC-FID (W)	15-Jan-2015	15-Jan-2015	15-Jan-2015	15-Jan-2015	15-Jan-2015
SVOC MS (W) - Aqueous	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015	21-Jan-2015

CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1026	QC 1025
EPH (DRO) (C10-C40)	TM172	**75.5** 56.50 : 116.50	**89.0** 58.60 : 104.65

GRO by GC-FID (W)

Component	Method Code	QC 1088
Benzene by GC	TM245	**98.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	**97.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**97.5** 77.50 : 122.50
MTBE GC-FID	TM245	**100.5** 77.50 : 122.50
o Xylene by GC	TM245	**97.5** 77.50 : 122.50
QC	TM245	**98.32** 68.49 : 116.95
Toluene by GC	TM245	**98.0** 77.50 : 122.50

SVOC MS (W) - Aqueous

Component	Method Code	QC 1042
4-Bromophenylphenyleth er	TM176	**97.6** 55.04 : 128.00
Benzo(a)anthracene	TM176	**92.8** 52.64 : 123.68
Benzo(a)pyrene	TM176	**82.4** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**86.4** 41.53 : 109.48
Hexachlorobutadiene	TM176	**74.24** 42.80 : 108.20
Naphthalene	TM176	**103.2** 47.20 : 116.80
Nitrobenzene	TM176	**93.6** 58.70 : 110.90
Phenol	TM176	**51.76** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

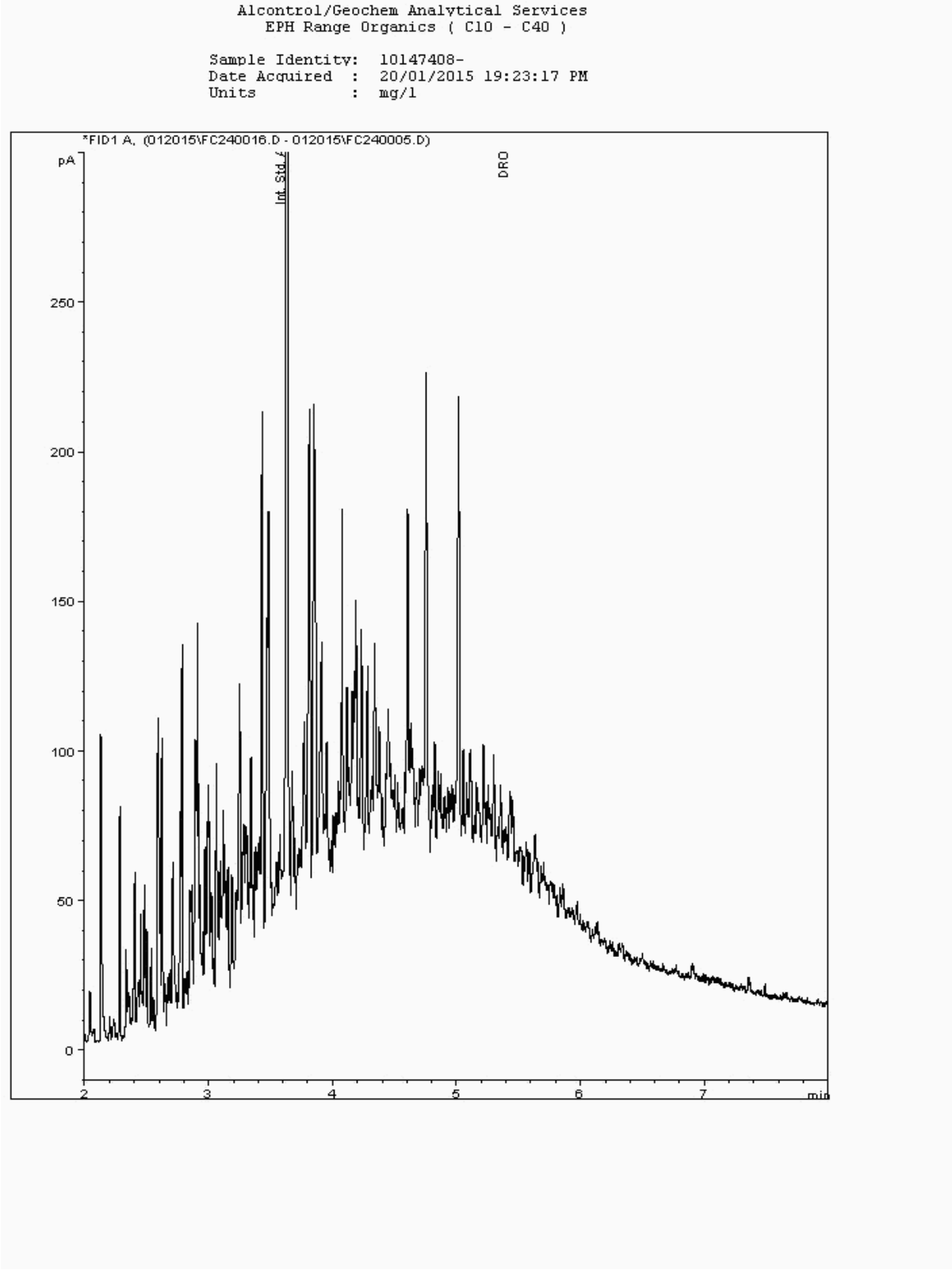
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10669910
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

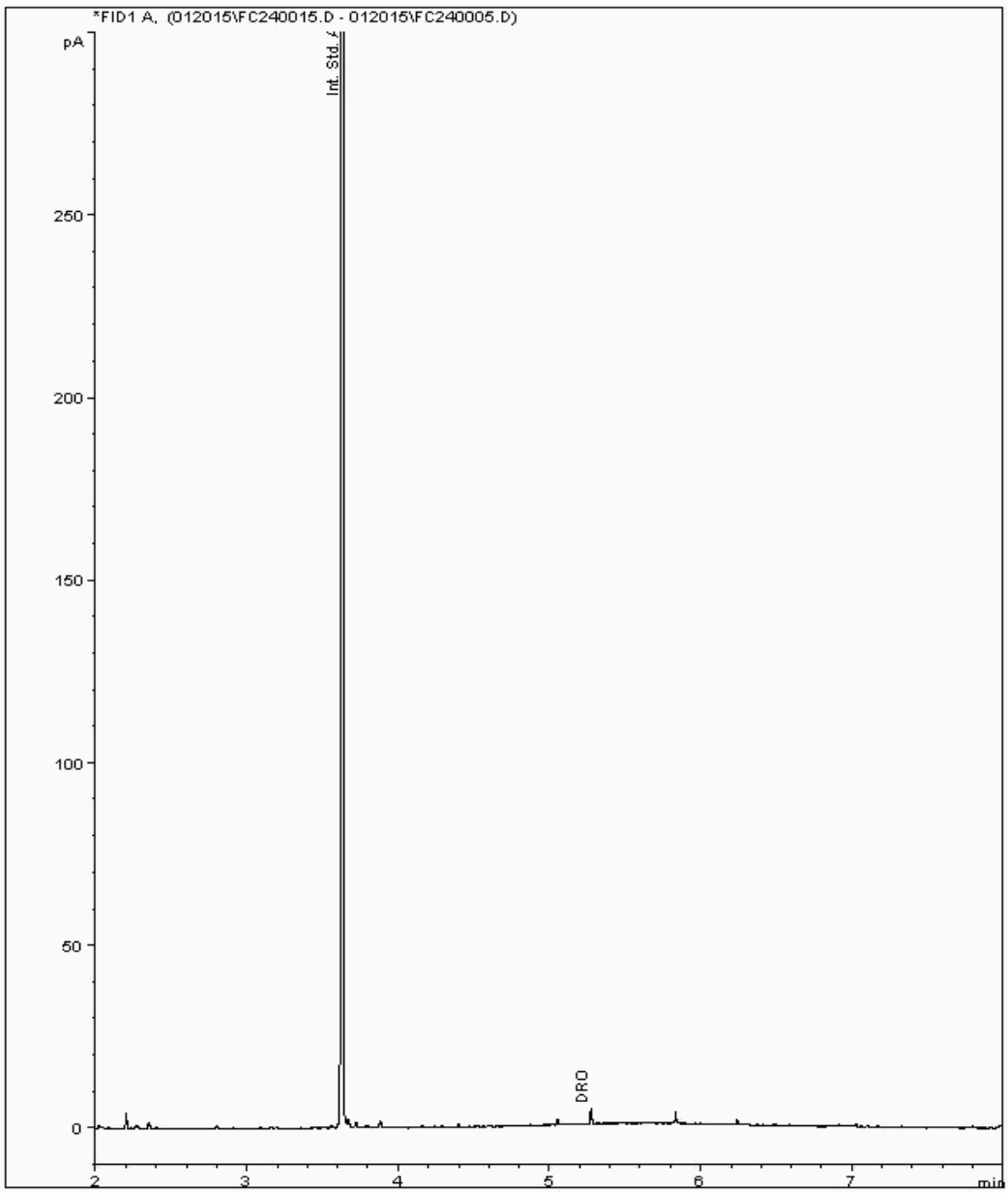
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10669920
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10147370-
Date Acquired : 20/01/2015 19:01:30 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

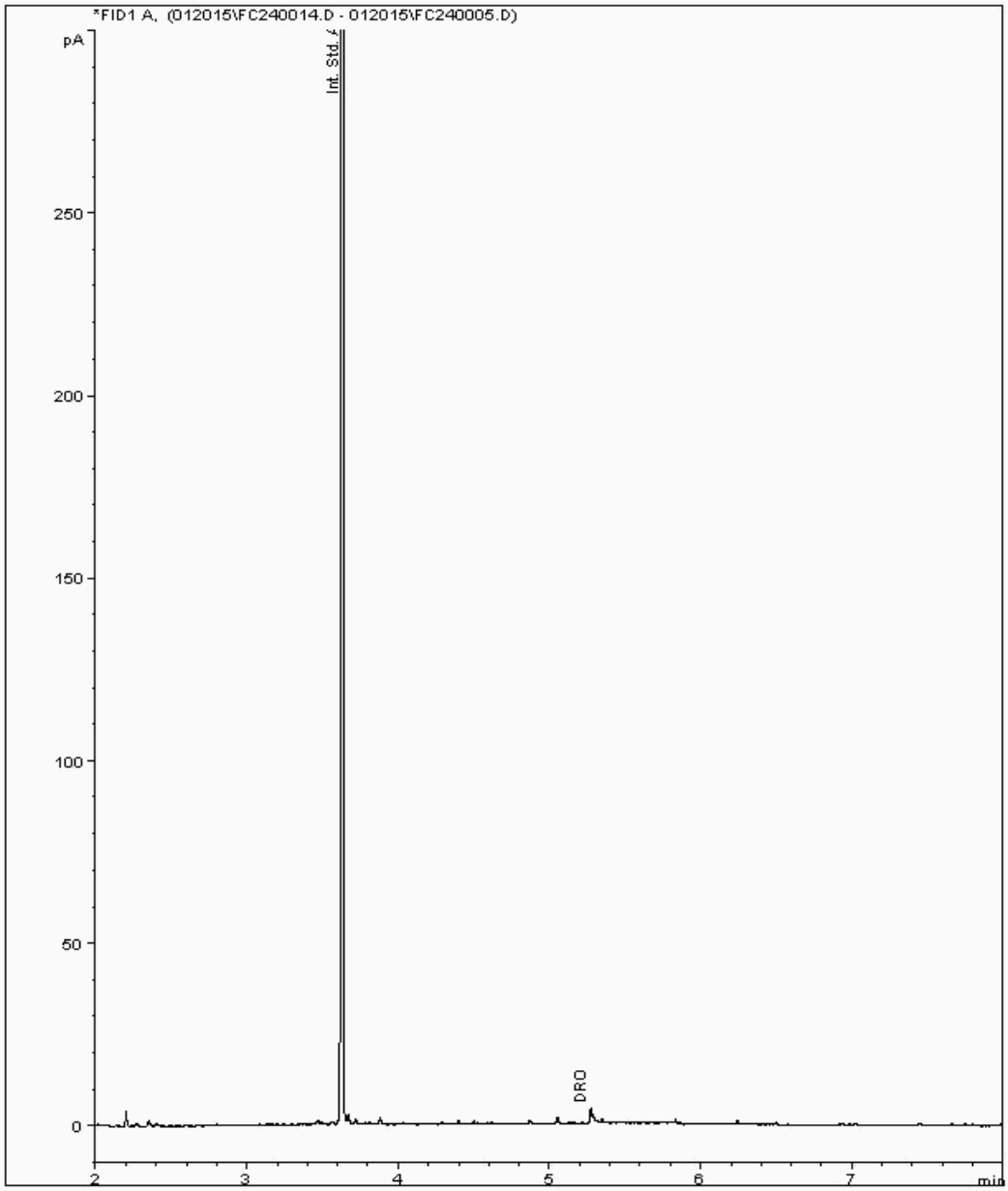
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10669959
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10147378-
Date Acquired : 20/01/2015 18:39:19 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

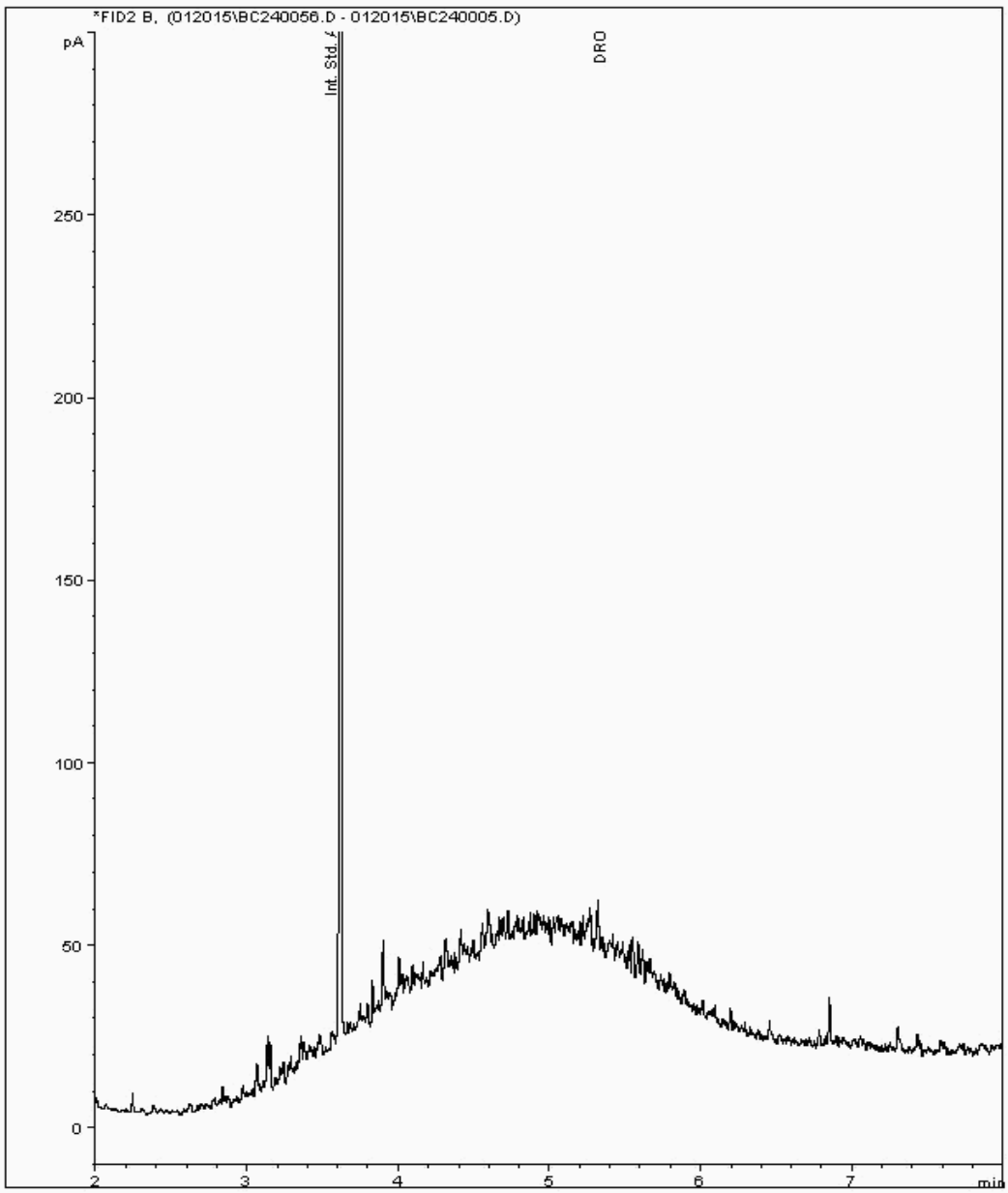
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10696689
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10170103-
Date Acquired : 21/01/2015 12:11:31 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

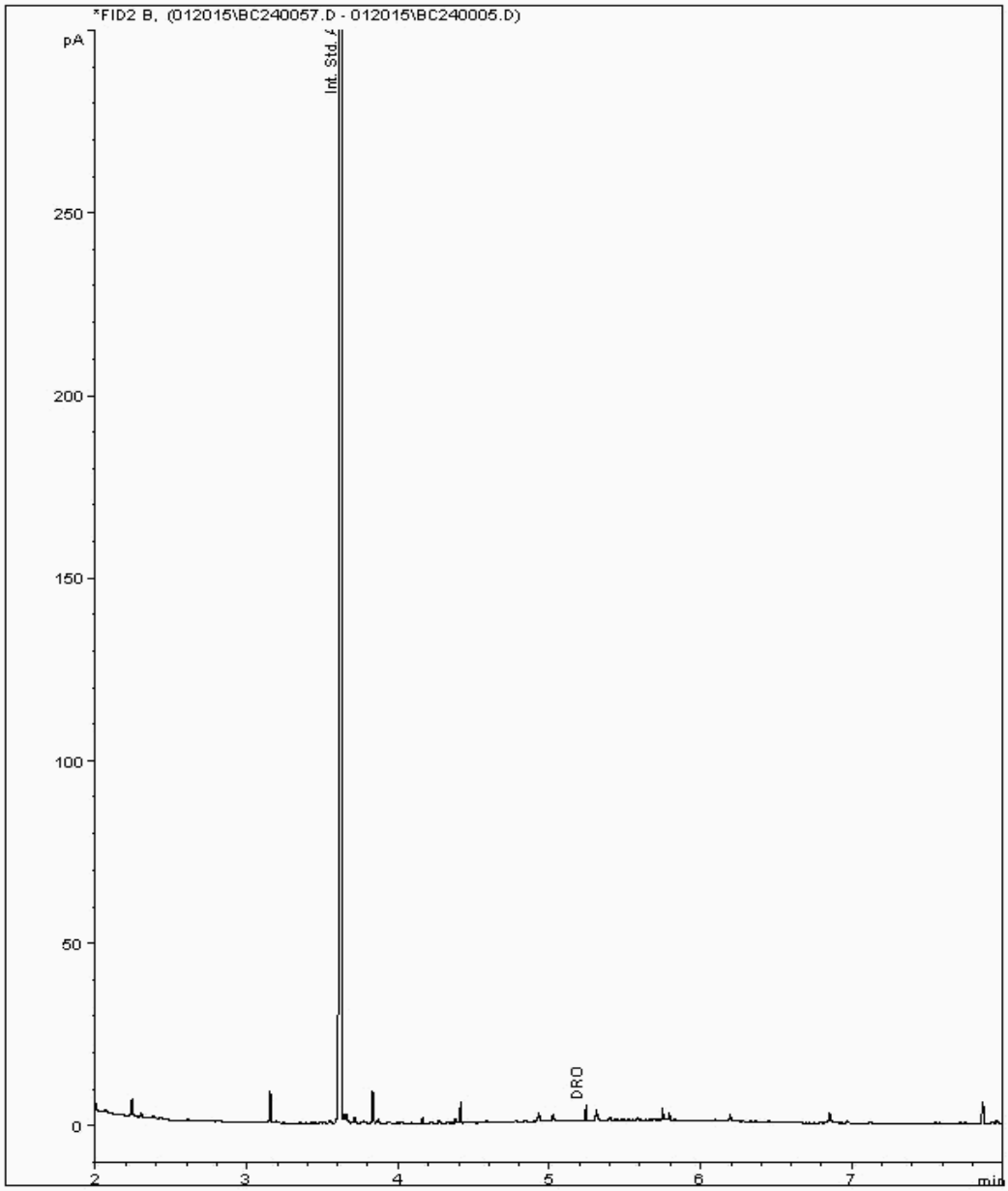
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 10696697
Sample ID : BH99

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 10170101-
Date Acquired : 21/01/2015 12:33:39 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

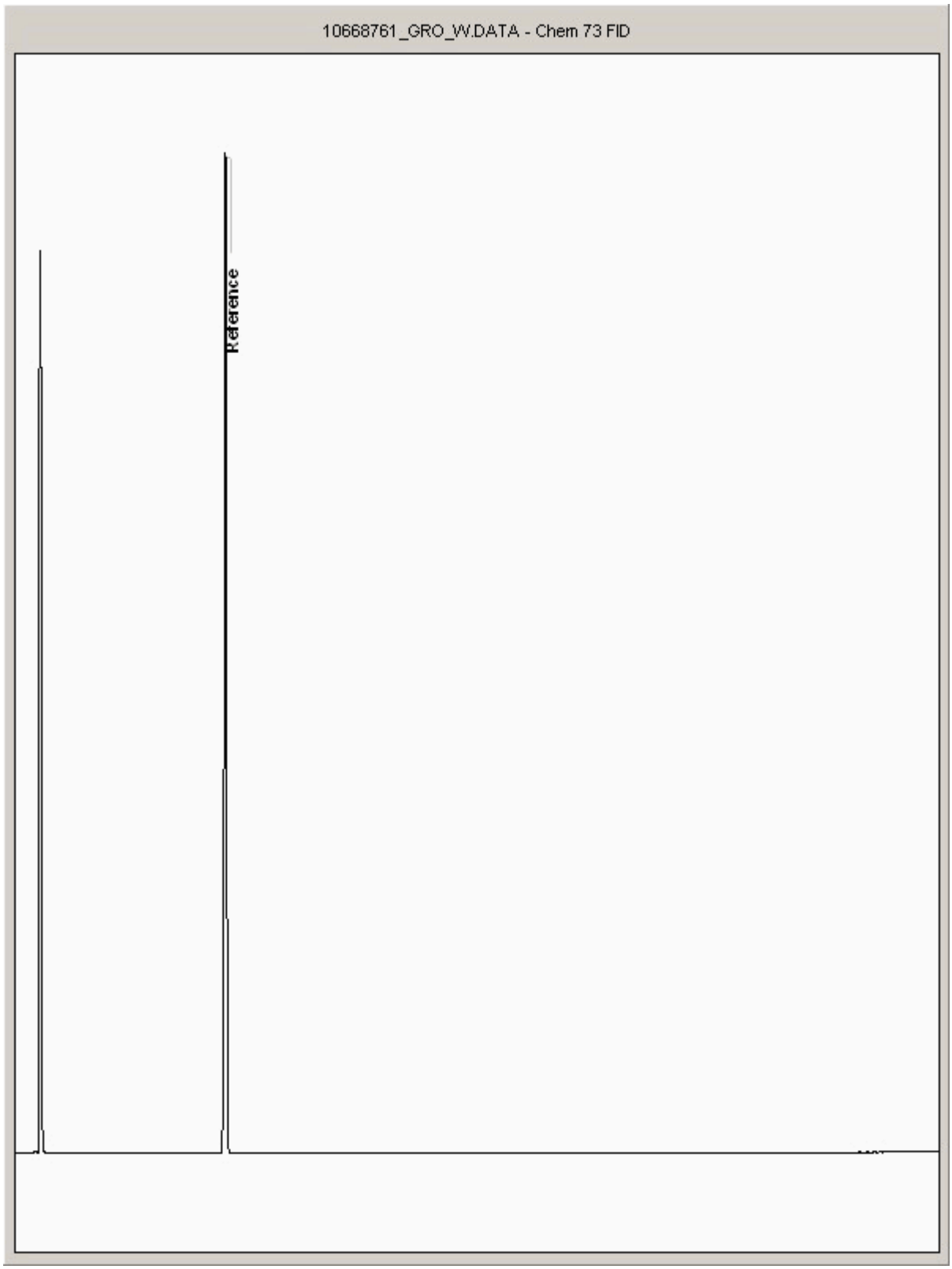
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668761
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

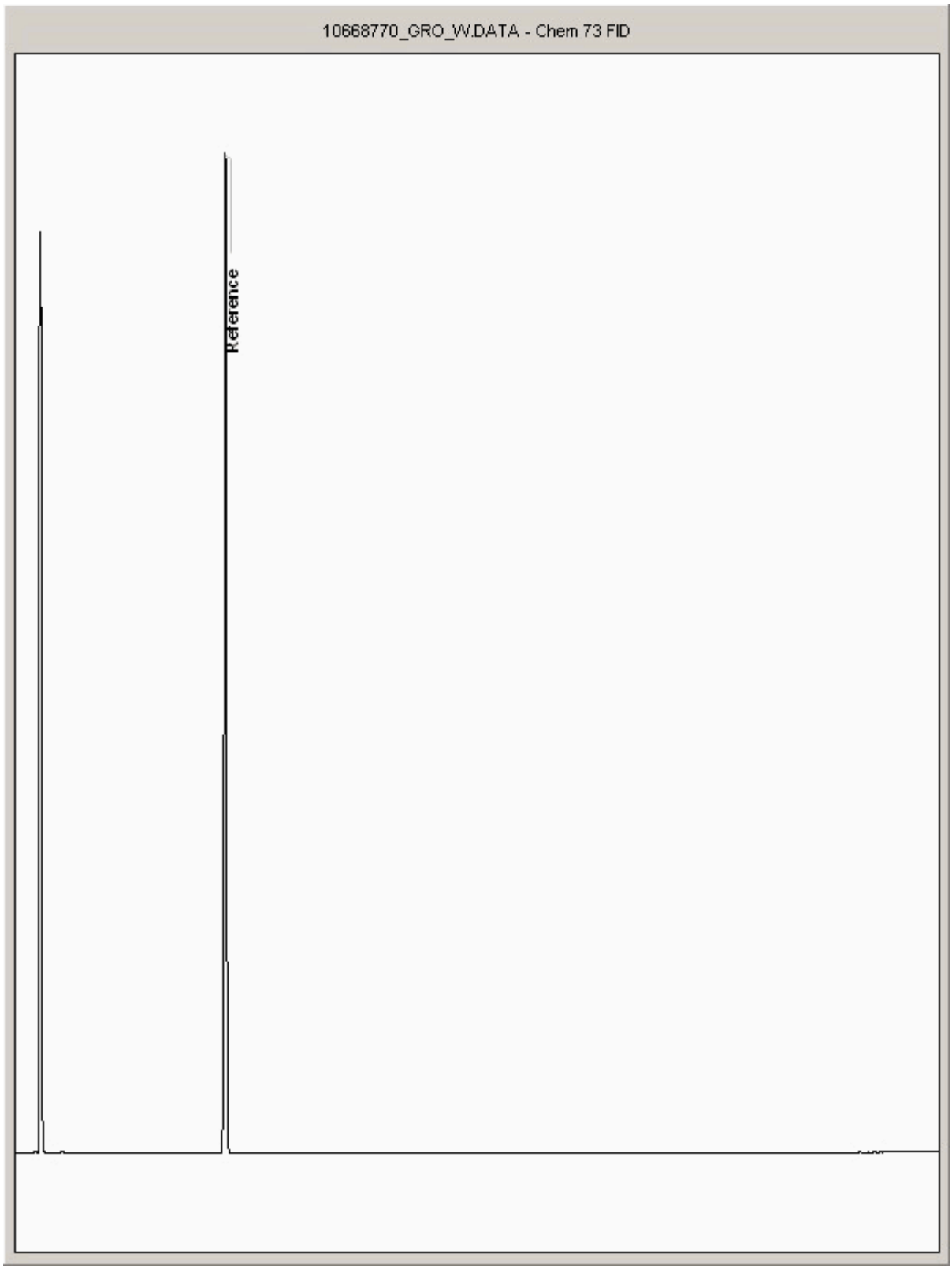
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668770
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

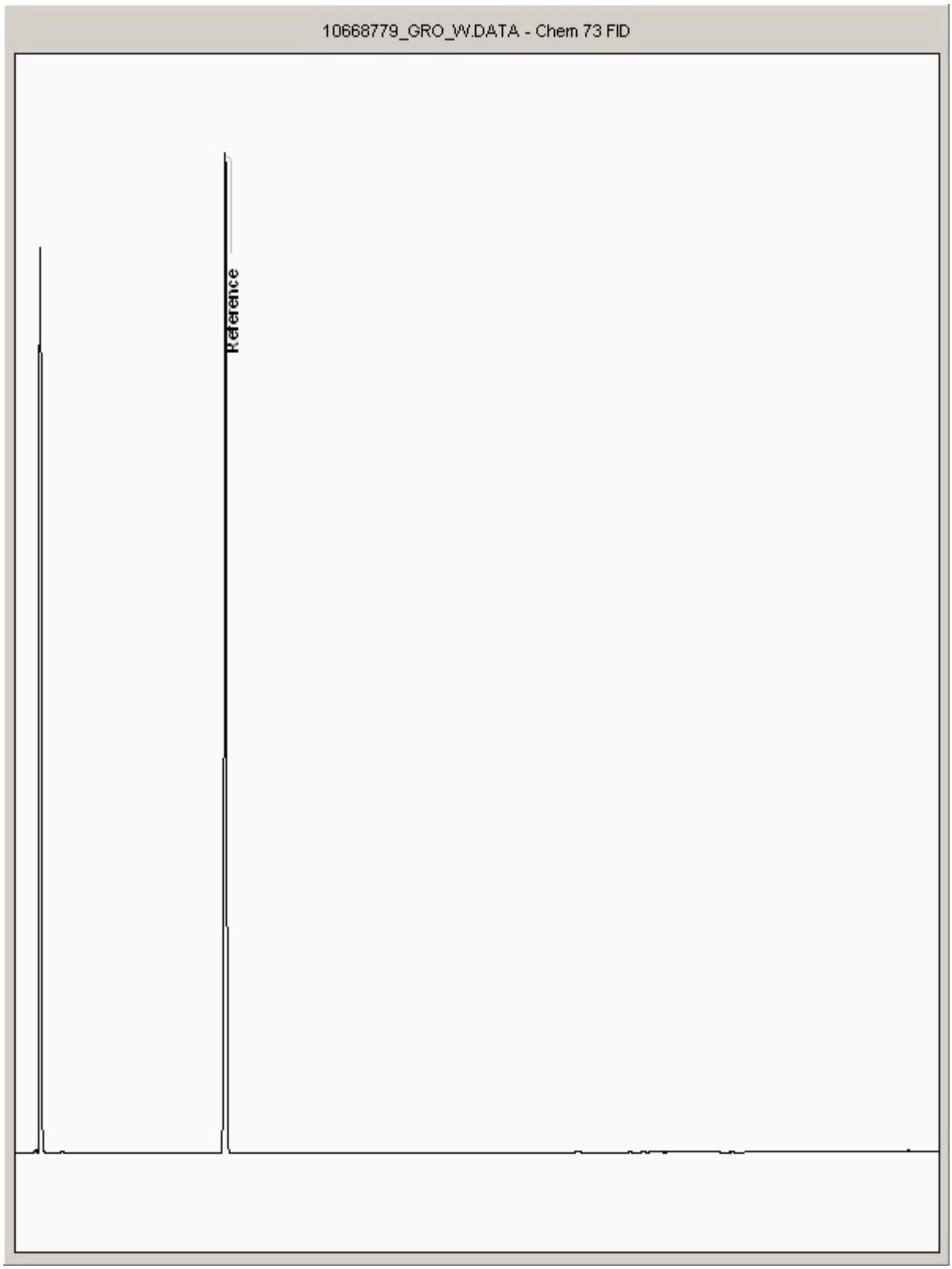
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668779
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

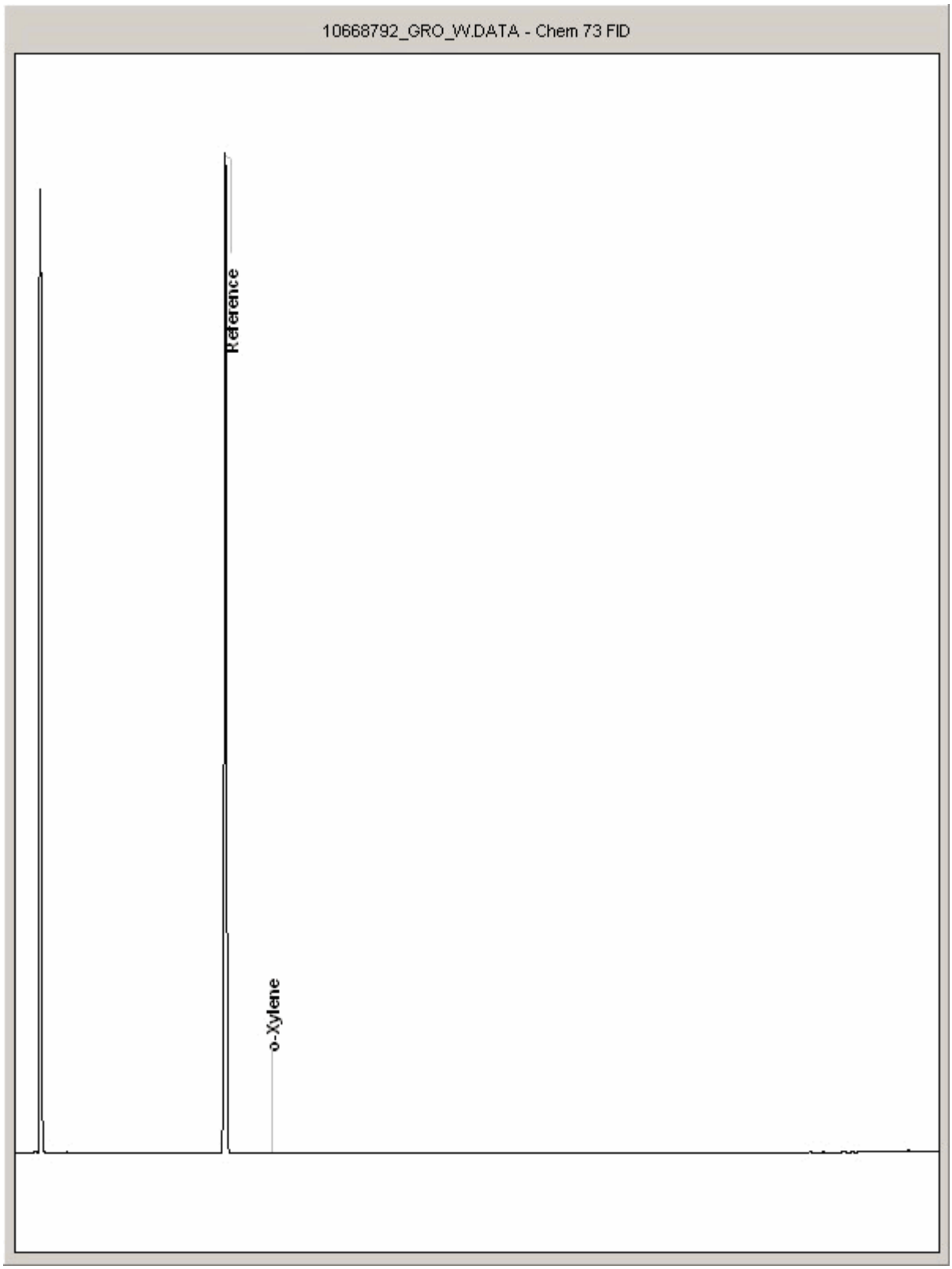
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668792
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

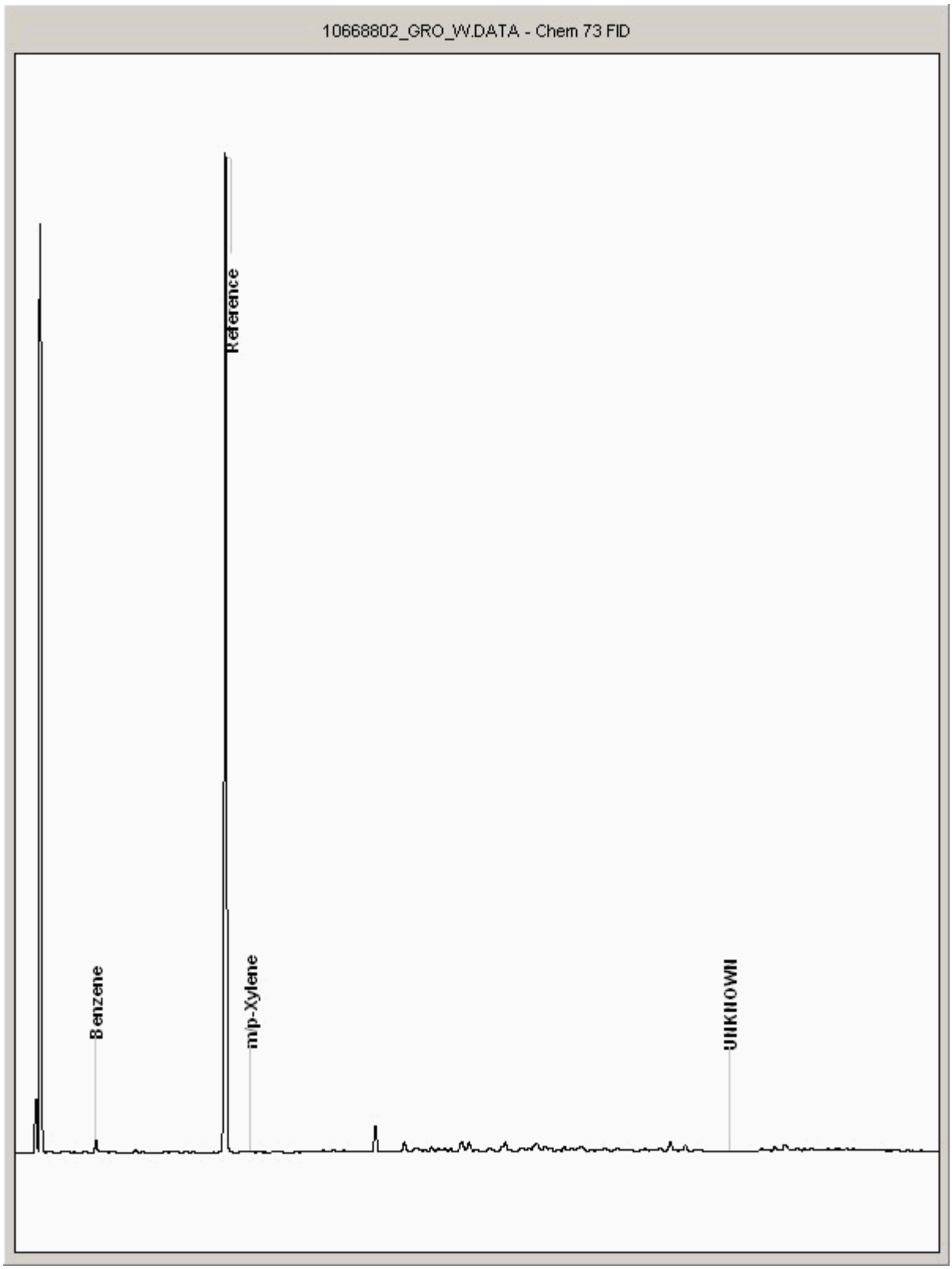
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 10668802
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	150114-4	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	299319
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5-C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	17 November 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	151027-87
Your Reference:	JER5575U
Location:	SHLNG
Report No:	338348

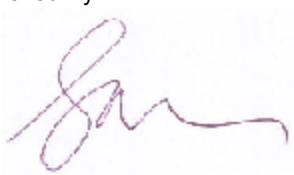
This report has been revised and directly supersedes 336691 in its entirety.

We received 9 samples on Tuesday October 27, 2015 and 5 of these samples were scheduled for analysis which was completed on Tuesday November 17, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan
Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No. 4057291.

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12322367	BH43			26/10/2015
12322373	BH99			26/10/2015
12322369	BH41A			26/10/2015
12322371	BH42A			26/10/2015
12322370	BH41A Duplicate			26/10/2015
12322372	BH42A Duplicate			26/10/2015
12322365	BH34B			26/10/2015
12322366	BH34B Duplicate			26/10/2015
12322368	BH43 Duplicate			26/10/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			12322367	BH43			1000ml glass bottle
			12322367	BH43			Vial (ALE297)
			12322373	BH99			1000ml glass bottle
			12322373	BH99			Vial (ALE297)
			12322369	BH41A			1000ml glass bottle
			12322369	BH41A			Vial (ALE297)
			12322371	BH42A			1000ml glass bottle
			12322371	BH42A			Vial (ALE297)
			12322365	BH34B			1000ml glass bottle
			12322365	BH34B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 5	X		X		X		X		X	
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X		X		X		X		X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 5	X		X		X		X		X	

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/10/2015	26/10/2015	26/10/2015	26/10/2015	26/10/2015
			Sampled Time	.	.	.	.	.
			Date Received	27/10/2015	27/10/2015	27/10/2015	27/10/2015	27/10/2015
			SDG Ref	151027-87	151027-87	151027-87	151027-87	151027-87
			Lab Sample No.(s)	12322367	12322373	12322369	12322371	12322365
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		407 #	366 #	994 #	347000 #	363 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		75.7	80.8	423	87500	79.4
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		331	285	571	259000	284

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/10/2015	26/10/2015	26/10/2015	26/10/2015	26/10/2015
			Sampled Time	.	.	.	.	.
			Date Received	27/10/2015	27/10/2015	27/10/2015	27/10/2015	27/10/2015
			SDG Ref	151027-87	151027-87	151027-87	151027-87	151027-87
			Lab Sample No.(s)	12322367	12322373	12322369	12322371	12322365
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	28	<10
GRO >C6-C8	<10 µg/l	TM245		12	<10	<10	394	<10
GRO >C8-C10	<10 µg/l	TM245		69	<10	<10	2670	<10
GRO >C5-C10	<10 µg/l	TM245		84	<10	<10	3090	<10

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/10/2015	26/10/2015	26/10/2015	26/10/2015	26/10/2015
			Sampled Time	.	.	.	.	.
			Date Received	27/10/2015	27/10/2015	27/10/2015	27/10/2015	27/10/2015
			SDG Ref	151027-87	151027-87	151027-87	151027-87	151027-87
			Lab Sample No.(s)	12322367	12322373	12322369	12322371	12322365
			AGS Reference					
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<5	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	191 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<5	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<5	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	1.37 #	<1 #	8.85 #	1.26 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<10 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	26/10/2015	26/10/2015	26/10/2015	26/10/2015	26/10/2015
			Sampled Time	.	.	.	.	.
			Date Received	27/10/2015	27/10/2015	27/10/2015	27/10/2015	27/10/2015
			SDG Ref	151027-87	151027-87	151027-87	151027-87	151027-87
			Lab Sample No.(s)	12322367	12322373	12322369	12322371	12322365
			AGS Reference					
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<25 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	2.03 #	<1 #	<5 #	1.77 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<5	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<5	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	42.4 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<5	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	36.8 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<5 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	5.06 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Test Completion Dates

Lab Sample No(s)	12322367	12322373	12322369	12322371	12322365
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	17-Nov-2015	17-Nov-2015	17-Nov-2015	17-Nov-2015	17-Nov-2015
GRO by GC-FID (W)	01-Nov-2015	01-Nov-2015	01-Nov-2015	01-Nov-2015	01-Nov-2015
SVOC MS (W) - Aqueous	04-Nov-2015	04-Nov-2015	04-Nov-2015	04-Nov-2015	04-Nov-2015
Total EPH (aq)	03-Nov-2015	03-Nov-2015	03-Nov-2015	03-Nov-2015	03-Nov-2015

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1202
EPH (DRO) (C10-C40)	TM172	**93.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1239
Benzene by GC	TM245	**102.5** 79.00 : 121.00
Ethylbenzene by GC	TM245	**97.5** 79.00 : 121.00
m & p Xylene by GC	TM245	**97.75** 79.00 : 121.00
MTBE GC-FID	TM245	**102.5** 80.34 : 118.41
o Xylene by GC	TM245	**97.5** 79.00 : 121.00
QC	TM245	**106.32** 77.50 : 122.50
Toluene by GC	TM245	**99.5** 79.00 : 121.00

SVOC MS (W) - Aqueous

Component	Method Code	QC 1297
4-Bromophenylphenylether	TM176	**89.6** 55.04 : 128.00
Benzo(a)anthracene	TM176	**94.4** 52.64 : 123.68
Benzo(a)pyrene	TM176	**84.8** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**92.0** 49.04 : 127.76
Hexachlorobutadiene	TM176	**76.24** 42.80 : 108.20
Naphthalene	TM176	**90.4** 47.20 : 116.80
Nitrobenzene	TM176	**87.2** 58.70 : 110.90
Phenol	TM176	**50.32** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

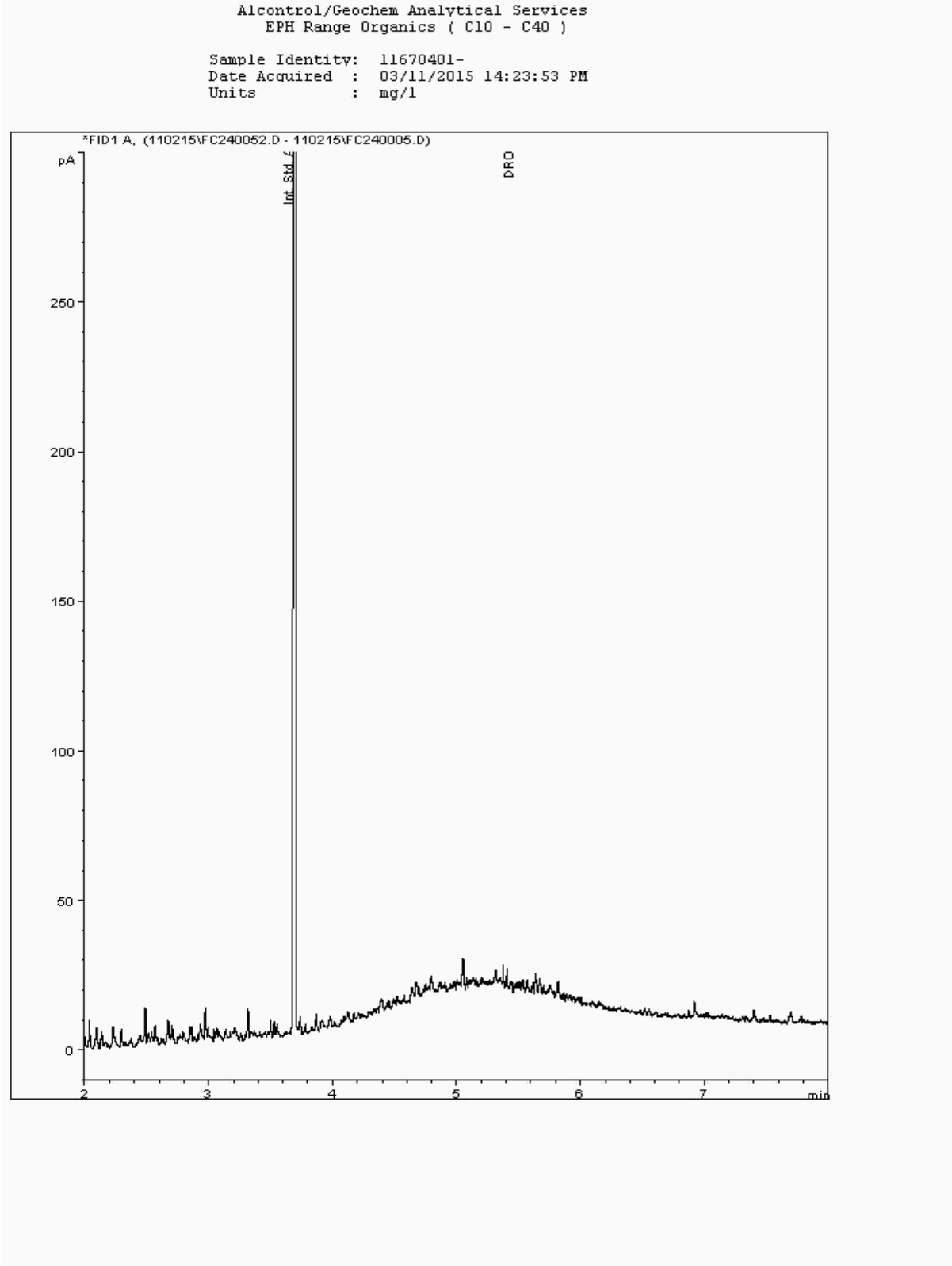
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12353925
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

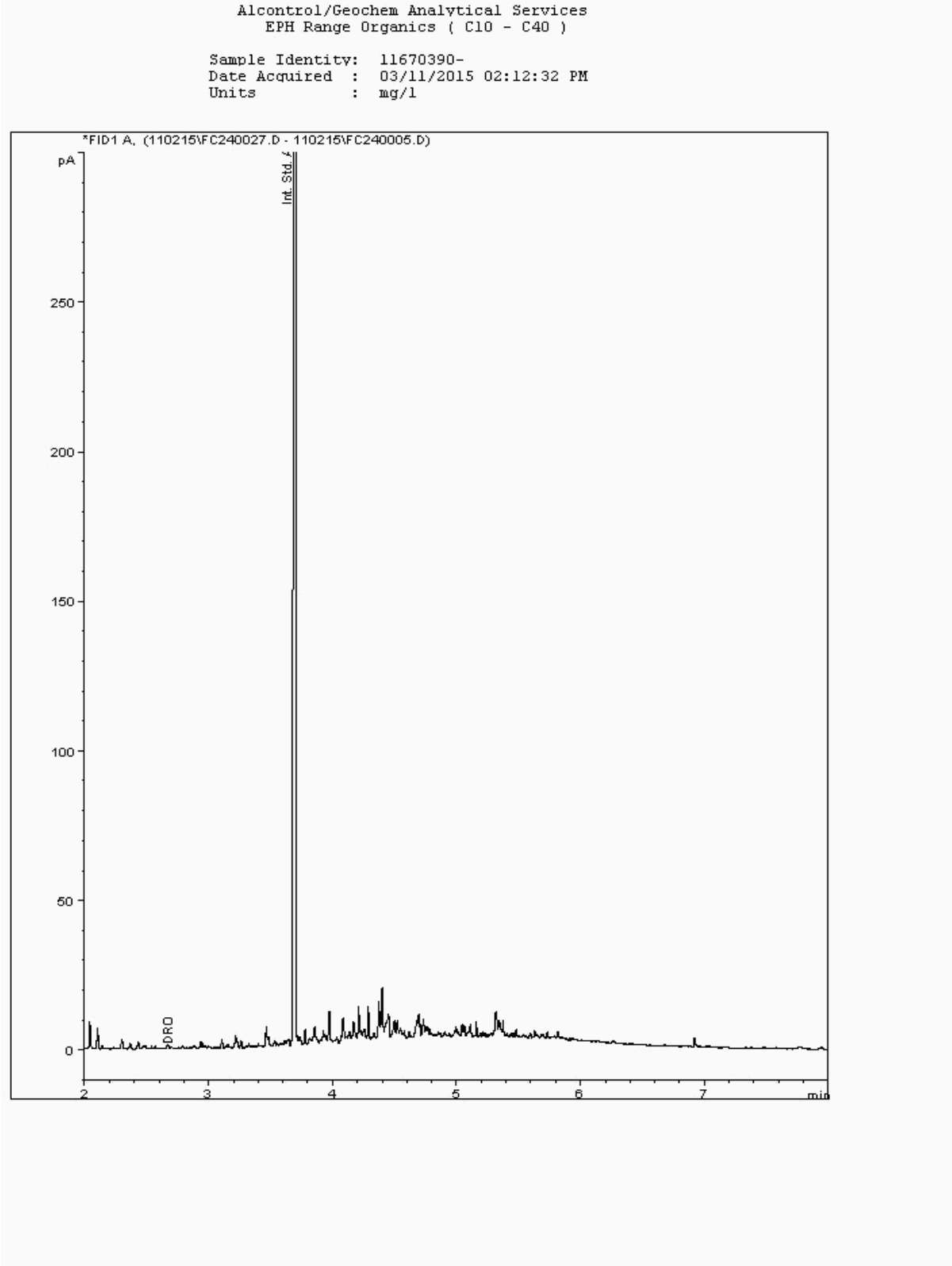
SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12353934
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

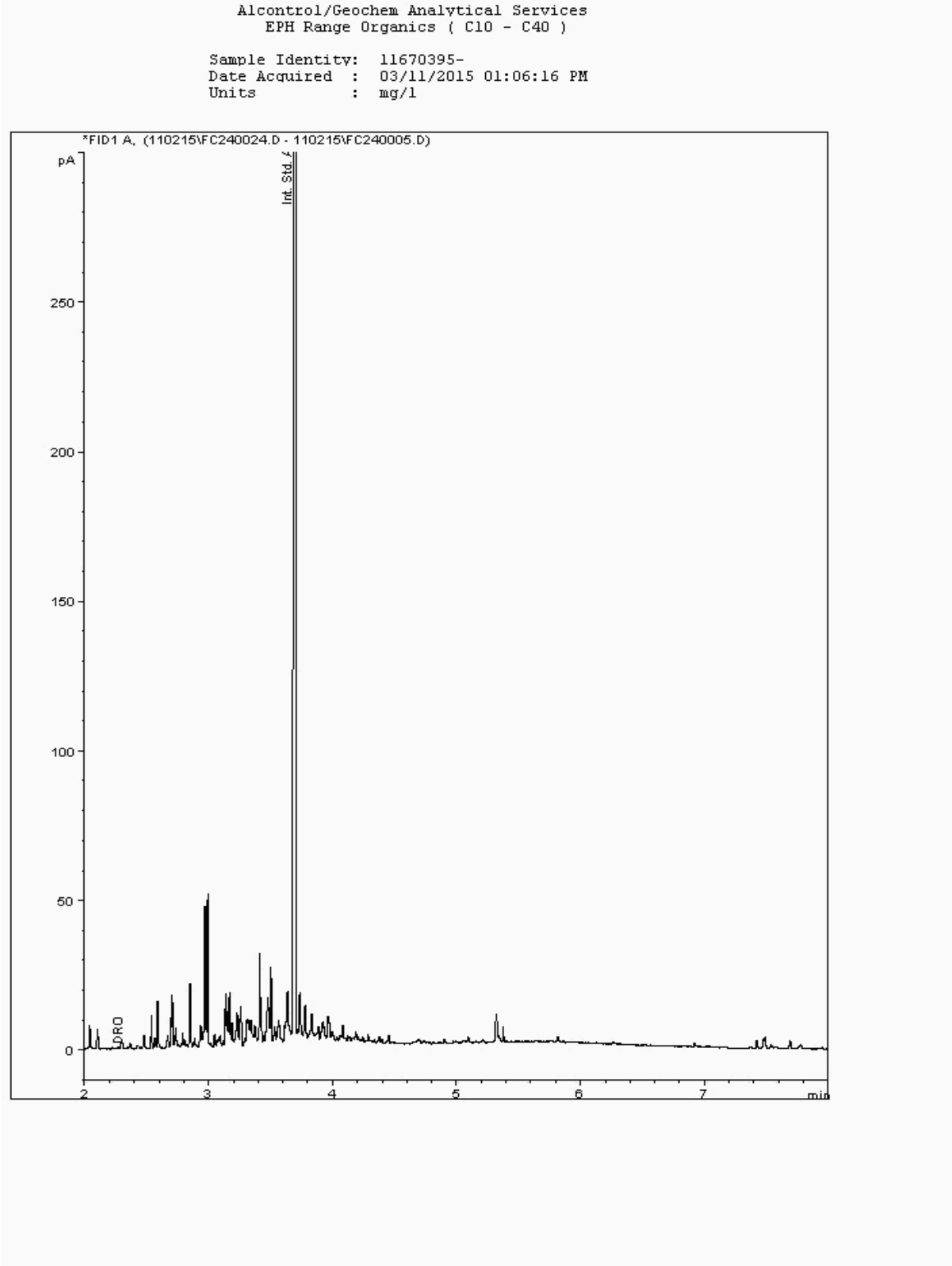
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12353943
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

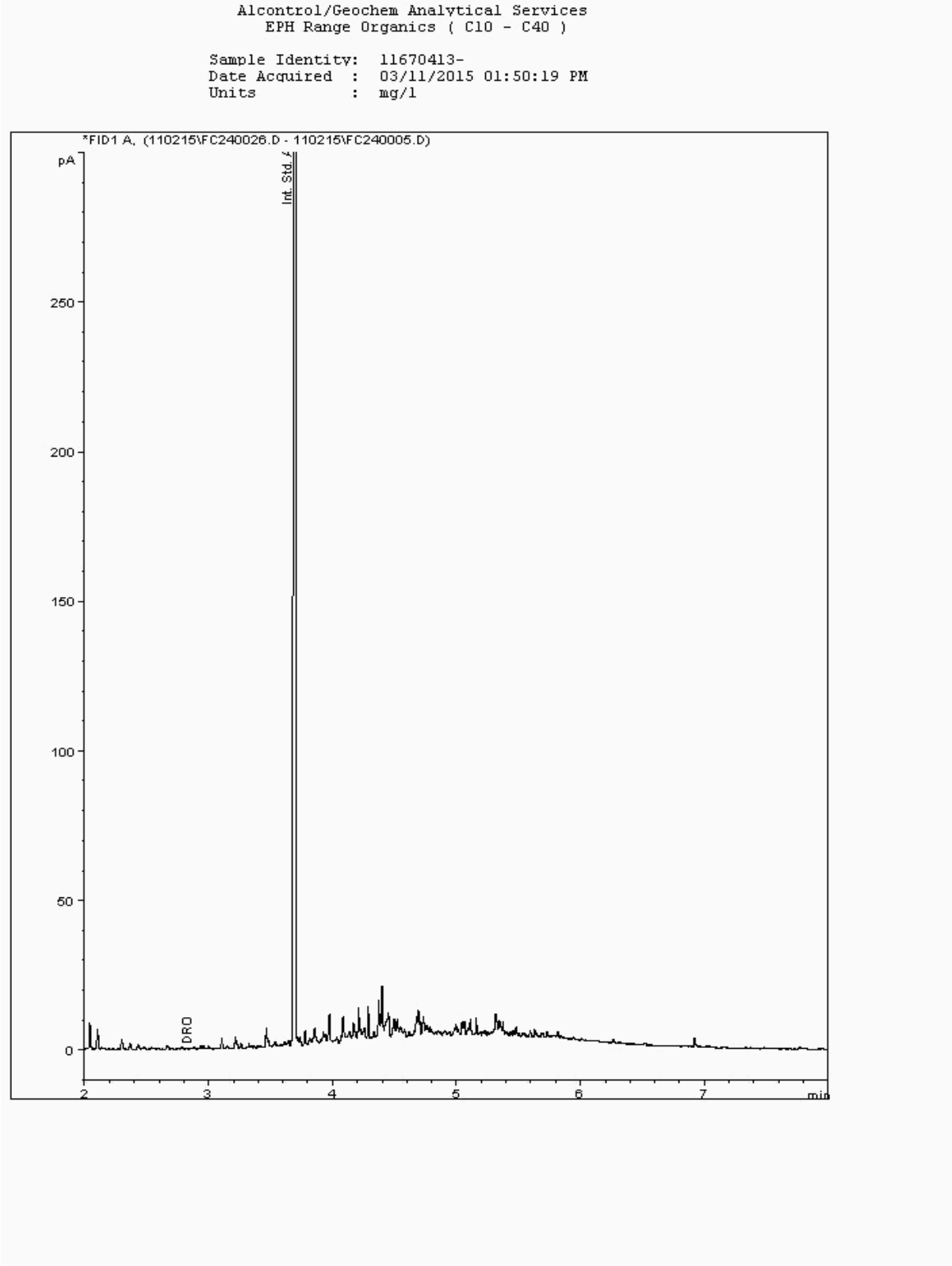
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12357274
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

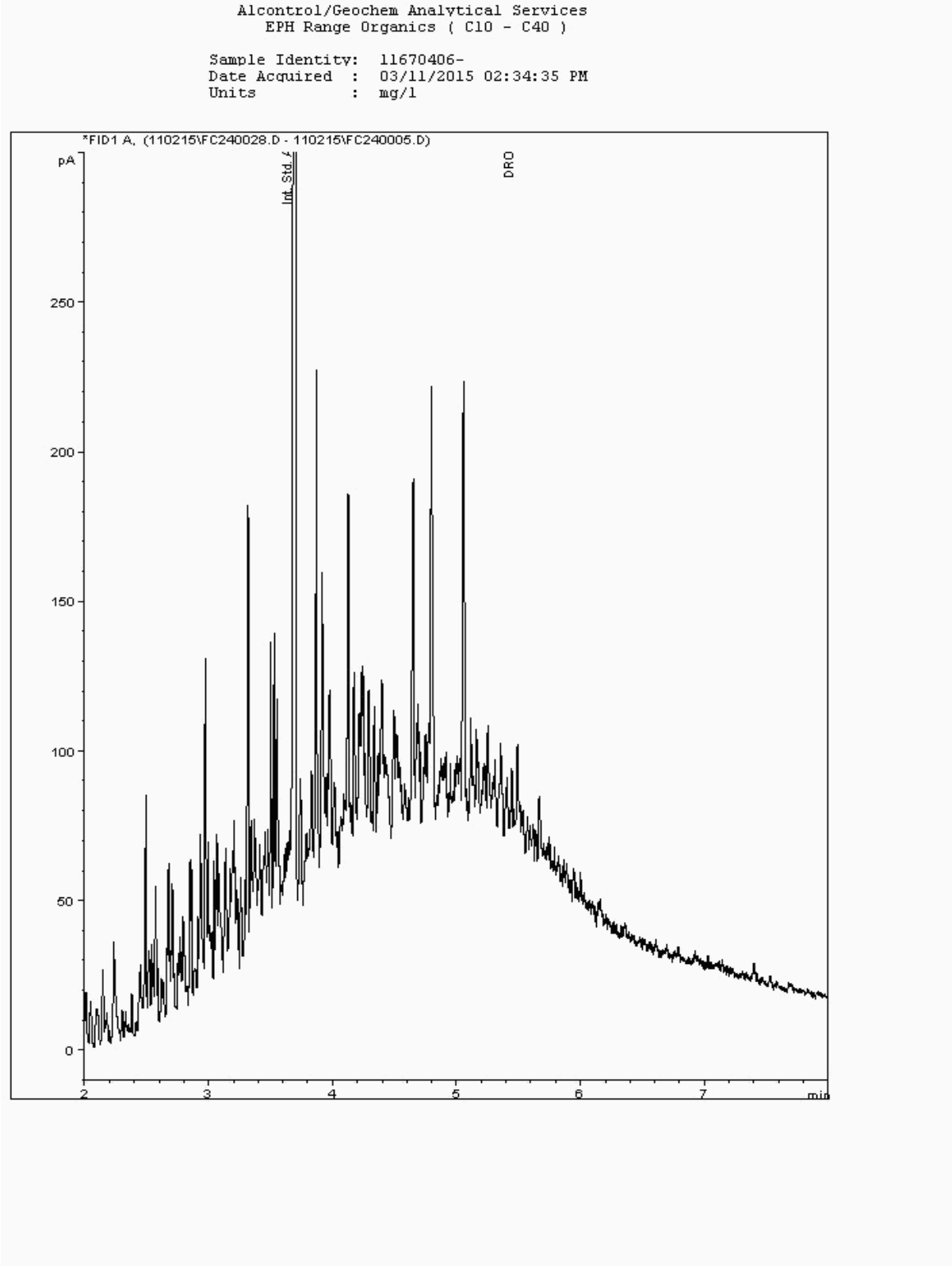
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12357278
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

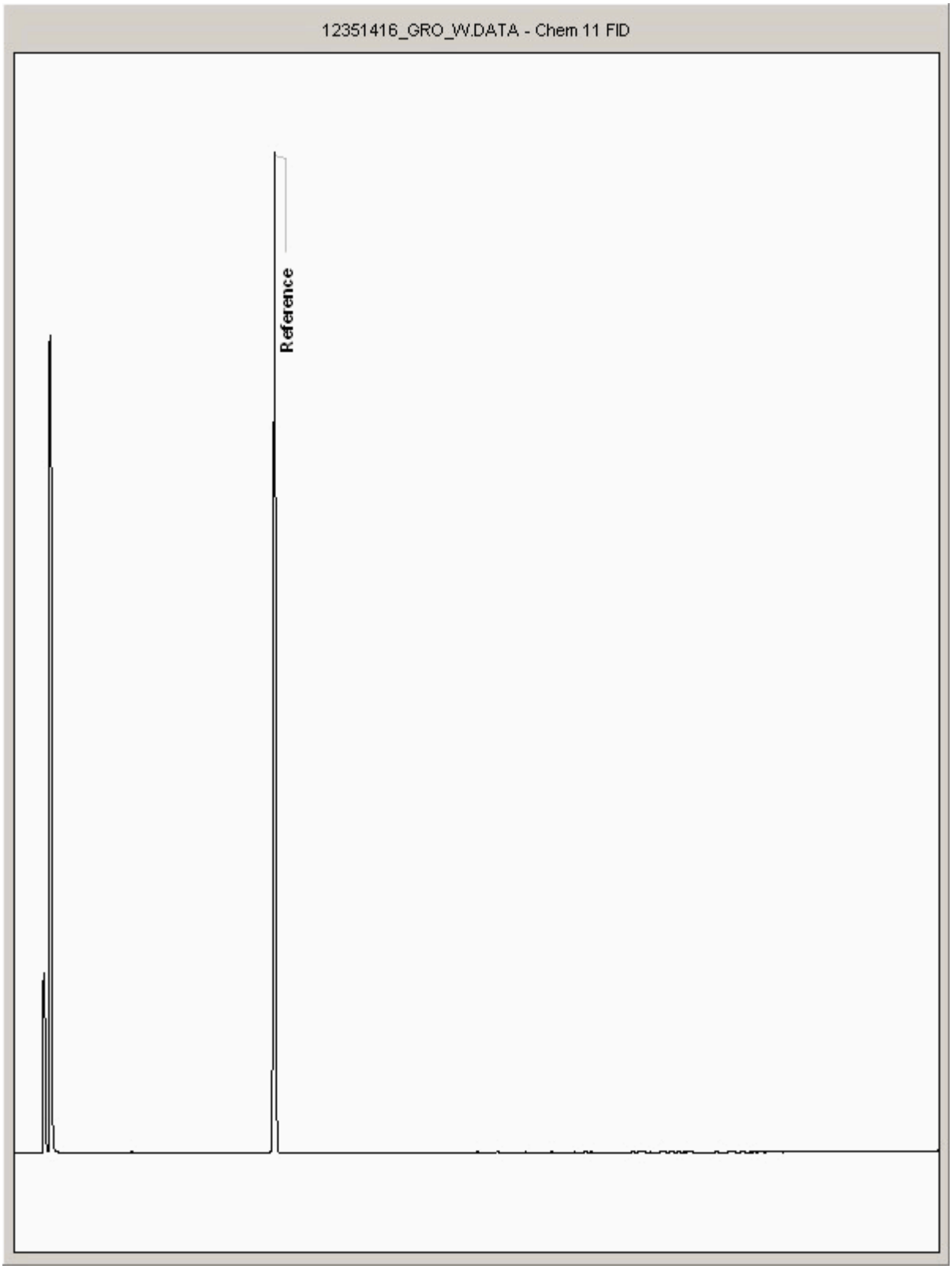
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12351416
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

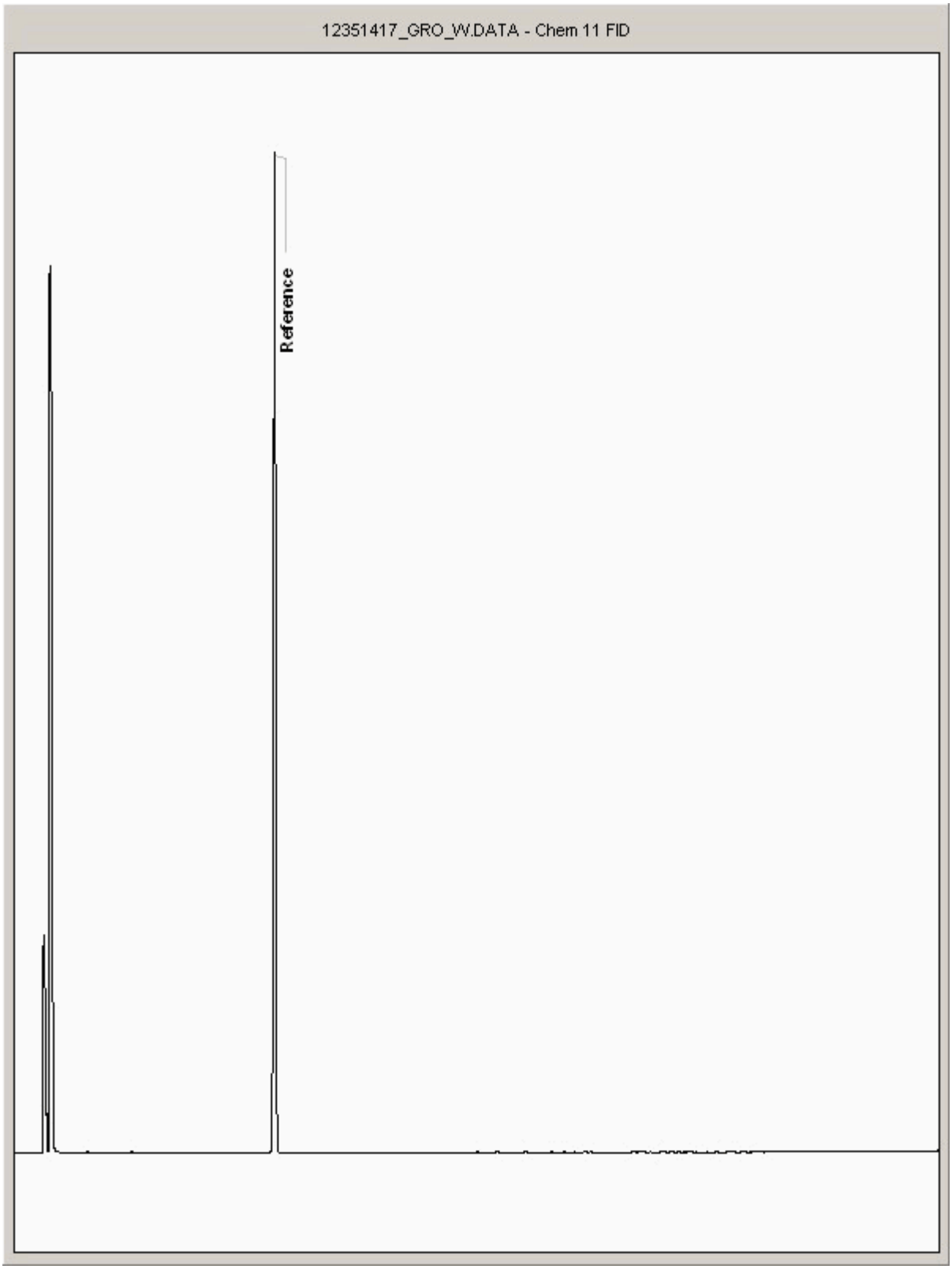
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12351417
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

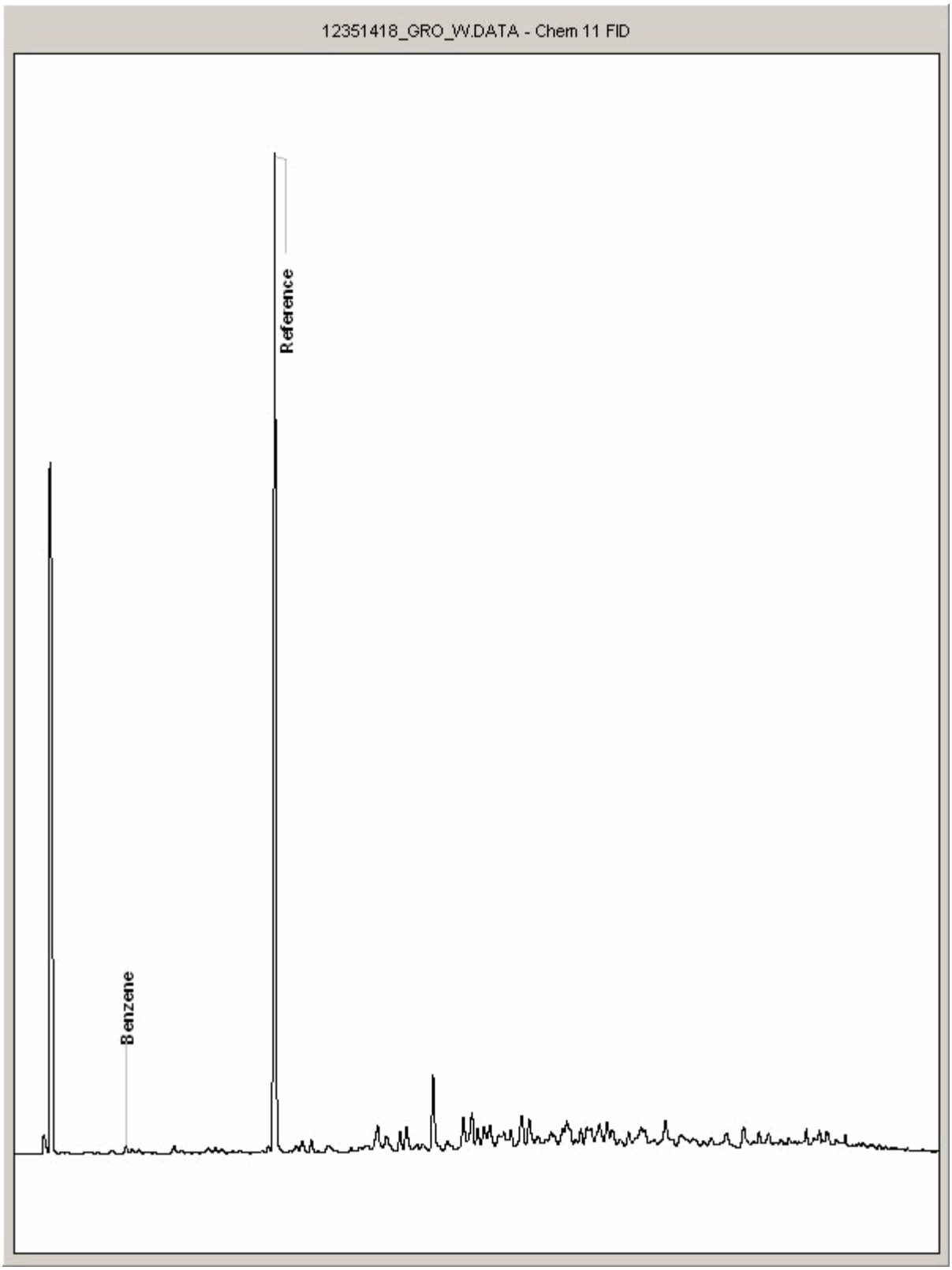
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12351418
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

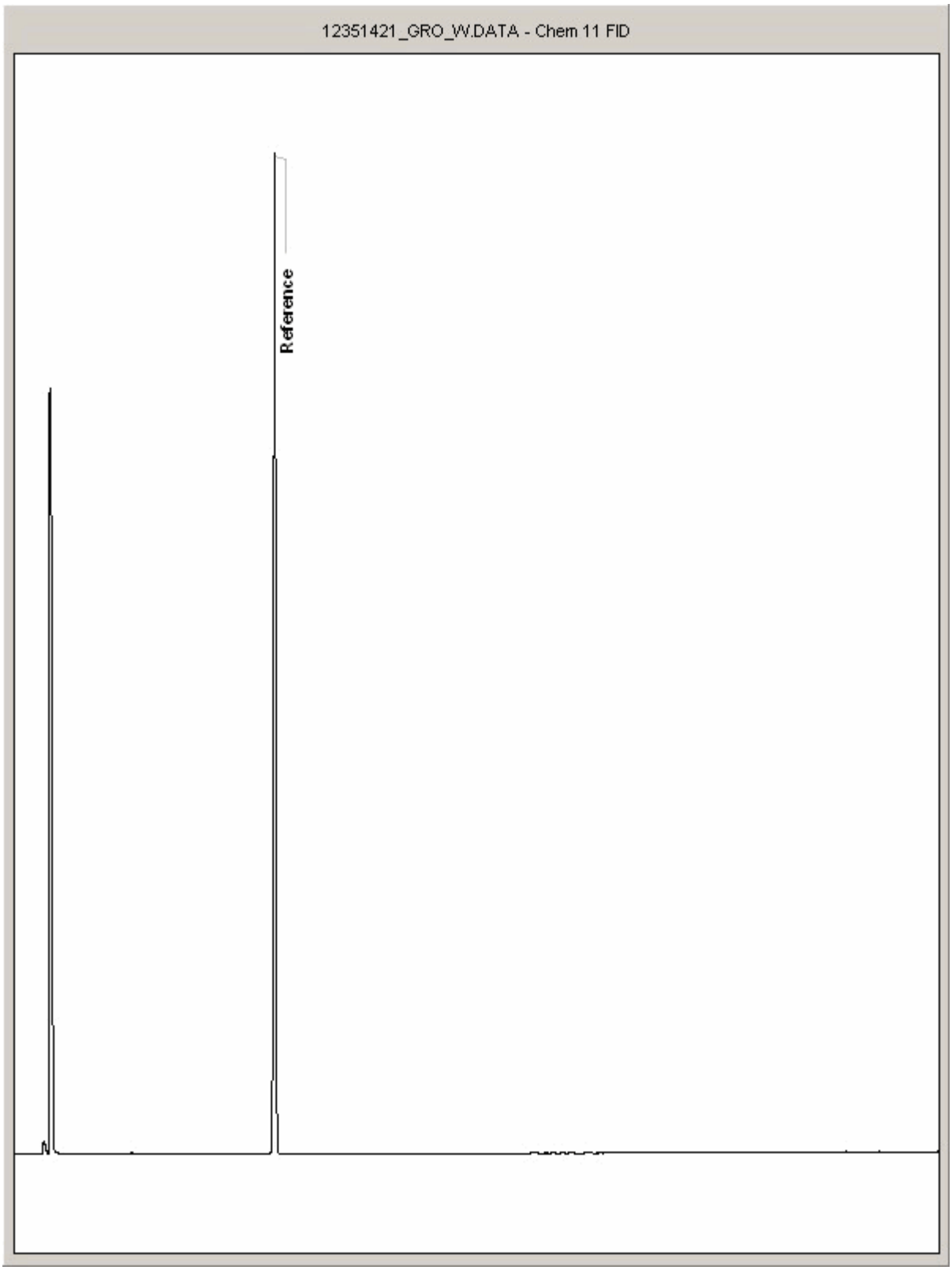
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12351421
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

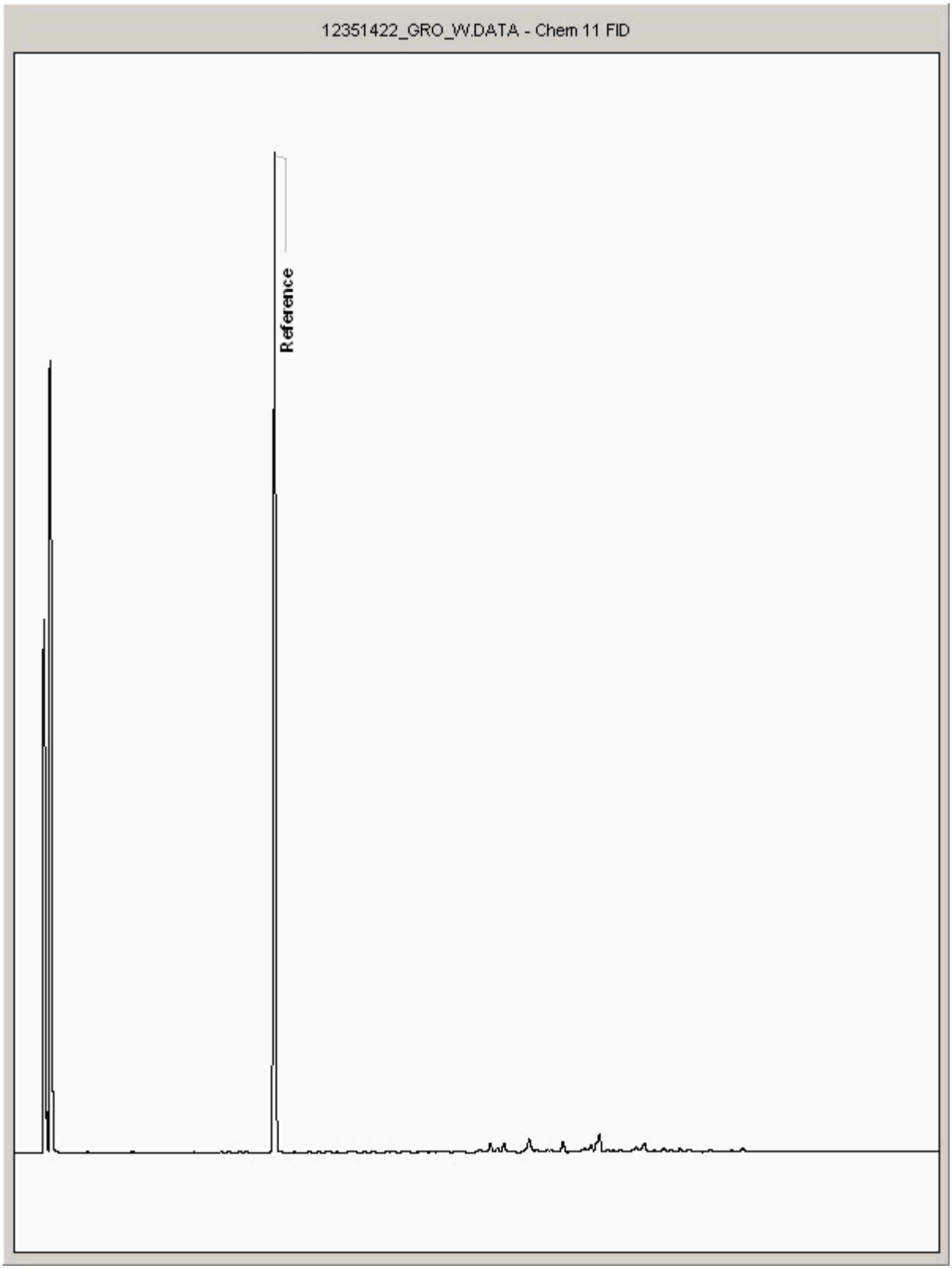
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12351422
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH (MINOIL)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVEREND	GC-FID
PCB TOT/ PCB CON	D&C	HEXANE:ACETONE	END OVEREND	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C6-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR -BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	151027-87	**Location:**	SHLNG	**Order Number:**	PO15-688
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	338348
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	336691

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment. Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	**Container with Headspace provided for volatiles analysis**
2	**Incorrect container received**
3	**Deviation from method**
4	**Holding time exceeded before sample received**
5	**Samples exceeded holding time before presevation was performed**
§	**Sampled on date not provided**
♦	**Sample holding time exceeded in laboratory**
@	**Sample holding time exceeded due to sampled on date**
&	**Sample Holding Time exceeded - Late arrival of instructions.**

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

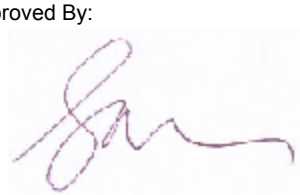
Date:	25 November 2015
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	151117-78
Your Reference:	JER5575U
Location:	SHLNG
Report No:	339502

We received 8 samples on Tuesday November 17, 2015 and 5 of these samples were scheduled for analysis which was completed on Wednesday November 25, 2015. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12455680	BH43			16/11/2015
12455684	BH99			16/11/2015
12455679	BH41A			16/11/2015
12455683	BH42A			16/11/2015
12455686	BH41A DUPLICATE			16/11/2015
12455687	BH42A DUPLICATE			16/11/2015
12455682	BH34B			16/11/2015
12455688	BH43 DUPLICATE			16/11/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			12455680	BH43			1000ml glass bottle
			12455684	BH99			Vial (ALE297)
			12455679	BH41A			Vial (ALE297)
			12455683	BH42A			1000ml glass bottle
			12455682	BH34B			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 1 Tests: 4	X		N		X
							X
							X
							X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 5		X	X		X
							X
							X
							X
SVOC MS (W) - Aqueous	All	NDPs: 1 Tests: 4	X		N		X
							X
							X
							X

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/11/2015	16/11/2015	16/11/2015	16/11/2015		
			Sampled Time	.	.	.	.		
			Date Received	17/11/2015	17/11/2015	17/11/2015	17/11/2015		
			SDG Ref	151117-78	151117-78	151117-78	151117-78		
			Lab Sample No.(s)	12455680	12455679	12455683	12455682		
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		181 #	5000 #	209000 #	86.1 #		
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		84.3	2190	56000	41.9		
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		96.7	2810	153000	44.1		

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH99	BH41A	BH42A	BH34B
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	16/11/2015	16/11/2015	16/11/2015	16/11/2015	16/11/2015
			Sampled Time	.	.	.	.	.
			Date Received	17/11/2015	17/11/2015	17/11/2015	17/11/2015	17/11/2015
			SDG Ref	151117-78	151117-78	151117-78	151117-78	151117-78
			Lab Sample No.(s)	12455680	12455684	12455679	12455683	12455682
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	35 1	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	452 1	<10
GRO >C8-C10	<10 µg/l	TM245		24	<10	37	2660 1	<10
GRO >C5-C10	<10 µg/l	TM245		26	<10	39	3150 1	<10

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/11/2015	16/11/2015	16/11/2015	16/11/2015		
			Sampled Time	.	.	.	.		
			Date Received	17/11/2015	17/11/2015	17/11/2015	17/11/2015		
			SDG Ref	151117-78	151117-78	151117-78	151117-78		
			Lab Sample No.(s)	12455680	12455679	12455683	12455682		
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	71.5 #	<1 #		
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	2.4 #	<1 #		
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #		
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B		
			Depth (m)	.	.	.	.		
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
			Date Sampled	16/11/2015	16/11/2015	16/11/2015	16/11/2015		
			Sampled Time	.	.	.	.		
			Date Received	17/11/2015	17/11/2015	17/11/2015	17/11/2015		
			SDG Ref	151117-78	151117-78	151117-78	151117-78		
			Lab Sample No.(s)	12455680	12455679	12455683	12455682		
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #		
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	5.05 #	<1 #		
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Phenol (aq)	<1 µg/l	TM176		<1	<1	4.31	<1		
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	30 #	<1 #		
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1		
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	8.84 #	<1 #		
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #		
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.03 #	<1 #		

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Notification of NDPs (No determination possible)

Date Received : 17/11/2015 14:22:11

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
12455684	BH99		EPH (DRO) (C10-C40) Aqueous (W)	Insufficient Sample
12455684	BH99		SVOC MS (W) - Aqueous	Insufficient Sample

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	12455680	12455684	12455679	12455683	12455682
Customer Sample Ref.	BH43	BH99	BH41A	BH42A	BH34B
AGS Ref.					
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	25-Nov-2015		25-Nov-2015	25-Nov-2015	25-Nov-2015
GRO by GC-FID (W)	23-Nov-2015	23-Nov-2015	23-Nov-2015	23-Nov-2015	23-Nov-2015
SVOC MS (W) - Aqueous	23-Nov-2015		23-Nov-2015	23-Nov-2015	23-Nov-2015

CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1269	QC 1220
EPH (DRO) (C10-C40)	TM172	**84.0** 59.22 : 112.78	**101.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1201
Benzene by GC	TM245	**98.0** 83.96 : 116.61
Ethylbenzene by GC	TM245	**98.0** 80.57 : 119.47
m & p Xylene by GC	TM245	**97.25** 80.25 : 119.53
MTBE GC-FID	TM245	**99.0** 87.04 : 116.94
o Xylene by GC	TM245	**97.5** 79.00 : 121.00
QC	TM245	**100.74** 79.00 : 121.00
Toluene by GC	TM245	**99.0** 82.34 : 118.11

SVOC MS (W) - Aqueous

Component	Method Code	QC 1276	QC 1247
4-Bromophenylphenyleth er	TM176	**72.56** 55.04 : 128.00	**71.6** 55.04 : 128.00
Benzo(a)anthracene	TM176	**77.44** 52.64 : 123.68	**74.64** 52.64 : 123.68
Benzo(a)pyrene	TM176	**68.64** 49.60 : 114.40	**66.24** 49.60 : 114.40
Butylbenzyl phthalate	TM176	**79.84** 49.04 : 127.76	**76.72** 49.04 : 127.76
Hexachlorobutadiene	TM176	**69.28** 42.80 : 108.20	**65.84** 42.80 : 108.20
Naphthalene	TM176	**80.8** 47.20 : 116.80	**78.72** 47.20 : 116.80
Nitrobenzene	TM176	**78.56** 58.70 : 110.90	**77.2** 58.70 : 110.90
Phenol	TM176	**51.36** 30.25 : 79.75	**48.24** 30.25 : 79.75

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

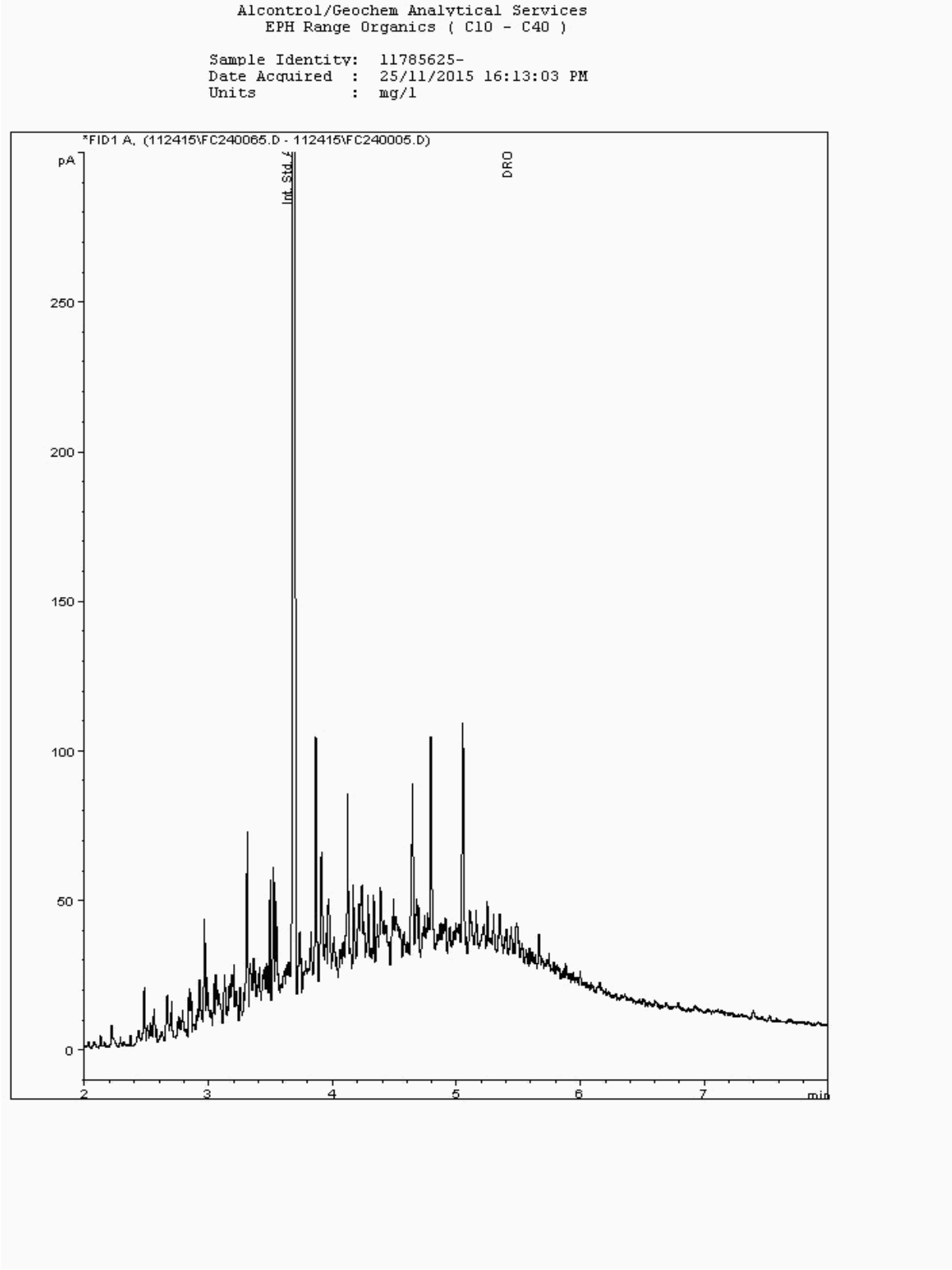
SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12467375
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

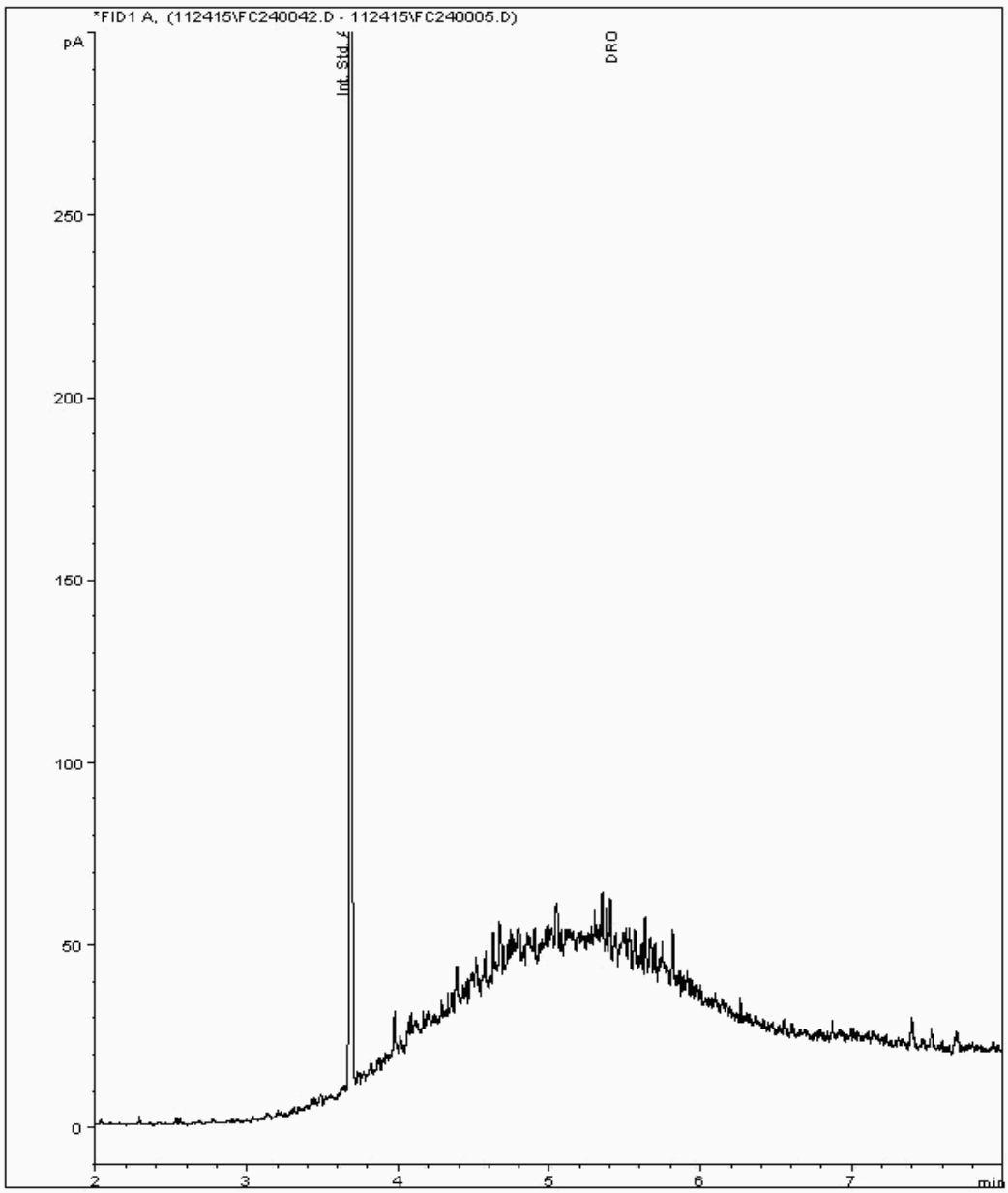
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12467386
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11785591-
Date Acquired : 25/11/2015 07:42:15 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

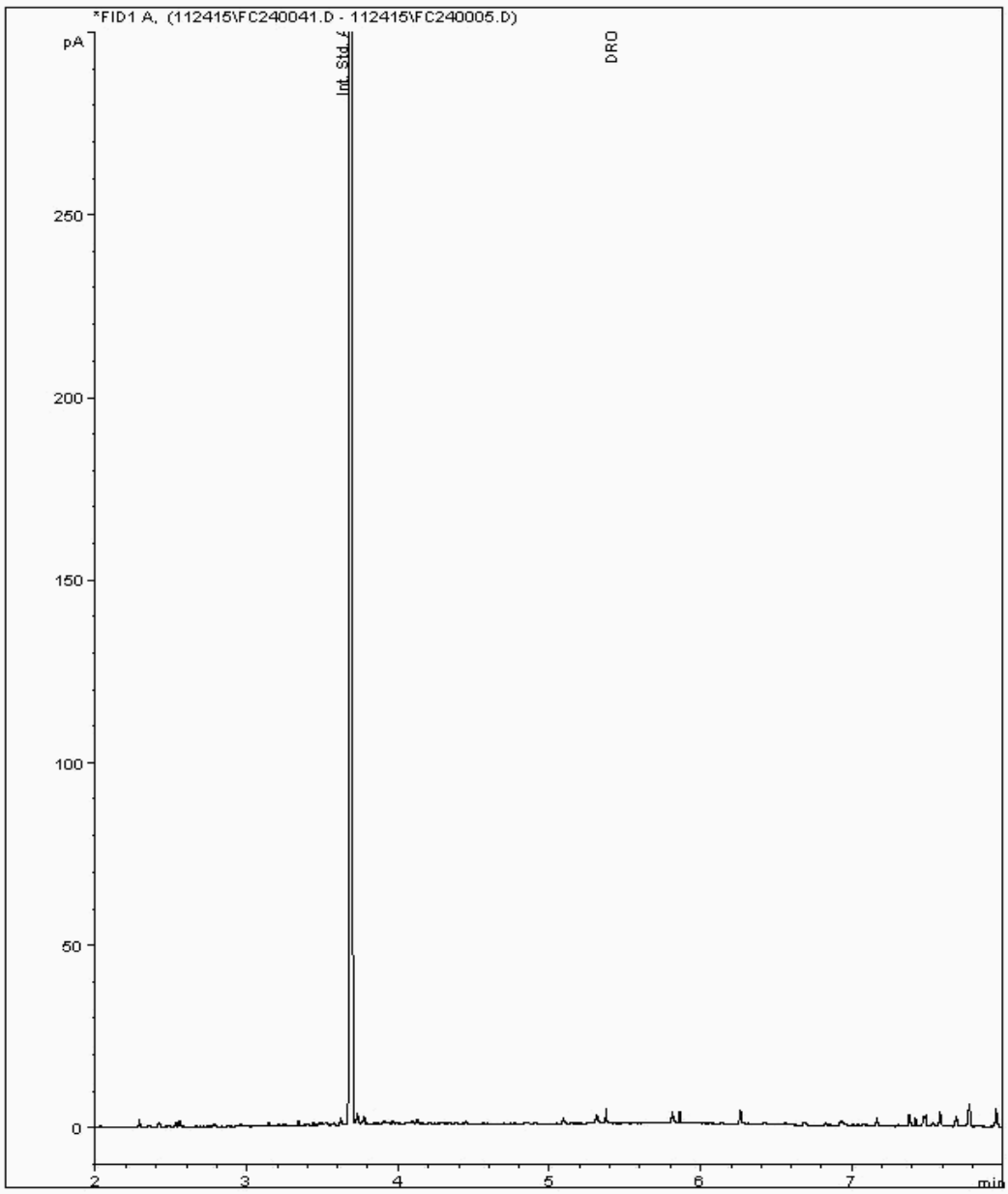
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12467391
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11785613-
Date Acquired : 25/11/2015 07:20:39 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

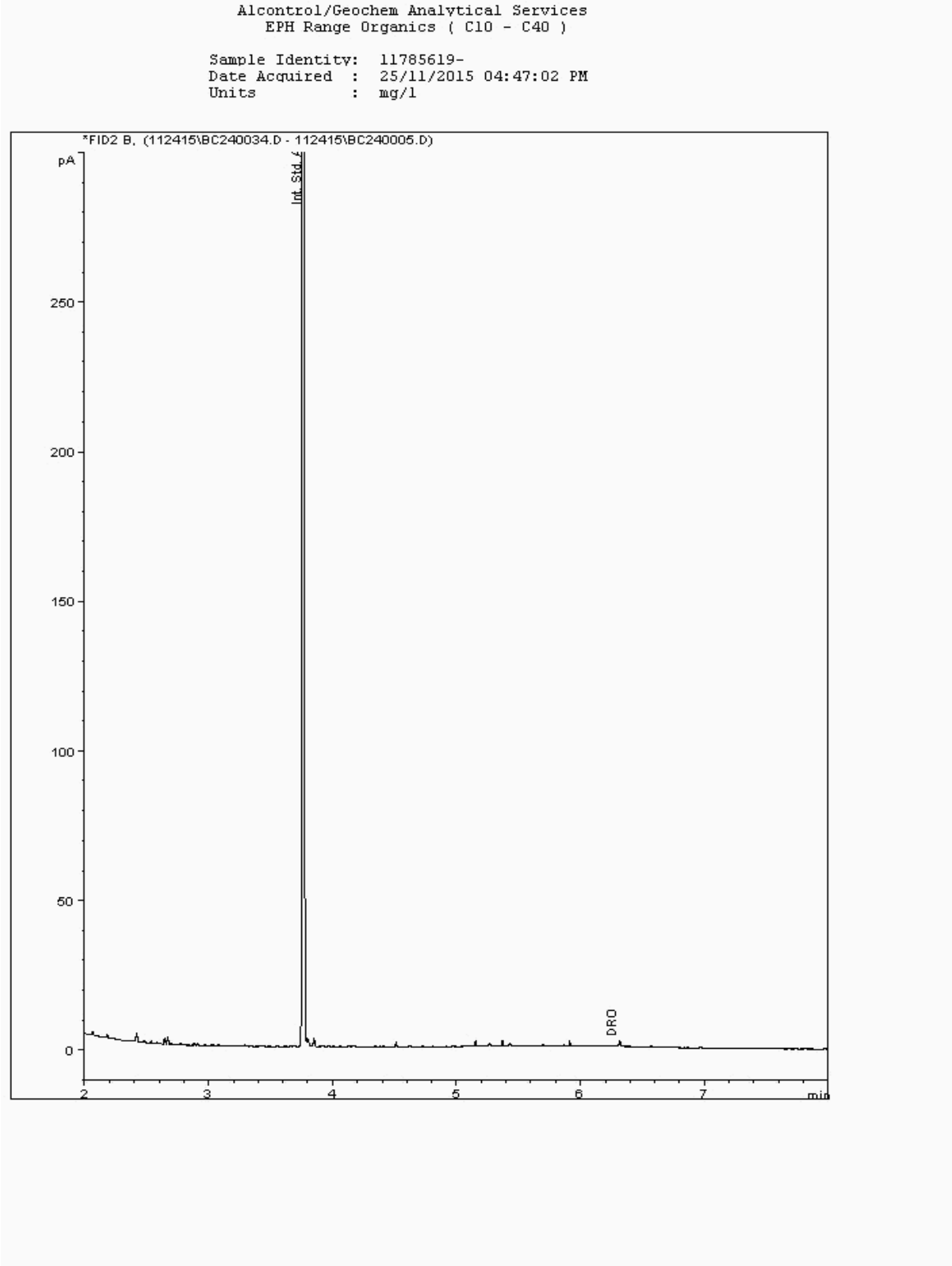
SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12467398
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

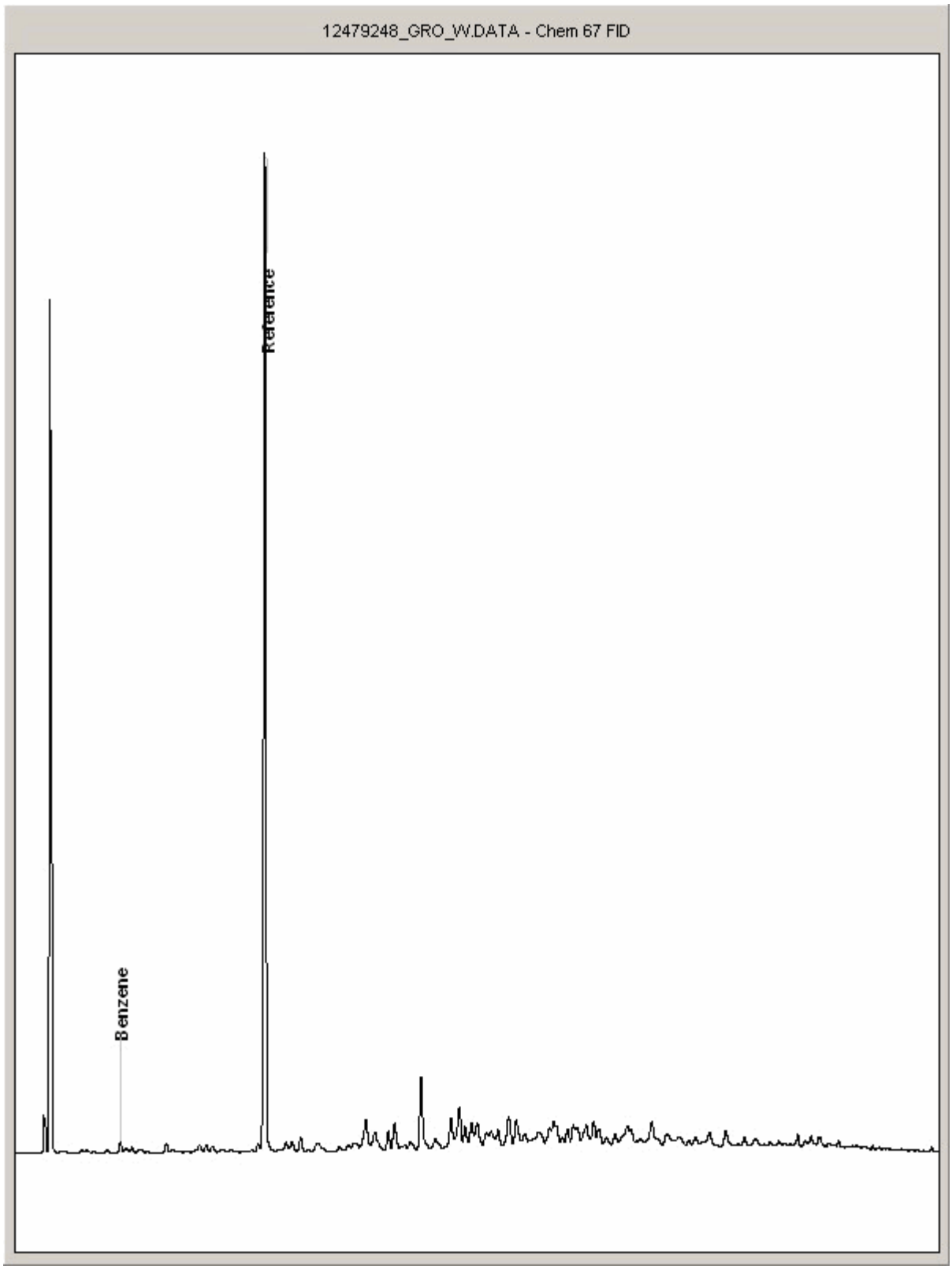
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12479248
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

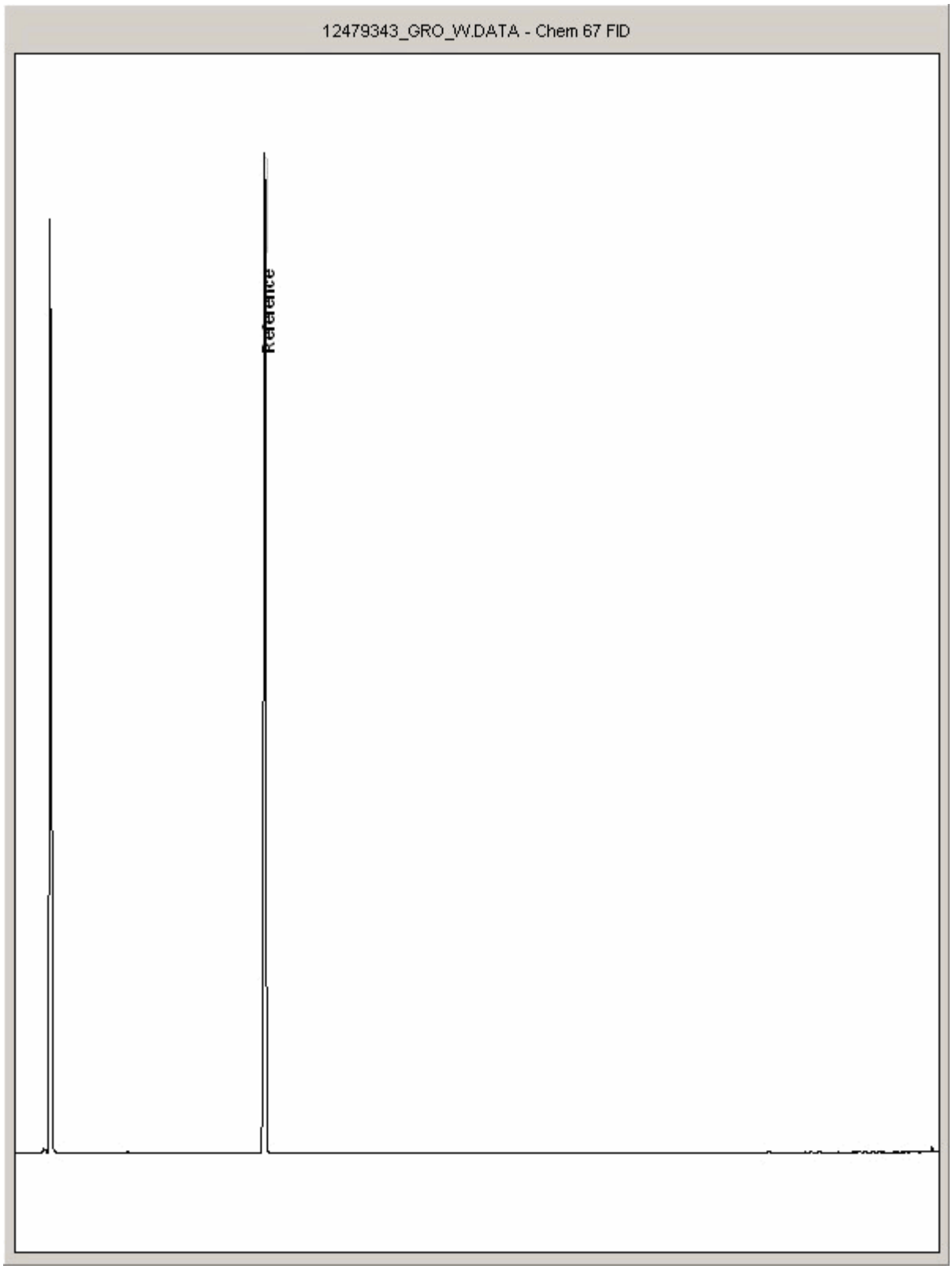
SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12479343
Sample ID : BH99

Depth :



CERTIFICATE OF ANALYSIS

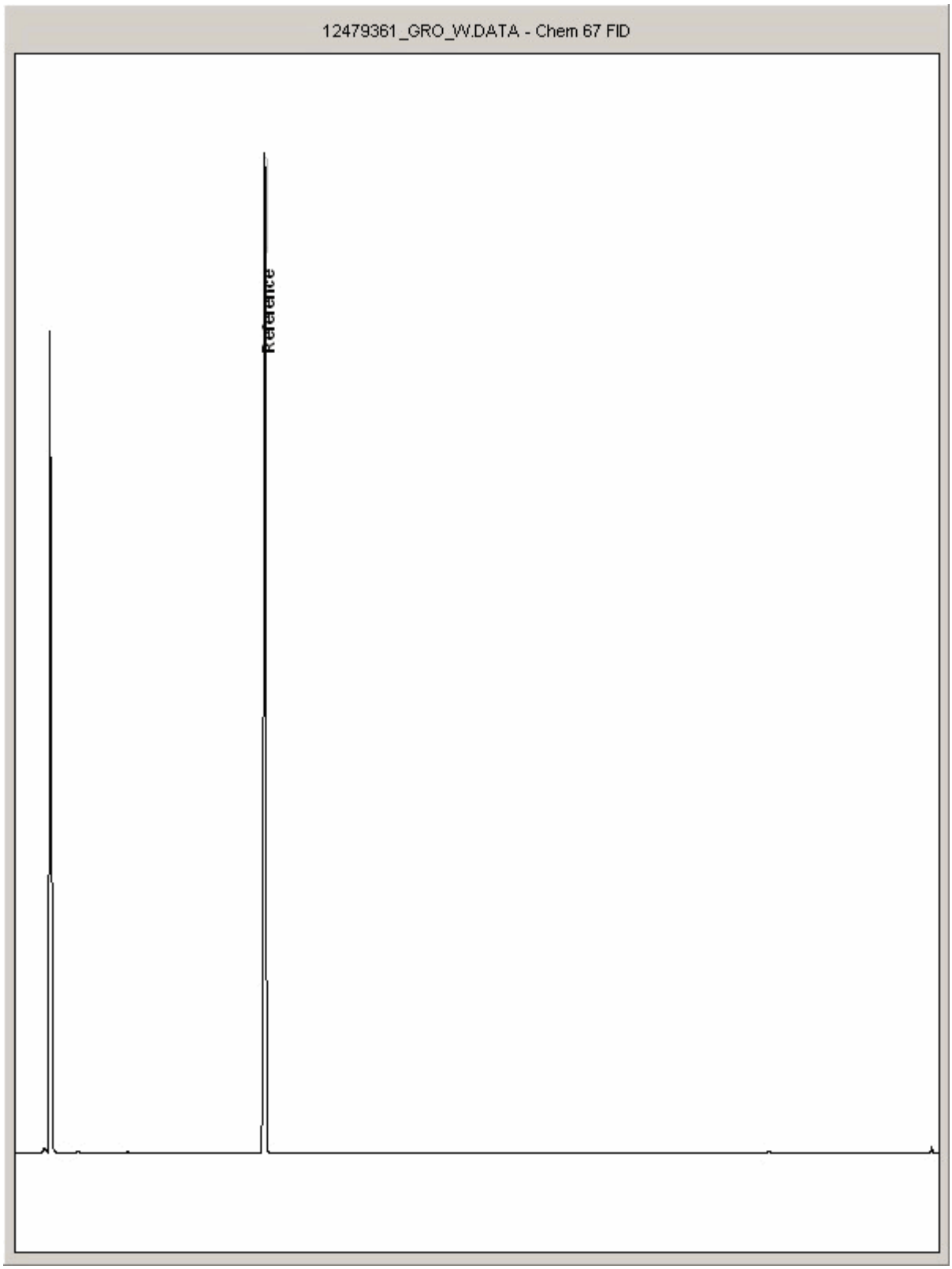
SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12479361
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

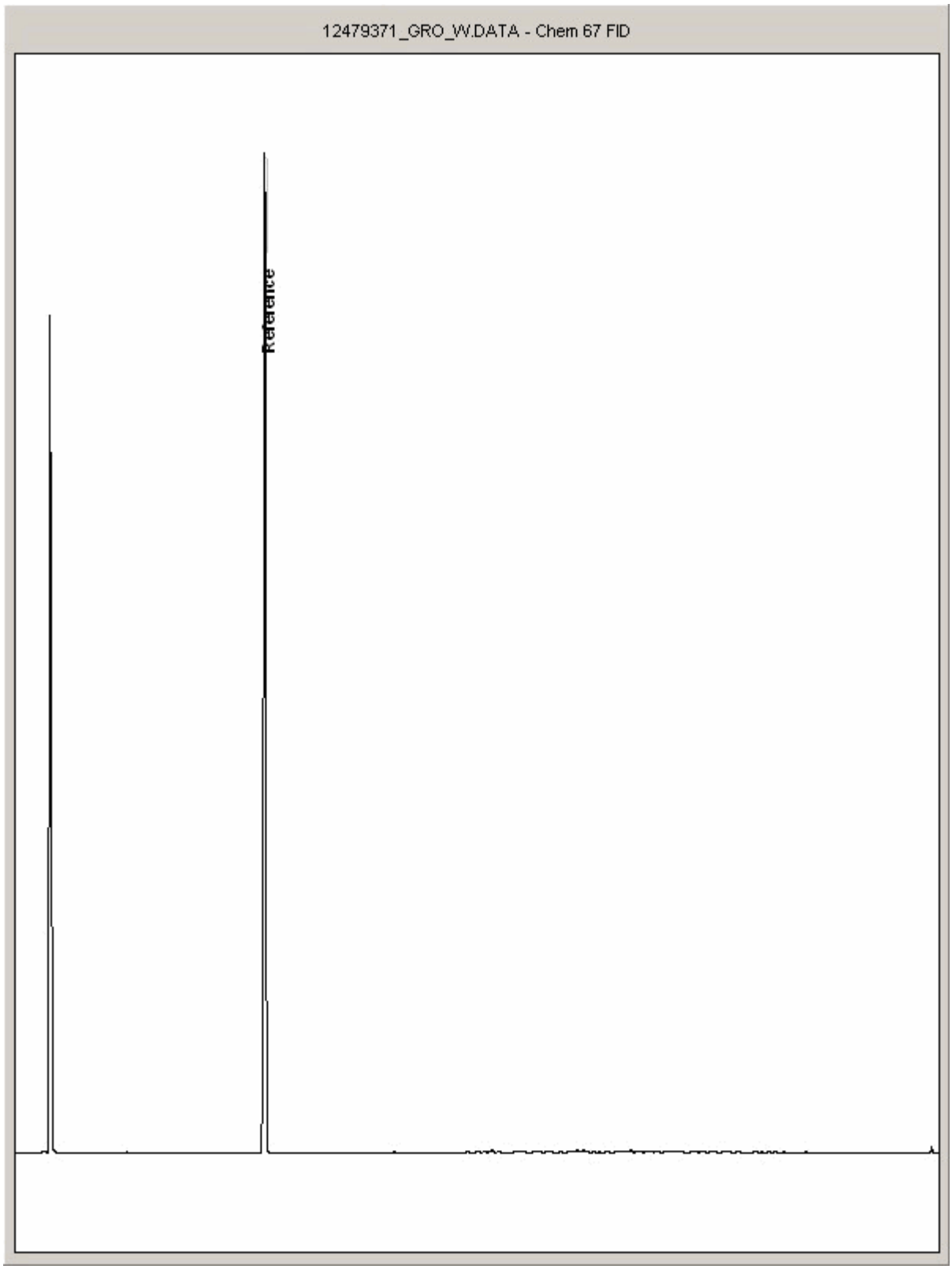
SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12479371
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

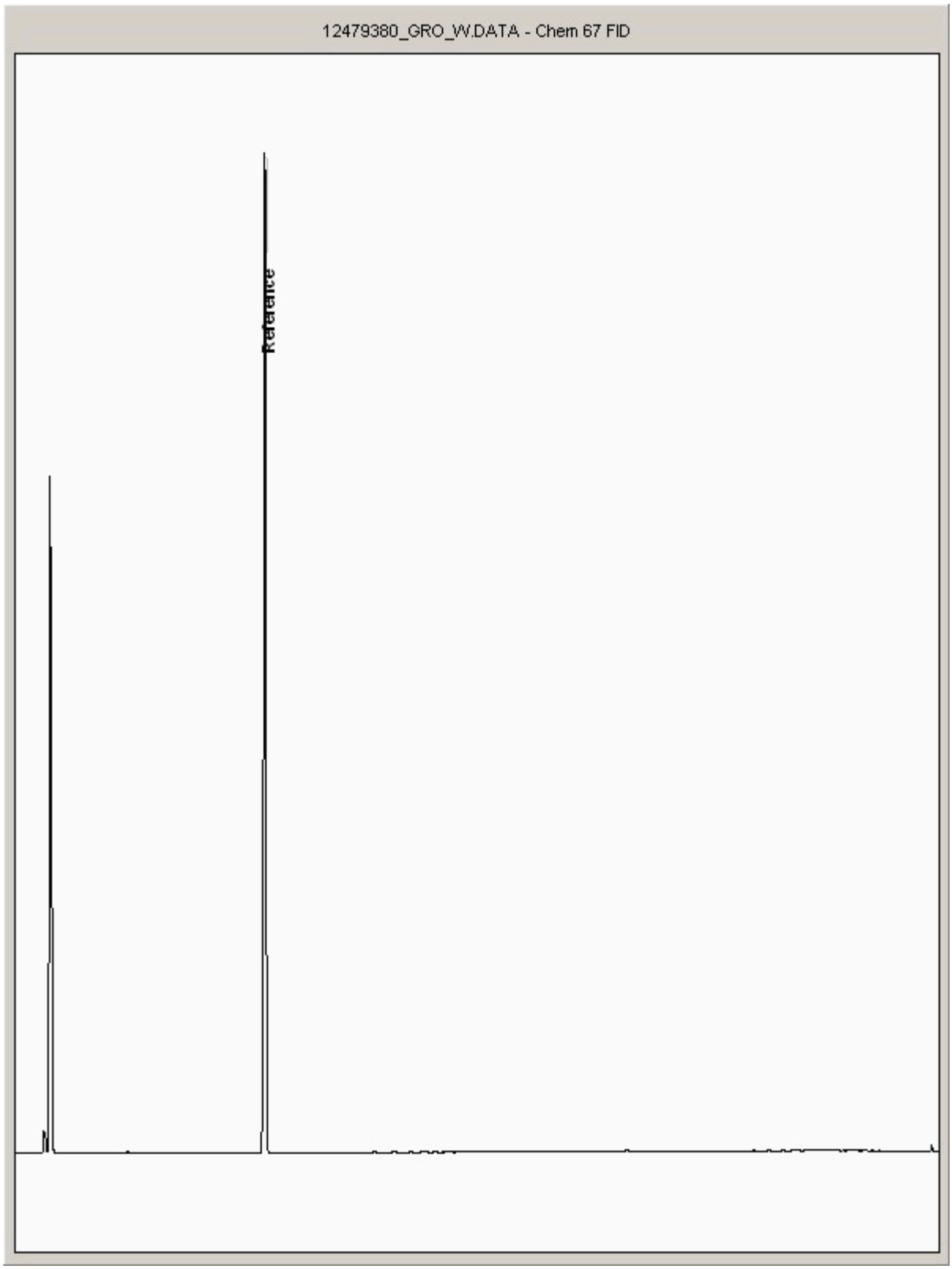
SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12479380
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GC-MS
HERBICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
PESTICIDES	D&C	HEXANE:ACETONE	SOXTHERM	GC-MS
EPH (DRO)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE:ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE:ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE:ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE:ACETONE	MICROWAVE TM218.	GC-MS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE:ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE:ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM:ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	151117-78	**Location:**	SHLNG	**Order Number:**	
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	339502
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt . However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment . Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect .

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than : - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
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BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	13 January 2016
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	151209-120
Your Reference:	JER5575U
Location:	SHLNG
Report No:	345055

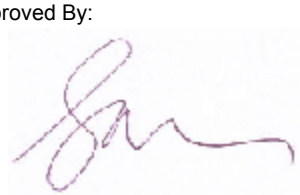
This report has been revised and directly supersedes 342573 in its entirety.

We received 17 samples on Wednesday December 09, 2015 and 17 of these samples were scheduled for analysis which was completed on Wednesday January 13, 2016. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

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Registered Office: Units 7 & 8 Hawarden Business Park, Manor Road, Hawarden, Deeside, CH5 3US. Registered in England and Wales No.

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12608192	BH01			07/12/2015
12608194	BH06			08/12/2015
12608203	BH43			08/12/2015
12608198	BH44			08/12/2015
12608205	BH30A			08/12/2015
12608199	BH40A			08/12/2015
12608201	BH41A			08/12/2015
12608202	BH42A			08/12/2015
12608197	BH63A			08/12/2015
12608195	BH34B			08/12/2015
12608191	BH36B			07/12/2015
12608200	BH45B			08/12/2015
12608204	BHG2B			08/12/2015
12608193	MW01			08/12/2015
12608196	MW03			08/12/2015
12608207	SPRING5			07/12/2015
12608206	SPRING6			07/12/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			12608192	BH01			1000ml glass bottle
			12608192	BH01			Vial (ALE297)
			12608194	BH06			1000ml glass bottle
			12608194	BH06			Vial (ALE297)
			12608203	BH43			1000ml glass bottle
			12608203	BH43			Vial (ALE297)
			12608198	BH44			1000ml glass bottle
			12608198	BH44			Vial (ALE297)
			12608205	BH30A			1000ml glass bottle
			12608205	BH30A			Vial (ALE297)
			12608199	BH40A			1000ml glass bottle
			12608199	BH40A			Vial (ALE297)
			12608201	BH41A			1000ml glass bottle
			12608201	BH41A			Vial (ALE297)
			12608202	BH42A			1000ml glass bottle
			12608202	BH42A			Vial (ALE297)
			12608197	BH63A			1000ml glass bottle
			12608197	BH63A			Vial (ALE297)
			12608195	BH34B			1000ml glass bottle
			12608195	BH34B			Vial (ALE297)
			12608191	BH36B			1000ml glass bottle
			12608191	BH36B			Vial (ALE297)
			12608200	BH45B			1000ml glass bottle
			12608200	BH45B			Vial (ALE297)
			12608204	BHG2B			1000ml glass bottle
			12608204	BHG2B			Vial (ALE297)
			12608193	MW01			1000ml glass bottle
			12608193	MW01			Vial (ALE297)
			12608196	MW03			1000ml glass bottle
			12608196	MW03			Vial (ALE297)
			12608207	SPRING5			1000ml glass bottle
			12608207	SPRING5			Vial (ALE297)
			12608206	SPRING6			1000ml glass bottle
			12608206	SPRING6			Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 17	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2	X	X
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 6	X	X	X	X	X	X

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH01	BH06	BH43	BH44	BH30A	BH40A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	07/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608192	12608194	12608203	12608198	12608205	12608199
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	86.8 #	<46 #	66.9 #	<46 #	370 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	37.8	<10	58.5	<10	338
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	49	<10	<10	<10	30.7

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A	BH63A	BH34B	BH36B	BH45B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	08/12/2015	08/12/2015	08/12/2015	08/12/2015	07/12/2015	08/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608201	12608202	12608197	12608195	12608191	12608200
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		1080 #	245000 #	<46 #	51 #	<46 #	83.5 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		464	56400	<10	28.6	<10	45.2
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		616	188000	<10	22.4	<10	38.3

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BHG2B	MW01	MW03	SPRING5	SPRING6
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	08/12/2015	08/12/2015	08/12/2015	07/12/2015	07/12/2015
			Sampled Time	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608204	12608193	12608196	12608207	12608206
			AGS Reference					
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		<46 #	<46 #	160 #	229 & #	<46 & #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		24.5	<10	51.3	23.6 &	<10 &
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		21.4	<10	109	205 &	<10 &

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH01	BH06	BH43	BH44	BH30A	BH40A
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	07/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608192	12608194	12608203	12608198	12608205	12608199
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10 1	<10	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10 1	<10	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10 1	<10	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10 1	<10	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH41A	BH42A	BH63A	BH34B	BH36B	BH45B
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	08/12/2015	08/12/2015	08/12/2015	08/12/2015	07/12/2015	08/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608201	12608202	12608197	12608195	12608191	12608200
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	17	<10	<10	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	100	<10	<10	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	296	<10	<10	<10	<10
GRO >C5-C10	<10 µg/l	TM245		12	413	<10	<10	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BHG2B	MW01	MW03	SPRING5	SPRING6
			Depth (m)	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	08/12/2015	08/12/2015	08/12/2015	07/12/2015	07/12/2015
			Sampled Time	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608204	12608193	12608196	12608207	12608206
			AGS Reference					
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	<10 &	<10 &
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	<10 &	<10 &
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	<10 &	<10 &
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	<10 &	<10 &

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&♦§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	SPRING5	SPRING6				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	07/12/2015	07/12/2015				
			Sampled Time	.	.				
			Date Received	09/12/2015	09/12/2015				
			SDG Ref	151209-120	151209-120				
			Lab Sample No.(s)	12608207	12608206				
			AGS Reference						
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 & #	<0.1 & #				
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 & #	<0.015 & #				
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 & #	<0.011 & #				
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 & #	<0.017 & #				
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 & #	<0.015 & #				
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 & #	<0.022 & #				
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 & #	<0.014 & #				
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 & #	<0.013 & #				
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 & #	<0.015 & #				
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 & #	<0.017 & #				
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 & #	<0.023 & #				
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 & #	<0.027 & #				
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 & #	<0.009 & #				
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 & #	<0.016 & #				
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 & #	<0.016 & #				
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 & #	<0.014 & #				
PAH, Total Detected USEPA 16 (aq)	<0.344 µg/l	TM178		<0.344 &	<0.344 &				

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B	MW01	MW03
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	08/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608203	12608201	12608202	12608195	12608193	12608196
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Chlorophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	66.9 #	<1 #	<1 #	<1 #
2-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
2-Nitrophenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
3-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Methylphenol (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitroaniline (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Azobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Acenaphthene (aq)	<1 µg/l	TM176		<1 #	<1 #	2.04 #	<1 #	<1 #	<1 #
Anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2 #	<2 #	<2 #	<2 #	<2 #	<2 #
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH43	BH41A	BH42A	BH34B	MW01	MW03
			Depth (m)	.	.	.	.	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	08/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015	08/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015	09/12/2015
			SDG Ref	151209-120	151209-120	151209-120	151209-120	151209-120	151209-120
			Lab Sample No.(s)	12608203	12608201	12608202	12608195	12608193	12608196
			AGS Reference						
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Carbazole (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Chrysene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzofuran (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Diethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
Fluoranthene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Fluorene (aq)	<1 µg/l	TM176		<1 #	<1 #	5.52 #	<1 #	<1 #	<1 #
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachloroethane (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Nitrobenzene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Naphthalene (aq)	<1 µg/l	TM176		<1 #	<1 #	26.8 #	<1 #	<1 #	<1 #
Isophorone (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1	<1	<1	<1
Phenanthrene (aq)	<1 µg/l	TM176		<1 #	<1 #	9.16 #	<1 #	<1 #	<1 #
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	<1 #	<1 #	<1 #	<1 #
Pyrene (aq)	<1 µg/l	TM176		<1 #	<1 #	1.16 #	<1 #	<1 #	<1 #

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Test Completion Dates

Lab Sample No(s)	12608192	12608194	12608203	12608198	12608205	12608199	12608201	12608202	12608197	12608195
Customer Sample Ref.	BH01	BH06	BH43	BH44	BH30A	BH40A	BH41A	BH42A	BH63A	BH34B
AGS Ref.										
Depth										
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015
GRO by GC-FID (W)	14-Dec-2015	14-Dec-2015	14-Dec-2015	14-Dec-2015	14-Dec-2015	14-Dec-2015	15-Dec-2015	14-Dec-2015	14-Dec-2015	14-Dec-2015
SVOC MS (W) - Aqueous			17-Dec-2015				17-Dec-2015	17-Dec-2015		17-Dec-2015

Lab Sample No(s)	12608191	12608200	12608204	12608193	12608196	12608207	12608206
Customer Sample Ref.	BH36B	BH45B	BHG2B	MW01	MW03	SPRING5	SPRING6
AGS Ref.							
Depth							
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	17-Dec-2015	12-Jan-2016	12-Jan-2016
GRO by GC-FID (W)	14-Dec-2015	14-Dec-2015	14-Dec-2015	14-Dec-2015	14-Dec-2015	08-Jan-2016	08-Jan-2016
PAH Spec MS - Aqueous (W)						13-Jan-2016	13-Jan-2016
SVOC MS (W) - Aqueous				17-Dec-2015	17-Dec-2015		

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1237	QC 1211	QC 1268
EPH (DRO) (C10-C40)	TM172	**89.0** 56.50 : 116.50	**88.5** 59.47 : 106.15	**76.0** 56.50 : 116.50

GRO by GC-FID (W)

Component	Method Code	QC 1258	QC 1256	QC 1281	QC 1210
Benzene by GC	TM245	**95.0** 79.00 : 121.00	**109.5** 76.72 : 118.62	**91.5** 77.50 : 122.50	**108.0** 77.50 : 122.50
Ethylbenzene by GC	TM245	**97.5** 79.00 : 121.00	**113.5** 74.74 : 116.76	**87.5** 77.50 : 122.50	**110.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**97.25** 79.00 : 121.00	**113.25** 73.06 : 114.58	**87.75** 77.50 : 122.50	**110.5** 77.50 : 122.50
MTBE GC-FID	TM245	**91.5** 80.34 : 118.41	**104.5** 80.00 : 121.03	**89.5** 77.50 : 122.50	**108.0** 77.50 : 122.50
o Xylene by GC	TM245	**97.5** 79.00 : 121.00	**113.0** 70.00 : 130.00	**89.0** 77.50 : 122.50	**112.0** 77.50 : 122.50
QC	TM245	**92.76** 77.50 : 122.50	**94.44** 70.00 : 130.00	**92.12** 74.88 : 125.54	**95.92** 74.88 : 125.54
Toluene by GC	TM245	**96.5** 79.00 : 121.00	**112.0** 79.35 : 119.27	**90.5** 77.50 : 122.50	**110.0** 77.50 : 122.50

PAH Spec MS - Aqueous (W)

Component	Method Code	QC 1222
Acenaphthene by GCMS	TM178	**99.0** 88.78 : 115.50
Acenaphthylene by GCMS	TM178	**97.5** 85.27 : 110.71
Anthracene by GCMS	TM178	**96.0** 86.06 : 112.26
Benz(a)anthracene by GCMS	TM178	**100.0** 79.25 : 124.25
Benzo(a)pyrene by GCMS	TM178	**120.0** 83.10 : 128.10
Benzo(b)fluoranthene by GCMS	TM178	**130.0** 86.00 : 131.00
Benzo(ghi)perylene by GCMS	TM178	**80.0** 79.96 : 107.30
Benzo(k)fluoranthene by GCMS	TM178	**121.0** 87.50 : 132.50
Chrysene by GCMS	TM178	**101.5** 86.00 : 114.60
Dibenzo(ah)anthracene by GCMS	TM178	**77.0** 68.95 : 111.55
Fluoranthene by GCMS	TM178	**97.5** 81.15 : 116.55
Fluorene by GCMS	TM178	**101.0** 90.88 : 112.23

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

PAH Spec MS - Aqueous (W)

		QC 1222
Indeno(123cd)pyrene by GCMS	TM178	**102.5** 82.25 : 114.75
Naphthalene by GCMS	TM178	**98.5** 92.00 : 113.00
Phenanthrene by GCMS	TM178	**100.5** 93.18 : 113.92
Pyrene by GCMS	TM178	**96.5** 82.25 : 116.15

SVOC MS (W) - Aqueous

Component	Method Code	QC 1263
4-Bromophenylphenyleth er	TM176	**84.0** 65.62 : 120.95
Benzo(a)anthracene	TM176	**87.2** 62.83 : 114.26
Benzo(a)pyrene	TM176	**85.6** 54.19 : 105.67
Butylbenzyl phthalate	TM176	**84.0** 45.10 : 118.90
Hexachlorobutadiene	TM176	**70.8** 43.12 : 110.32
Naphthalene	TM176	**91.2** 69.48 : 118.94
Nitrobenzene	TM176	**85.6** 69.13 : 107.62
Phenol	TM176	**47.2** 30.92 : 74.19

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

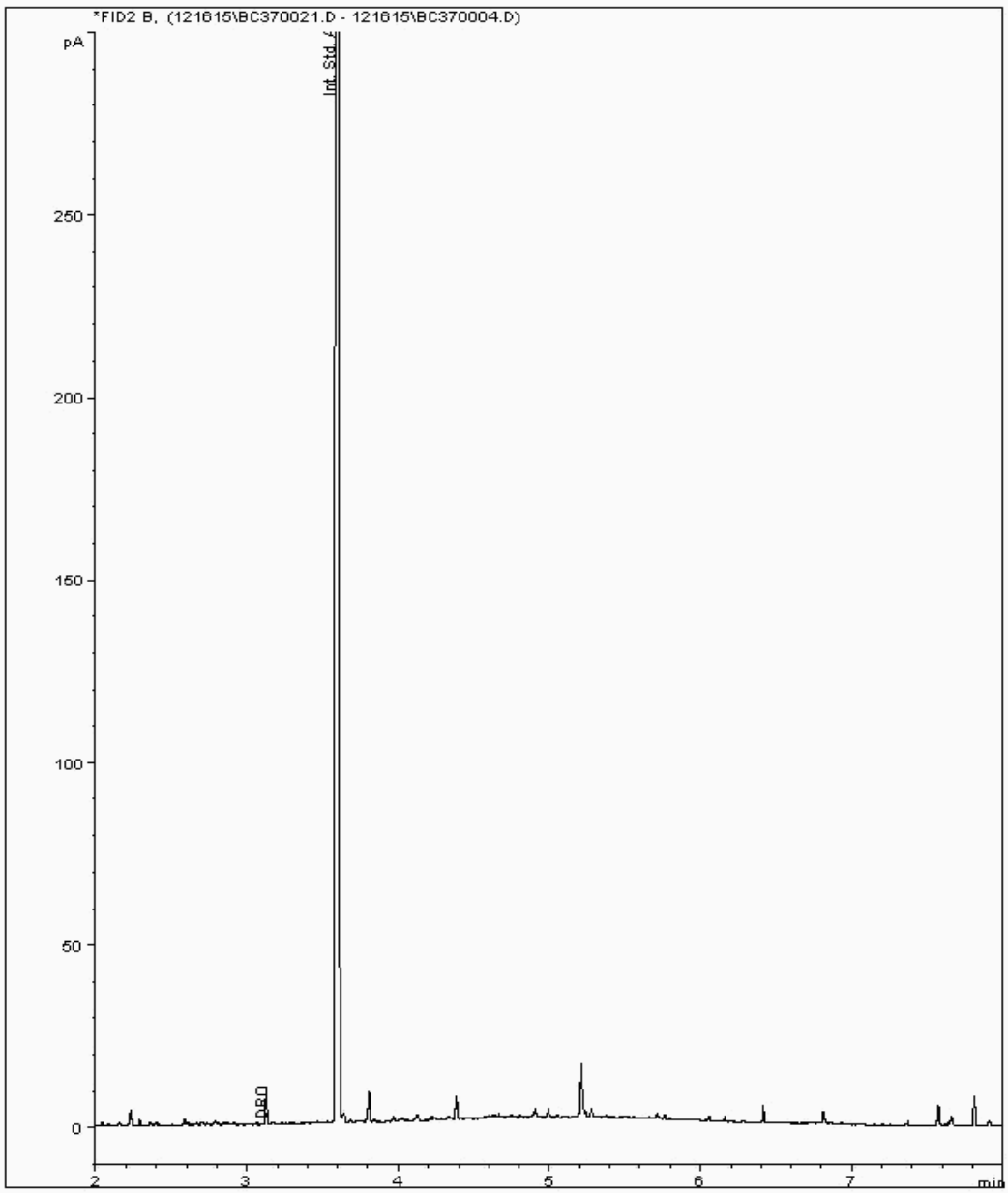
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12621877
Sample ID : MW03

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918599-
Date Acquired : 17/12/2015 00:23:58 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

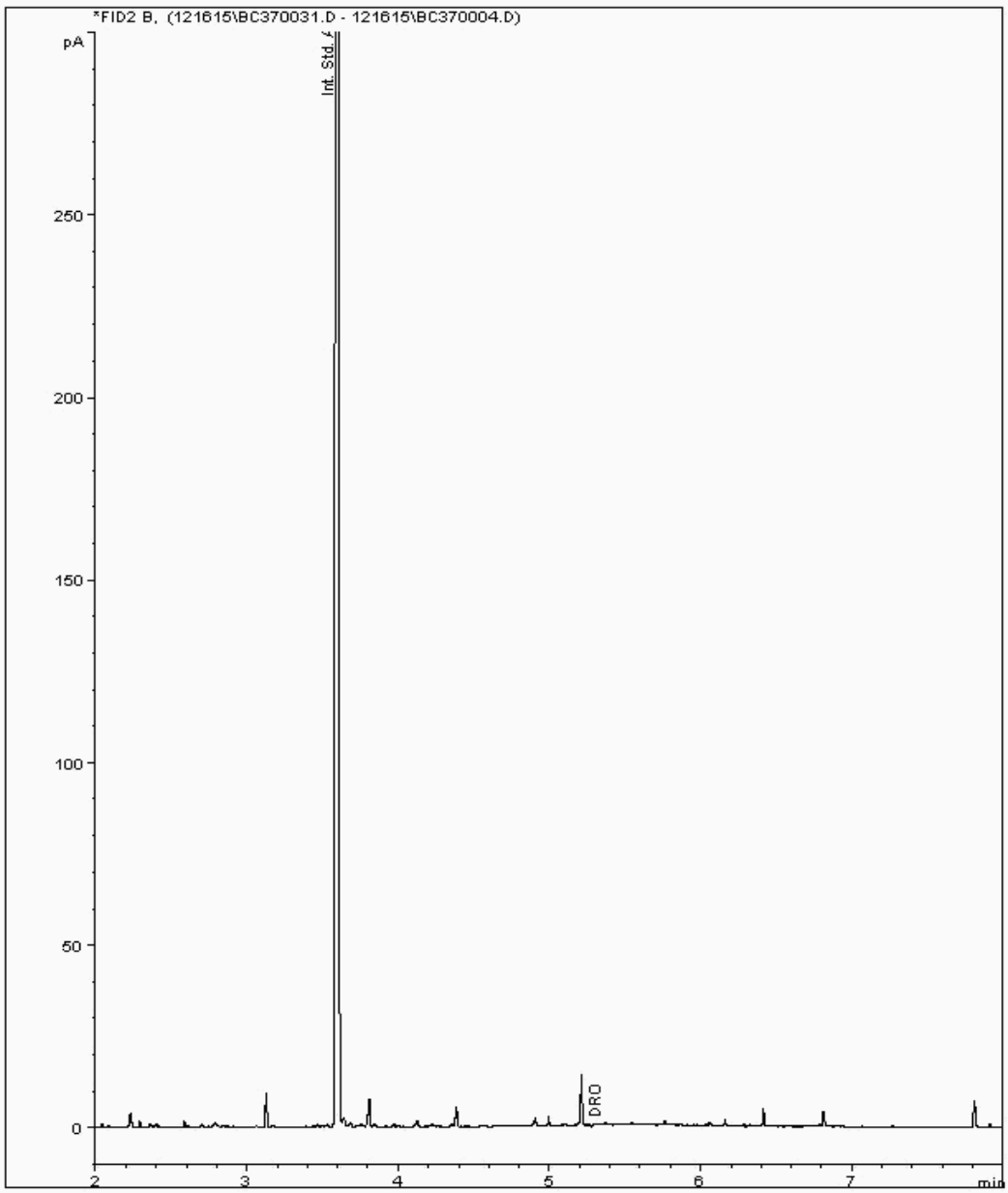
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12621900
Sample ID : MW01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918564-
Date Acquired : 17/12/2015 03:59:30 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

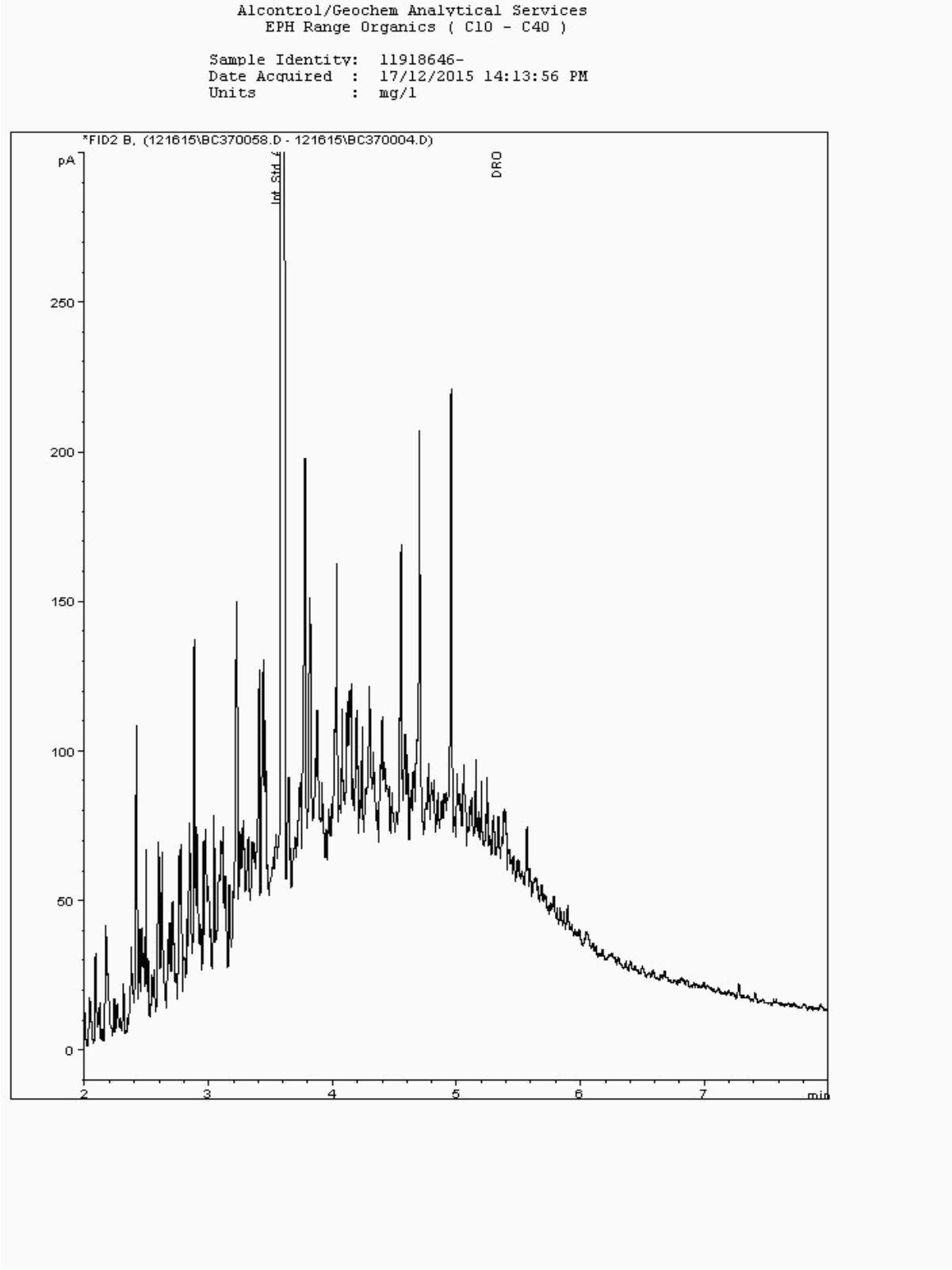
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622070
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

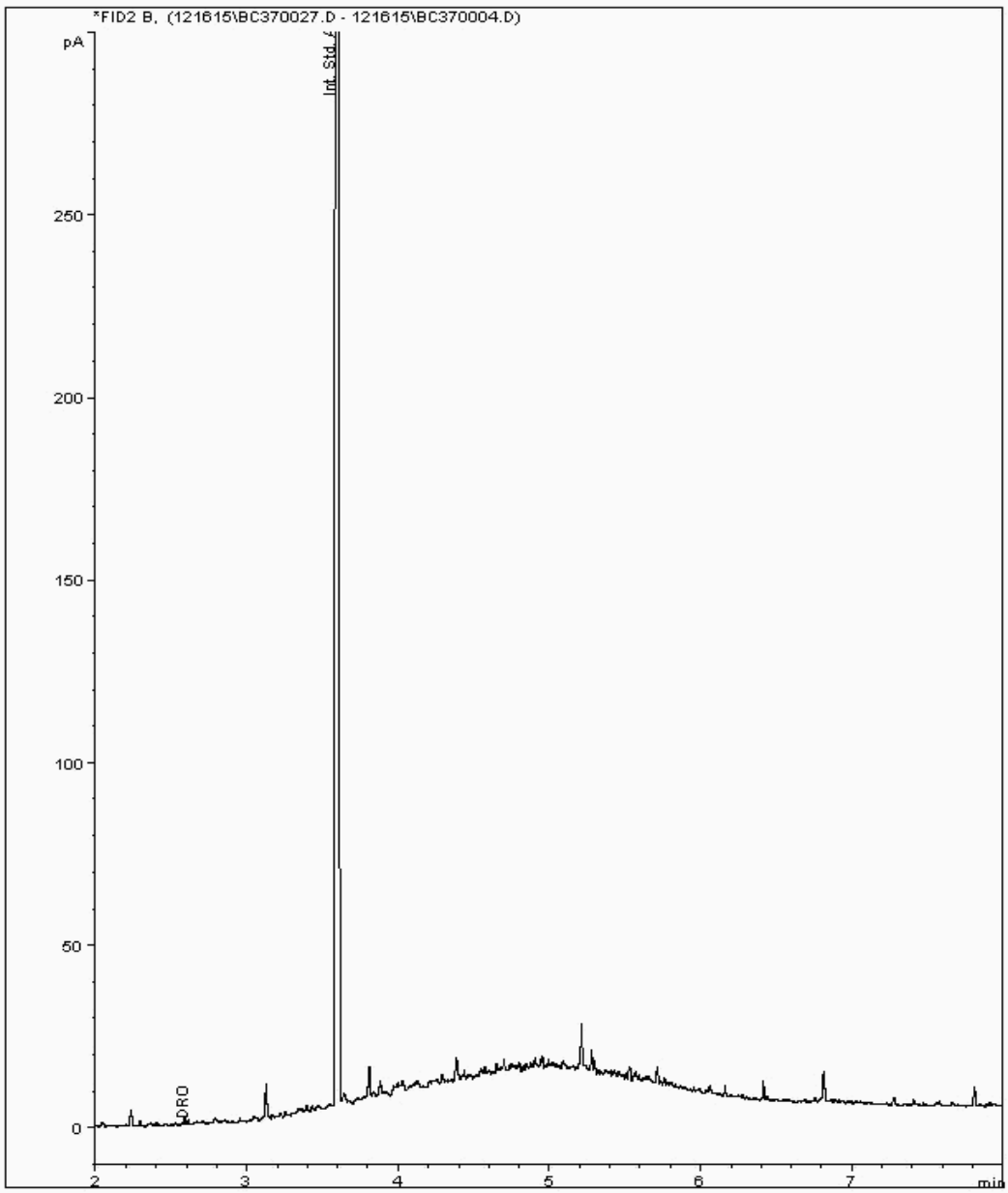
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622114
Sample ID : BH41A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918641-
Date Acquired : 17/12/2015 02:33:05 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

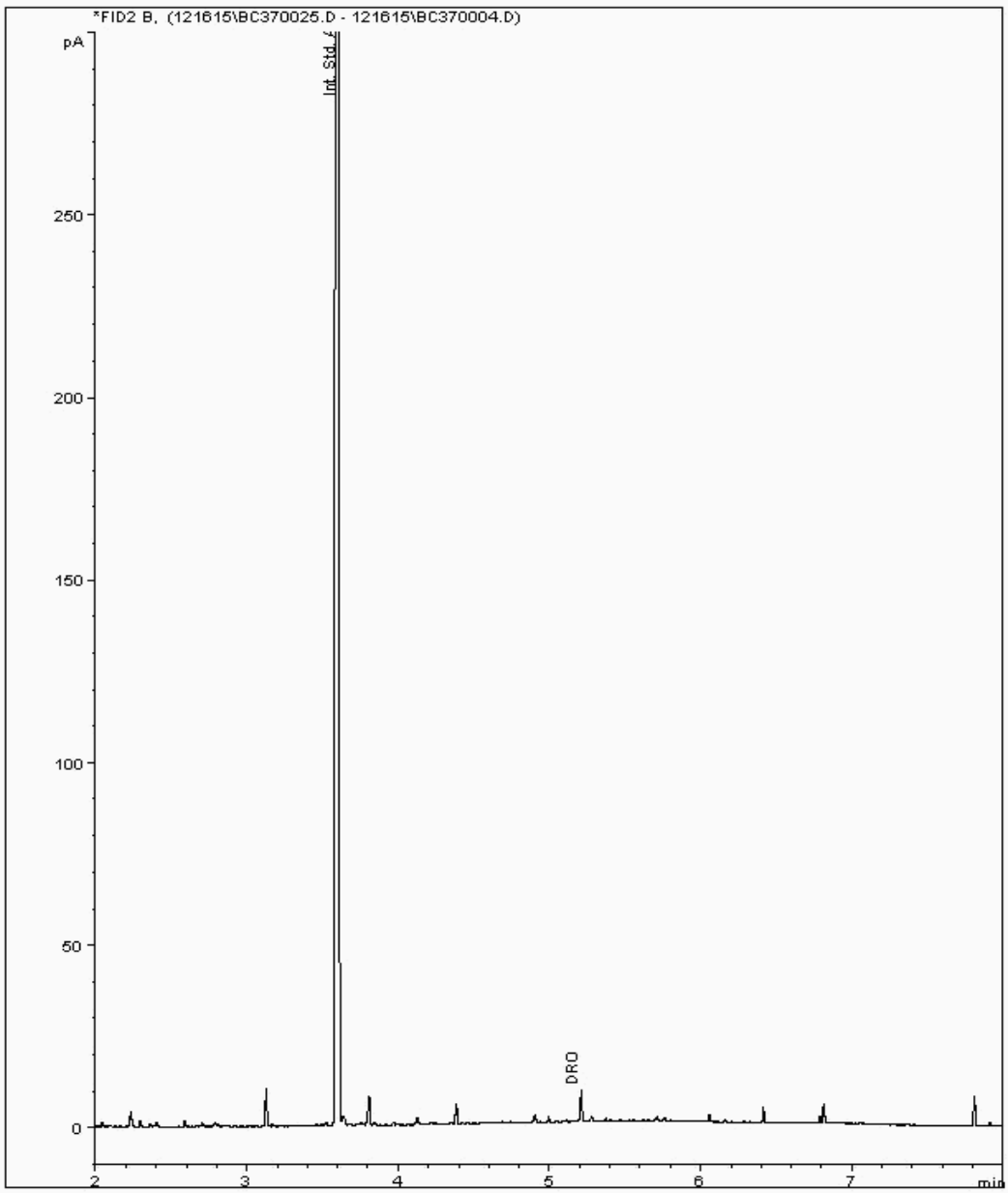
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622137
Sample ID : BH45B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918638-
Date Acquired : 17/12/2015 01:49:59 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

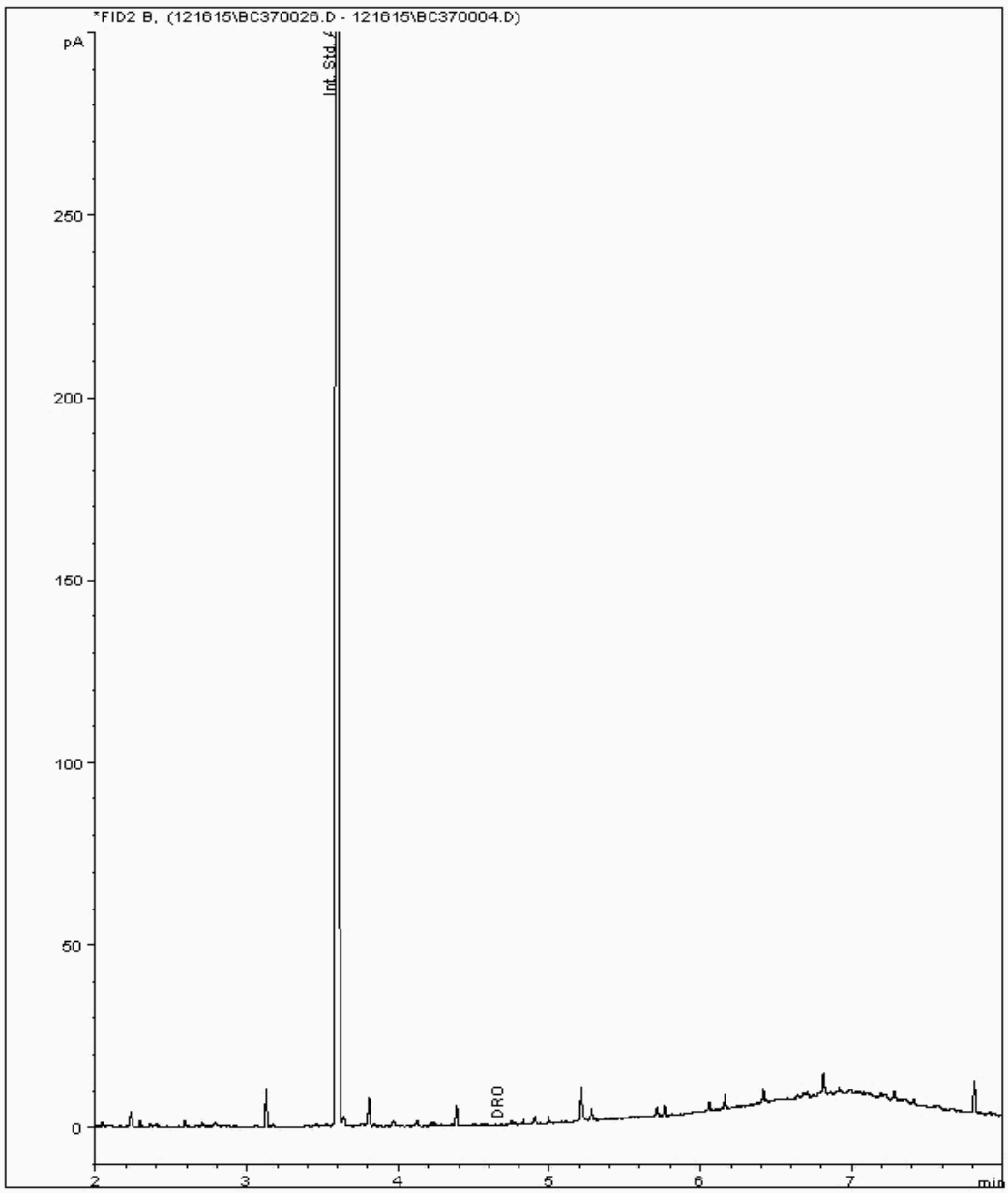
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622157
Sample ID : BH40A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918635-
Date Acquired : 17/12/2015 02:11:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

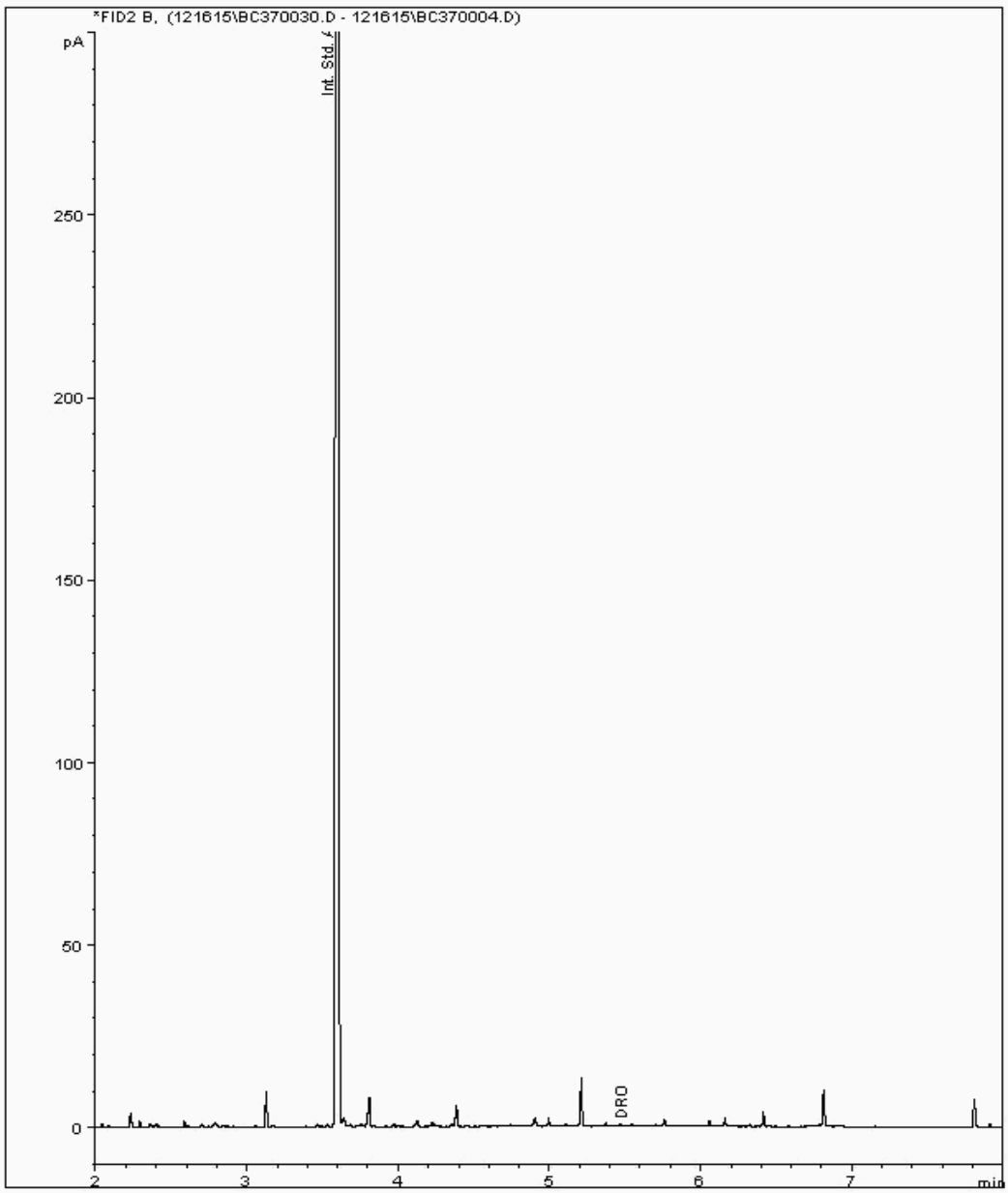
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622184
Sample ID : BH63A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918603-
Date Acquired : 17/12/2015 03:38:04 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

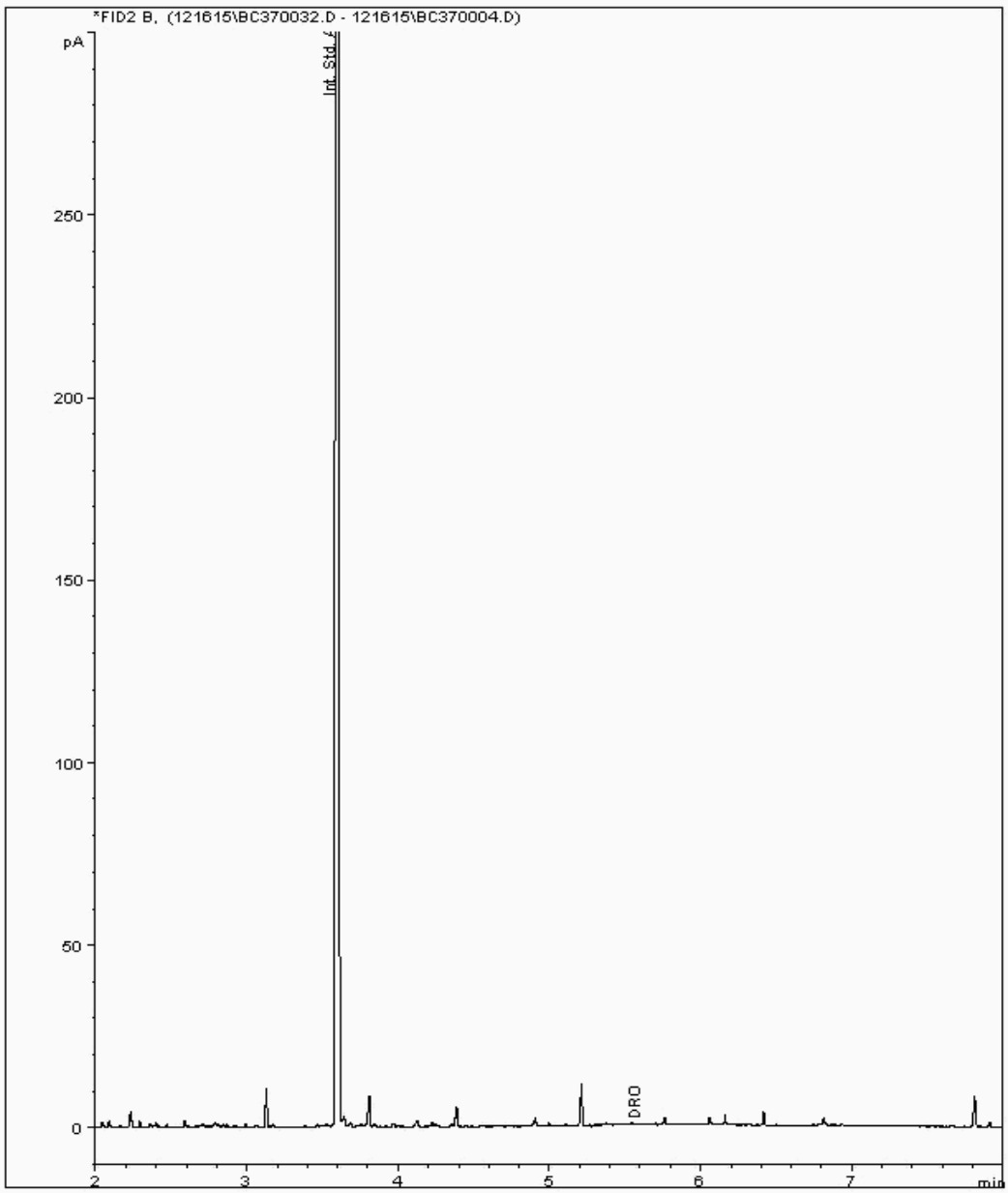
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622199
Sample ID : BH01

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918561-
Date Acquired : 17/12/2015 04:21:10 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

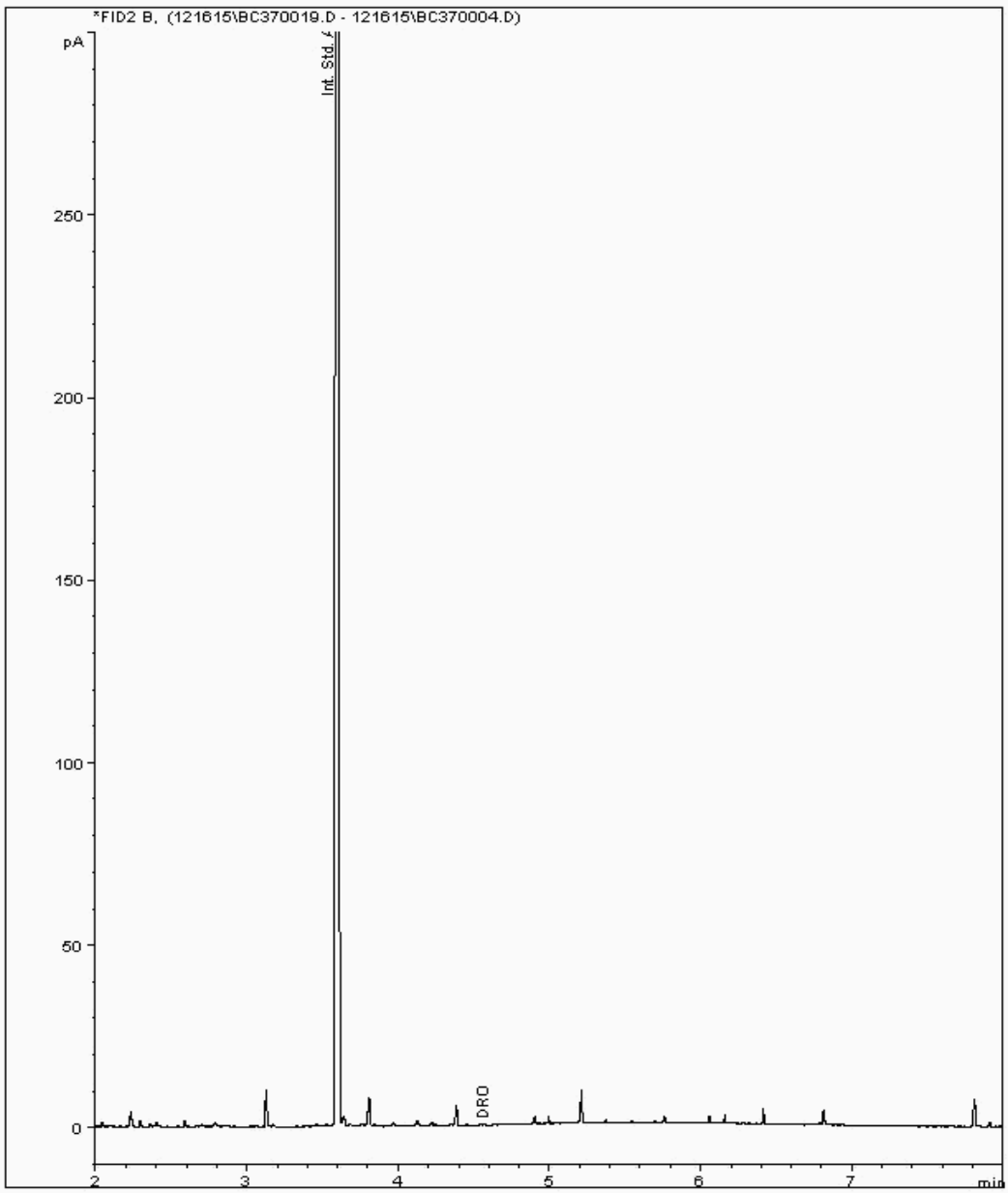
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622210
Sample ID : BH34B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918594-
Date Acquired : 16/12/2015 23:40:52 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

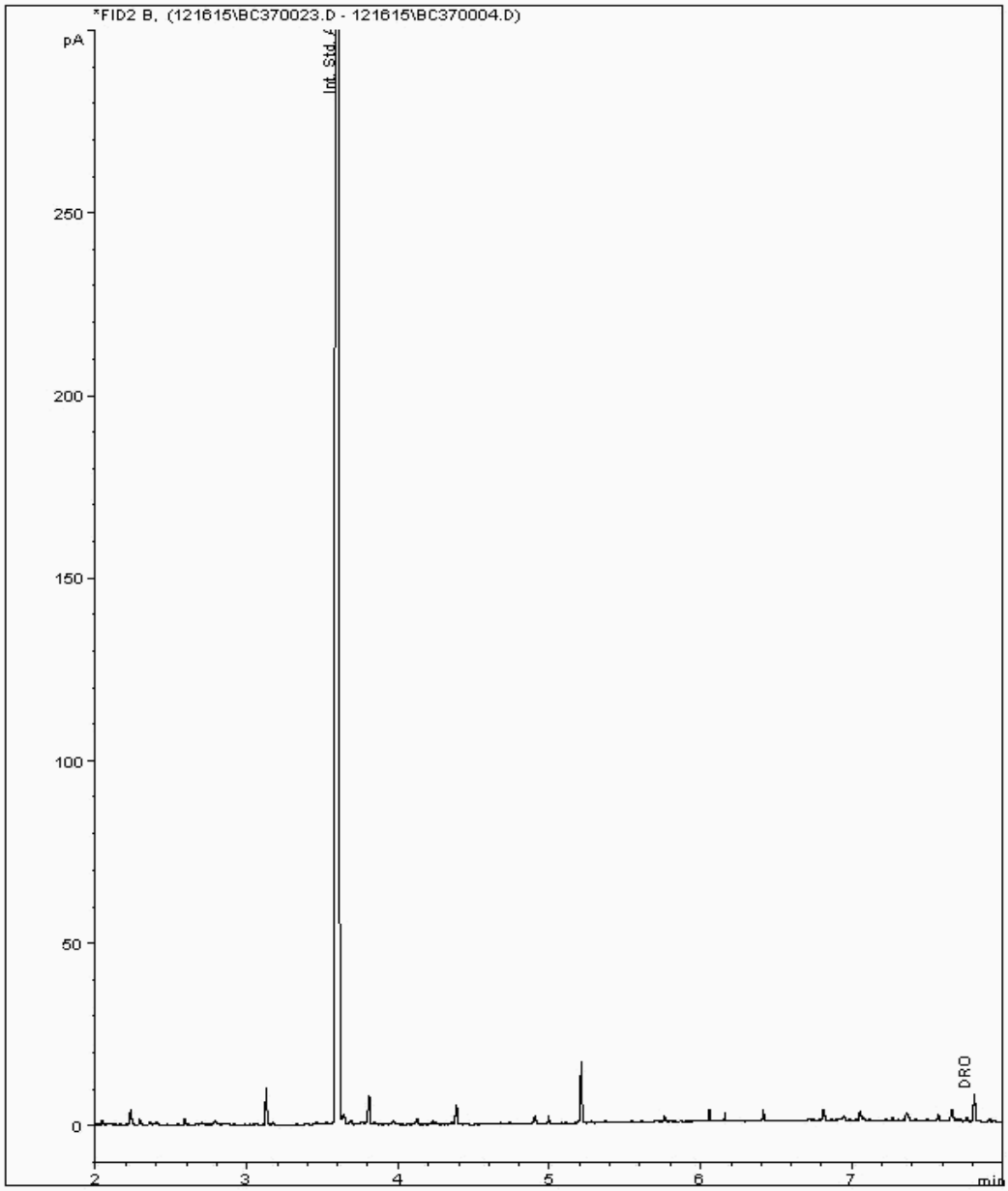
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622218
Sample ID : BH44

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918630-
Date Acquired : 17/12/2015 01:07:06 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

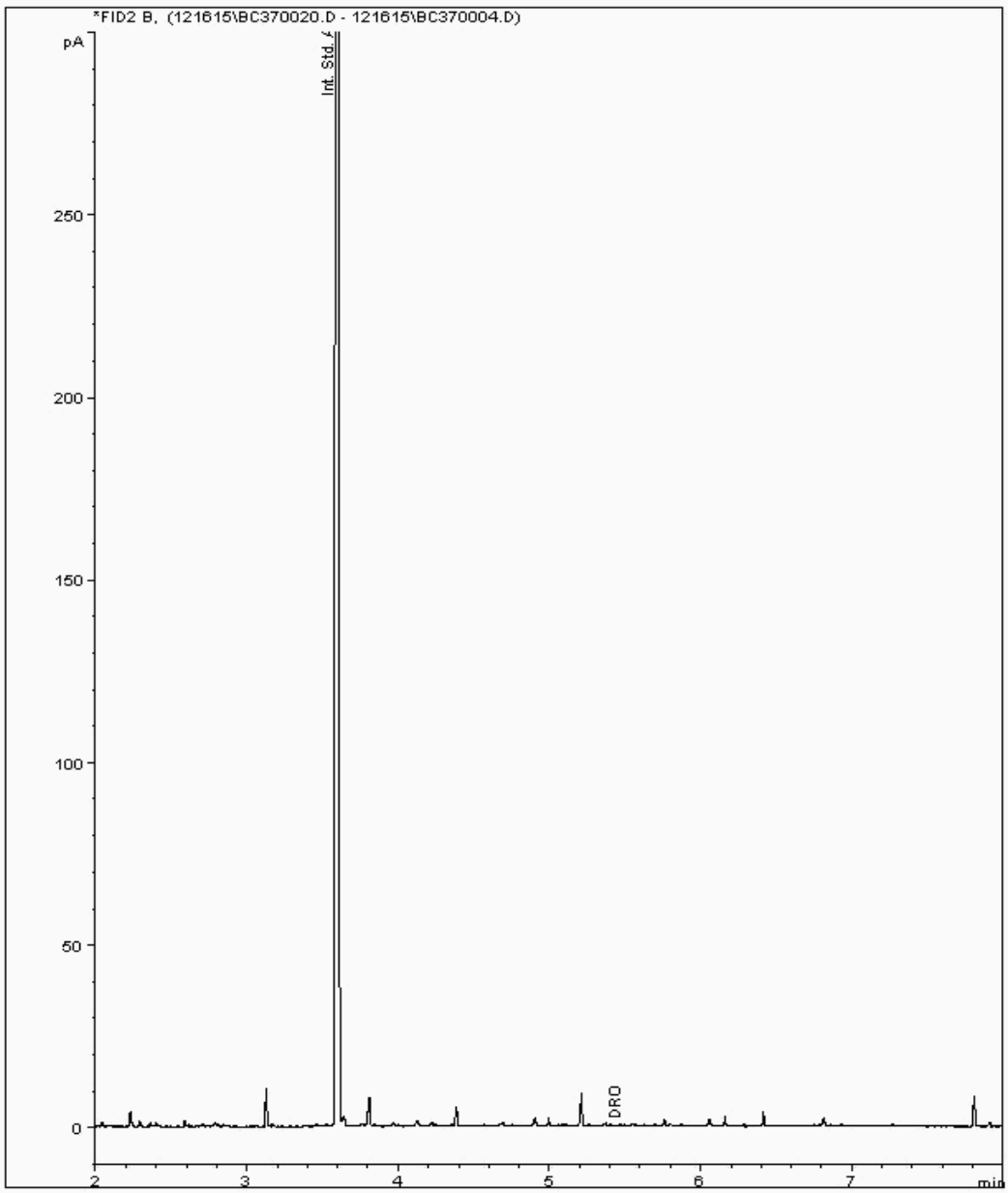
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622231
Sample ID : BH30A

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918660-
Date Acquired : 17/12/2015 00:02:32 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

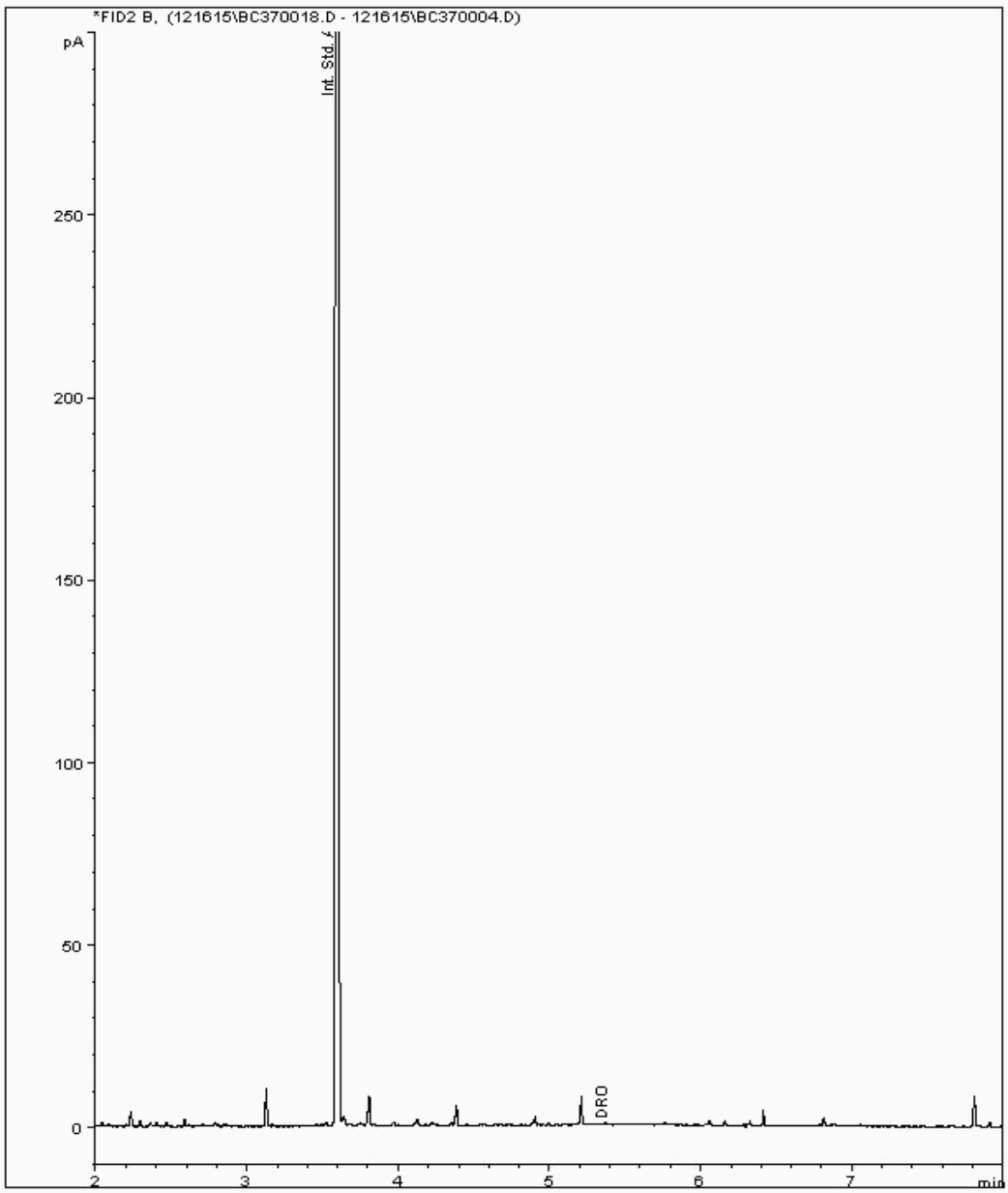
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622232
Sample ID : BH36B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918558-
Date Acquired : 16/12/2015 23:19:23 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

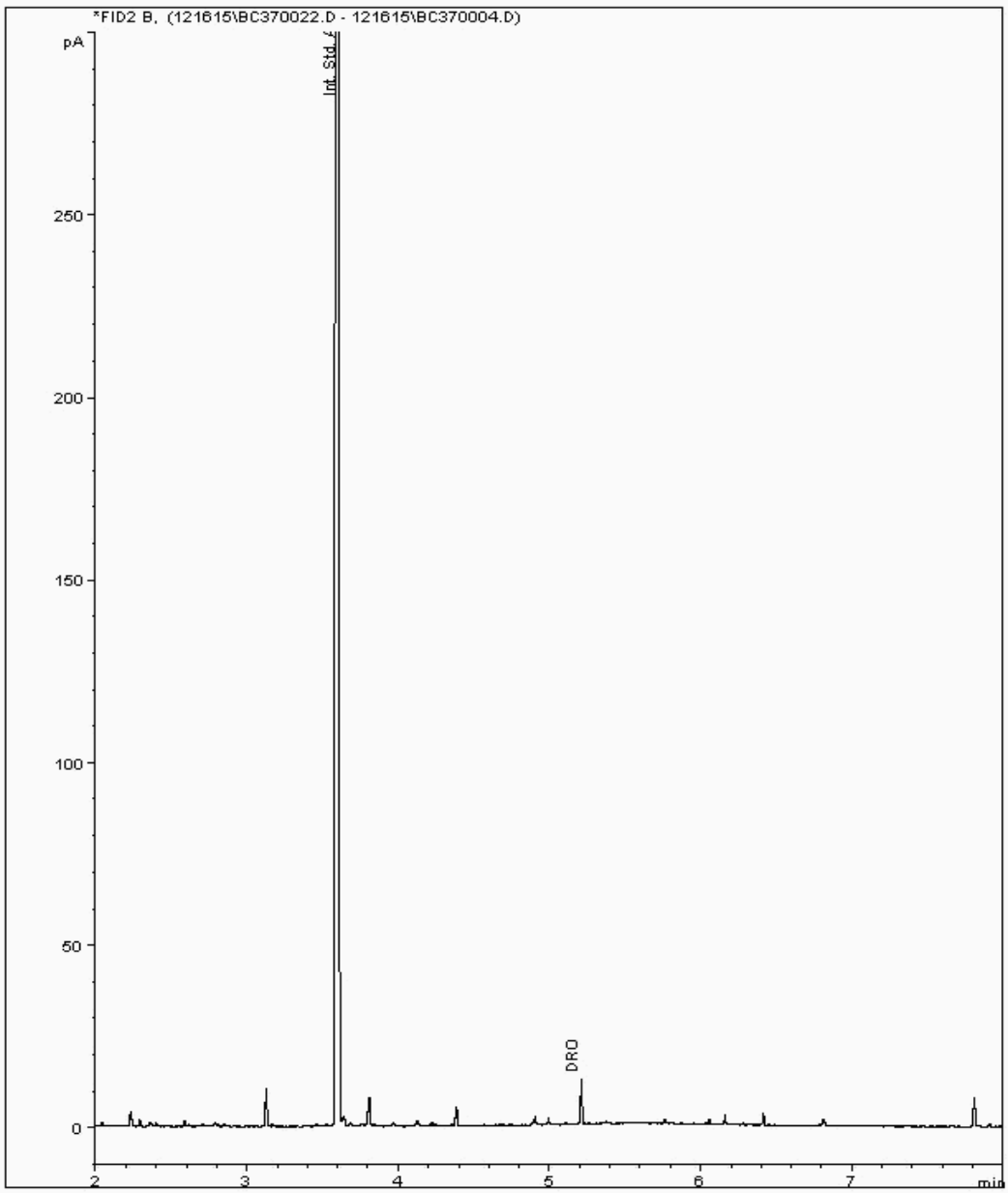
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622244
Sample ID : BHG2B

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918654-
Date Acquired : 17/12/2015 00:45:25 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

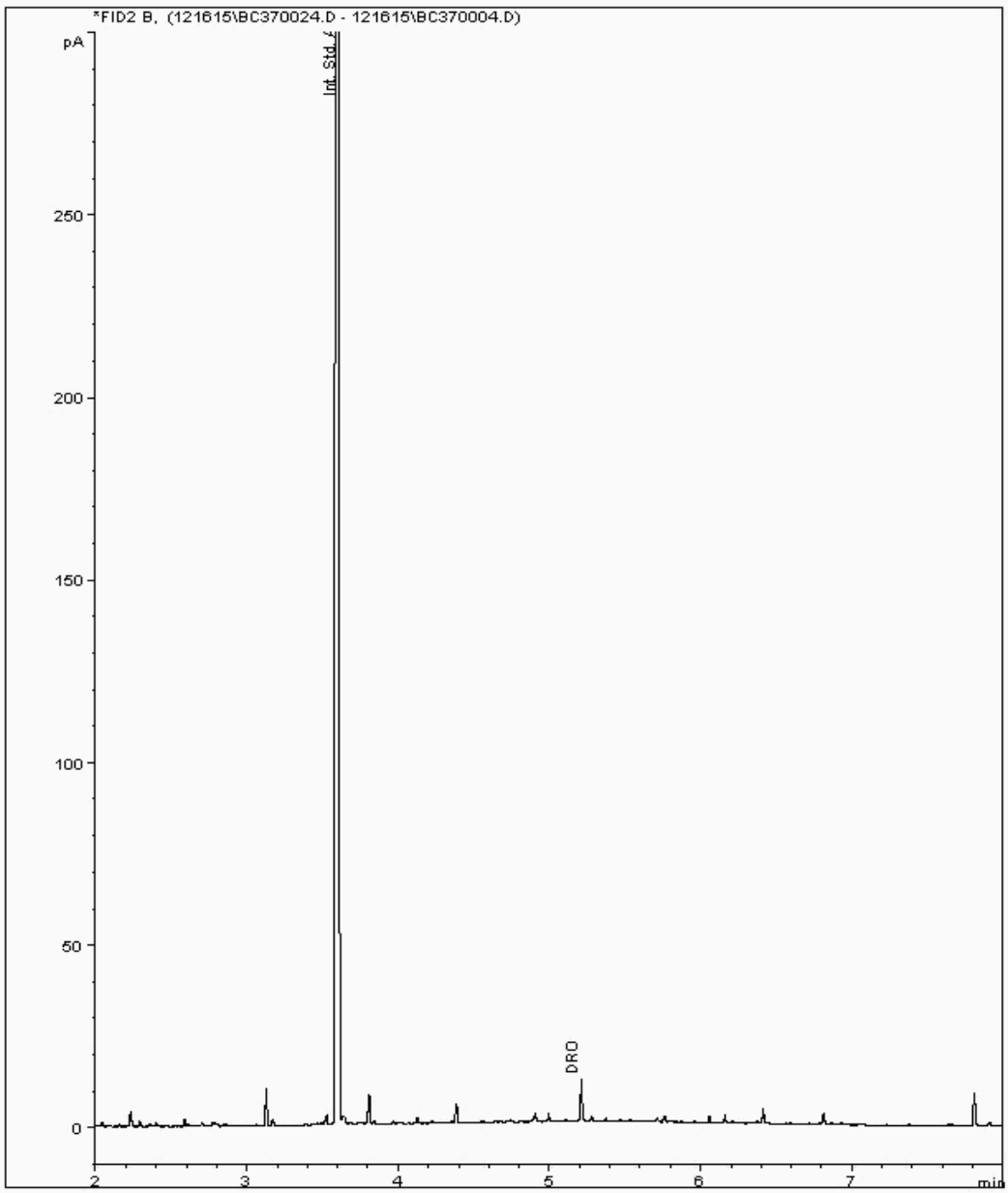
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12622261
Sample ID : BH06

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918590-
Date Acquired : 17/12/2015 01:28:32 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

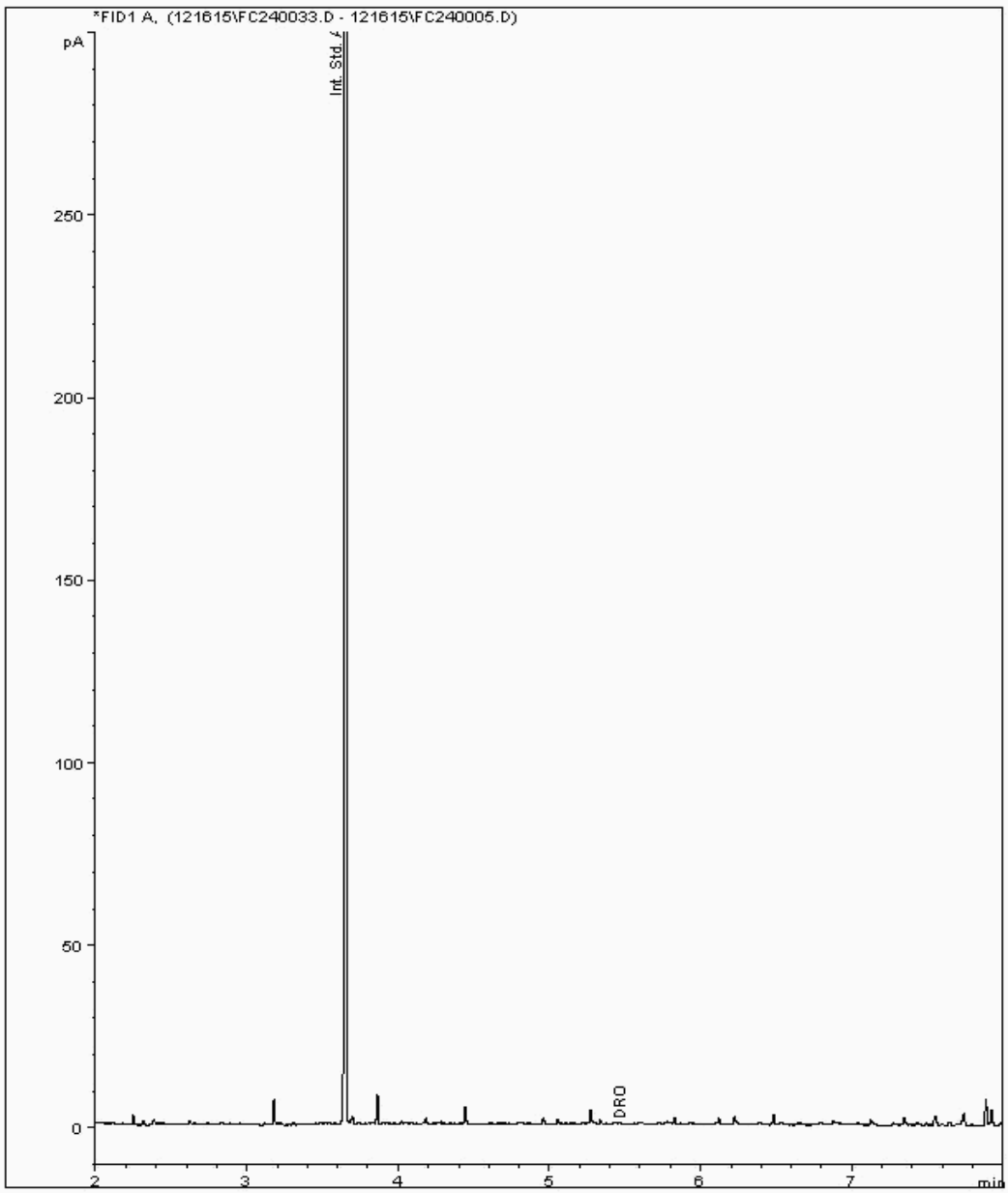
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12626550
Sample ID : BH43

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11918650-
Date Acquired : 17/12/2015 04:39:47 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

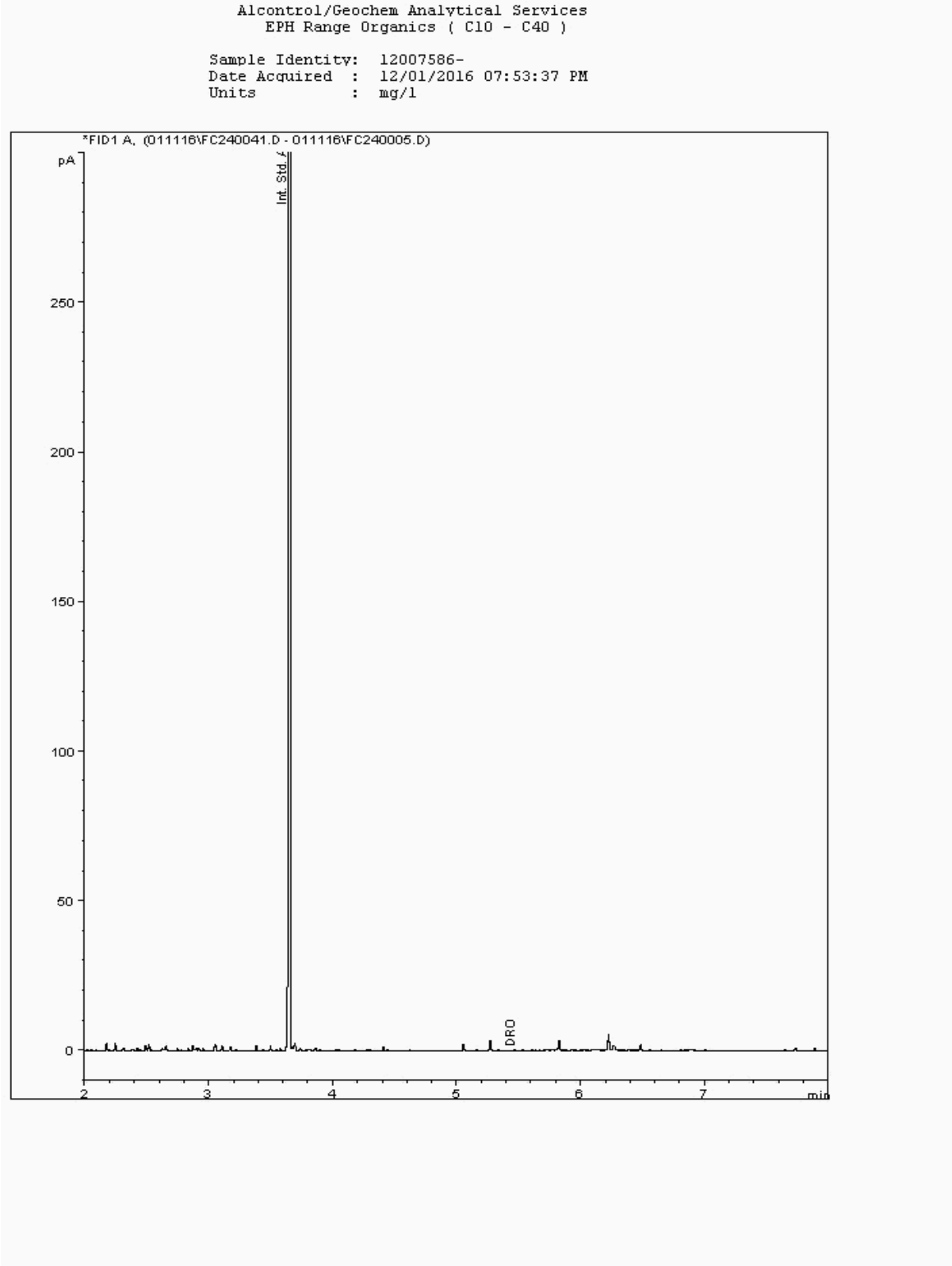
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12720082
Sample ID : SPRING6

Depth :



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

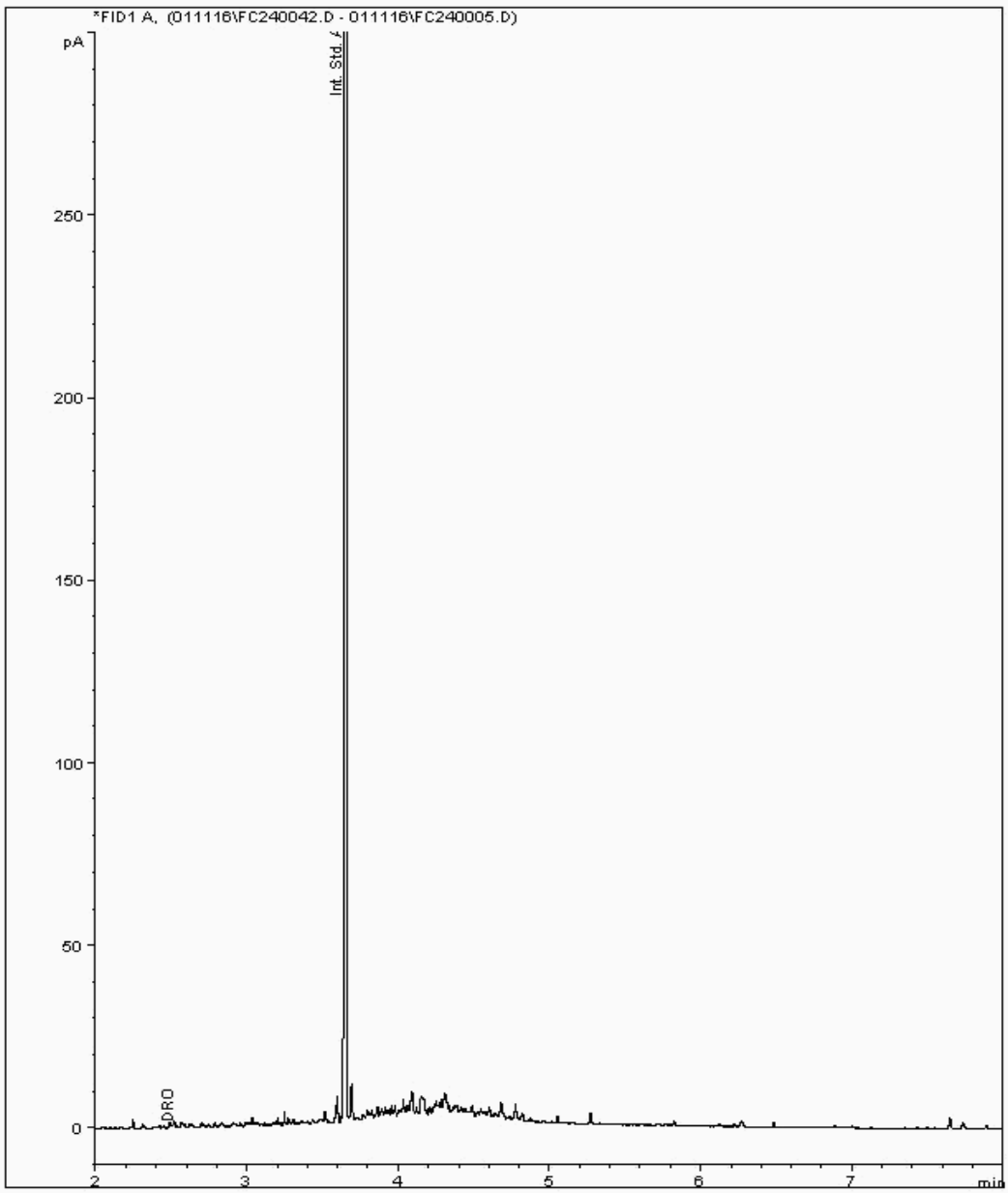
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12720105
Sample ID : SPRING5

Depth :

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 12007590-
Date Acquired : 12/01/2016 08:15:36 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

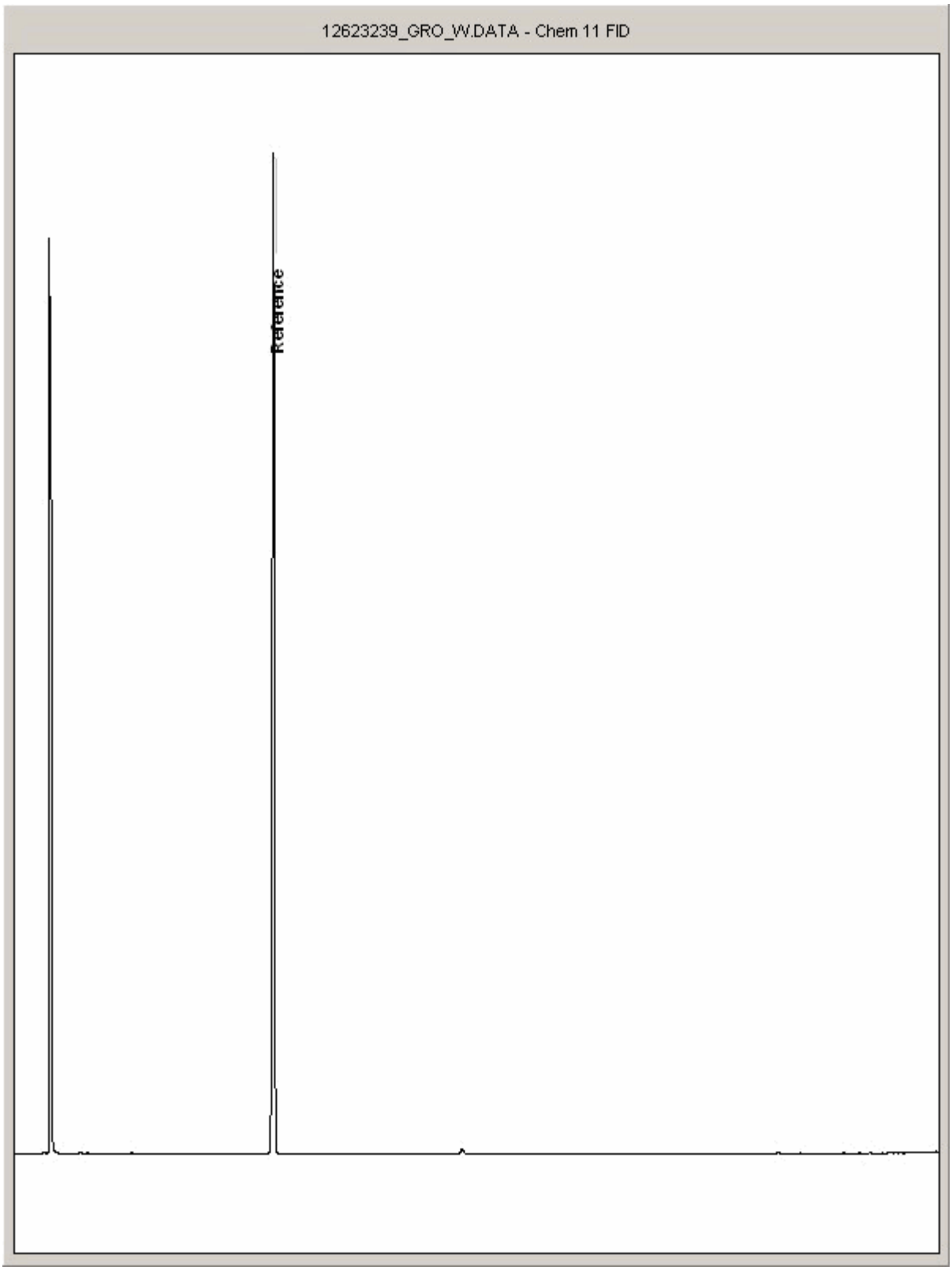
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623239
Sample ID : BH36B

Depth :



CERTIFICATE OF ANALYSIS

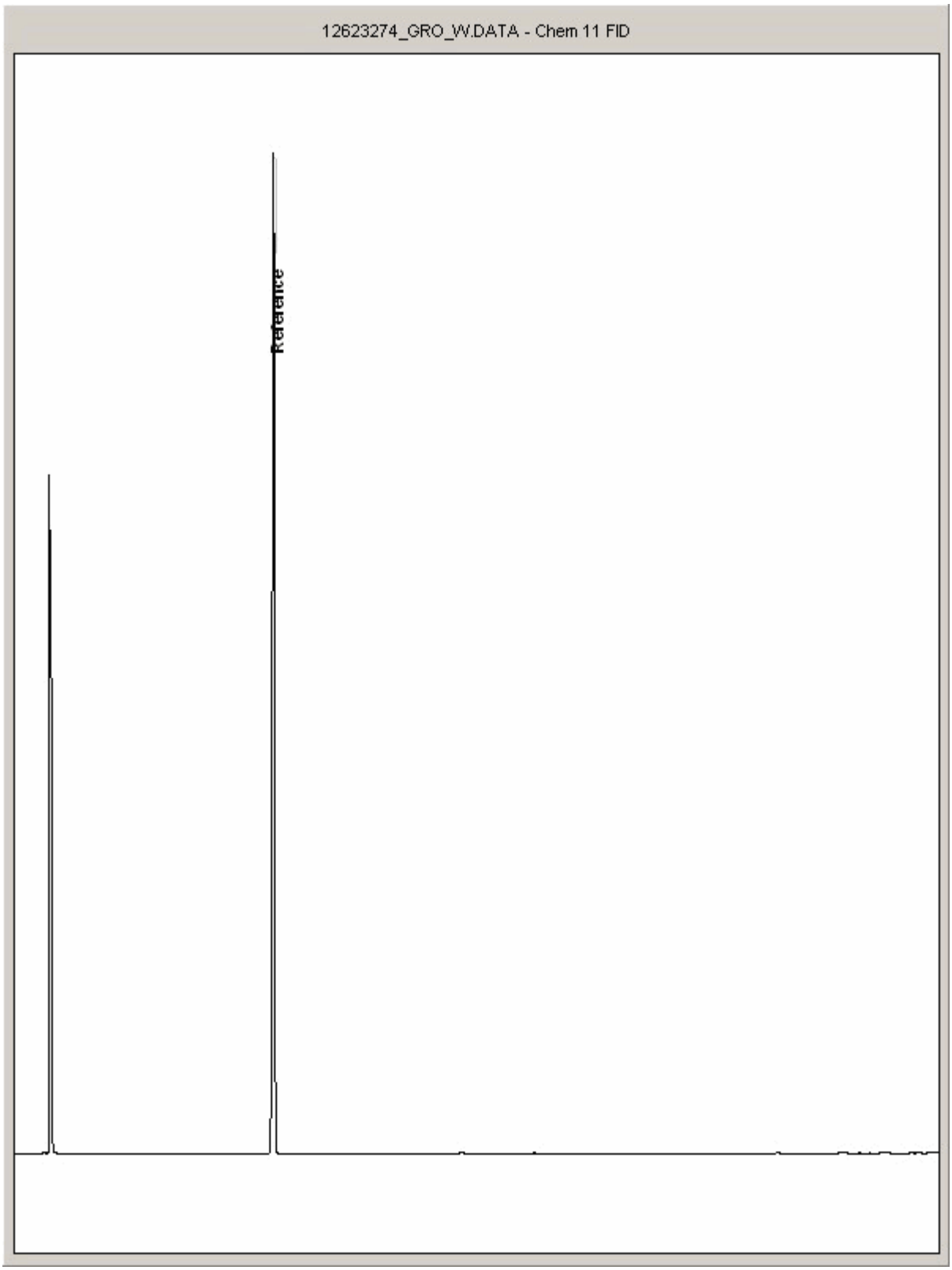
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623274
Sample ID : BH01

Depth :



CERTIFICATE OF ANALYSIS

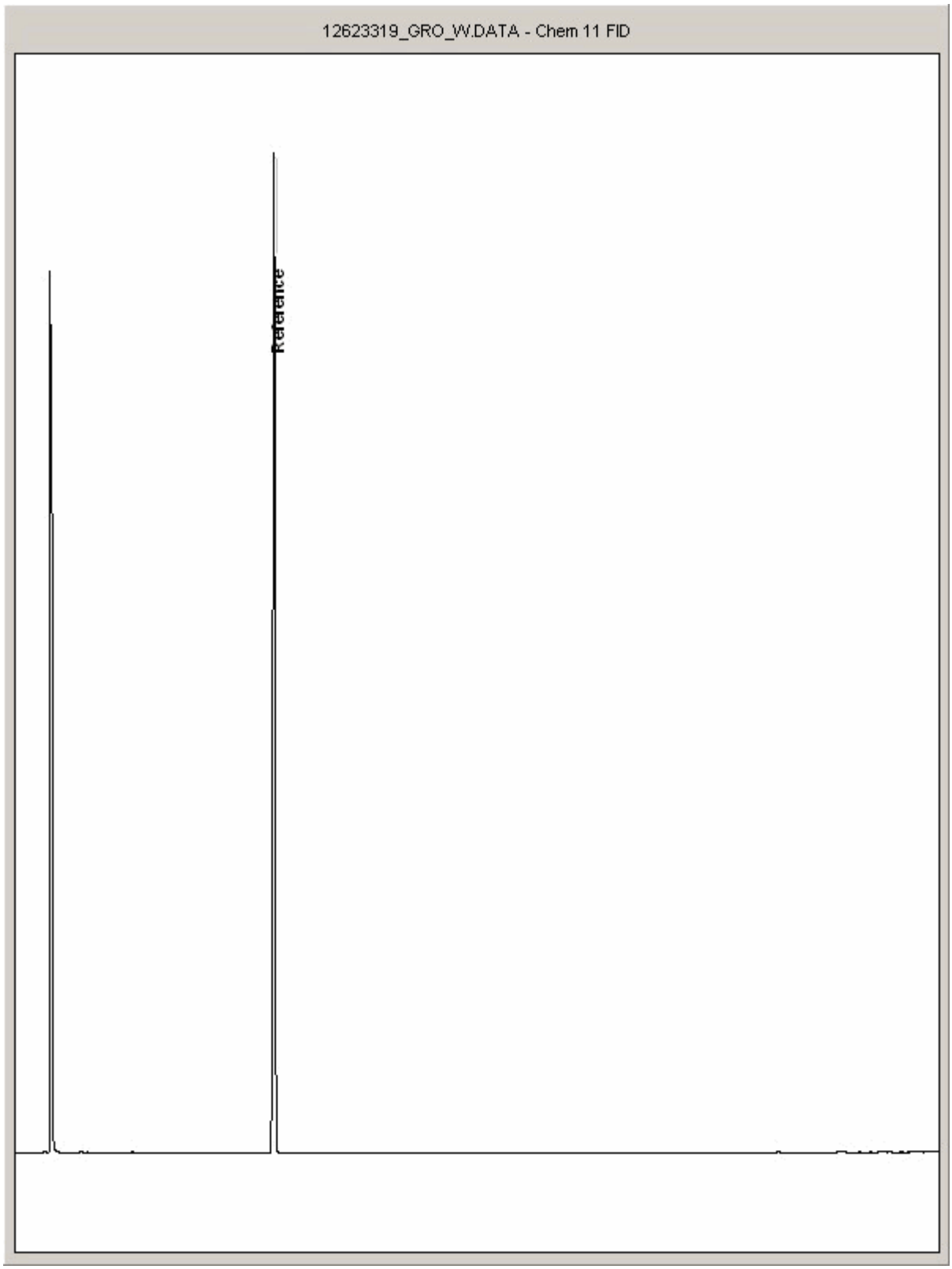
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623319
Sample ID : BH40A

Depth :



CERTIFICATE OF ANALYSIS

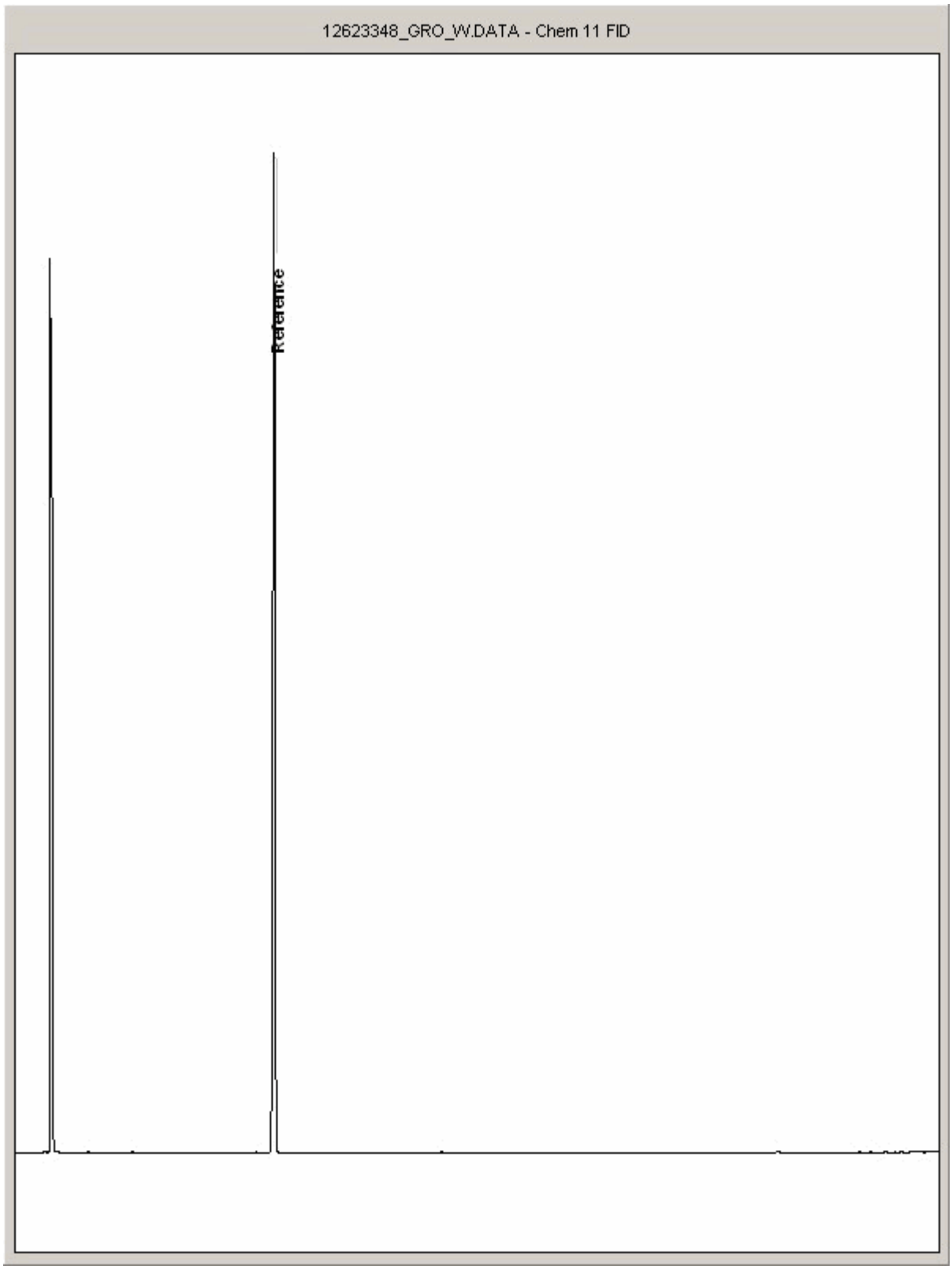
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623348
Sample ID : BH44

Depth :



CERTIFICATE OF ANALYSIS

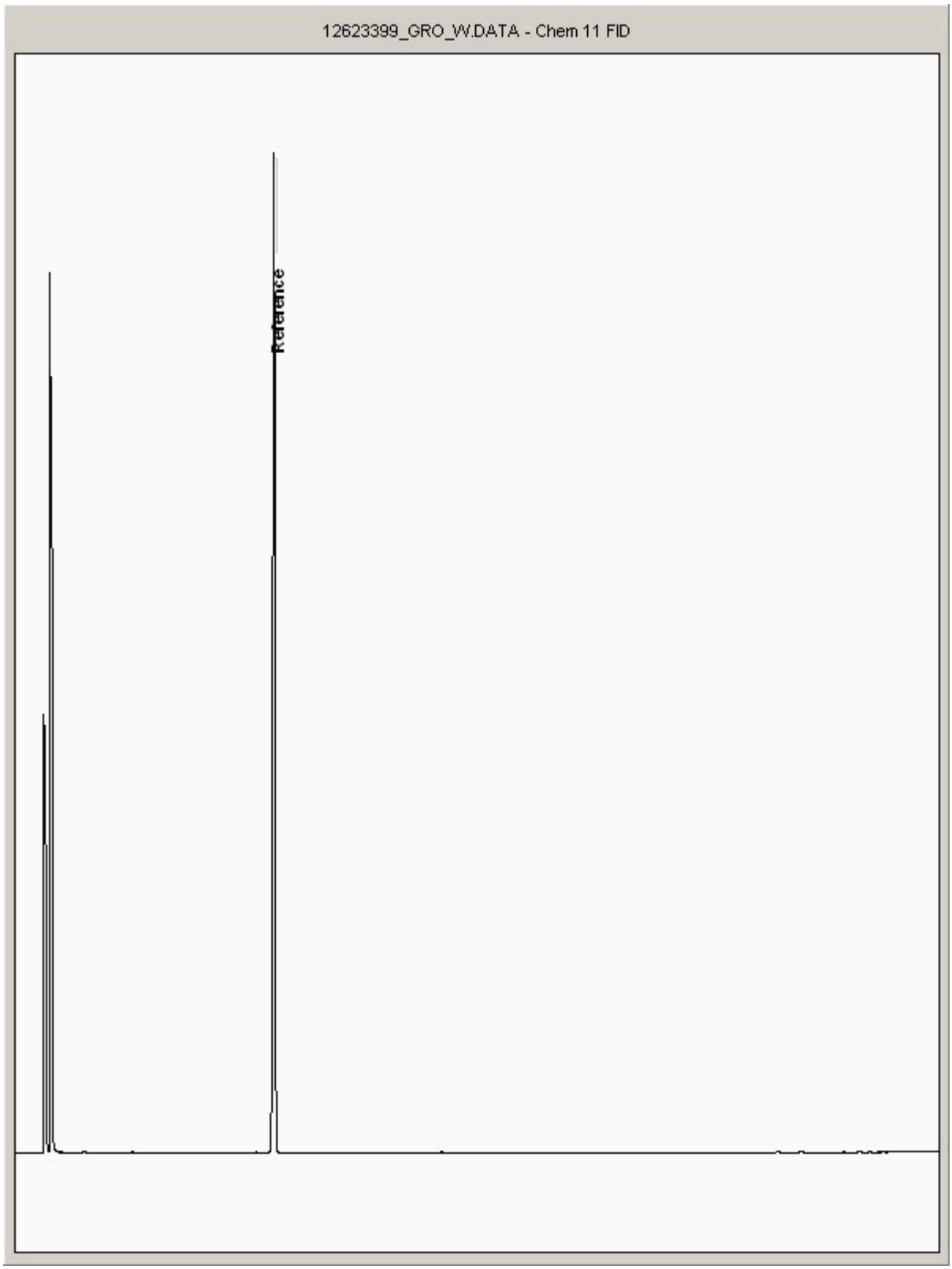
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623399
Sample ID : MW03

Depth :



CERTIFICATE OF ANALYSIS

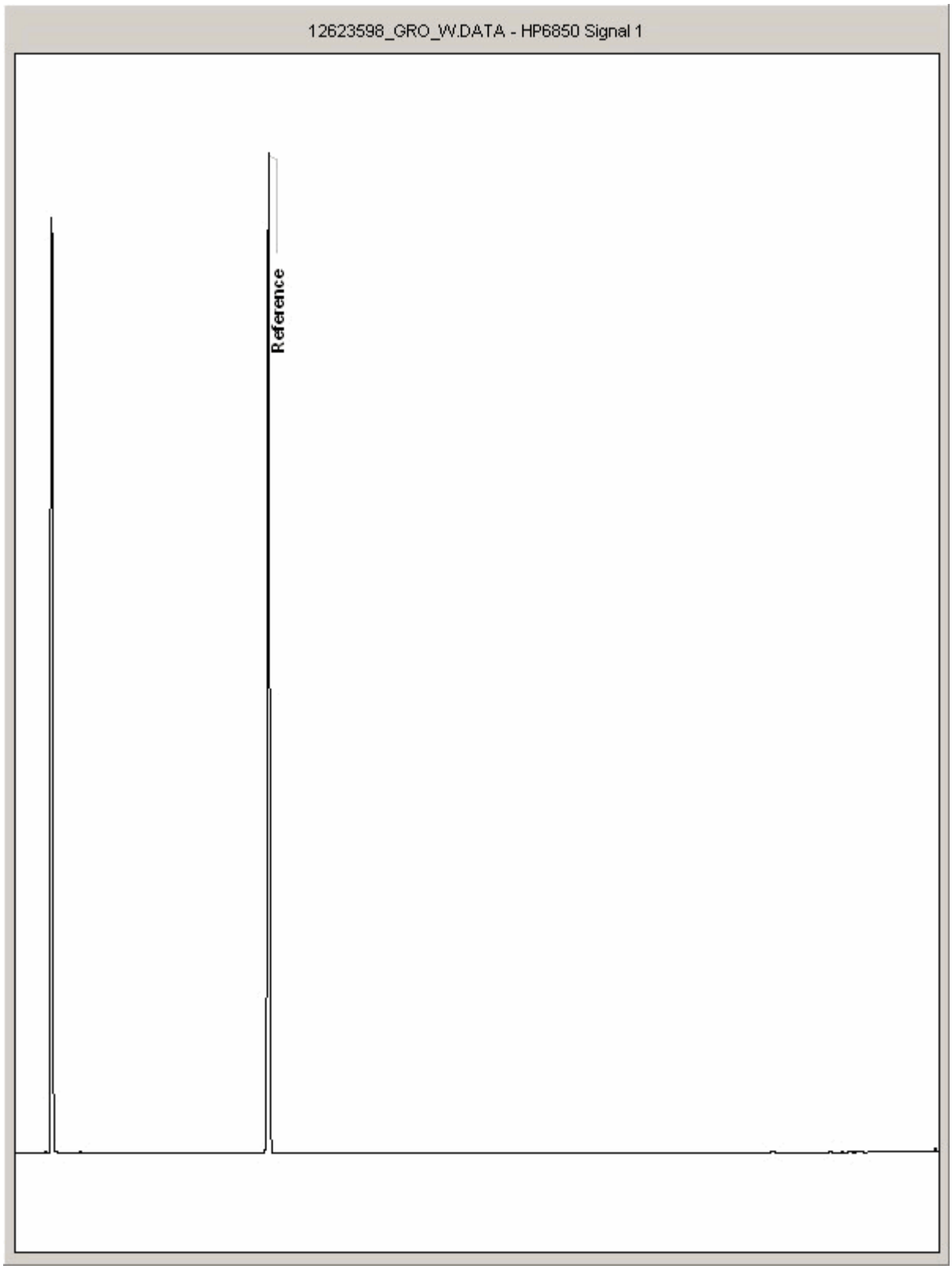
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623598
Sample ID : BH63A

Depth :



CERTIFICATE OF ANALYSIS

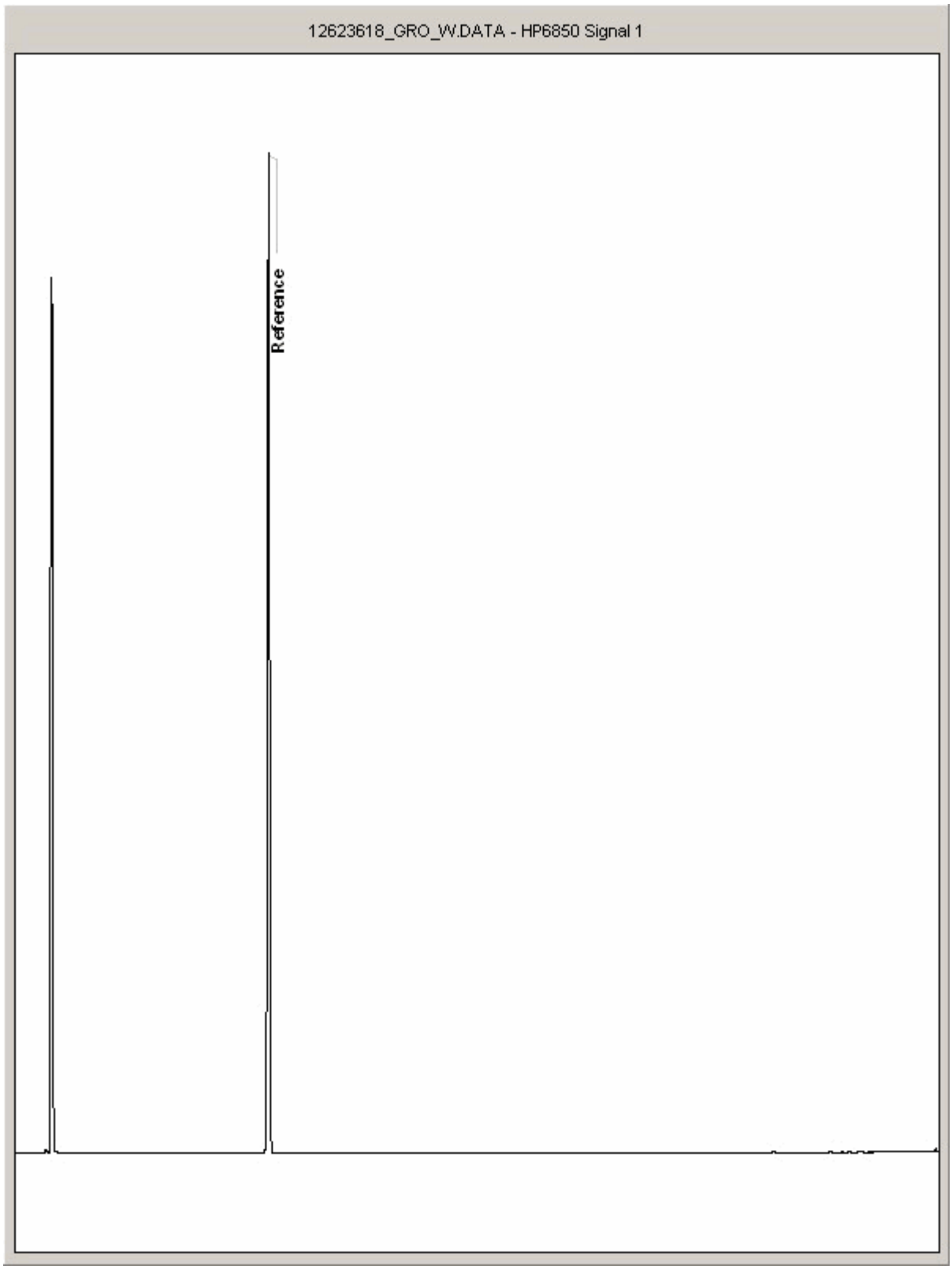
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623618
Sample ID : BH45B

Depth :



CERTIFICATE OF ANALYSIS

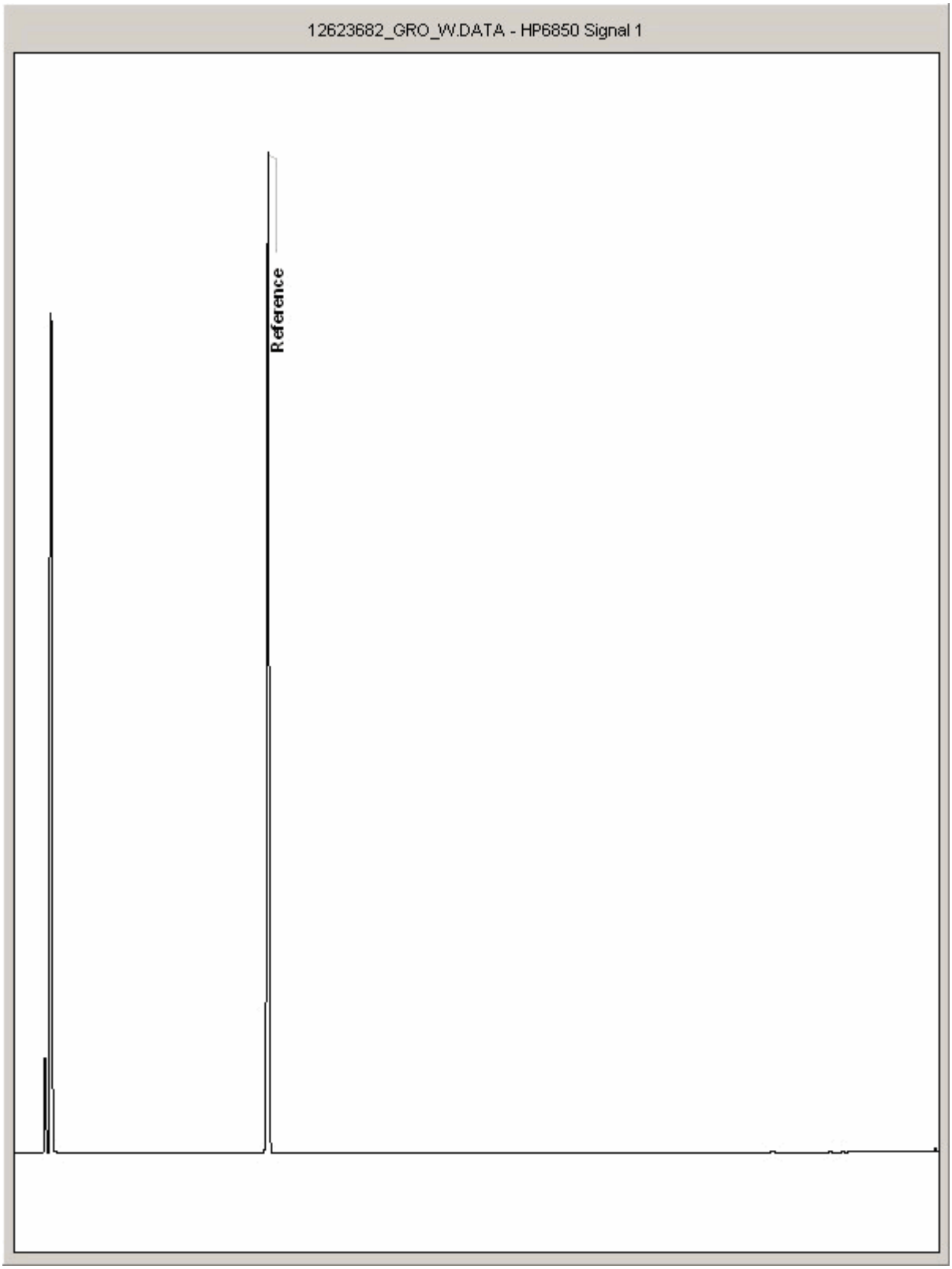
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623682
Sample ID : BH06

Depth :



CERTIFICATE OF ANALYSIS

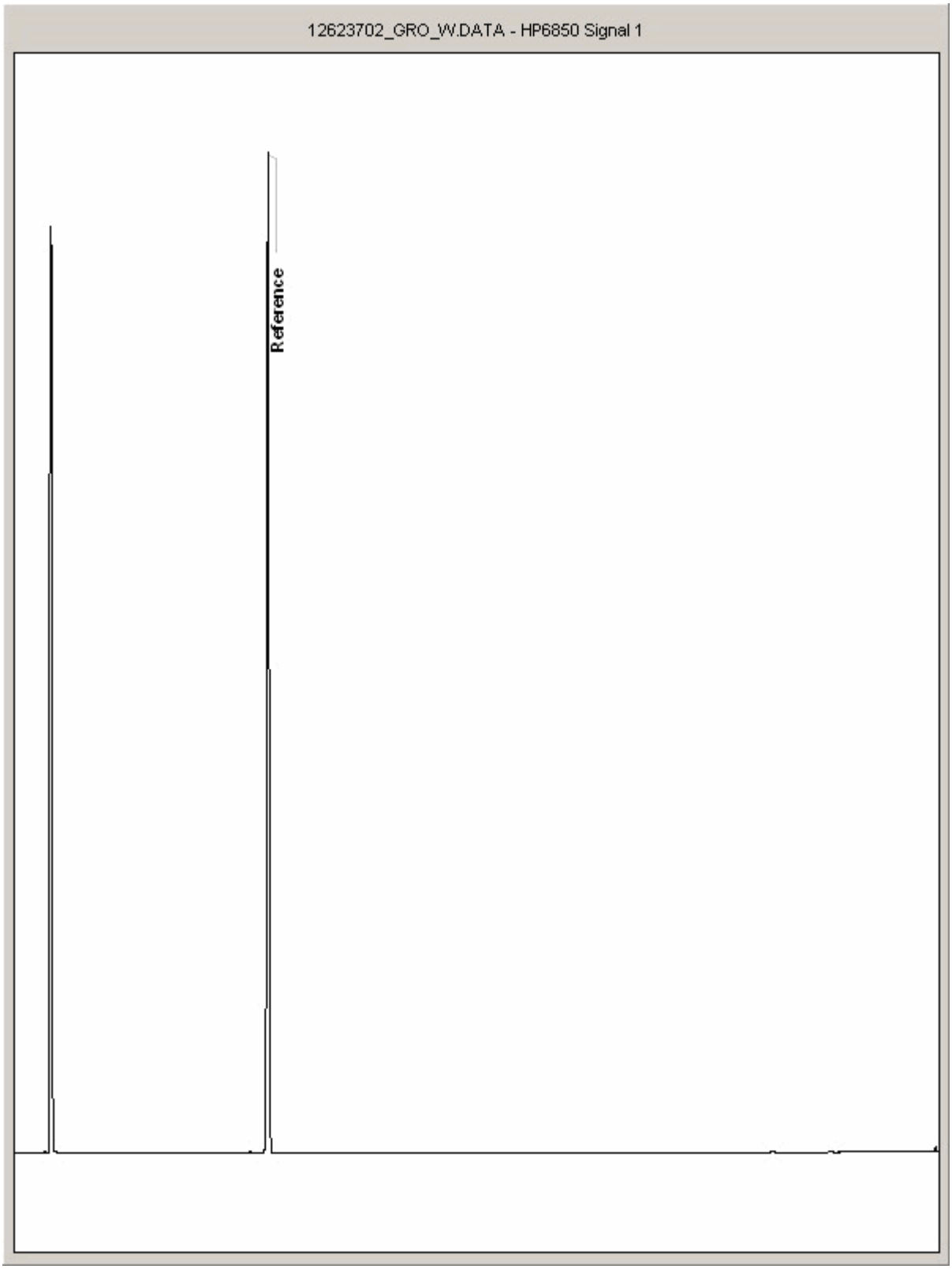
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623702
Sample ID : MW01

Depth :



CERTIFICATE OF ANALYSIS

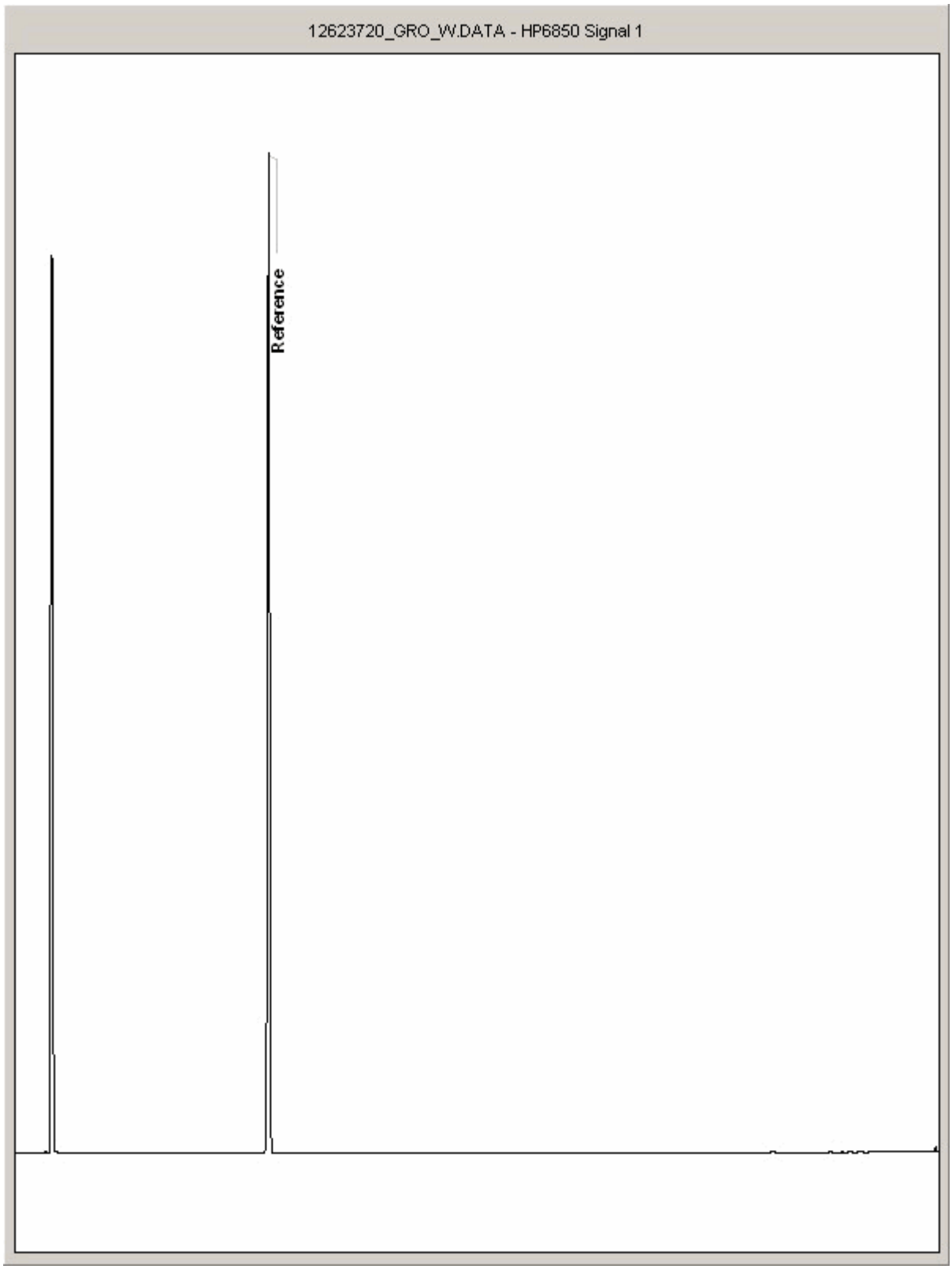
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623720
Sample ID : BH34B

Depth :



CERTIFICATE OF ANALYSIS

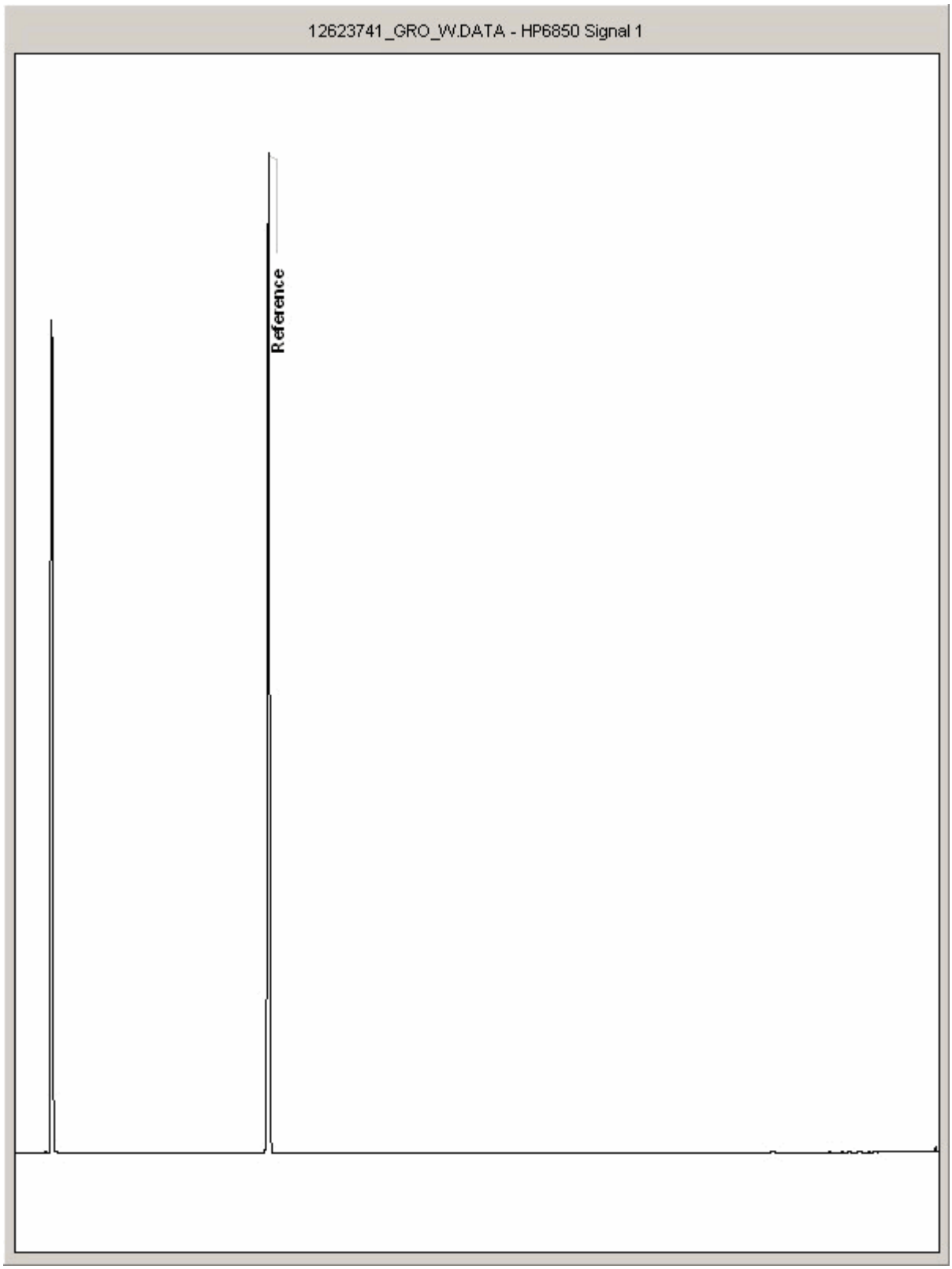
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623741
Sample ID : BH43

Depth :



CERTIFICATE OF ANALYSIS

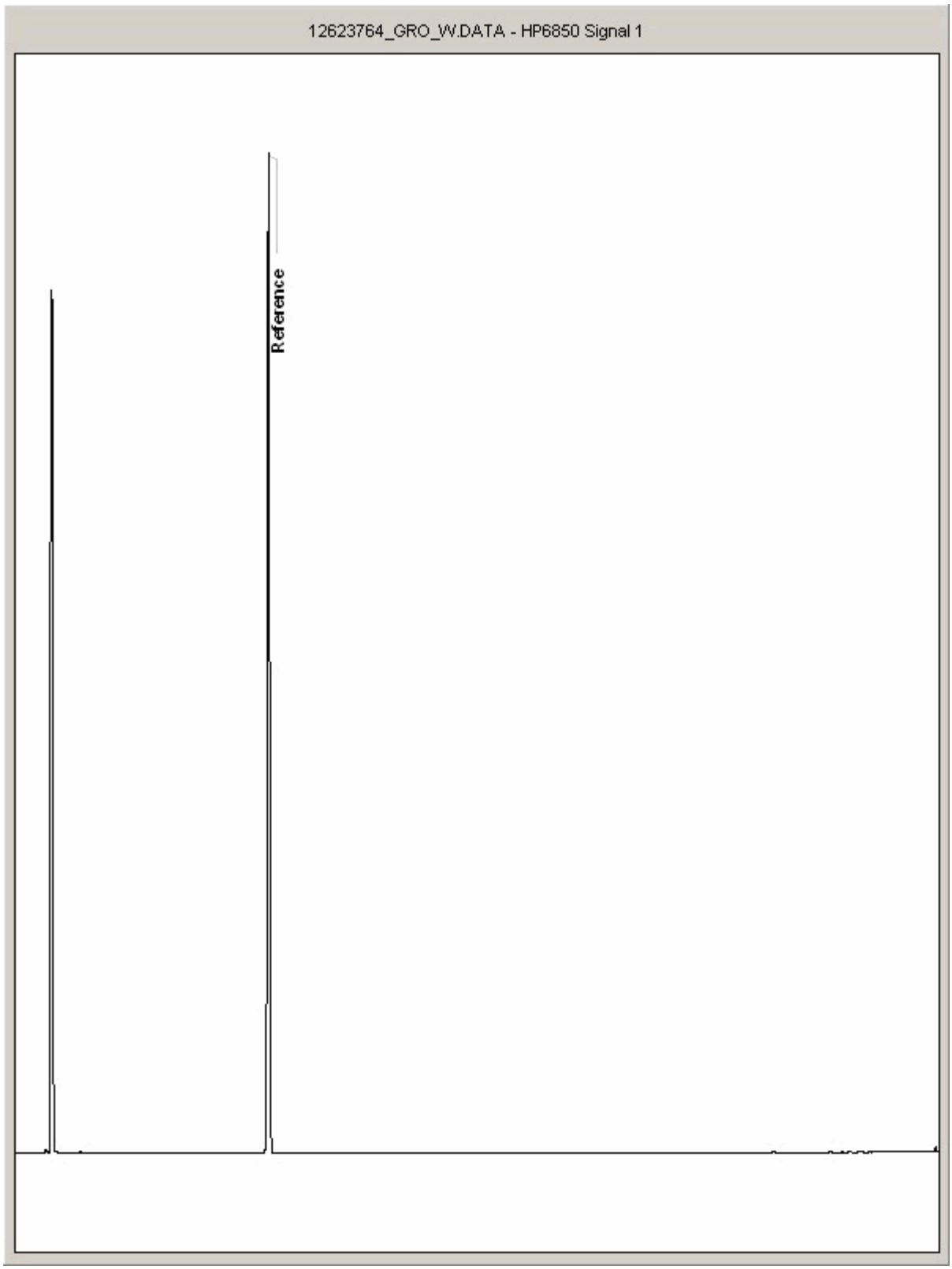
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623764
Sample ID : BH30A

Depth :



CERTIFICATE OF ANALYSIS

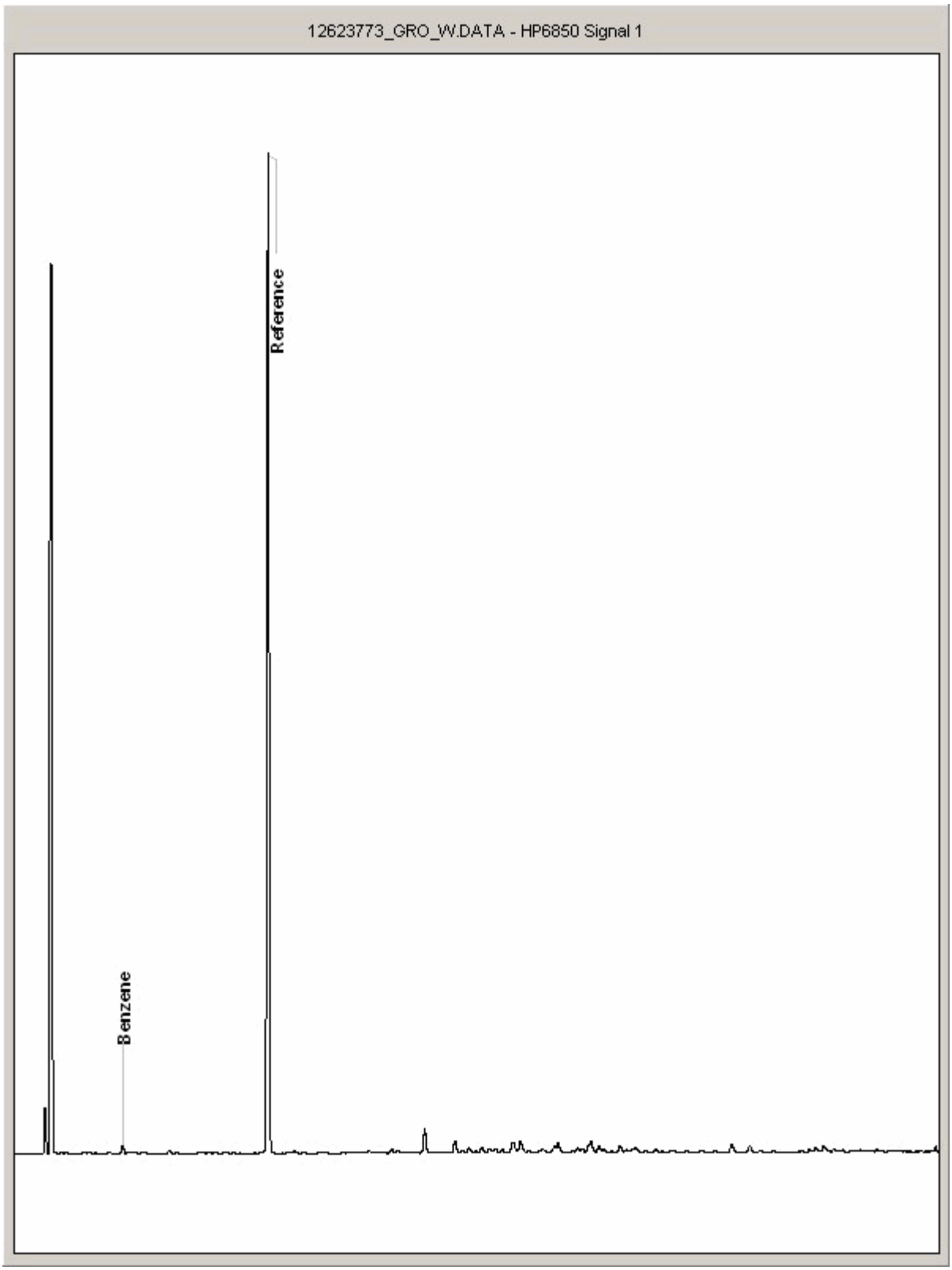
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623773
Sample ID : BH42A

Depth :



CERTIFICATE OF ANALYSIS

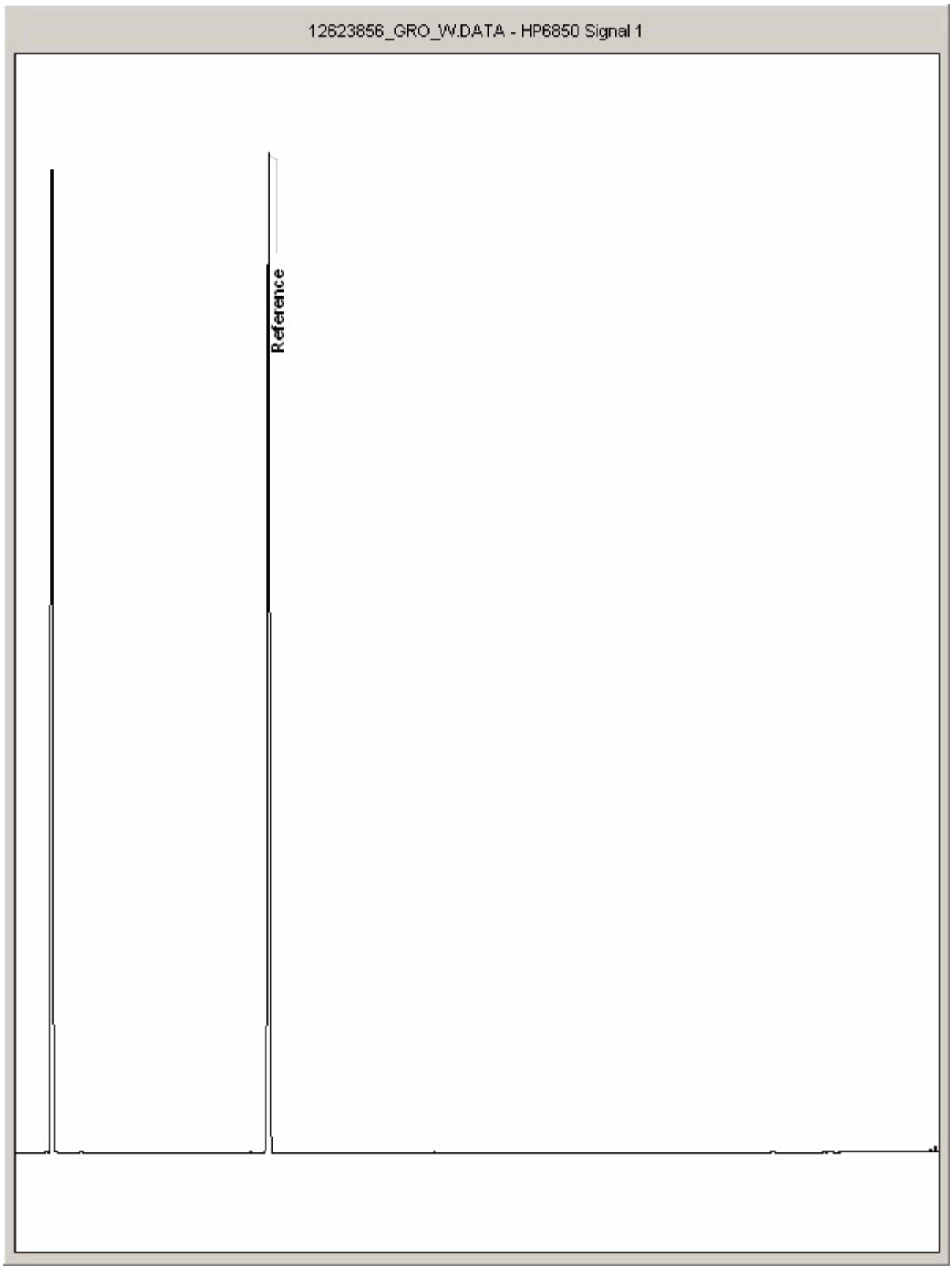
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12623856
Sample ID : BHG2B

Depth :



CERTIFICATE OF ANALYSIS

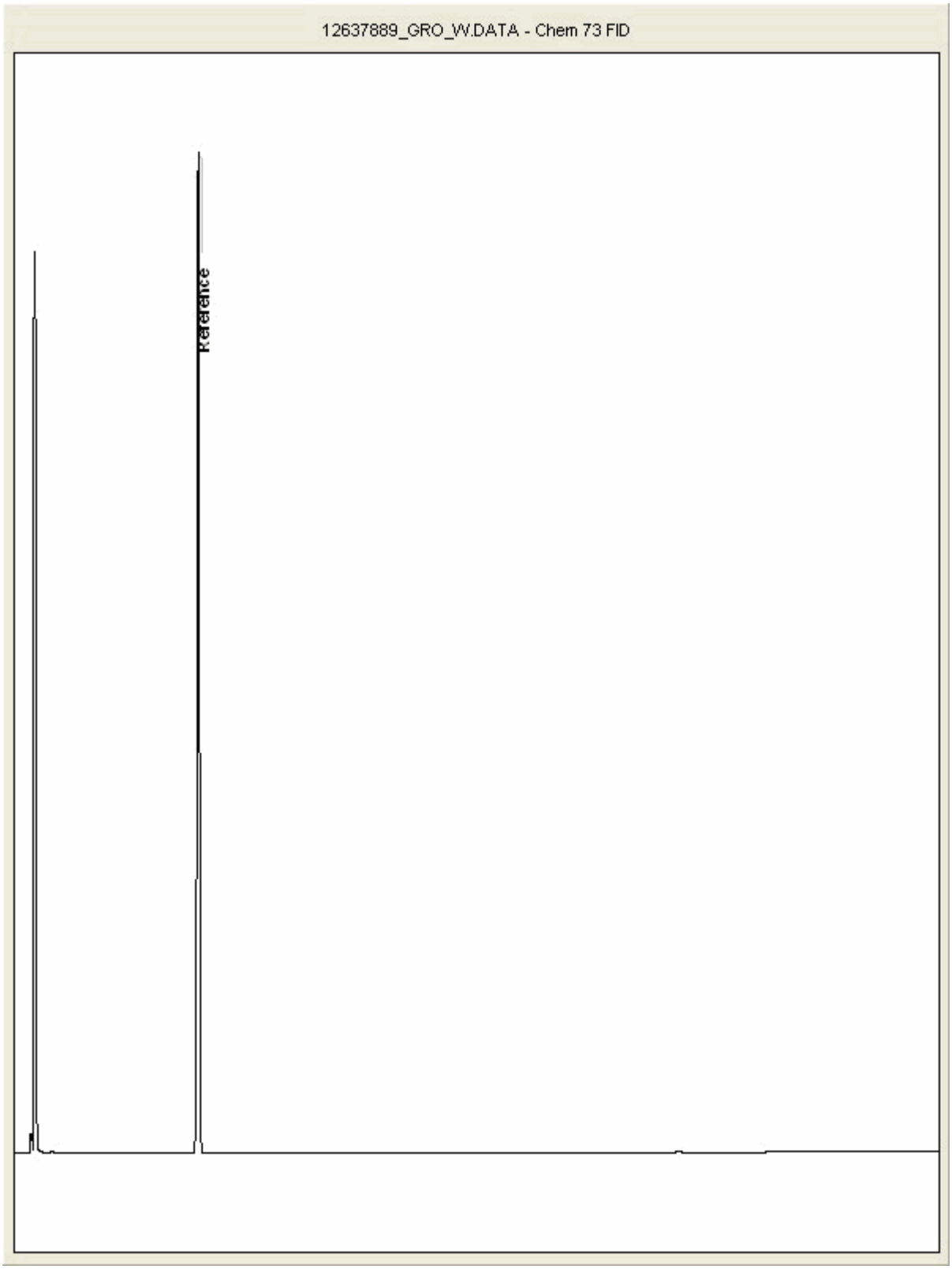
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12637889
Sample ID : BH41A

Depth :



CERTIFICATE OF ANALYSIS

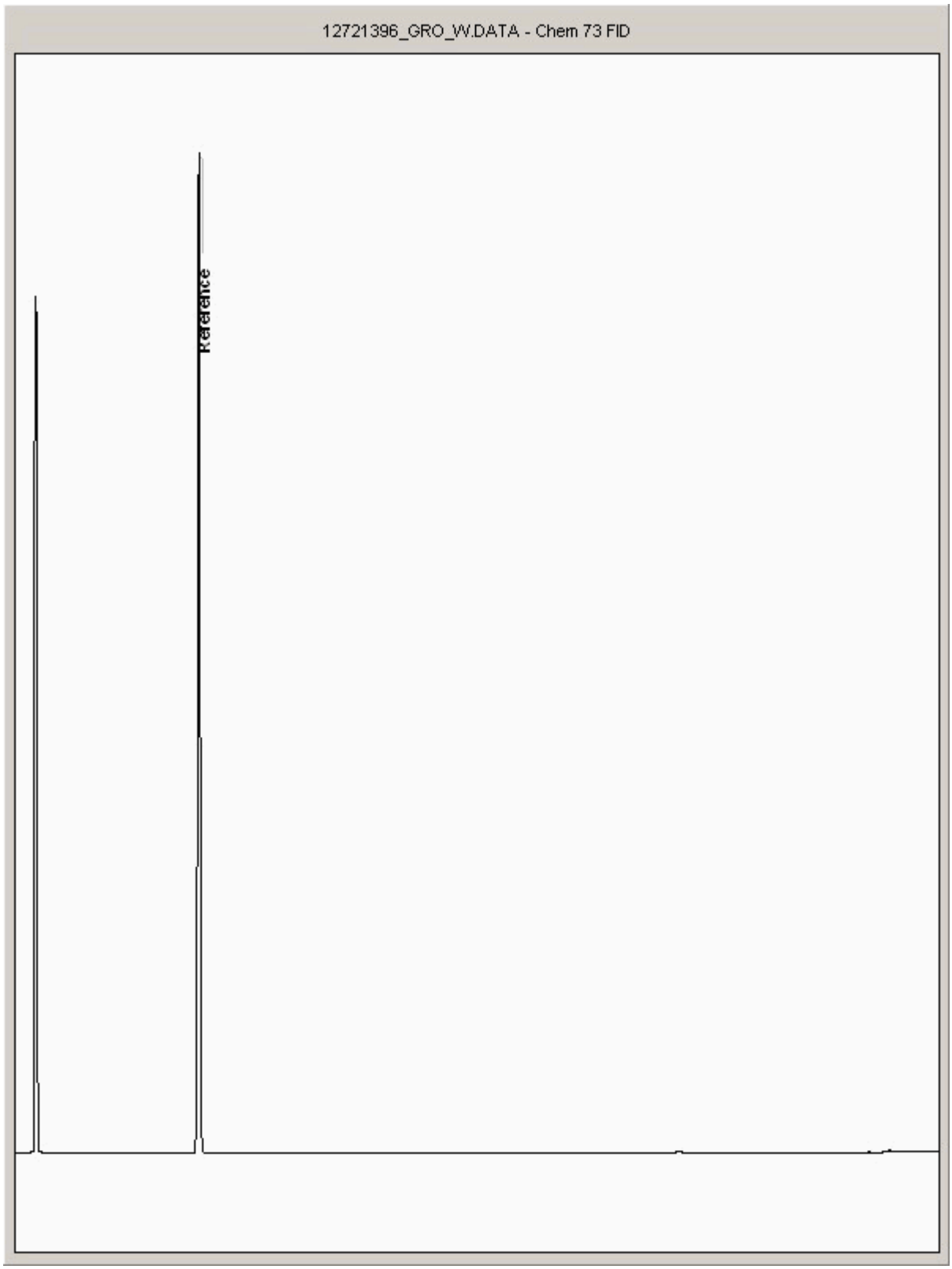
SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12721396
Sample ID : SPRING6

Depth :



CERTIFICATE OF ANALYSIS

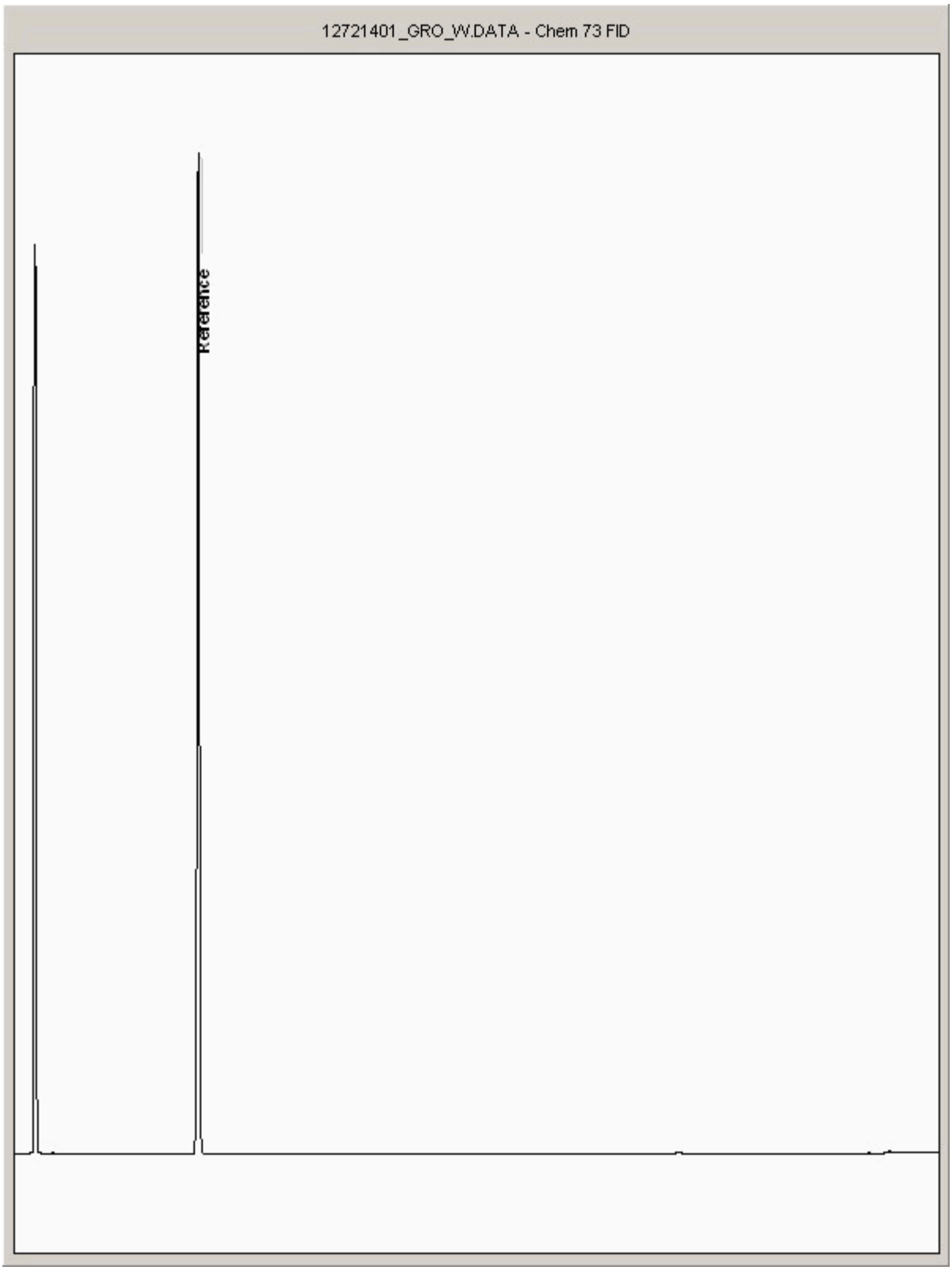
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12721401
Sample ID : SPRING5

Depth :



CERTIFICATE OF ANALYSIS

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH/MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/MS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/MS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC/MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC/MS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GC/MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC/MS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GC/MS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GC/MS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	151209-120	**Location:**	SHLNG	**Order Number:**	PO16-015
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	345055
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	342573

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt . However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment . Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect .

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than : - Trace - Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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RPS Consultants Ltd
2420 The Quadrant
Aztec West
Almondsbury
Bristol
BS32 4AQ

Attention: Adrian Green

CERTIFICATE OF ANALYSIS

Date:	22 January 2016
Customer:	H_RPS_ADB
Sample Delivery Group (SDG):	151212-70
Your Reference:	JER5575U
Location:	SHLNG
Report No:	346040

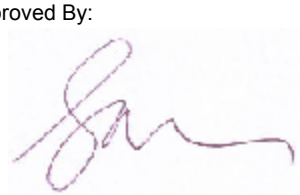
This report has been revised and directly supersedes 346039 in its entirety.

We received 9 samples on Saturday December 12, 2015 and 9 of these samples were scheduled for analysis which was completed on Friday January 22, 2016. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
12633188	BH19		0.00 - 0.00	09/12/2015
12633189	BH26		0.00 - 0.00	09/12/2015
12633191	BH49		0.00 - 0.00	10/12/2015
12633192	BH50		0.00 - 0.00	10/12/2015
12633193	BH55		0.00 - 0.00	09/12/2015
12633196	BH99		0.00 - 0.00	10/12/2015
12633190	BH47A		0.00 - 0.00	10/12/2015
12633195	BH61A		0.00 - 0.00	10/12/2015
12633194	BH60B		0.00 - 0.00	10/12/2015

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			12633188	BH19		0.00 - 0.00	1000ml glass bottle
			12633188	BH19		0.00 - 0.00	Vial (ALE297)
			12633189	BH26		0.00 - 0.00	1000ml glass bottle
			12633189	BH26		0.00 - 0.00	Vial (ALE297)
			12633191	BH49		0.00 - 0.00	1000ml glass bottle
			12633191	BH49		0.00 - 0.00	Vial (ALE297)
			12633192	BH50		0.00 - 0.00	1000ml glass bottle
			12633192	BH50		0.00 - 0.00	Vial (ALE297)
			12633193	BH55		0.00 - 0.00	1000ml glass bottle
			12633193	BH55		0.00 - 0.00	Vial (ALE297)
			12633196	BH99		0.00 - 0.00	1000ml glass bottle
			12633196	BH99		0.00 - 0.00	Vial (ALE297)
			12633190	BH47A		0.00 - 0.00	1000ml glass bottle
			12633190	BH47A		0.00 - 0.00	Vial (ALE297)
			12633195	BH61A		0.00 - 0.00	1000ml glass bottle
			12633195	BH61A		0.00 - 0.00	Vial (ALE297)
			12633194	BH60B		0.00 - 0.00	1000ml glass bottle
			12633194	BH60B		0.00 - 0.00	Vial (ALE297)
EPH (DRO) (C10-C40) Aqueous (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
GRO by GC-FID (W)	All	NDPs: 0 Tests: 9	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 1	X															

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH19	BH26	BH49	BH50	BH55	BH99
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	09/12/2015	09/12/2015	10/12/2015	10/12/2015	09/12/2015	10/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	12/12/2015	12/12/2015	12/12/2015	12/12/2015	12/12/2015	12/12/2015
			SDG Ref	151212-70	151212-70	151212-70	151212-70	151212-70	151212-70
			Lab Sample No.(s)	12633188	12633189	12633191	12633192	12633193	12633196
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		113 #	110 #	246 #	2420 #	111 #	164 #
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		<10	110	<10	51.6	111	<10
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		113	<10	246	2370	<10	164

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH47A	BH61A	BH60B			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	10/12/2015	10/12/2015	10/12/2015			
			Sampled Time	.	.	.			
			Date Received	12/12/2015	12/12/2015	12/12/2015			
			SDG Ref	151212-70	151212-70	151212-70			
			Lab Sample No.(s)	12633190	12633195	12633194			
			AGS Reference						
EPH Range >C10 - C40 (aq)	<46 µg/l	TM172		204 #	1190 #	140 #			
EPH Band >C21-C35 (aq)	<10 µg/l	TM172		204	215	140			
EPH Band >C10-C21 (aq)	<10 µg/l	TM172		<10	975	<10			

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

GRO by GC-FID (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH19	BH26	BH49	BH50	BH55	BH99
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)
			Date Sampled	09/12/2015	09/12/2015	10/12/2015	10/12/2015	09/12/2015	10/12/2015
			Sampled Time	.	.	.	.	.	.
			Date Received	12/12/2015	12/12/2015	12/12/2015	12/12/2015	12/12/2015	12/12/2015
			SDG Ref	151212-70	151212-70	151212-70	151212-70	151212-70	151212-70
			Lab Sample No.(s)	12633188	12633189	12633191	12633192	12633193	12633196
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	<10	<10	14	<10	<10
GRO >C6-C8	<10 µg/l	TM245		<10	<10	<10	106	<10	<10
GRO >C8-C10	<10 µg/l	TM245		<10	<10	<10	1850	<10	<10
GRO >C5-C10	<10 µg/l	TM245		<10	<10	<10	1970	<10	<10

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

GRO by GC-FID (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Component	LOD/Units	Method	Customer Sample R	BH47A	BH61A	BH60B			
			Depth (m)	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	10/12/2015	10/12/2015	10/12/2015			
			Sampled Time	.	.	.			
			Date Received	12/12/2015	12/12/2015	12/12/2015			
			SDG Ref	151212-70	151212-70	151212-70			
			Lab Sample No.(s)	12633190	12633195	12633194			
			AGS Reference						
GRO >C5-C6	<10 µg/l	TM245		<10	18	<10			
GRO >C6-C8	<10 µg/l	TM245		<10	993	<10			
GRO >C8-C10	<10 µg/l	TM245		<10	223	<10			
GRO >C5-C10	<10 µg/l	TM245		<10	1230	<10			

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed
1-5&+§@	Sample deviation (see appendix)

Customer Sample R	BH50								
Depth (m)	0.00 - 0.00								
Sample Type	Water(GW/SW)								
Date Sampled	10/12/2015								
Sampled Time	.								
Date Received	12/12/2015								
SDG Ref	151212-70								
Lab Sample No.(s)	12633192								
AGS Reference									
Component	**LOD/Units**	**Method**							
Naphthalene (aq)	<0.1 µg/l	TM178	<1 & #						
Acenaphthene (aq)	<0.015 µg/l	TM178	<0.15 & #						
Acenaphthylene (aq)	<0.011 µg/l	TM178	<0.11 & #						
Fluoranthene (aq)	<0.017 µg/l	TM178	<0.17 & #						
Anthracene (aq)	<0.015 µg/l	TM178	<0.15 & #						
Phenanthrene (aq)	<0.022 µg/l	TM178	<0.22 & #						
Fluorene (aq)	<0.014 µg/l	TM178	<0.14 & #						
Chrysene (aq)	<0.013 µg/l	TM178	<0.13 & #						
Pyrene (aq)	<0.015 µg/l	TM178	<0.15 & #						
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178	<0.17 & #						
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178	<0.23 & #						
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178	<0.27 & #						
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178	<0.09 & #						
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178	<0.16 & #						
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178	<0.16 & #						
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178	<0.14 & #						
PAH, Total Detected USEPA 16 (aq)	<0.344 µg/l	TM178	<3.44 &						

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM172	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	EPH in Waters		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM245	By GC-FID	Determination of GRO by Headspace in waters		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Test Completion Dates

Lab Sample No(s)	12633188	12633189	12633191	12633192	12633193	12633196	12633190	12633195	12633194
Customer Sample Ref.	BH19	BH26	BH49	BH50	BH55	BH99	BH47A	BH61A	BH60B
AGS Ref.									
Depth	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00	0.00 - 0.00
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
EPH (DRO) (C10-C40) Aqueous (W)	22-Jan-2016	22-Jan-2016	22-Jan-2016	22-Jan-2016	22-Jan-2016	22-Jan-2016	22-Jan-2016	22-Jan-2016	22-Jan-2016
GRO by GC-FID (W)	21-Jan-2016	21-Jan-2016	21-Jan-2016	21-Jan-2016	21-Jan-2016	21-Jan-2016	21-Jan-2016	21-Jan-2016	21-Jan-2016
PAH Spec MS - Aqueous (W)				13-Jan-2016					

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

ASSOCIATED AQC DATA

EPH (DRO) (C10-C40) Aqueous (W)

Component	Method Code	QC 1243	QC 1229	QC 1253	QC 1286
EPH (DRO) (C10-C40)	TM172	**91.5** 59.22 : 112.78	**97.0** 59.22 : 112.78	**83.5** 59.25 : 105.75	**85.5** 59.22 : 112.78

GRO by GC-FID (W)

Component	Method Code	QC 1218
Benzene by GC	TM245	**96.5** 77.50 : 122.50
Ethylbenzene by GC	TM245	**92.5** 77.50 : 122.50
m & p Xylene by GC	TM245	**91.5** 77.50 : 122.50
MTBE GC-FID	TM245	**94.5** 77.50 : 122.50
o Xylene by GC	TM245	**94.0** 77.50 : 122.50
QC	TM245	**84.89** 74.88 : 125.54
Toluene by GC	TM245	**95.0** 77.50 : 122.50

PAH Spec MS - Aqueous (W)

Component	Method Code	QC 1222
Acenaphthene by GCMS	TM178	**99.0** 88.78 : 115.50
Acenaphthylene by GCMS	TM178	**97.5** 85.27 : 110.71
Anthracene by GCMS	TM178	**96.0** 86.06 : 112.26
Benz(a)anthracene by GCMS	TM178	**100.0** 79.25 : 124.25
Benzo(a)pyrene by GCMS	TM178	**120.0** 83.10 : 128.10
Benzo(b)fluoranthene by GCMS	TM178	**130.0** 86.00 : 131.00
Benzo(ghi)perylene by GCMS	TM178	**80.0** 79.96 : 107.30
Benzo(k)fluoranthene by GCMS	TM178	**121.0** 87.50 : 132.50
Chrysene by GCMS	TM178	**101.5** 86.00 : 114.60
Dibenzo(ah)anthracene by GCMS	TM178	**77.0** 68.95 : 111.55
Fluoranthene by GCMS	TM178	**97.5** 81.15 : 116.55
Fluorene by GCMS	TM178	**101.0** 90.88 : 112.23

CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

PAH Spec MS - Aqueous (W)

		QC 1222
Indeno(123cd)pyrene by GCMS	TM178	**102.5** 82.25 : 114.75
Naphthalene by GCMS	TM178	**98.5** 92.00 : 113.00
Phenanthrene by GCMS	TM178	**100.5** 93.18 : 113.92
Pyrene by GCMS	TM178	**96.5** 82.25 : 116.15

The above information details the reference name of the analytical quality control sample (AQC) that has been run with the samples contained in this report for the different methods of analysis.
The figure detailed is the percentage recovery result for the AQC.
The subscript numbers below are the percentage recovery lower control limit (LCL) and the upper control limit (UCL). The percentage recovery result for the AQC should be between these limits to be statistically in control.

CERTIFICATE OF ANALYSIS

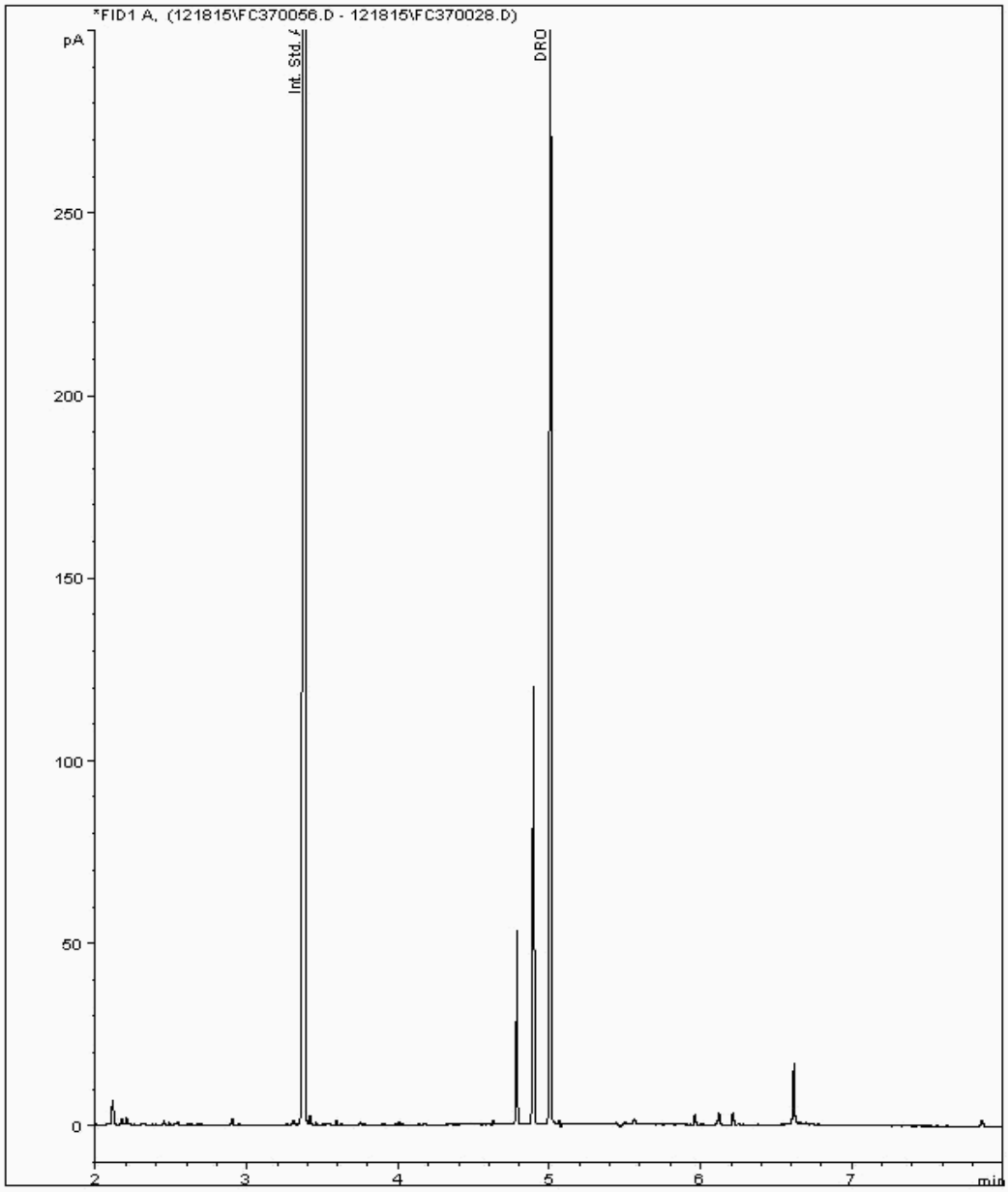
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 12646833 **Sample ID :** BH99 **Depth :** 0.00 - 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11937357-
Date Acquired : 19/12/2015 12:08:53 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

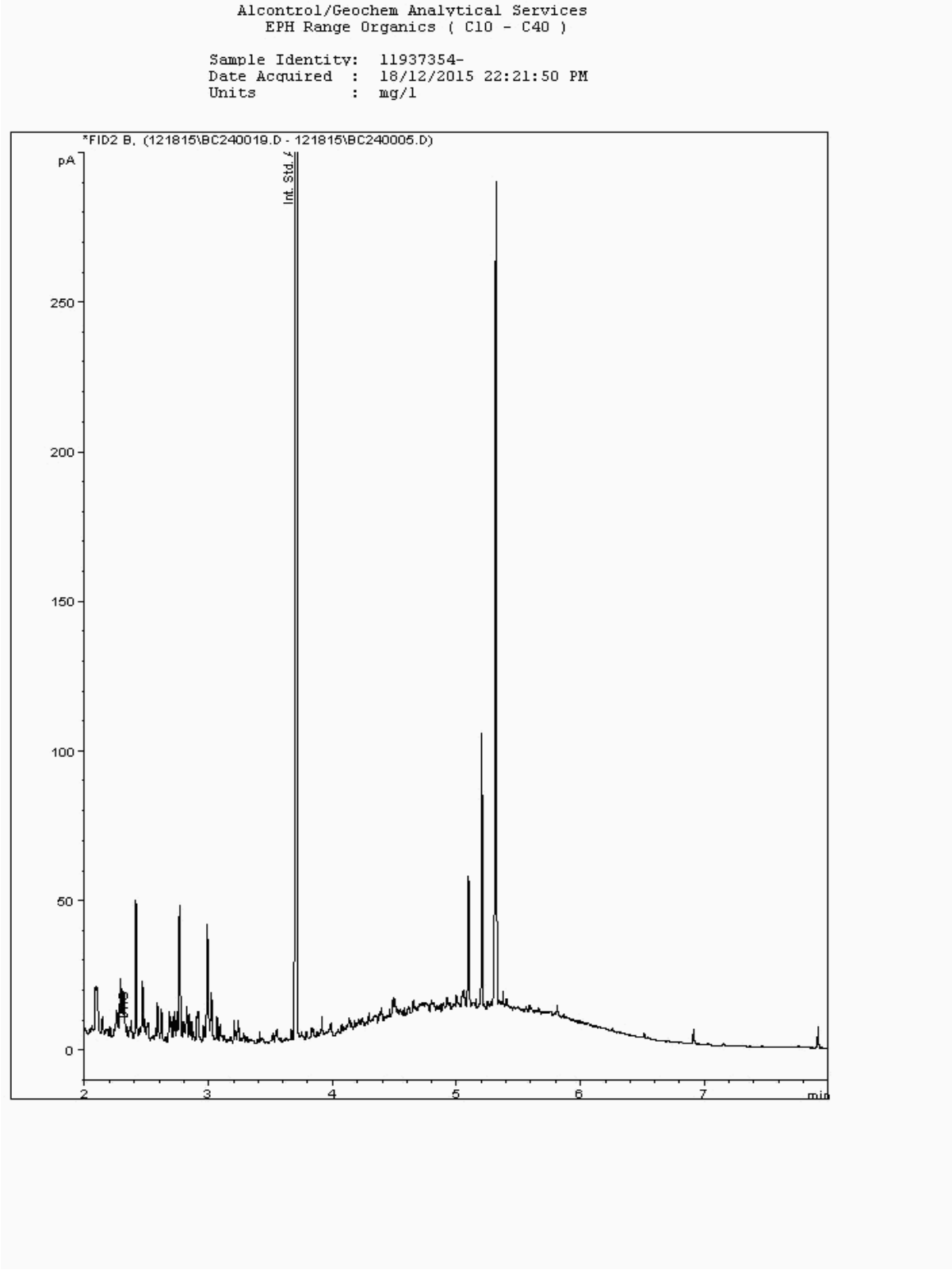
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12646872
Sample ID : BH61A

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

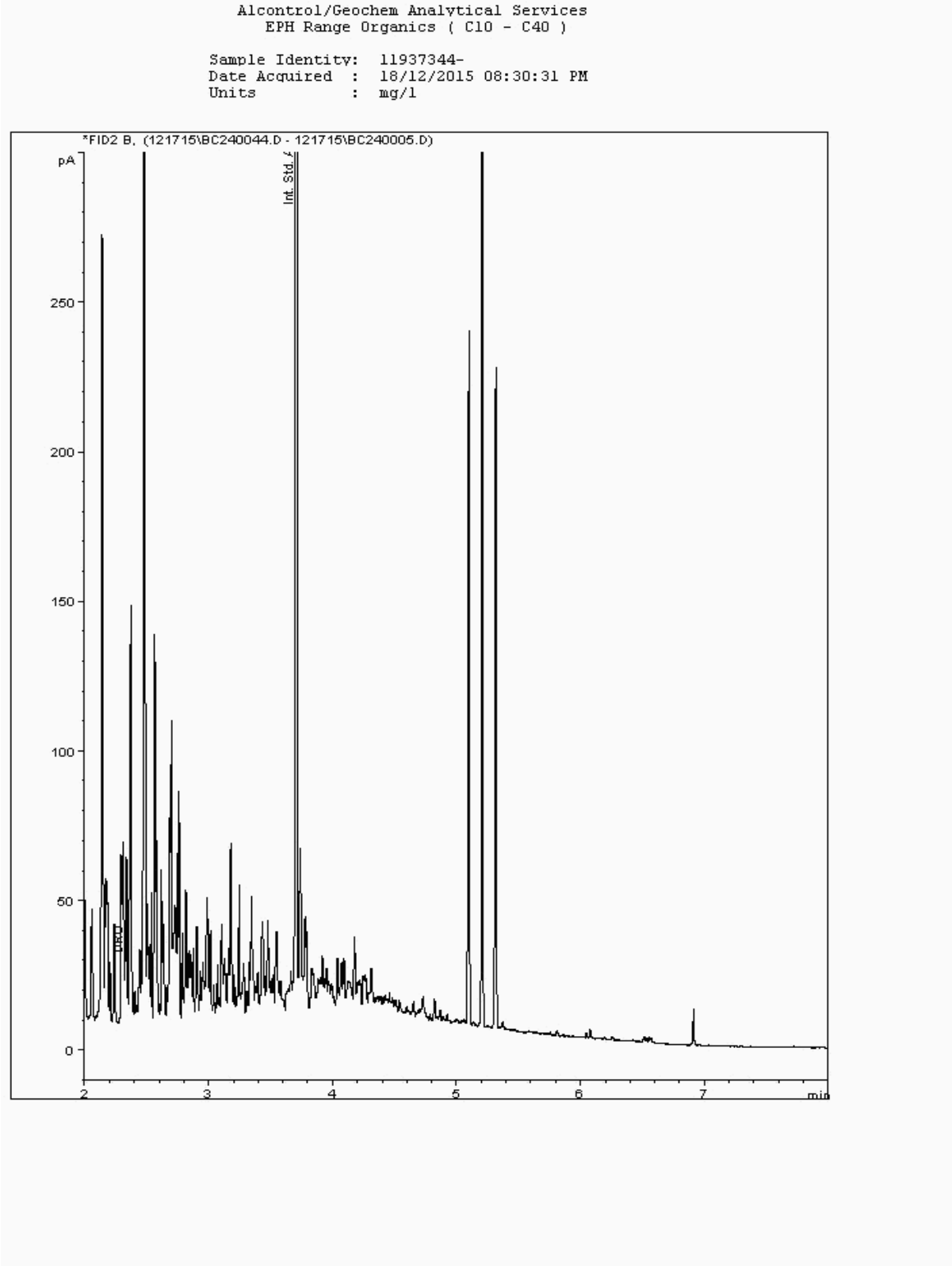
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12653398
Sample ID : BH50

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

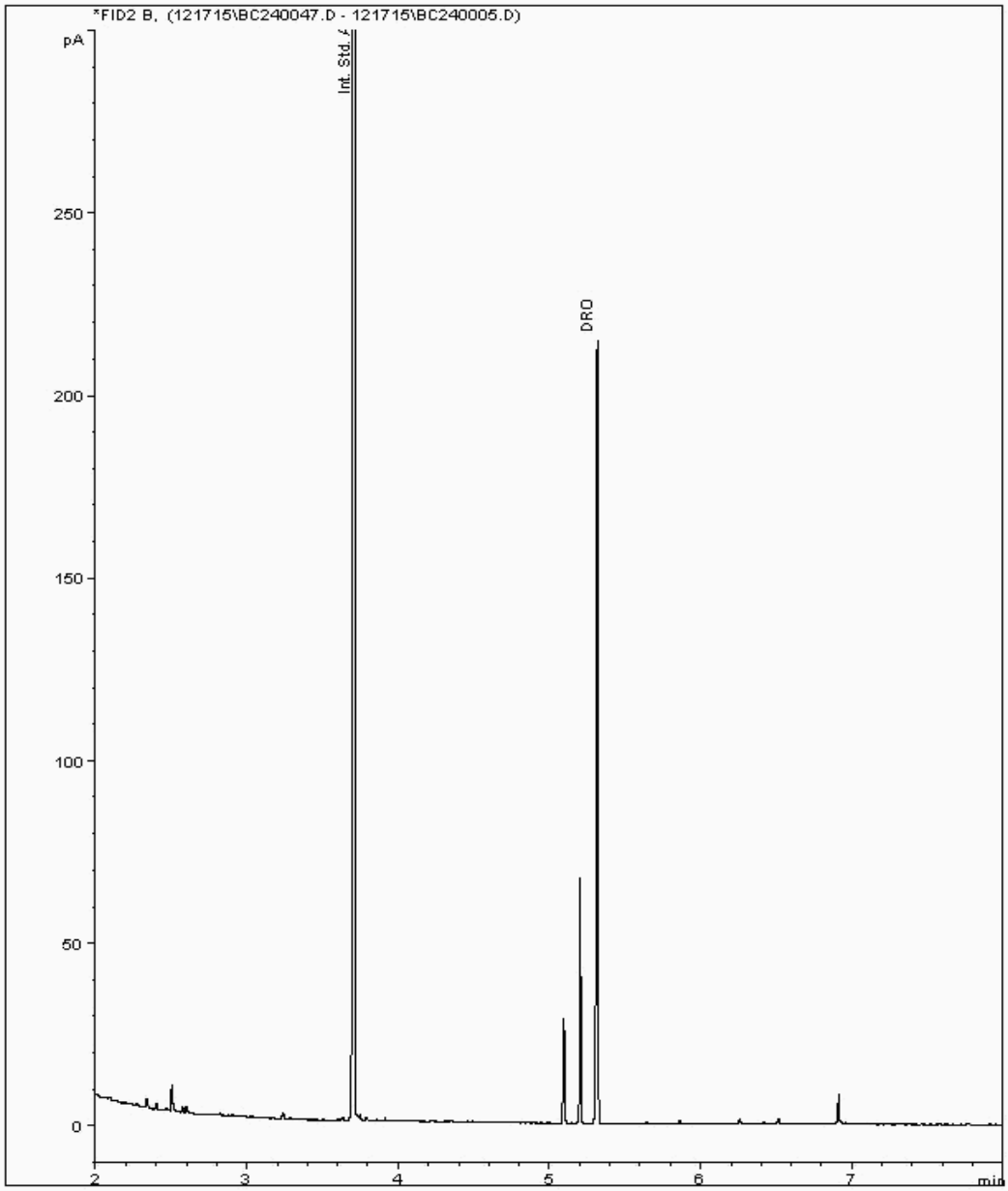
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12653416
Sample ID : BH55

Depth : 0.00 - 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11937348-
Date Acquired : 18/12/2015 09:36:42 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

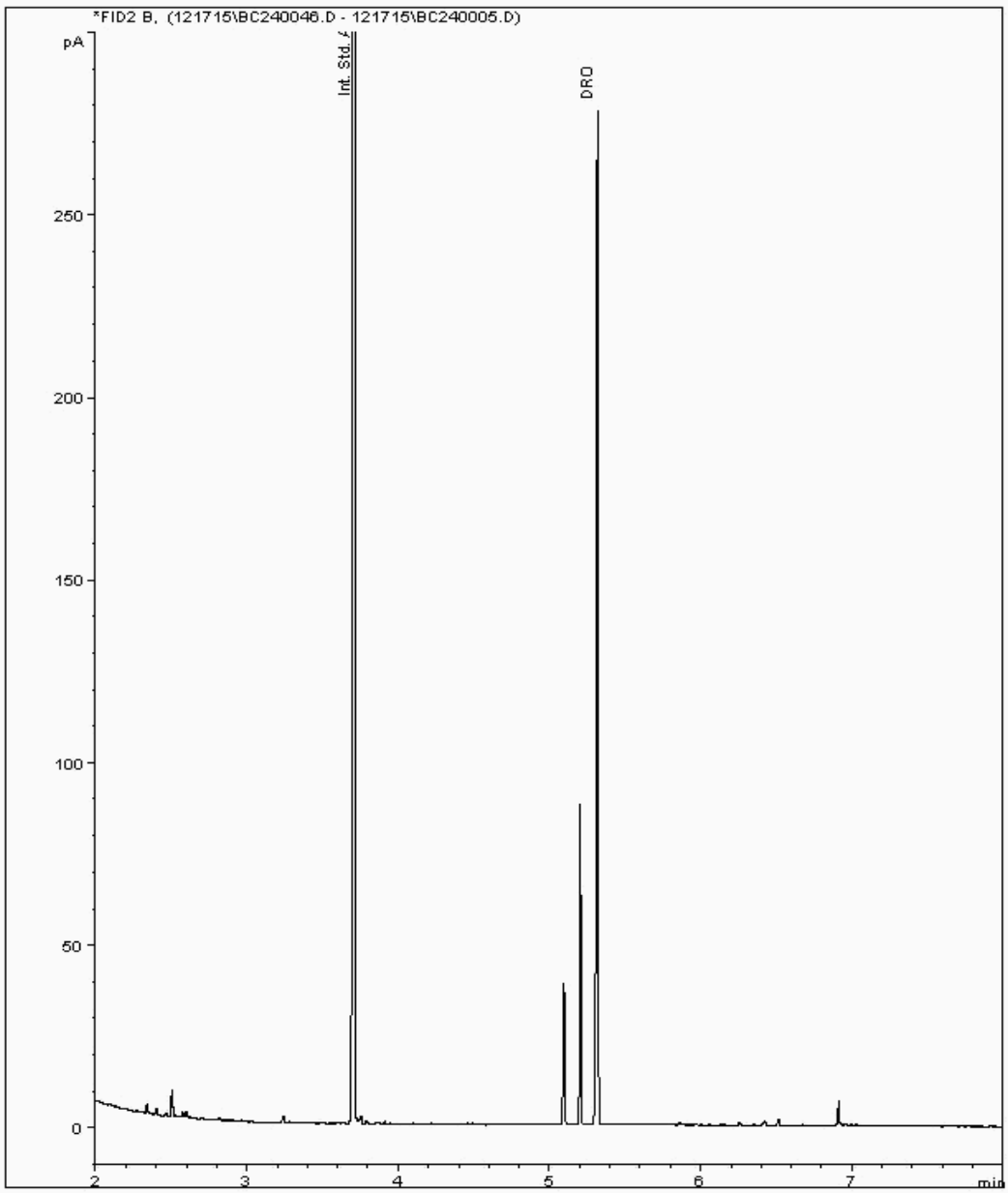
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12653420
Sample ID : BH60B

Depth : 0.00 - 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11937351-
Date Acquired : 18/12/2015 09:14:41 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

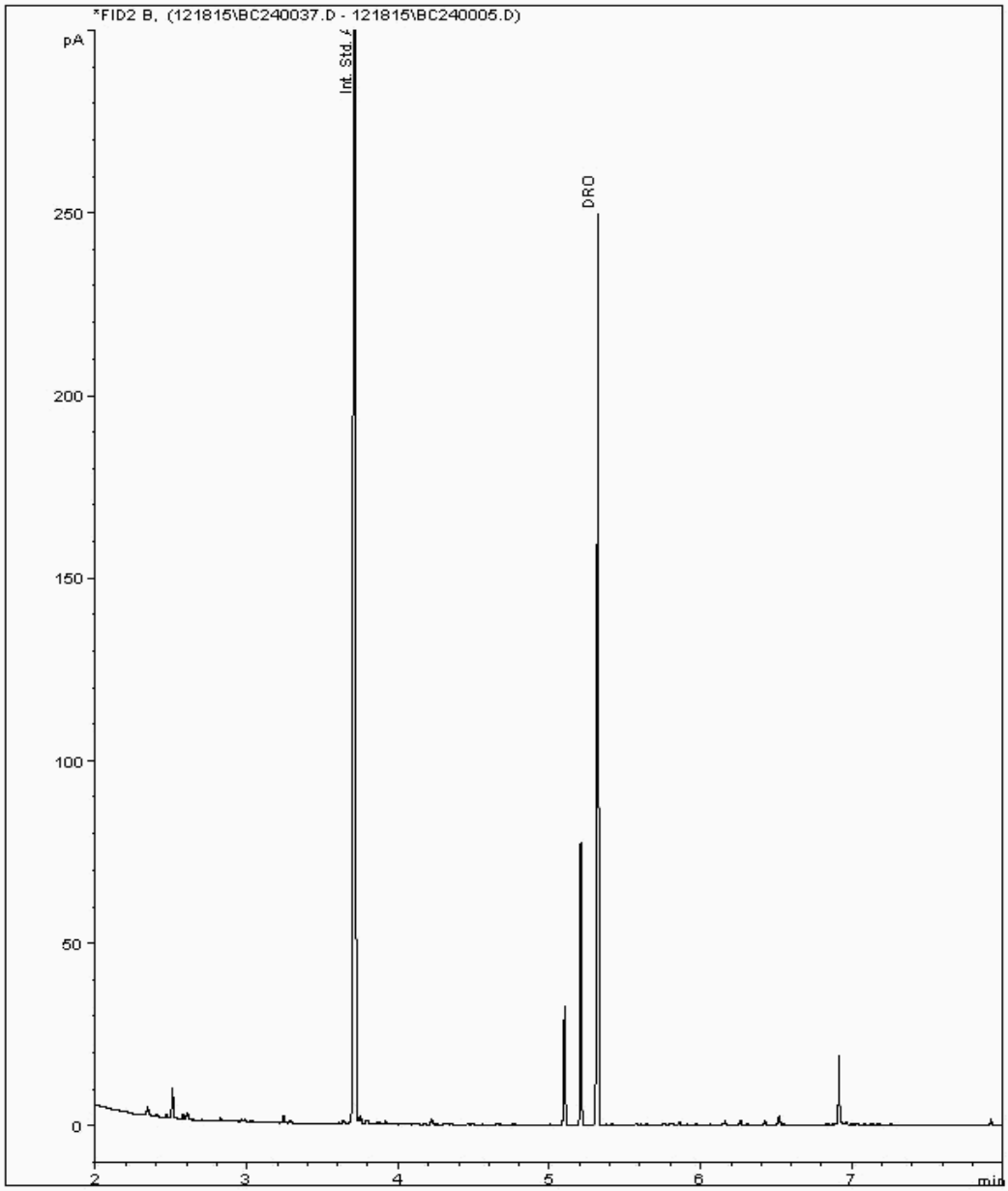
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 12653431 **Sample ID :** BH19 **Depth :** 0.00 - 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11937320-
Date Acquired : 19/12/2015 04:58:36 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

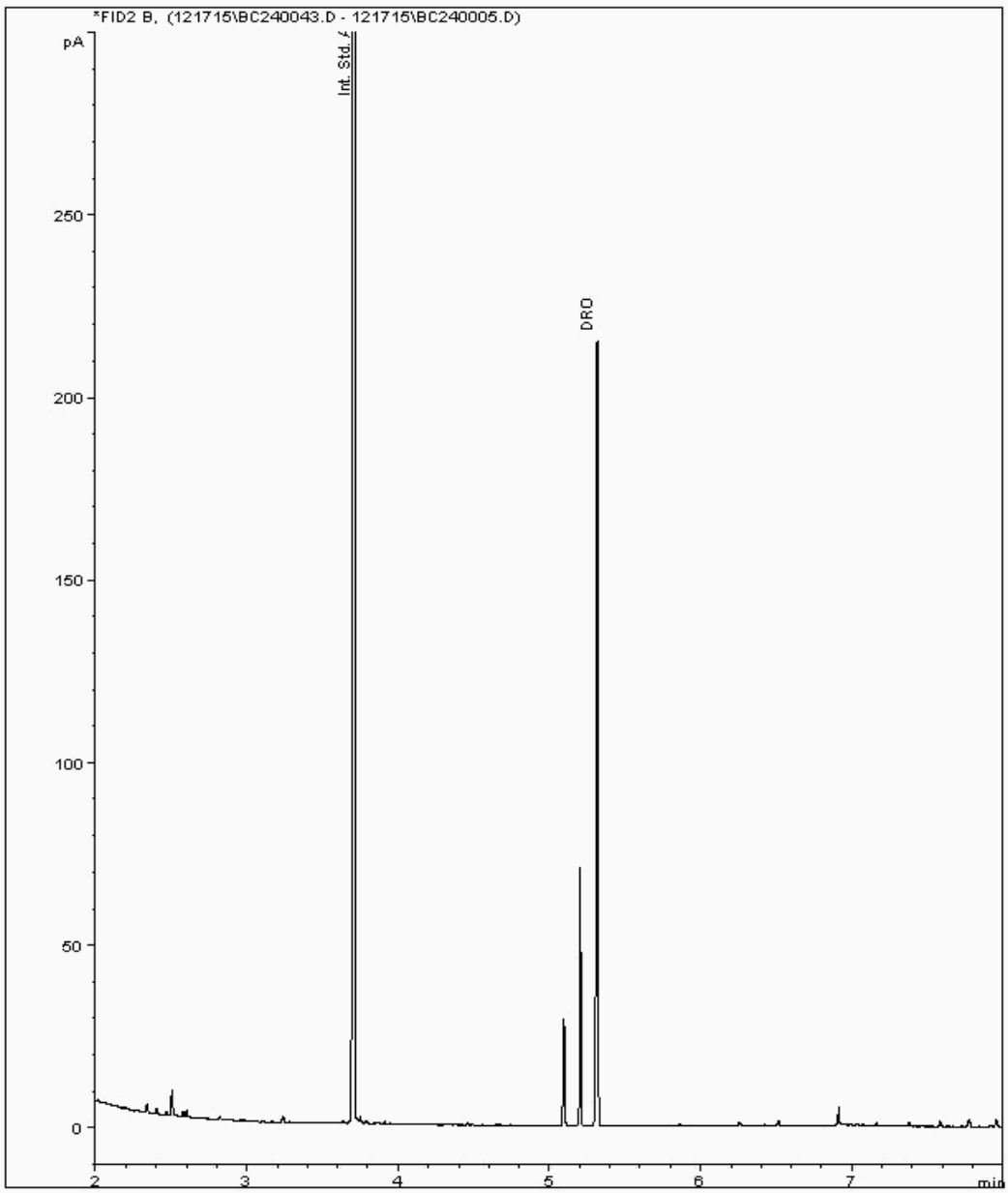
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: EPH (DRO) (C10-C40) Aqueous (W) **Sample No :** 12653437 **Sample ID :** BH26 **Depth :** 0.00 - 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11937333-
Date Acquired : 18/12/2015 08:08:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

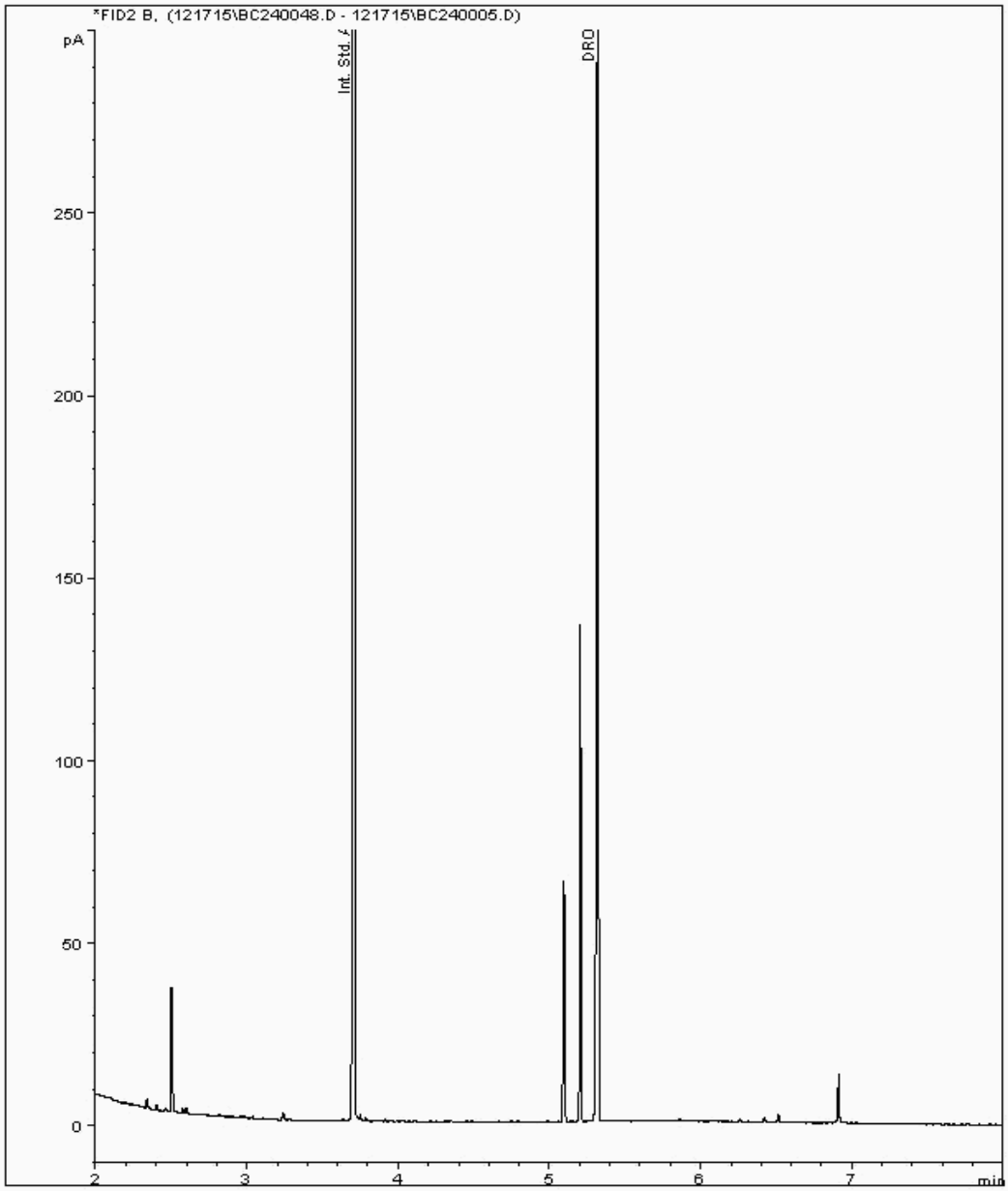
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12653445
Sample ID : BH47A

Depth : 0.00 - 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11937337-
Date Acquired : 18/12/2015 09:58:40 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
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Chromatogram

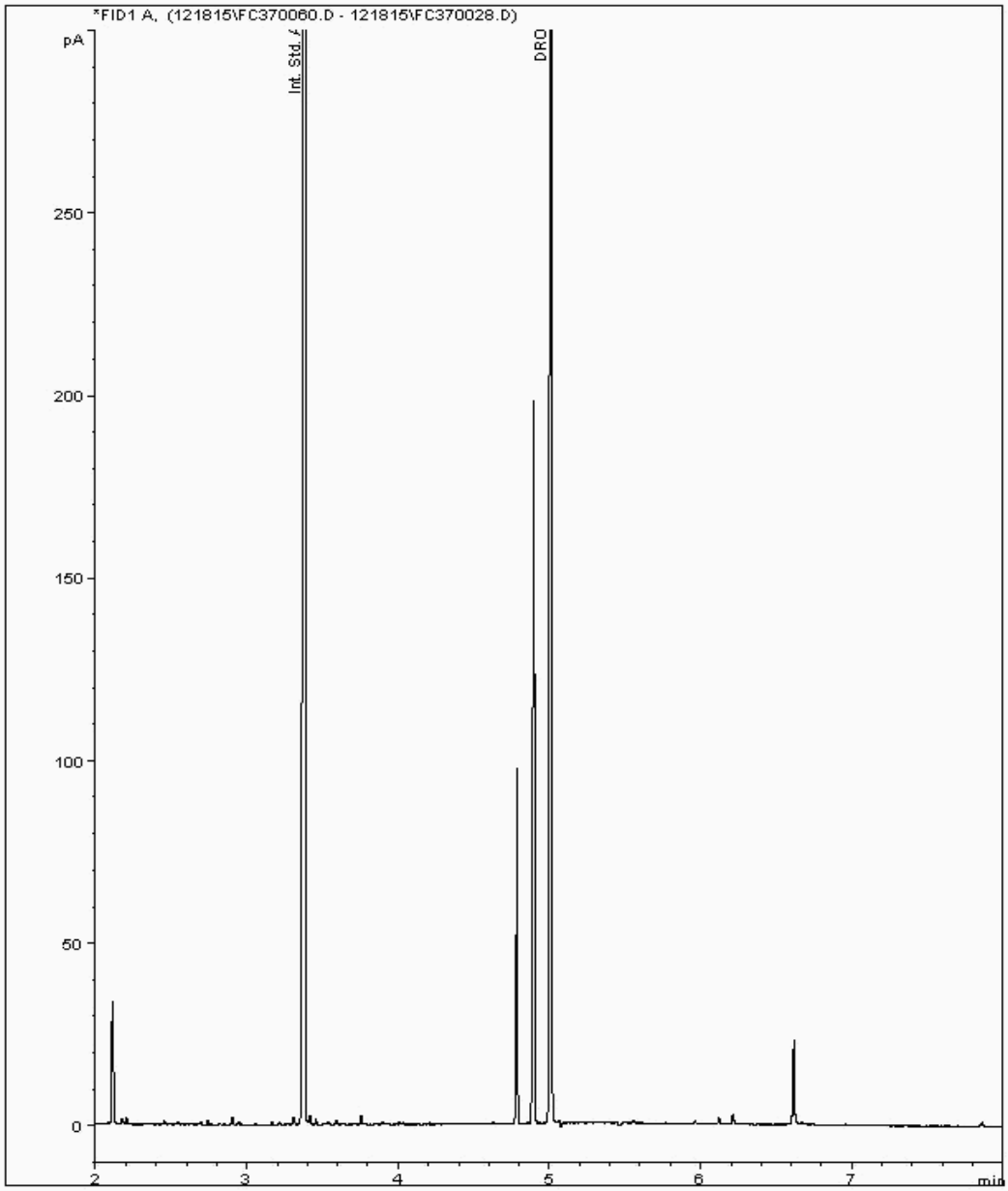
Analysis: EPH (DRO) (C10-C40) Aqueous (W)

Sample No : 12653471
Sample ID : BH49

Depth : 0.00 - 0.00

Alcontrol/Geochem Analytical Services
EPH Range Organics (C10 - C40)

Sample Identity: 11937341-
Date Acquired : 19/12/2015 13:35:48 PM
Units : mg/l



CERTIFICATE OF ANALYSIS

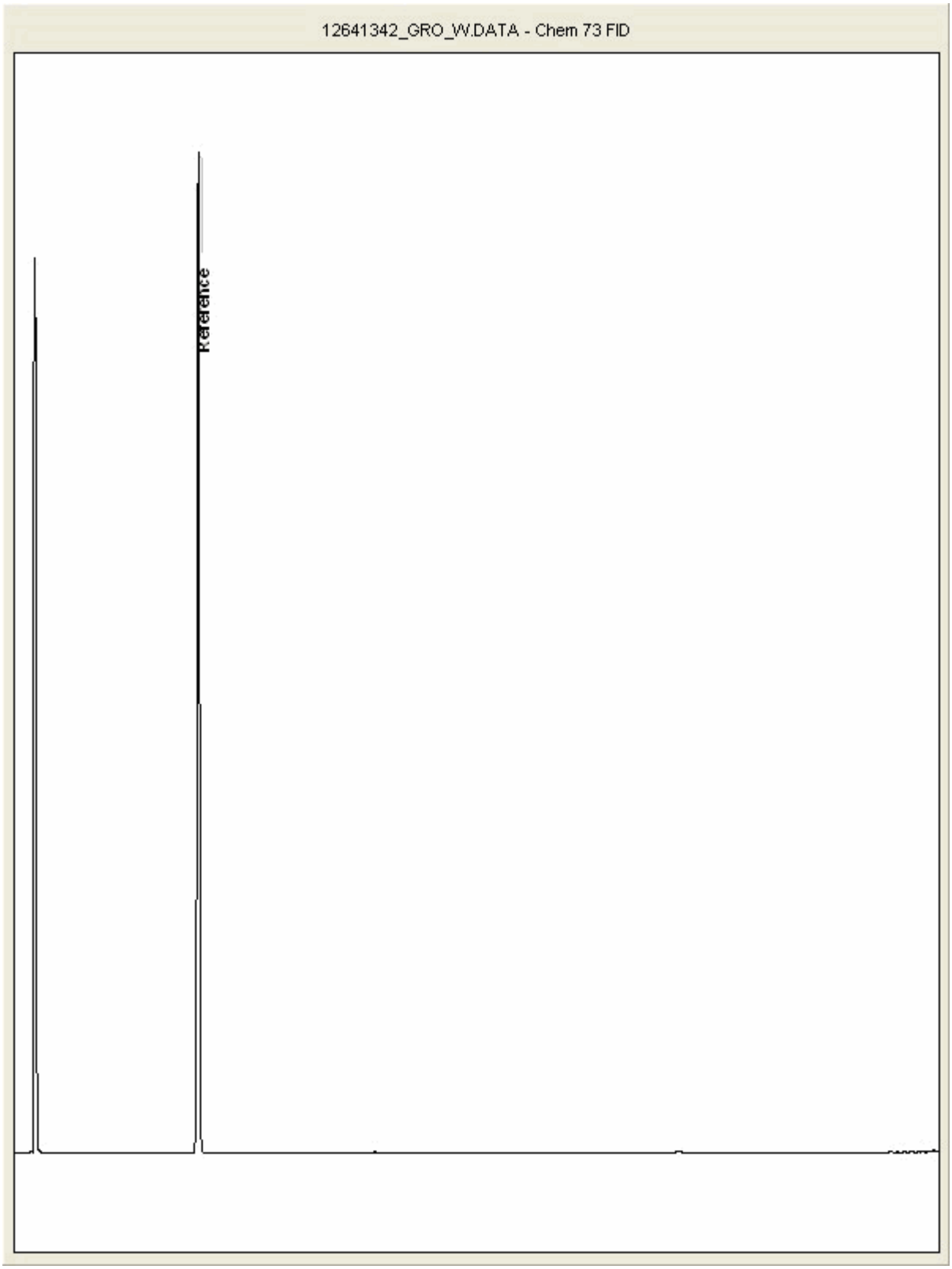
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641342
Sample ID : BH19

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

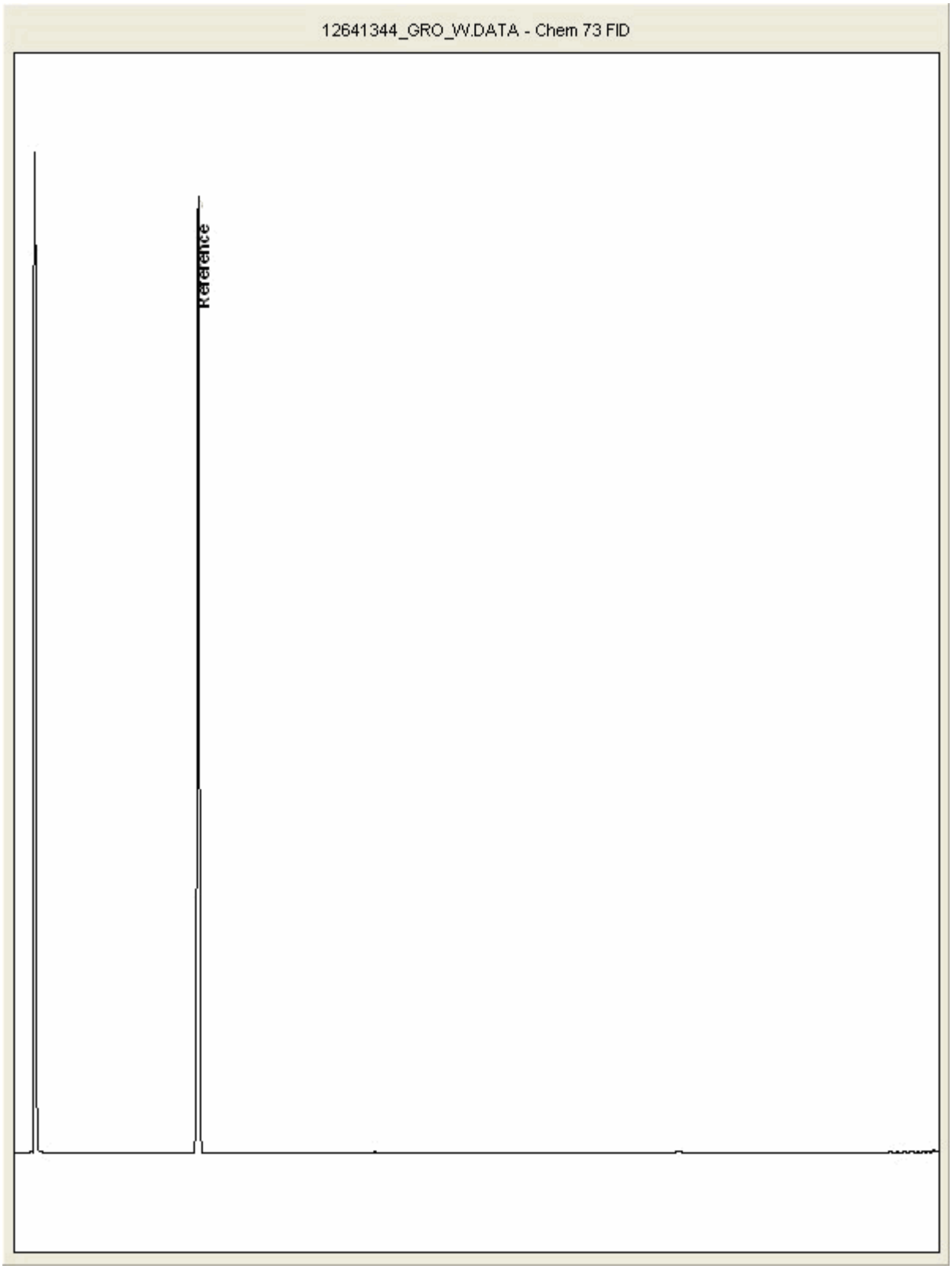
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641344
Sample ID : BH26

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

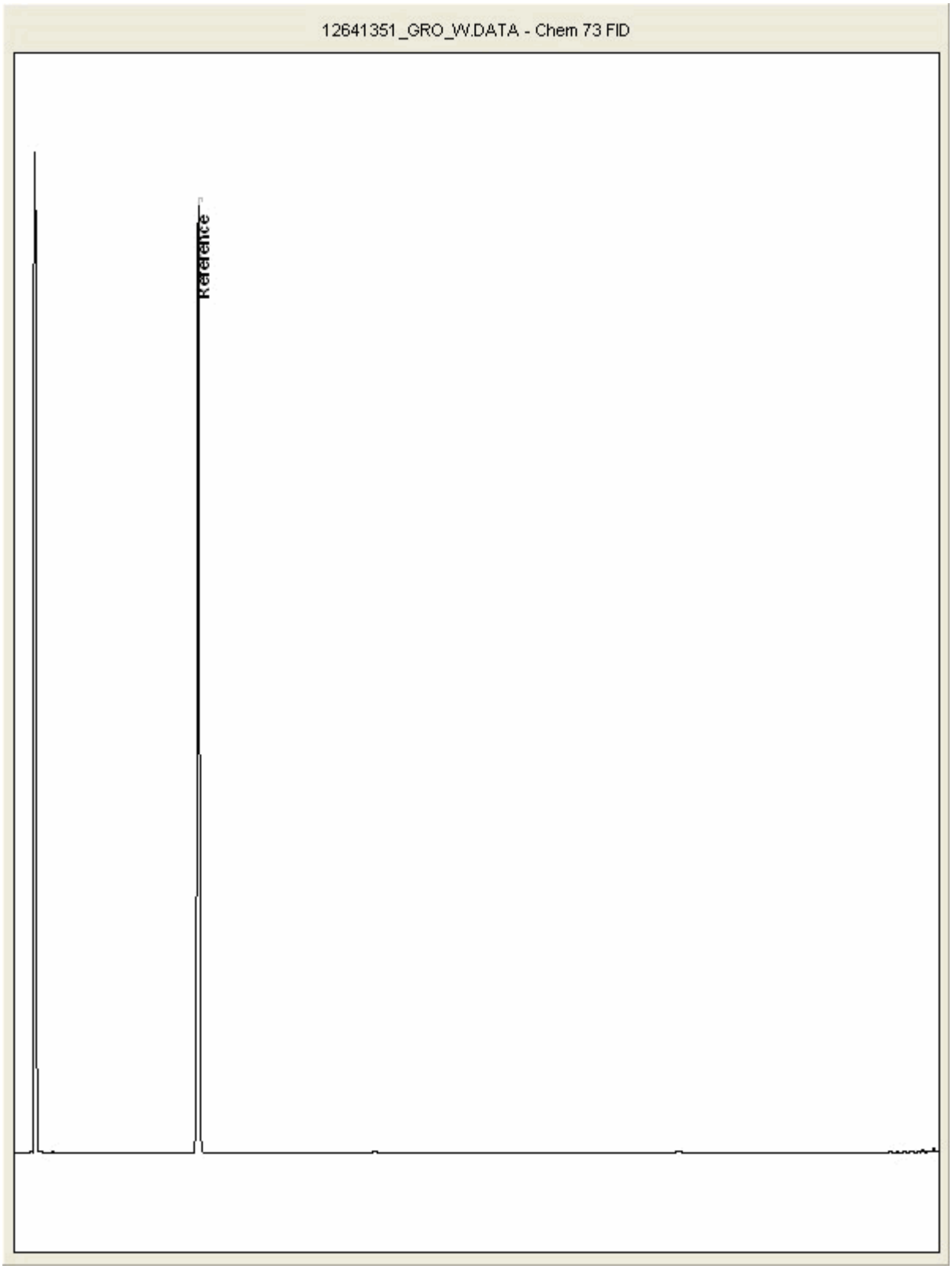
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641351
Sample ID : BH47A

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

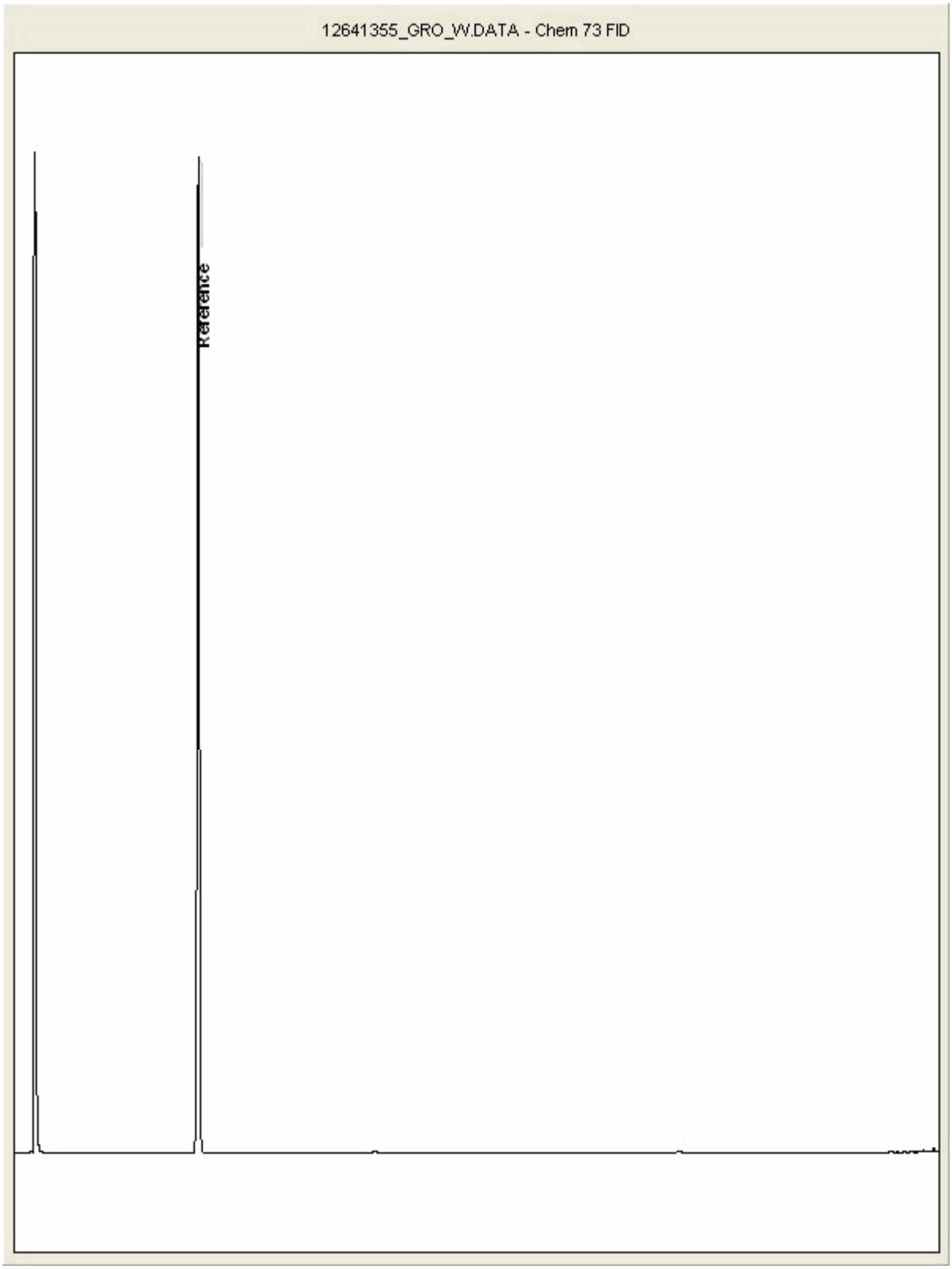
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641355
Sample ID : BH49

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

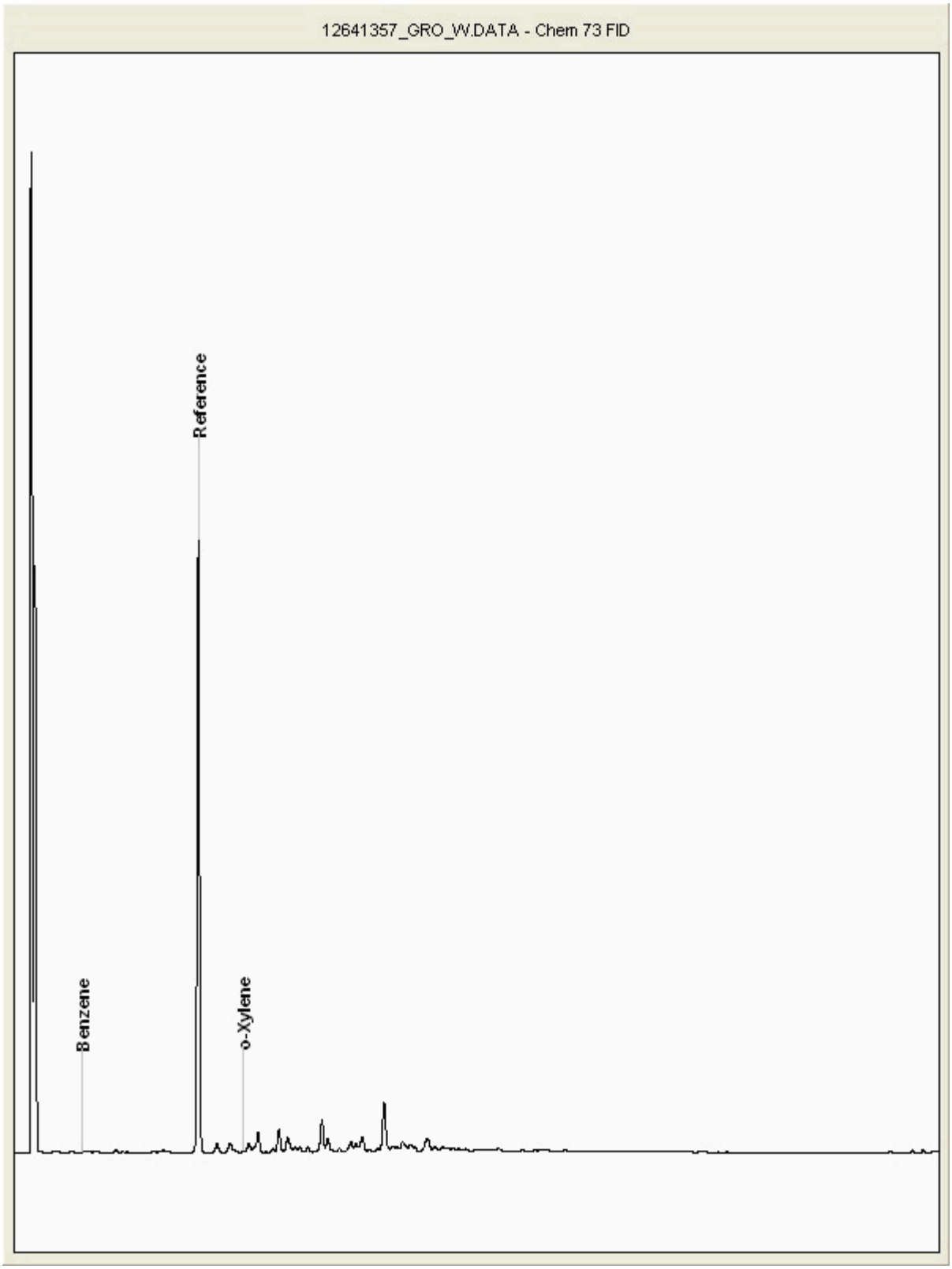
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Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641357
Sample ID : BH50

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

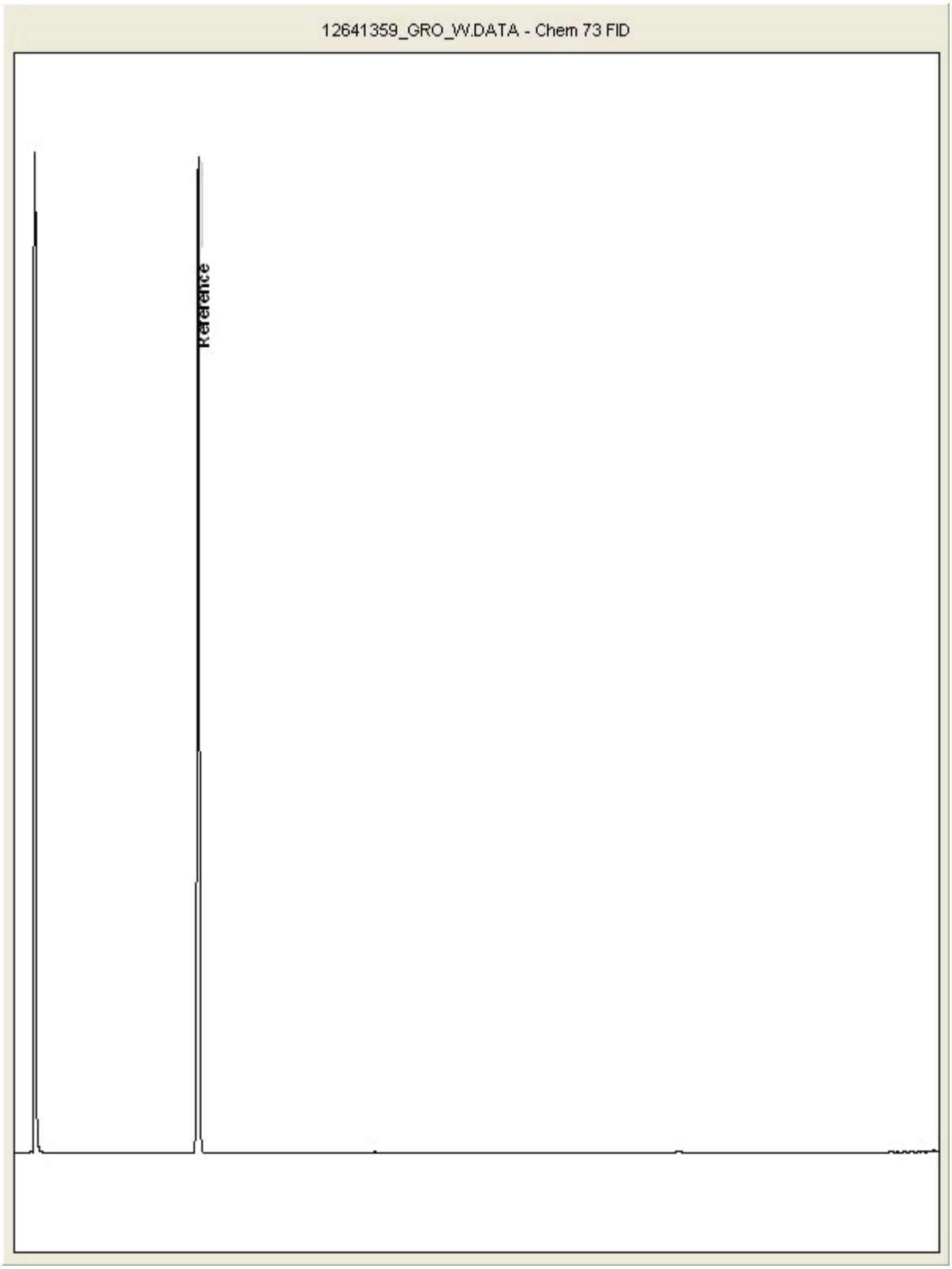
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641359
Sample ID : BH55

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

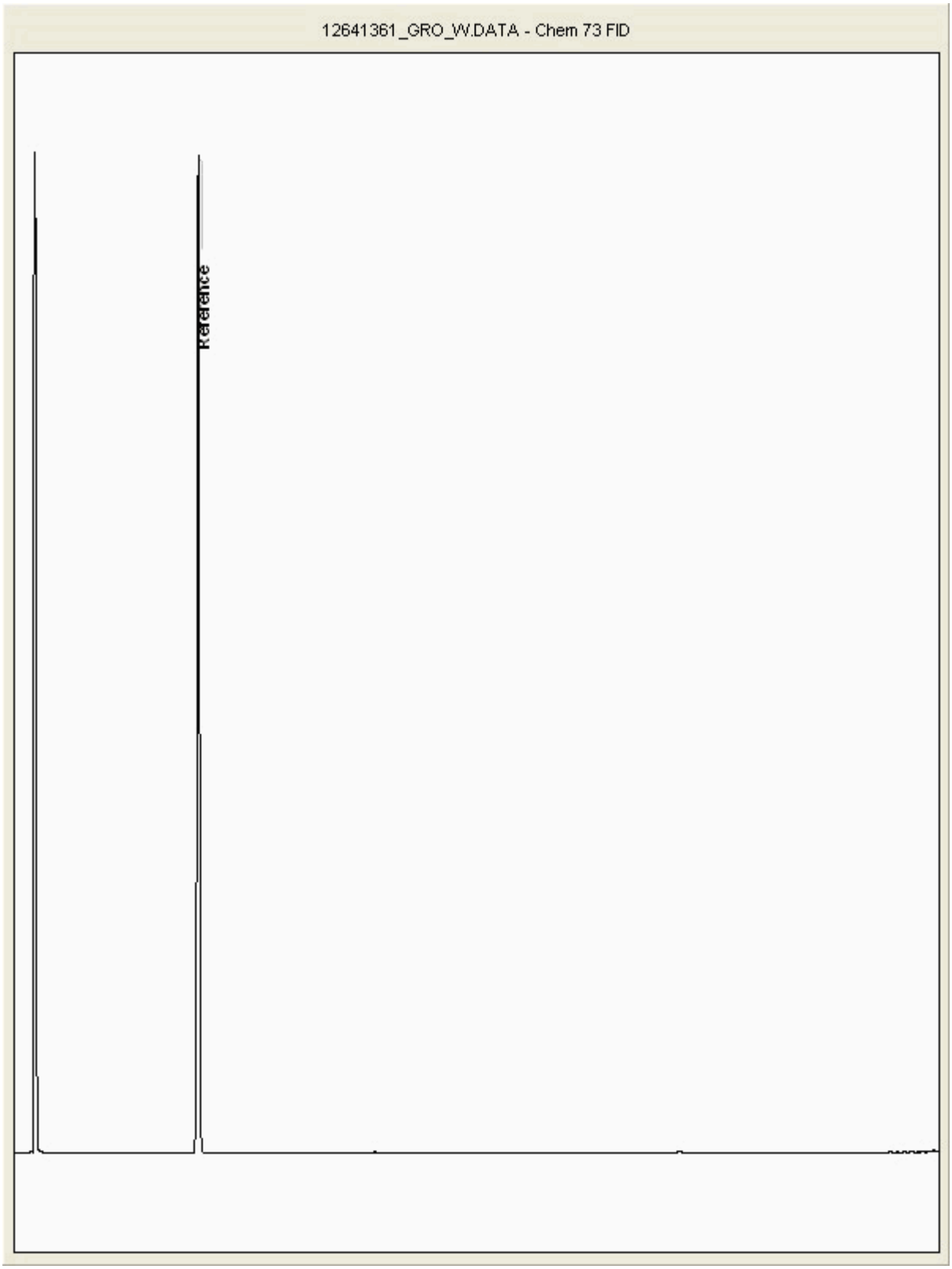
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641361
Sample ID : BH60B

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

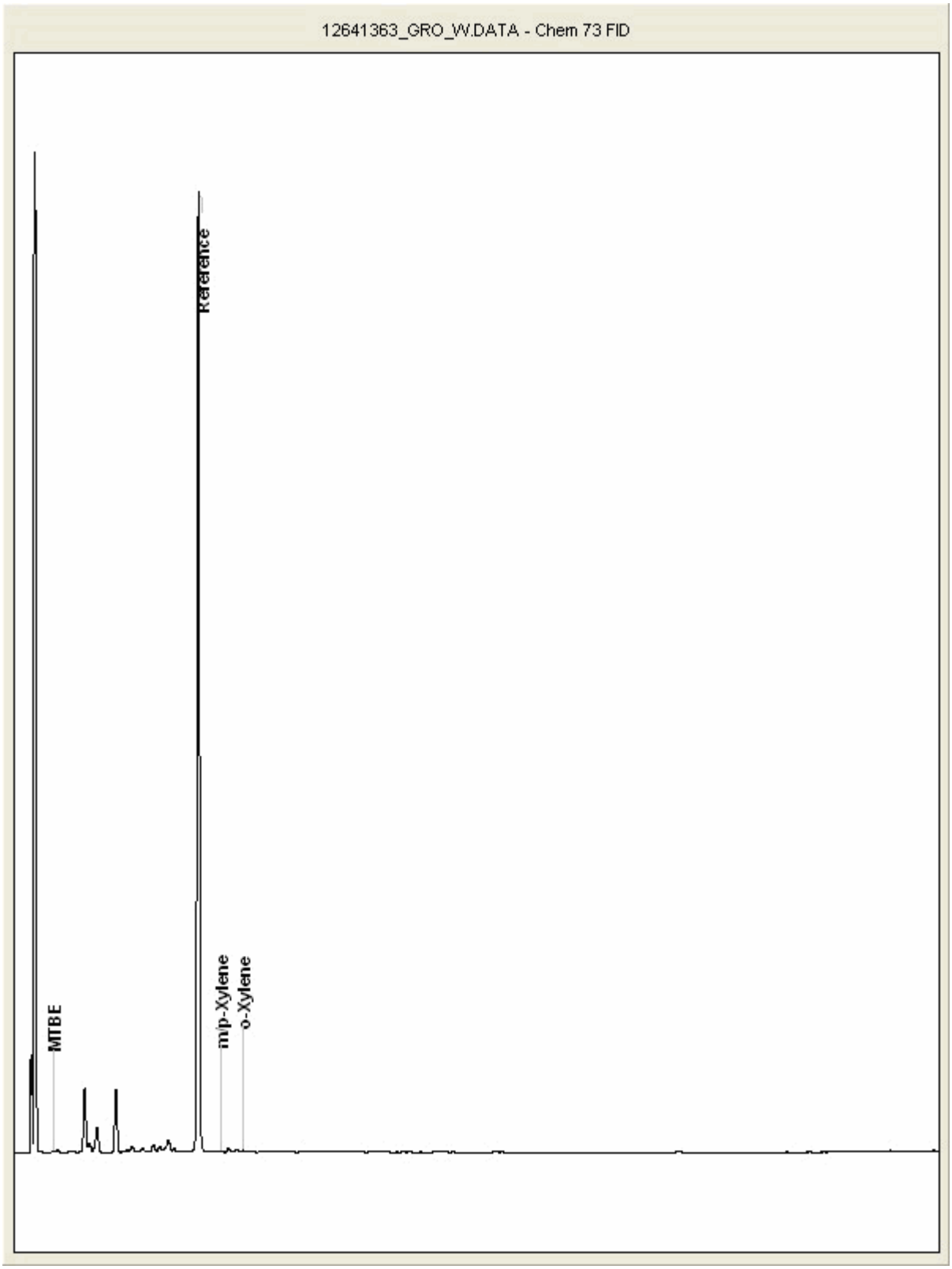
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641363
Sample ID : BH61A

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

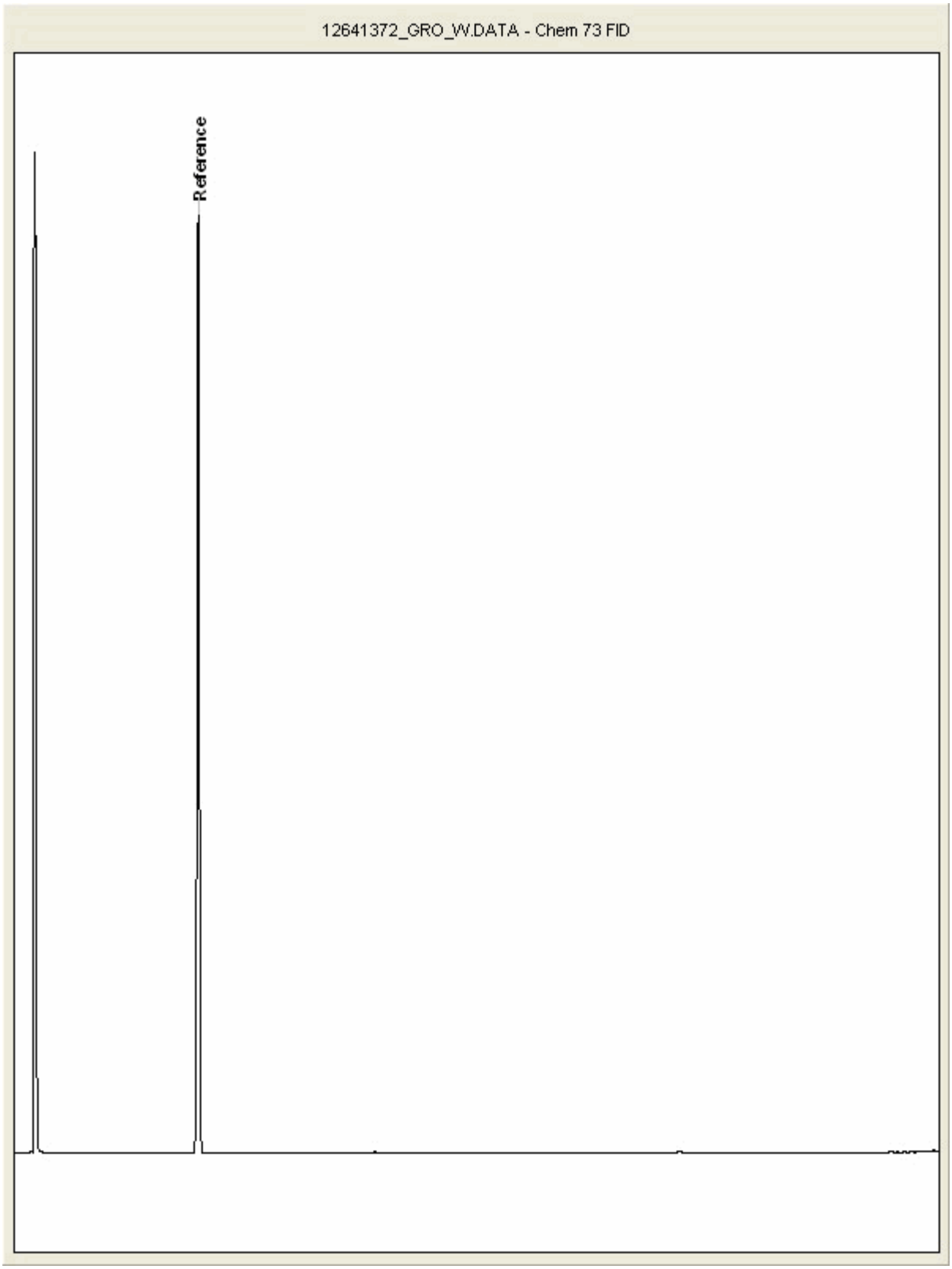
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Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 12641372
Sample ID : BH99

Depth : 0.00 - 0.00



CERTIFICATE OF ANALYSIS

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. A table containing the date of analysis for each parameter is not routinely included with the report, but is available upon request.

12. Results relate only to the items tested

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 14).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. Our MCERTS accreditation for PAHs by GCMS applies to all product types apart from Kerosene, where naphthalene only is not
accredited.

19. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

20. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

21. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

22. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

23. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

24. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D/C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MIN OIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in MDHS 100.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

Last Updated : 2010/09/08

SDG:	151212-70	**Location:**	SHLNG	**Order Number:**	PO16-012
Job:	H_RPS_ADB-8	**Customer:**	RPS Consultants Ltd	**Report Number:**	346040
Client Reference:	JER5575U	**Attention:**	Adrian Green	**Superseded Report:**	346039

Appendix

General

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA and CEN Leach tests, flash point LOI, pH, ammonium as NH4 by the BRE method, VOC TICS and SVOC TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 6 months after the analysis date. All bulk samples will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be analysed in house for the presence of asbestos fibres and asbestos containing material by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If a specific asbestos fibre type is not found this will be reported as “Not detected”. If no asbestos fibre types are found all will be reported as “Not detected” and the sub sample analysed deemed to be clear of asbestos. If an asbestos fibre type is found it will be reported as detected (for each fibre type found). Testing can be carried out on asbestos positive samples, but, due to Health and Safety considerations, may be replaced by alternative tests or reported as No Determination Possible. The quantity of asbestos present is not determined unless specifically requested.

7. If no separate volatile sample is supplied by the client, or if a headspace or sediment is present in the volatile sample, the integrity of the data may be compromised. This will be flagged up as an invalid VOC on the test schedule and the result marked as deviating on the test certificate.

8. If appropriate preserved bottles are not received preservation will take place on receipt . However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** - Surrogates are added to your sample to monitor recovery of the test requested. A % recovery is reported, results are not corrected for the recovery measured. Typical recoveries for organics tests are 70-130%, they are generally wider for volatiles analysis, 50-150%. Recoveries in soils are affected by organic rich or clay rich matrices. Waters can be affected by remediation fluids or high amounts of sediment . Test results are only ever reported if all of the associated quality checks pass; it is assumed that all recoveries outside of the values above are due to matrix affect .

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials - whether these are derived from naturally occurring soil profiles, or from fill /made ground, as long as these materials constitute the major part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C5 -C12 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

Sample Deviations

1	Container with Headspace provided for volatiles analysis
2	Incorrect container received
3	Deviation from method
4	Holding time exceeded before sample received
5	Samples exceeded holding time before presevation was performed
§	Sampled on date not provided
♦	Sample holding time exceeded in laboratory
@	Sample holding time exceeded due to sampled on date
&	Sample Holding Time exceeded - Late arrival of instructions.

Asbestos

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than : - Trace - Where only one or two asbestos fibres were identified.

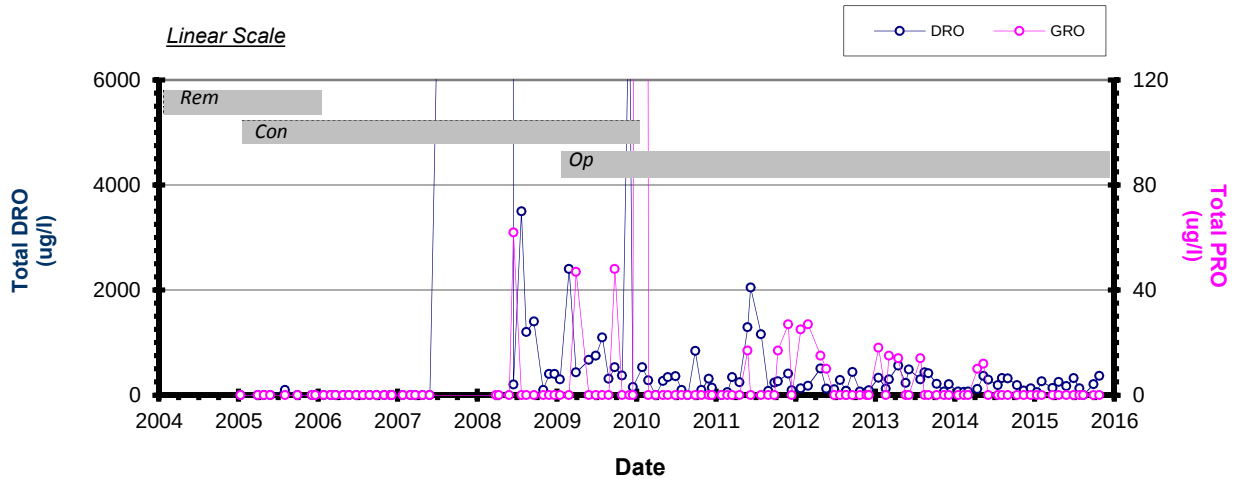
Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

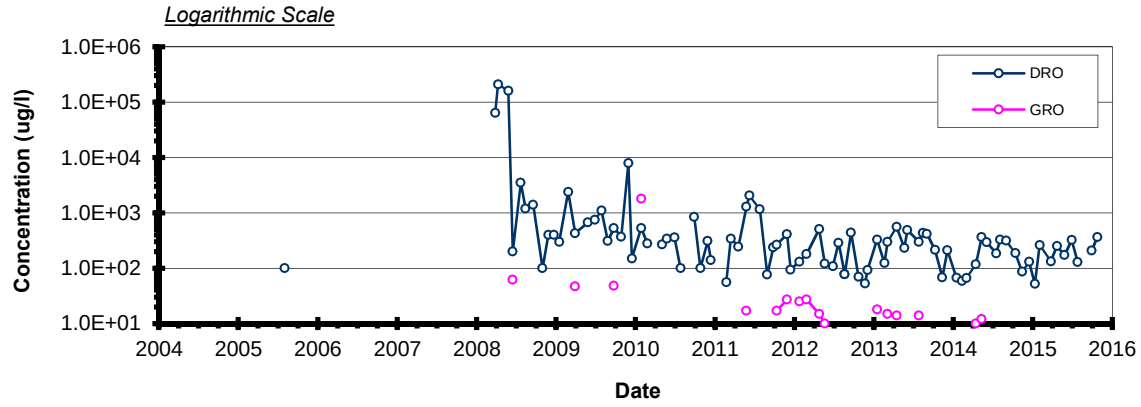
The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

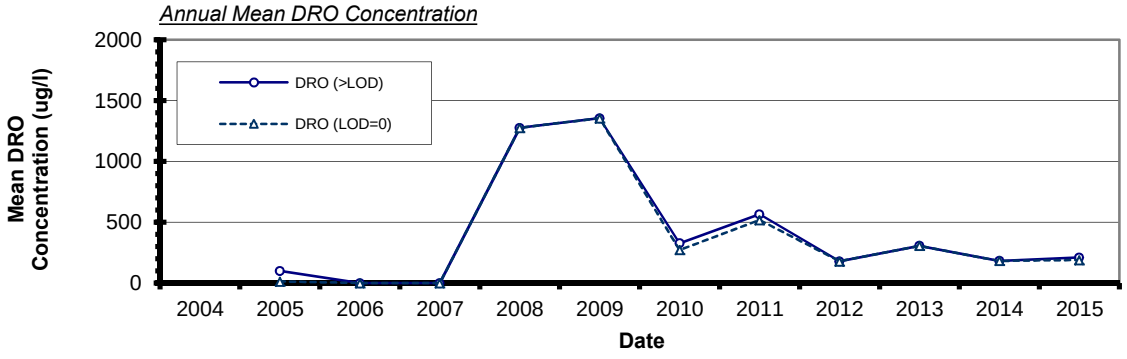
Appendix 3

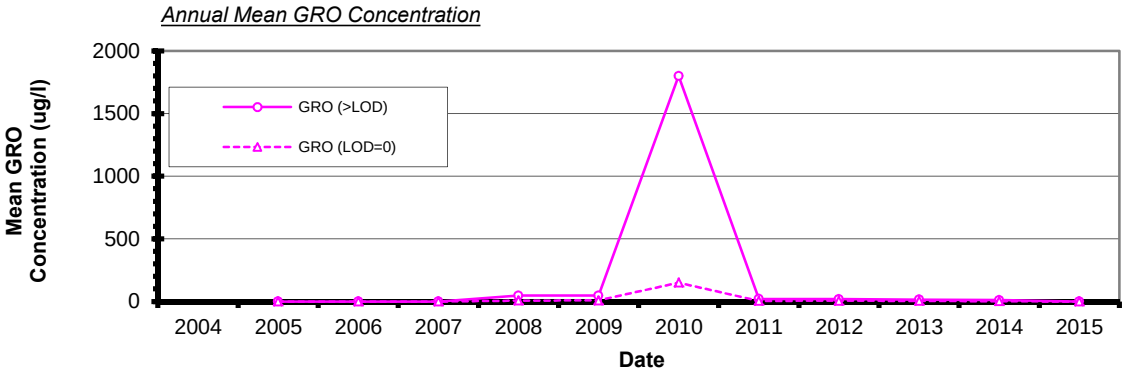
Time Series Groundwater Quality Dataset (Boreholes)

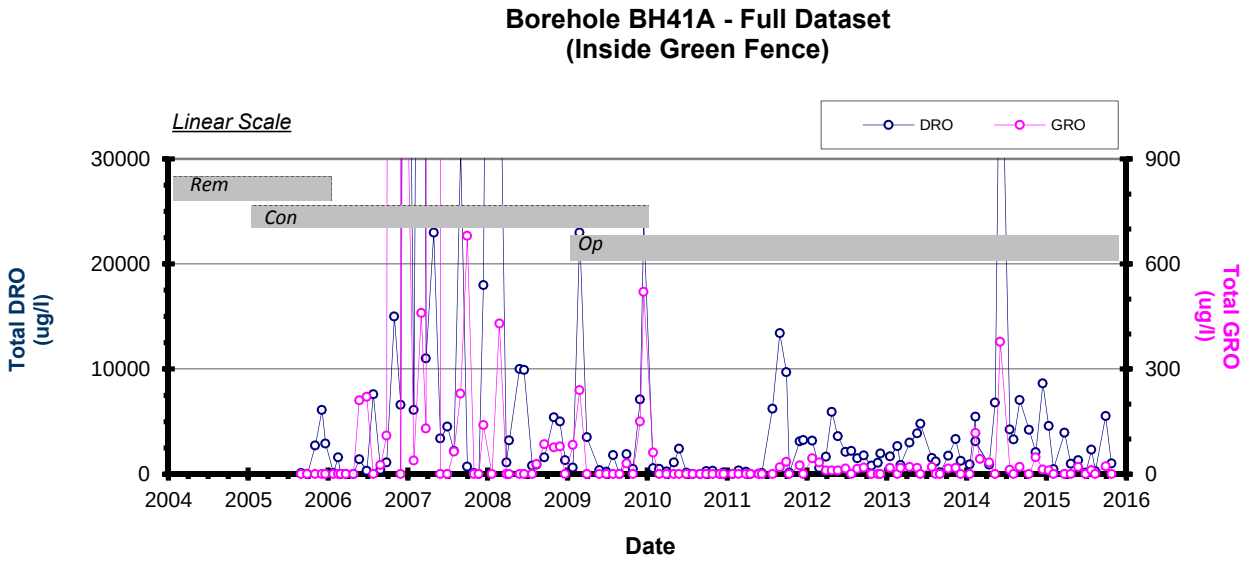
Borehole BH34B - Full Dataset
(Inside Green Fence)

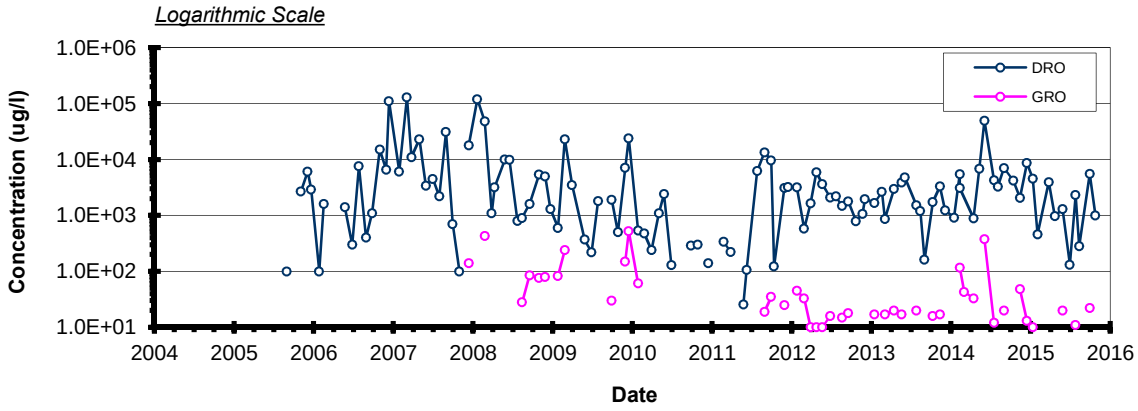


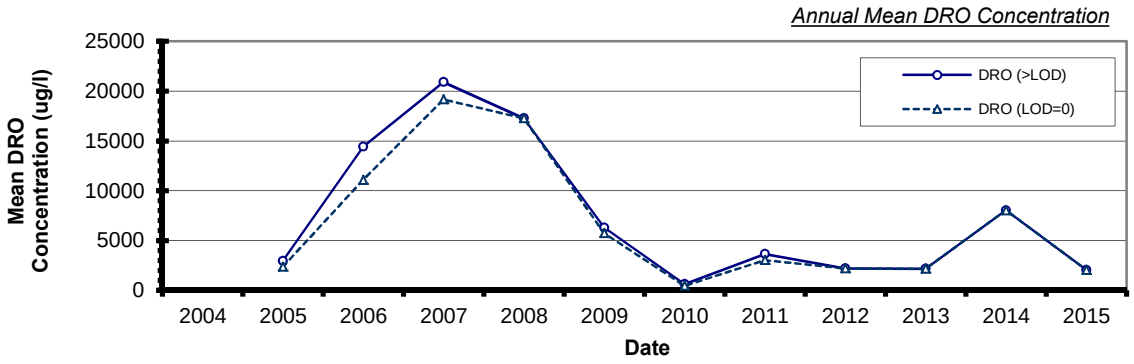


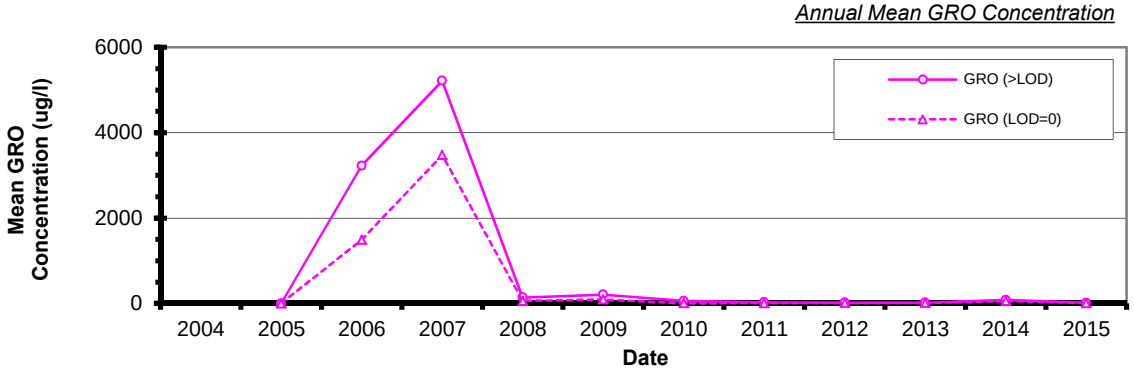


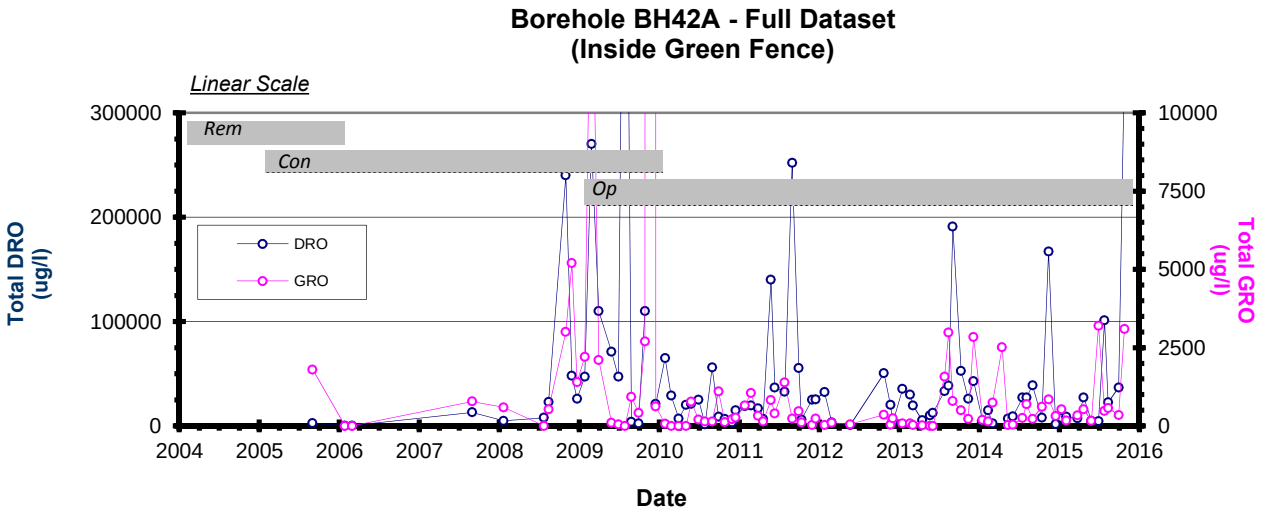


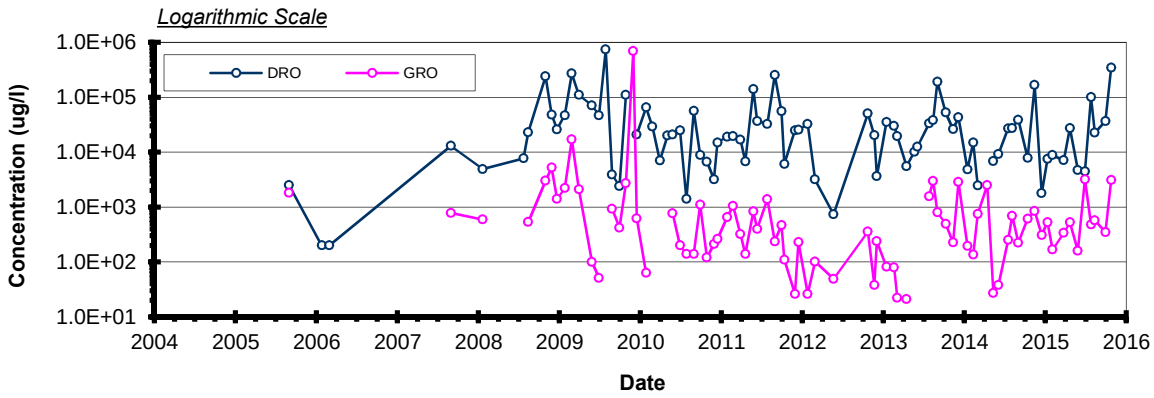

Borehole BH41A - Full Dataset
(Inside Green Fence)
Linear Scale
DRO
GRO
Rem
Con
Op
Total DRO (ug/l)
Total GRO (ug/l)
30000
20000
10000
0
900
600
300
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Date

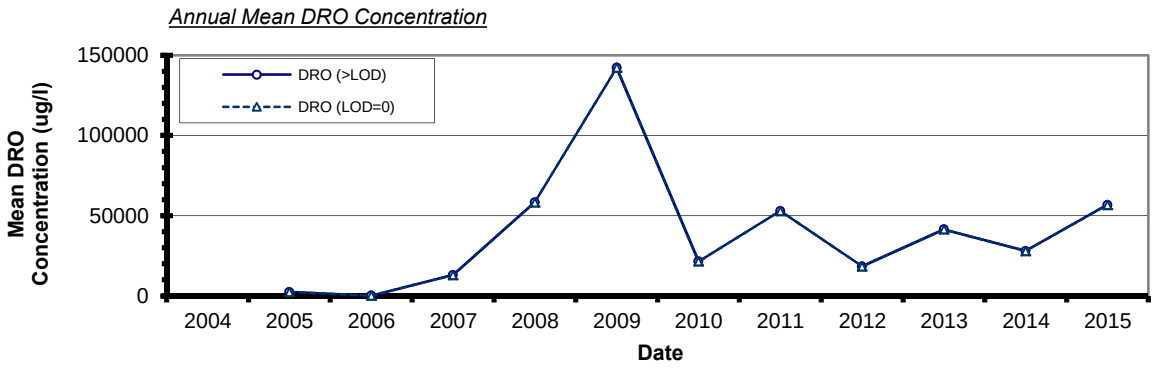

Logarithmic Scale
Concentration (ug/l)
1.0E+06
1.0E+05
1.0E+04
1.0E+03
1.0E+02
1.0E+01
DRO
GRO
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Date

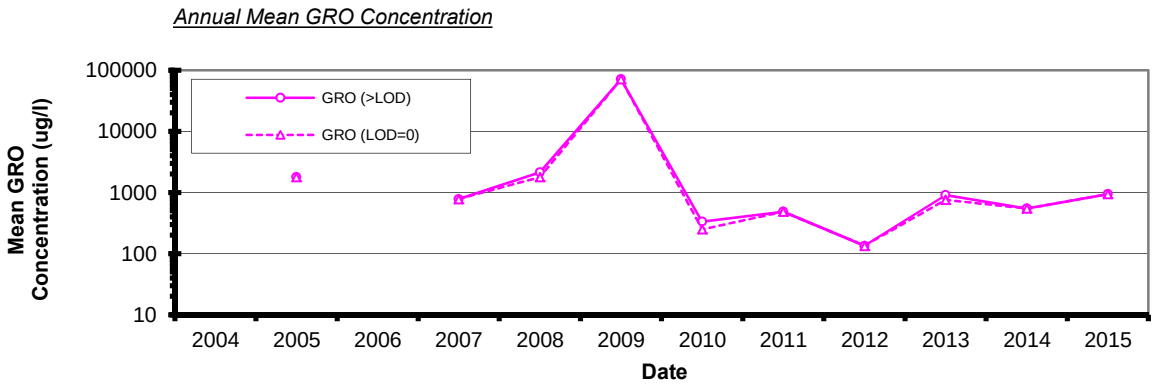

Annual Mean DRO Concentration
Mean DRO Concentration (ug/l)
25000
20000
15000
10000
5000
0
DRO (>LOD)
DRO (LOD=0)
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Date

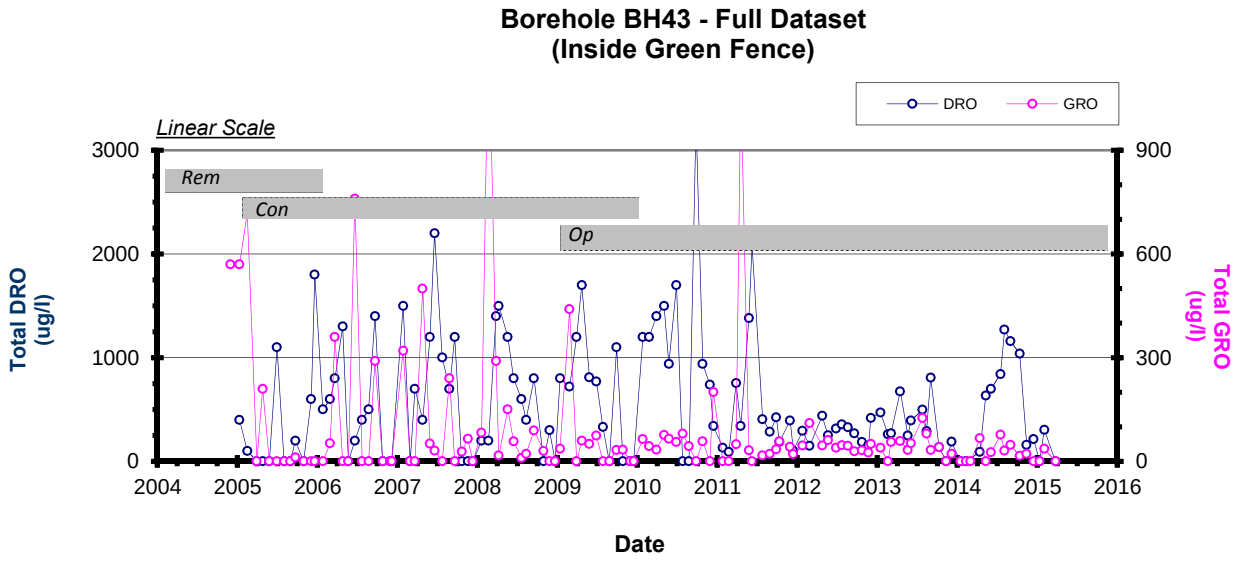

Annual Mean GRO Concentration
Mean GRO Concentration (ug/l)
6000
4000
2000
0
GRO (>LOD)
GRO (LOD=0)
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Date

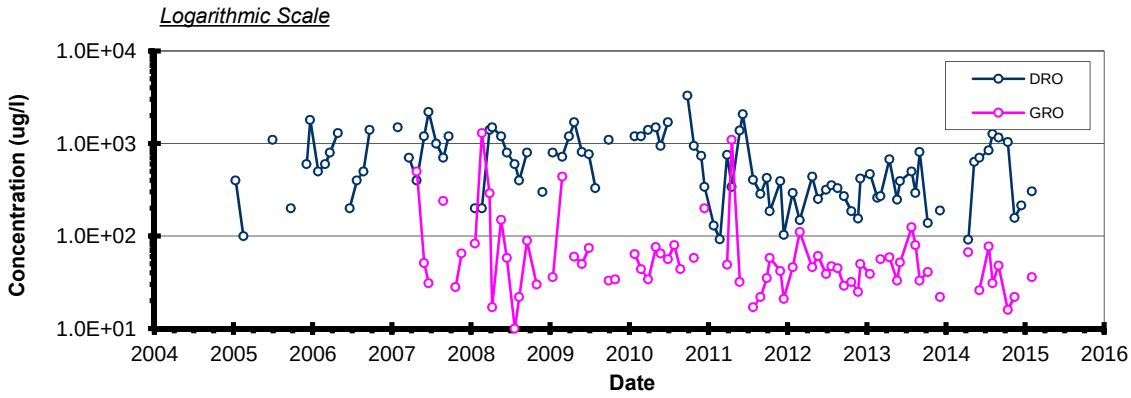

Borehole BH42A - Full Dataset
(Inside Green Fence)
Linear Scale
Rem
Con
Op
DRO
GRO
Total DRO (ug/l)
Total GRO (ug/l)
300000
200000
100000
0
10000
7500
5000
2500
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Date

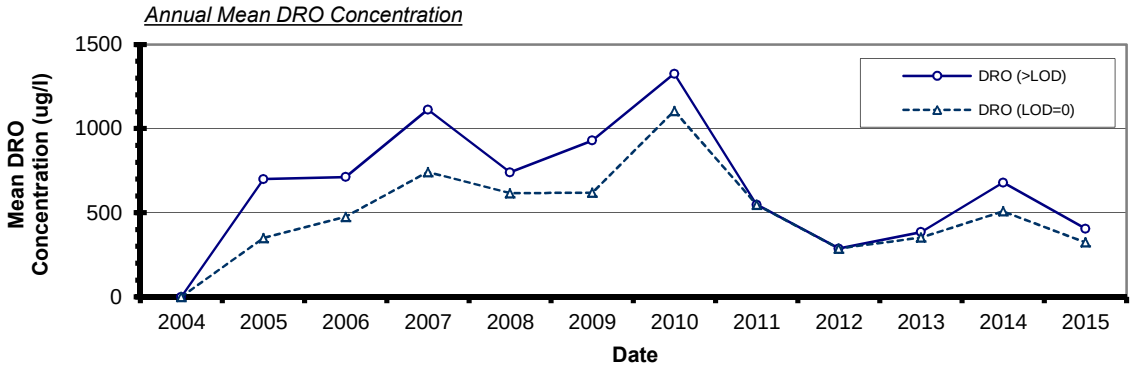

Logarithmic Scale
DRO
GRO
Concentration (ug/l)
1.0E+06
1.0E+05
1.0E+04
1.0E+03
1.0E+02
1.0E+01
2004
2005
2006
2007
2008
2009
2010
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2013
2014
2015
2016
Date

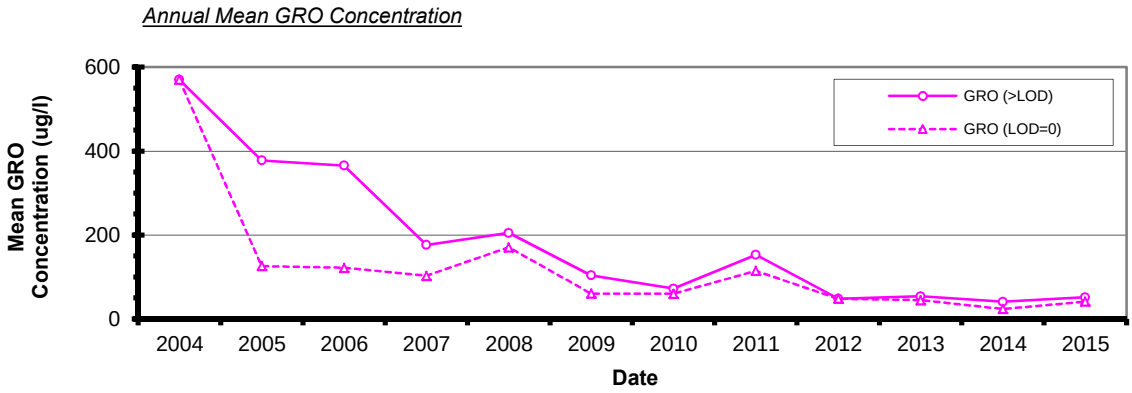

Annual Mean DRO Concentration
DRO (>LOD)
DRO (LOD=0)
Mean DRO Concentration (ug/l)
150000
100000
50000
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Date


Annual Mean GRO Concentration
GRO (>LOD)
GRO (LOD=0)
Mean GRO Concentration (ug/l)
100000
10000
1000
100
10
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Date

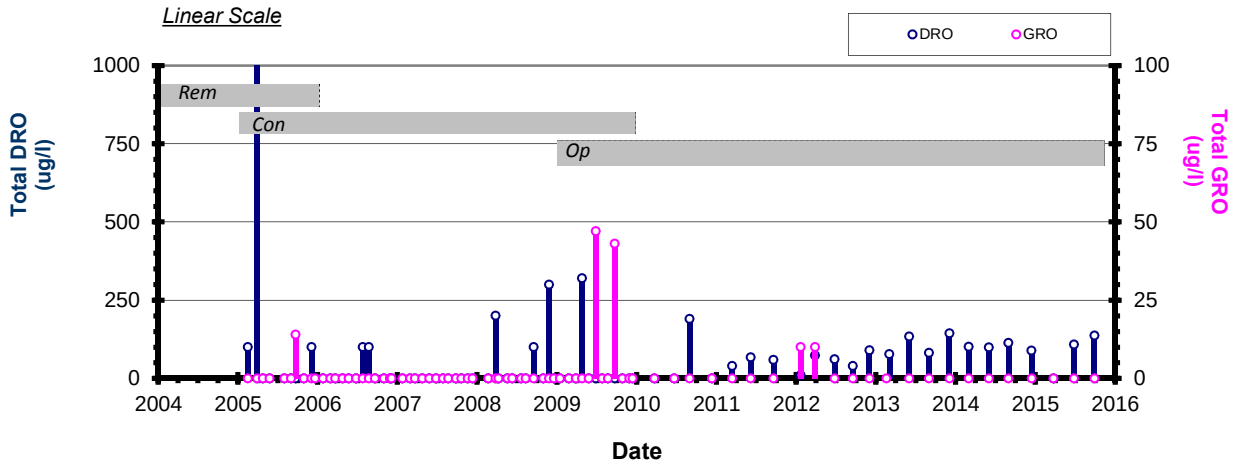

Borehole BH43 - Full Dataset
(Inside Green Fence)
DRO
GRO
Linear Scale
Rem
Con
Op
Total DRO (ug/l)
Total GRO (ug/l)
3000
2000
1000
0
900
600
300
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Date

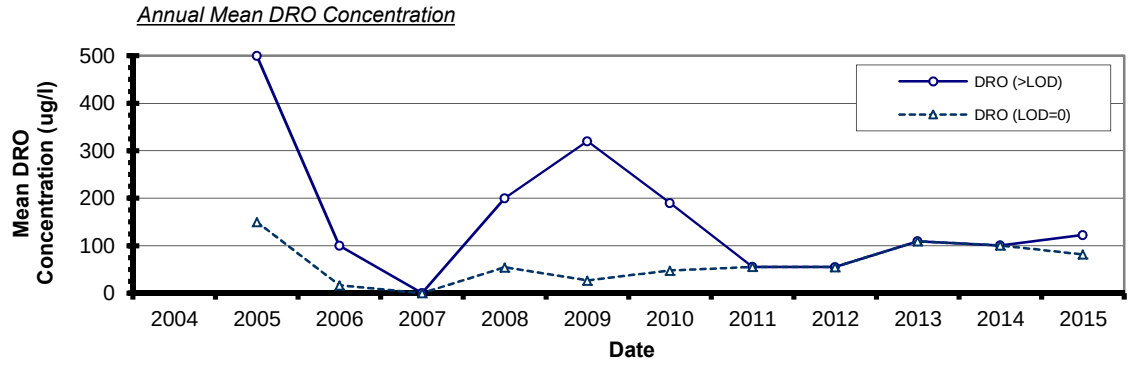

Logarithmic Scale
Concentration (ug/l)
1.0E+04
1.0E+03
1.0E+02
1.0E+01
DRO
GRO
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Date

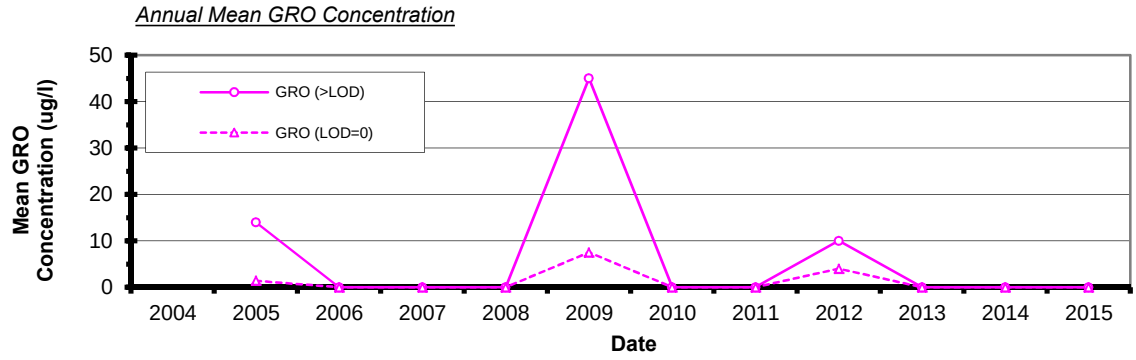

Annual Mean DRO Concentration
Mean DRO Concentration (ug/l)
1500
1000
500
0
DRO (>LOD)
DRO (LOD=0)
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Date


Annual Mean GRO Concentration
Mean GRO Concentration (ug/l)
600
400
200
0
GRO (>LOD)
GRO (LOD=0)
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
Date

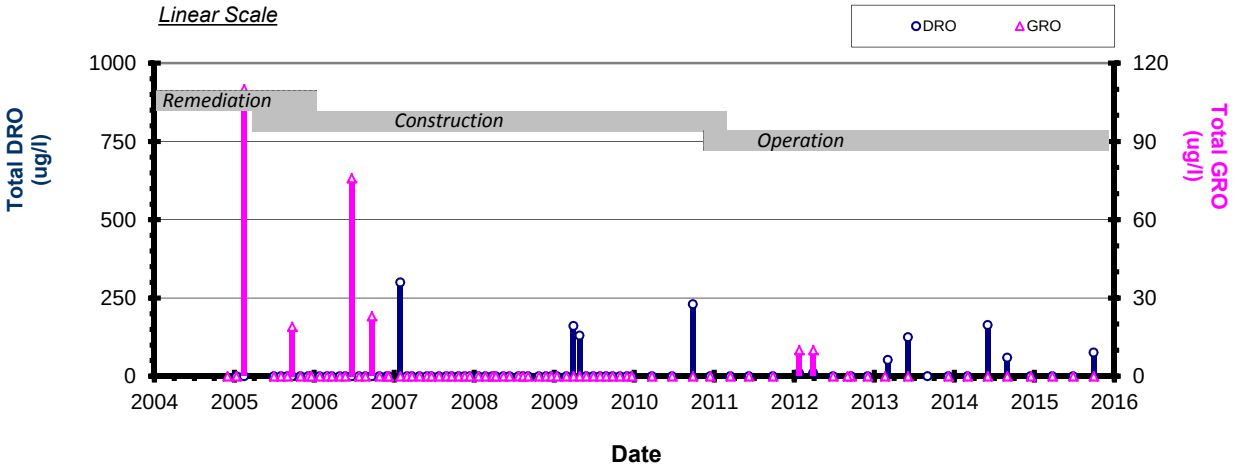
Borehole BH06 - Full Dataset
(Inside Green Fence)

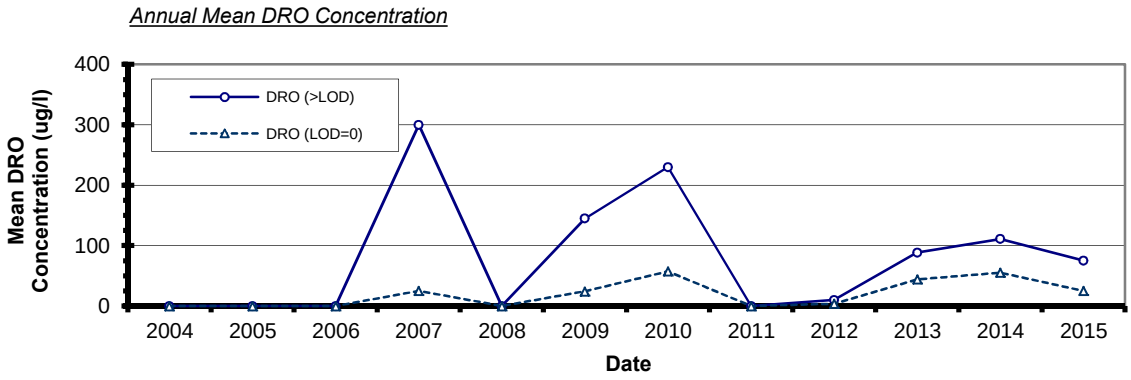


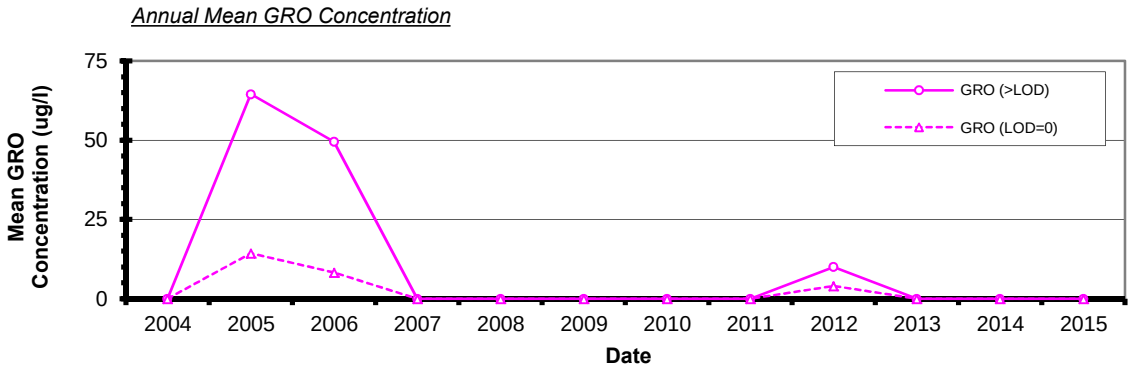




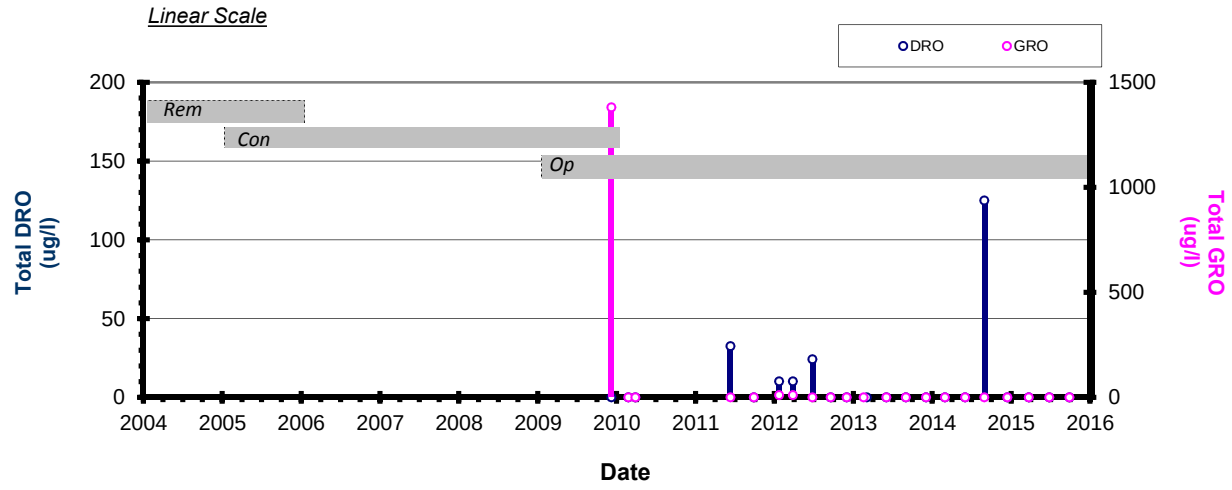
Borehole BH44 - Full Dataset
(Inside Green Fence)

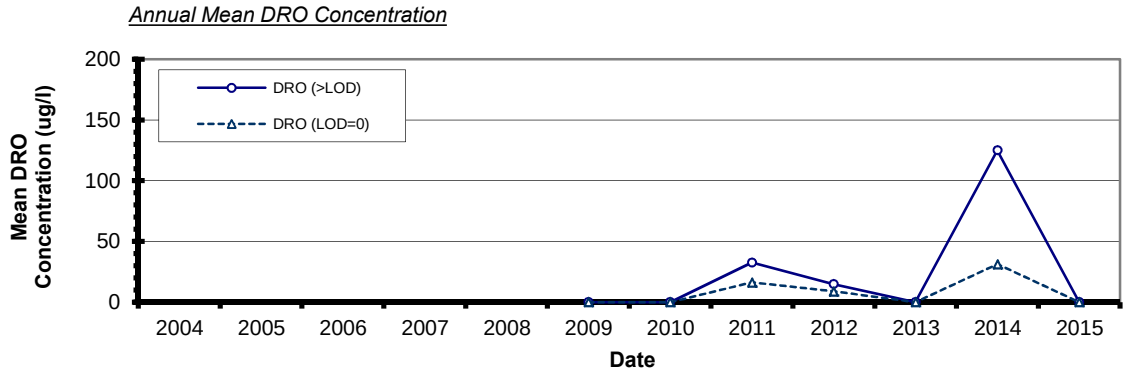


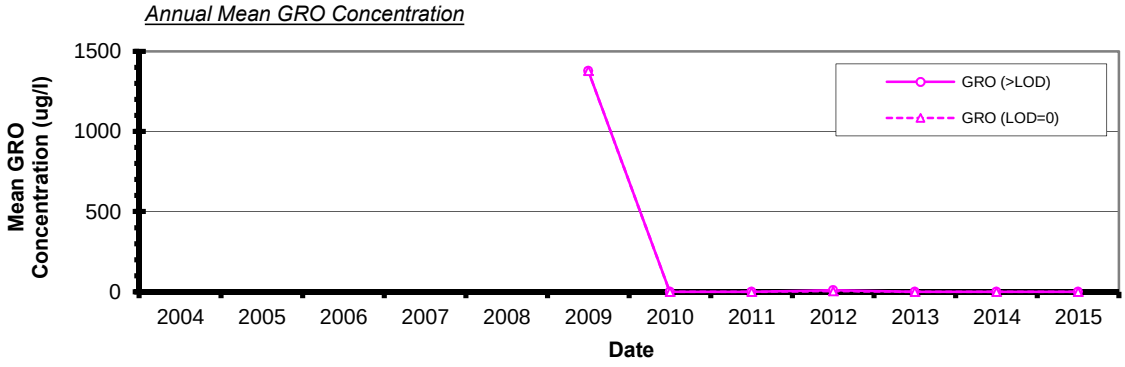




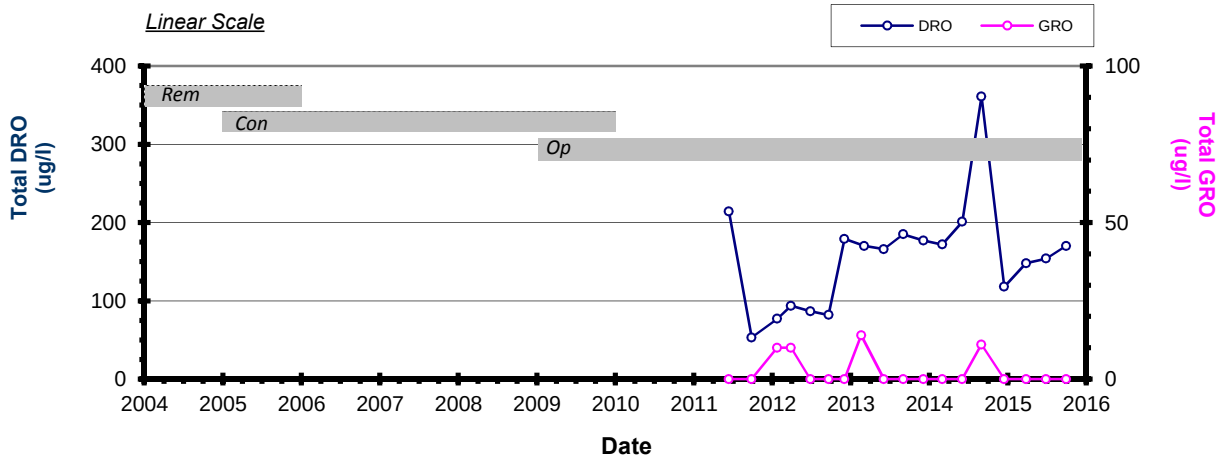
Borehole MW01- Full Dataset
(Inside Green Fence)

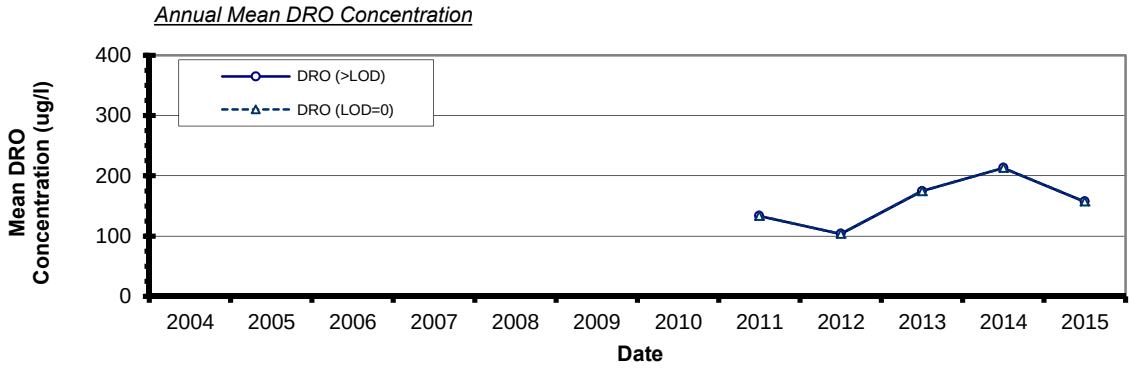


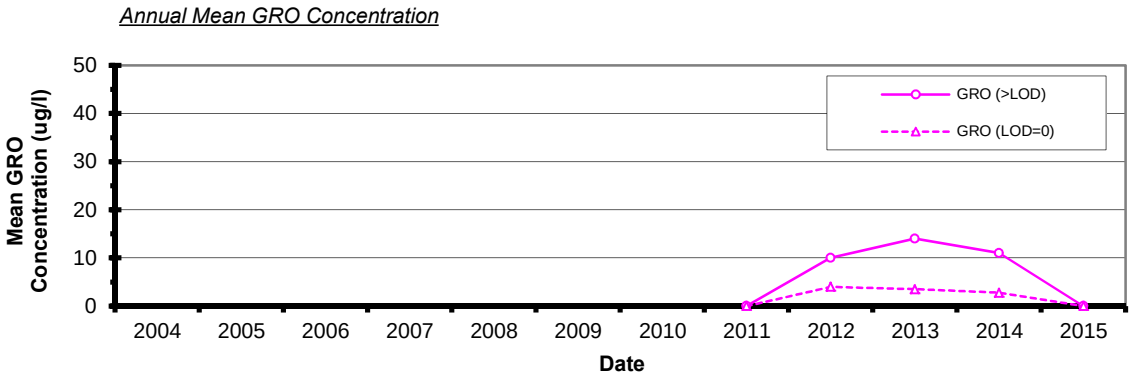




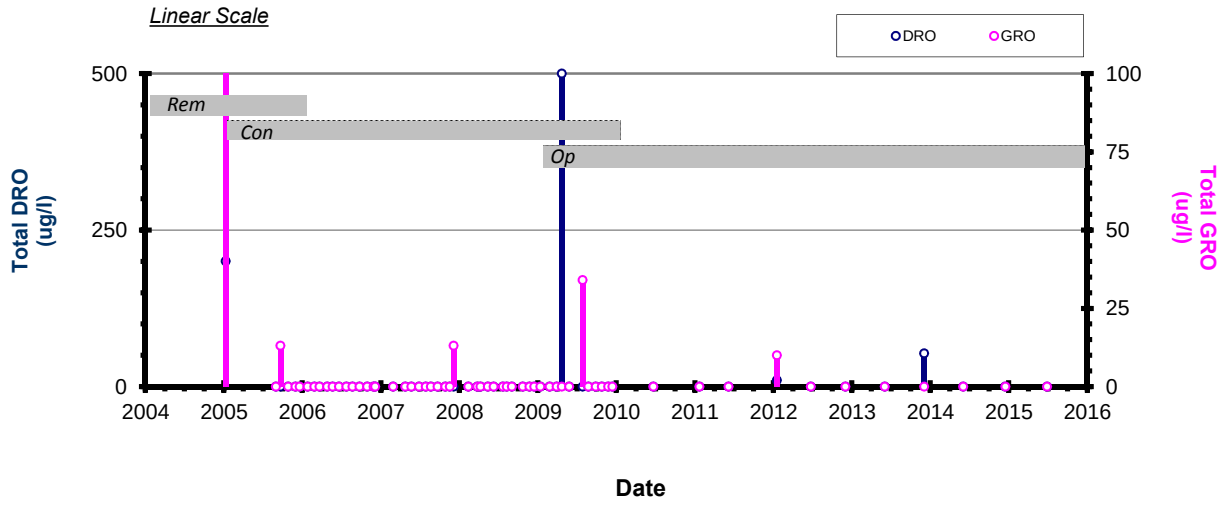
Borehole MW03 - Full Dataset
(Inside Green Fence)

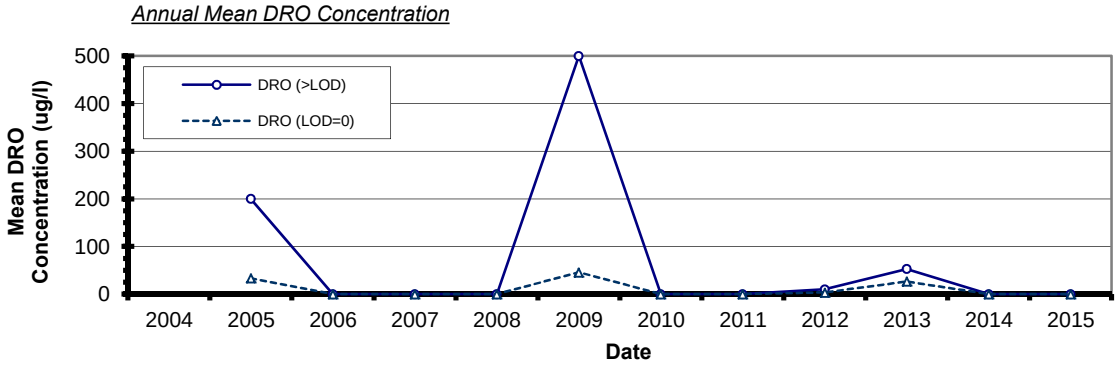


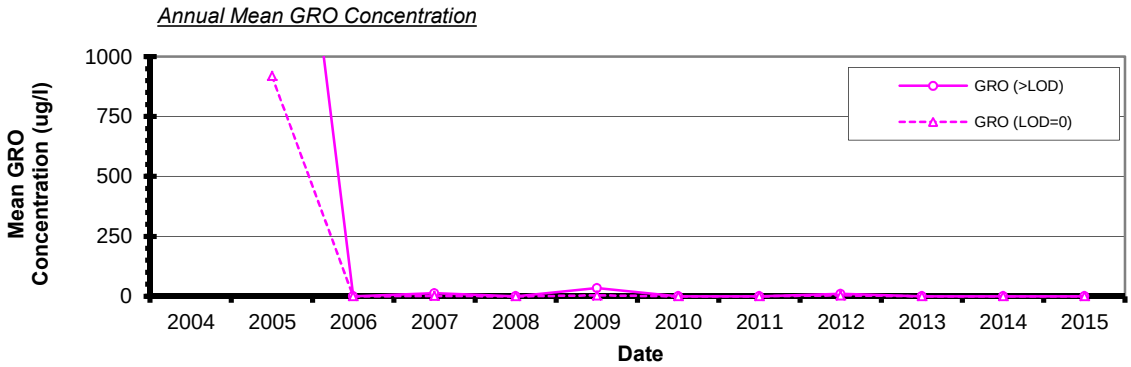




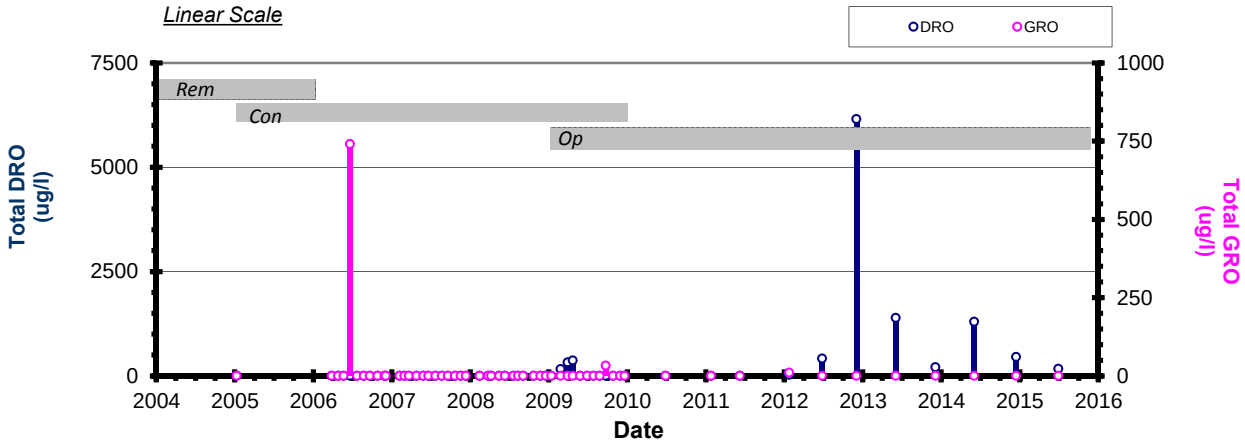
Borehole BH30a - Full Dataset
(Inside Green Fence)

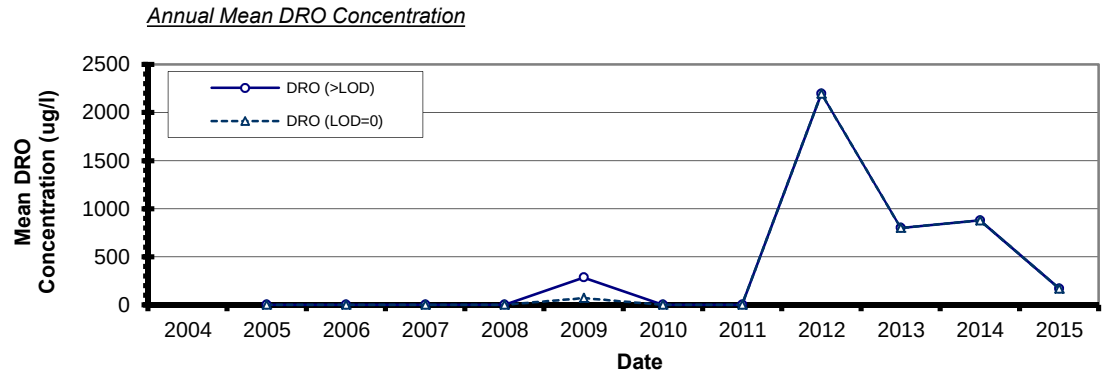


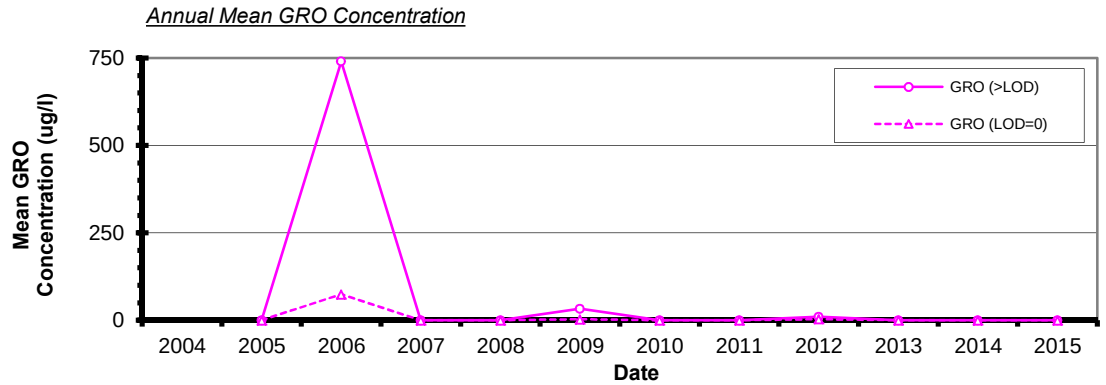




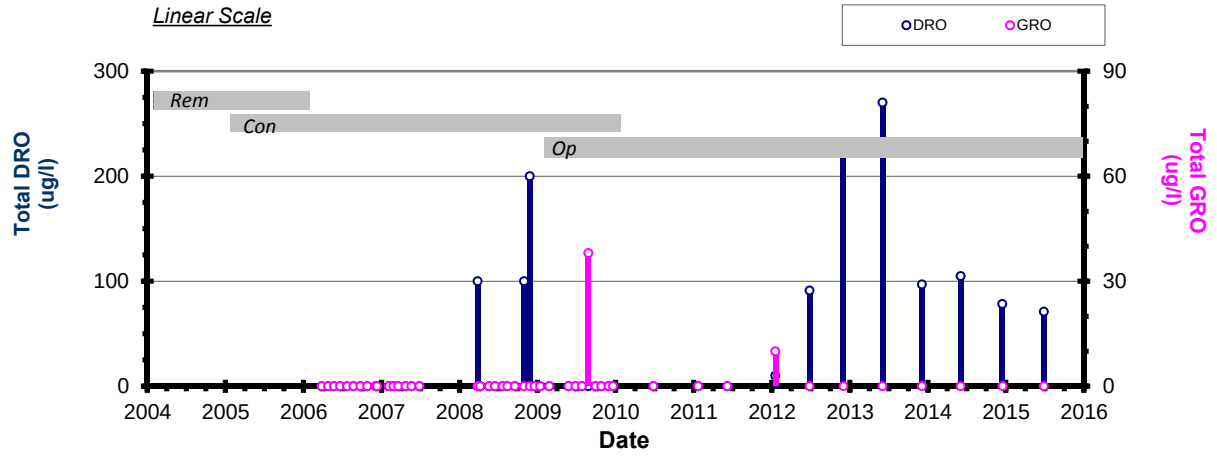
Borehole BH40a - Full Dataset
(Inside Green Fence)

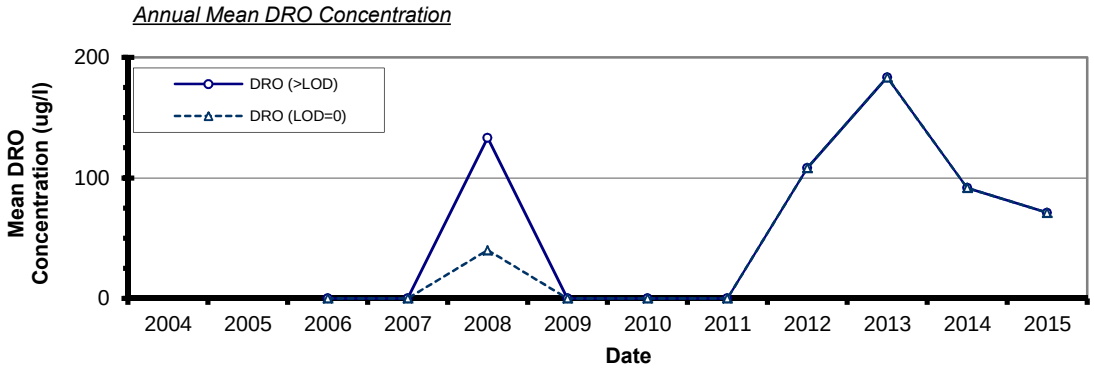


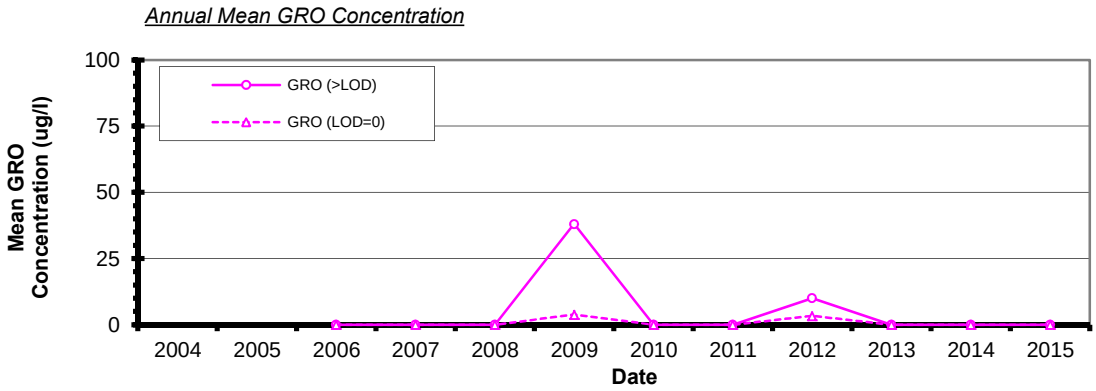


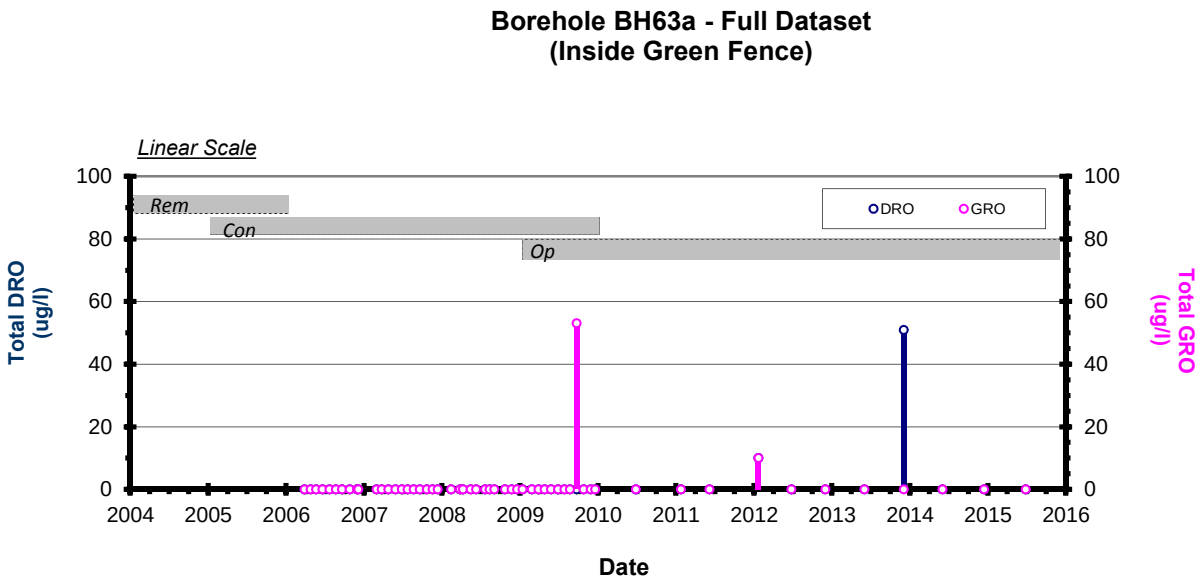


Borehole BH45b - Full Dataset
(Inside Green Fence)

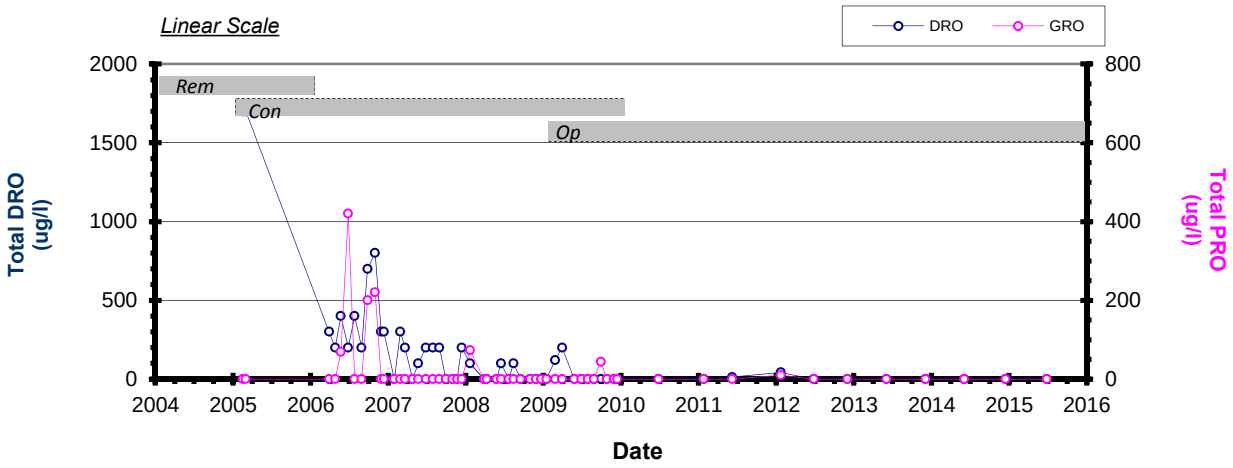


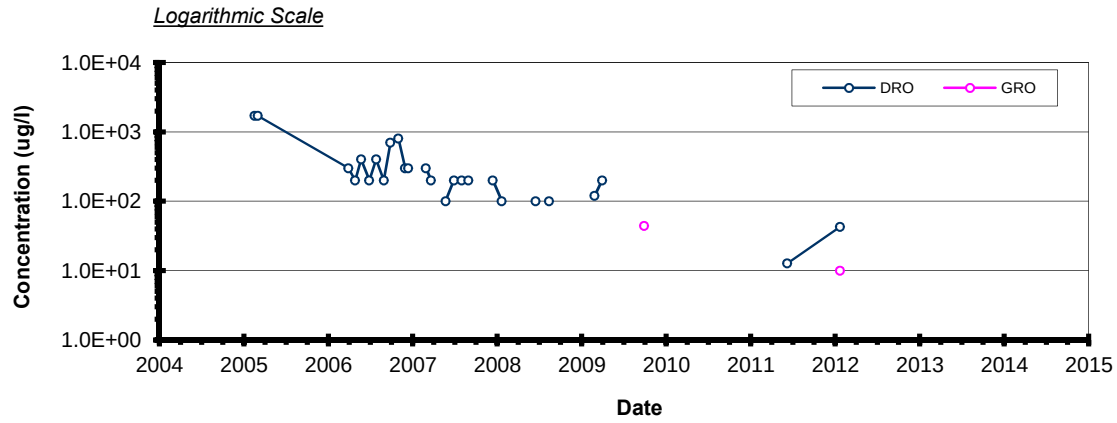


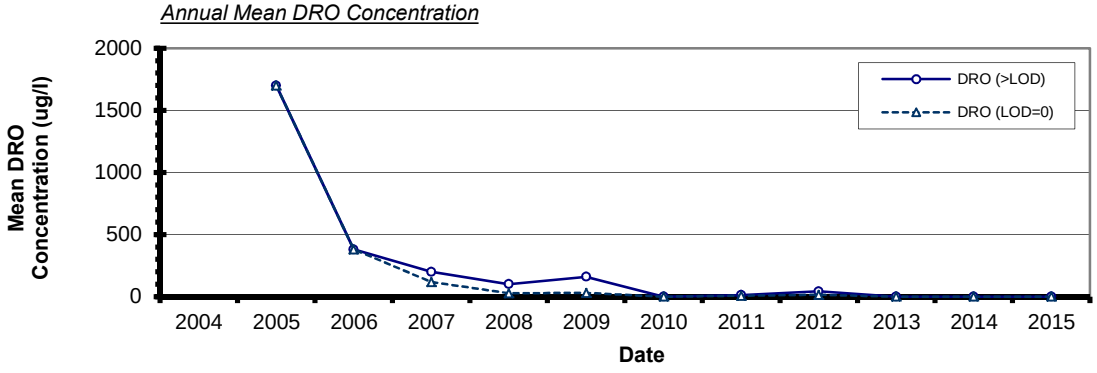


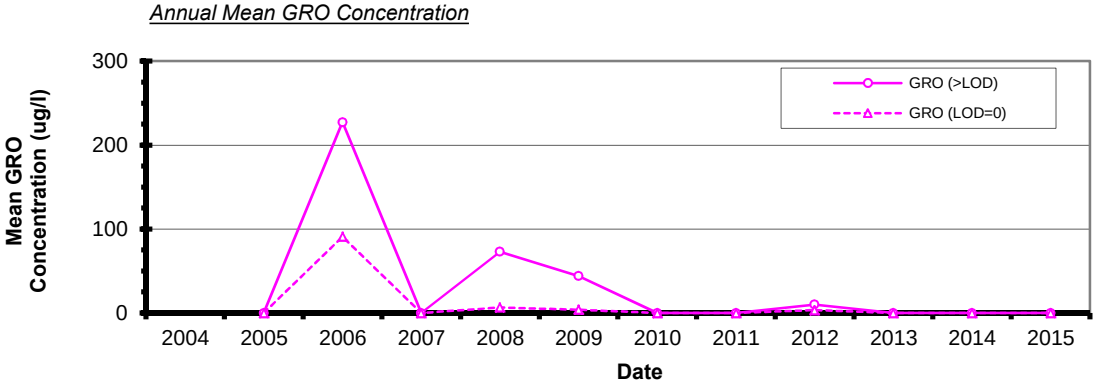

Borehole BH63a - Full Dataset
(Inside Green Fence)
Linear Scale
Rem
Con
Op
DRO
GRO
Total DRO (ug/l)
Total GRO (ug/l)
100
80
60
40
20
0
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Date

Borehole BHG2b - Full Dataset
(Inside Green Fence)

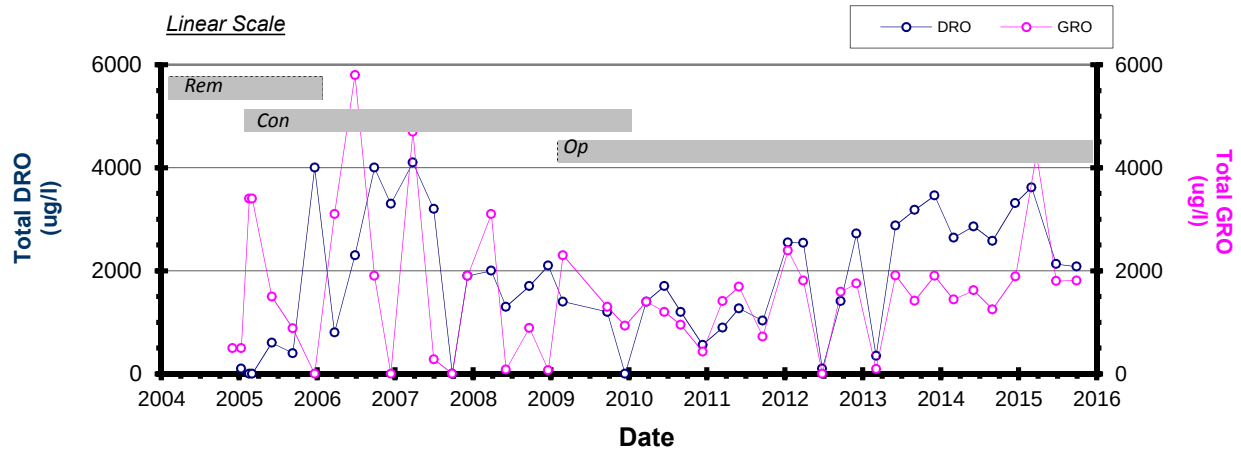


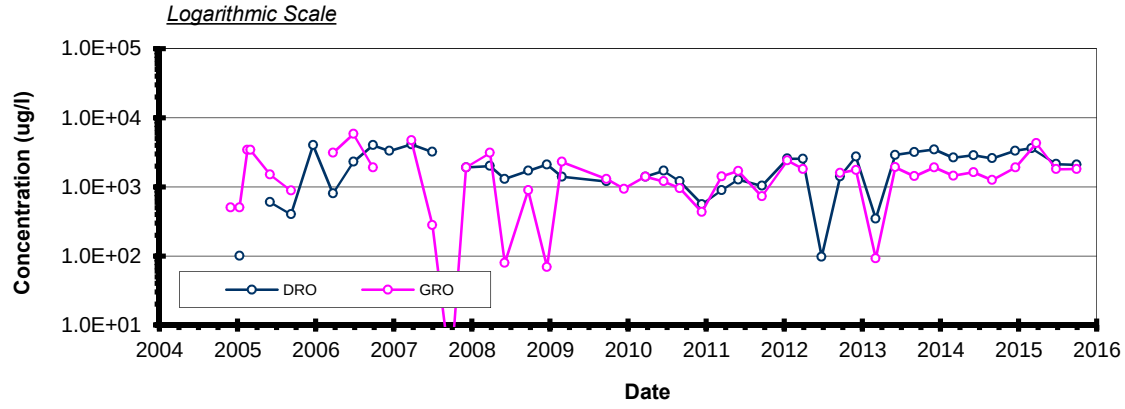


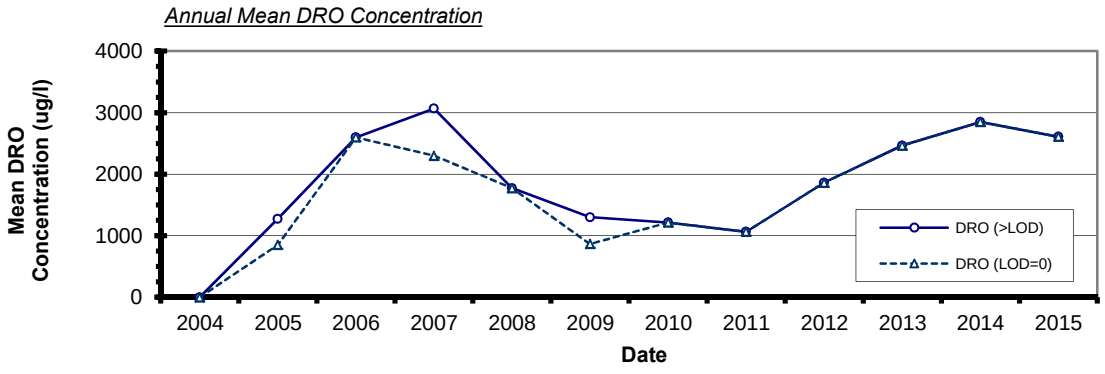


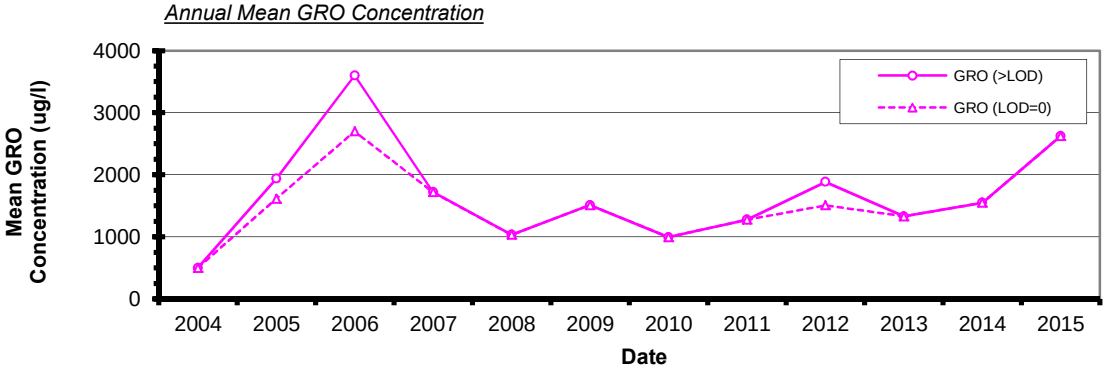


Borehole BH50 - Full Dataset
(Outside of Green Fence)

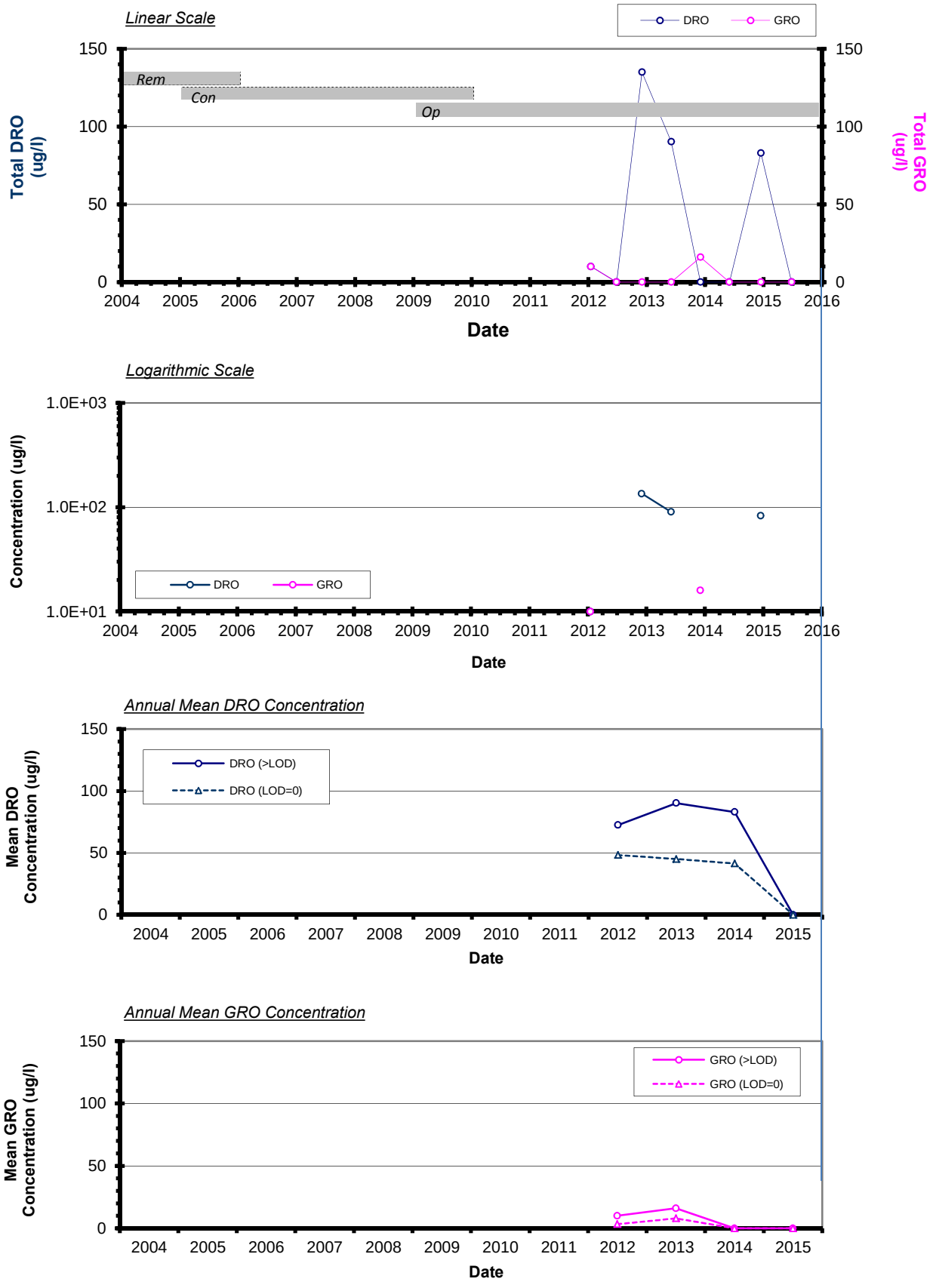




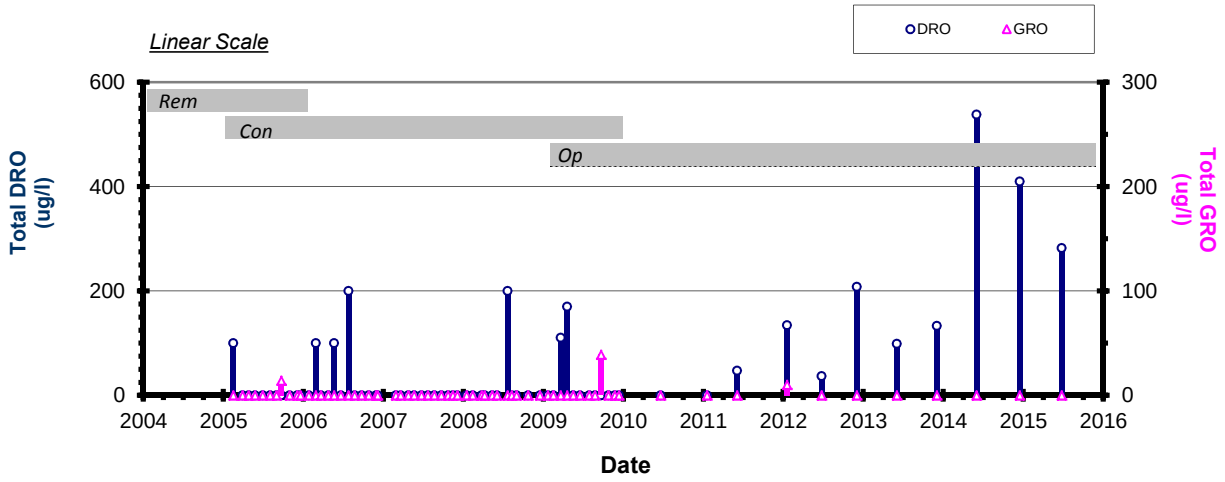


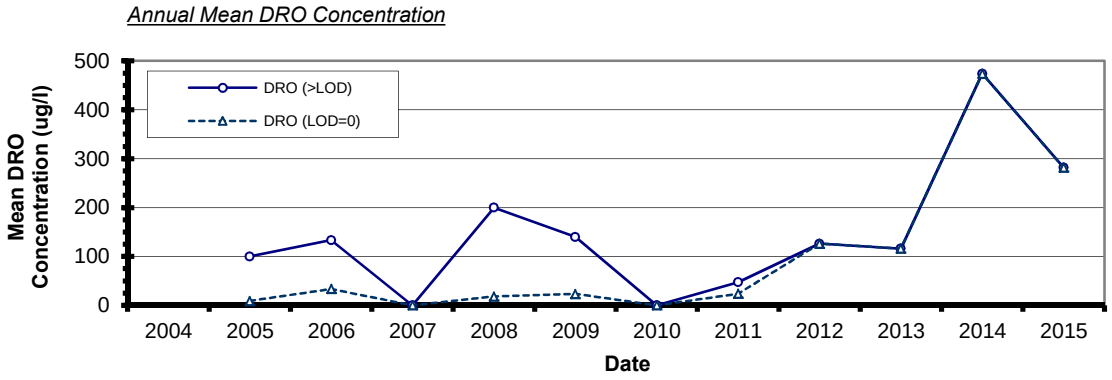


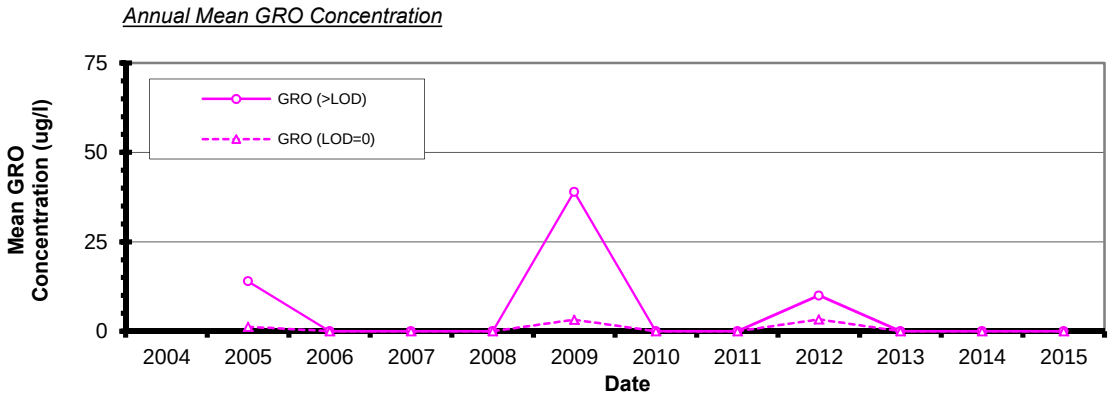
Borehole BH01 - Full Dataset
(Outside of Green Fence)



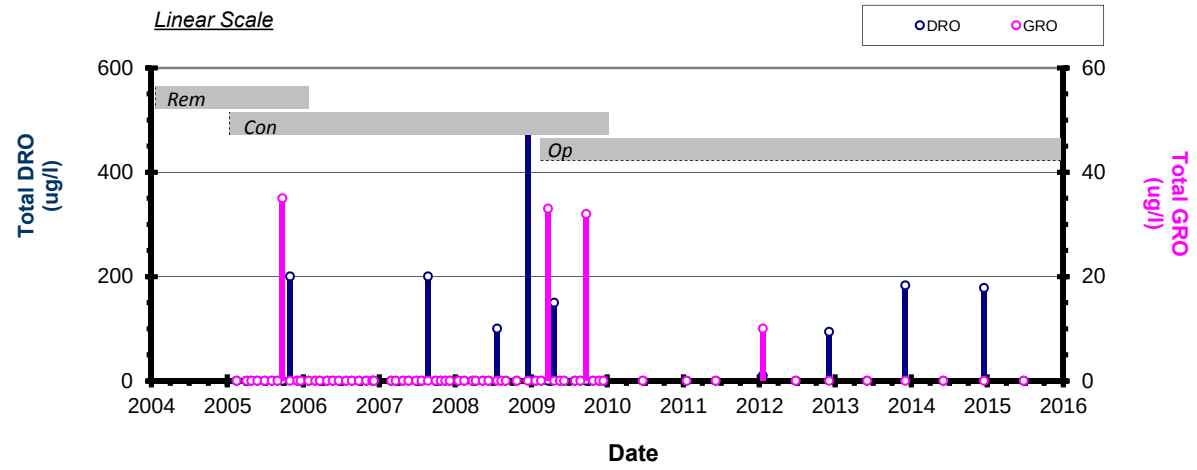
Borehole BH18
(Outside of Green Fence)

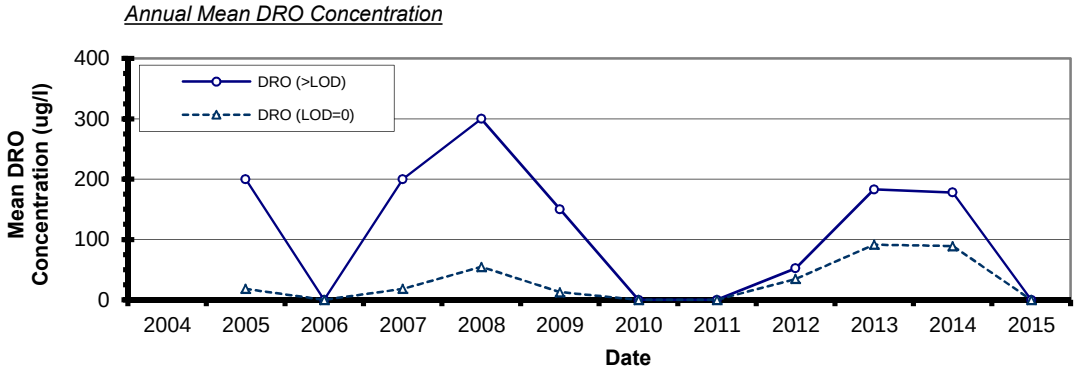


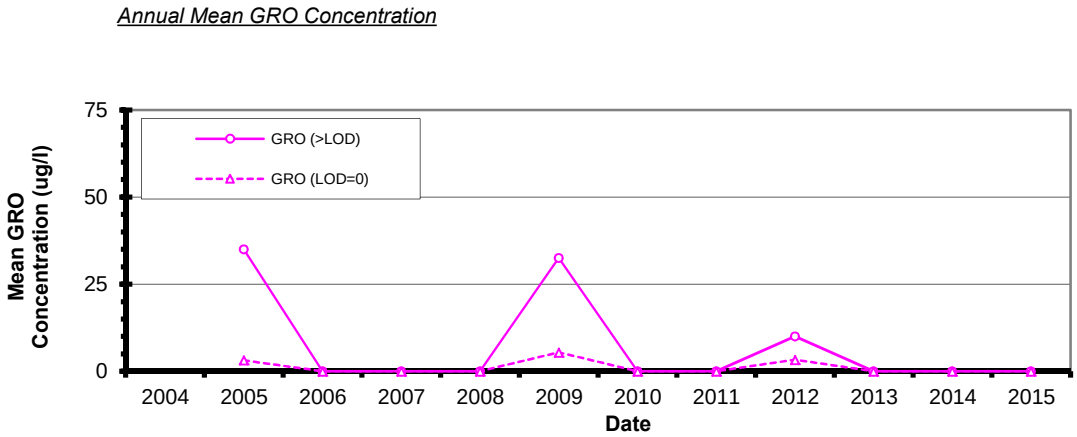




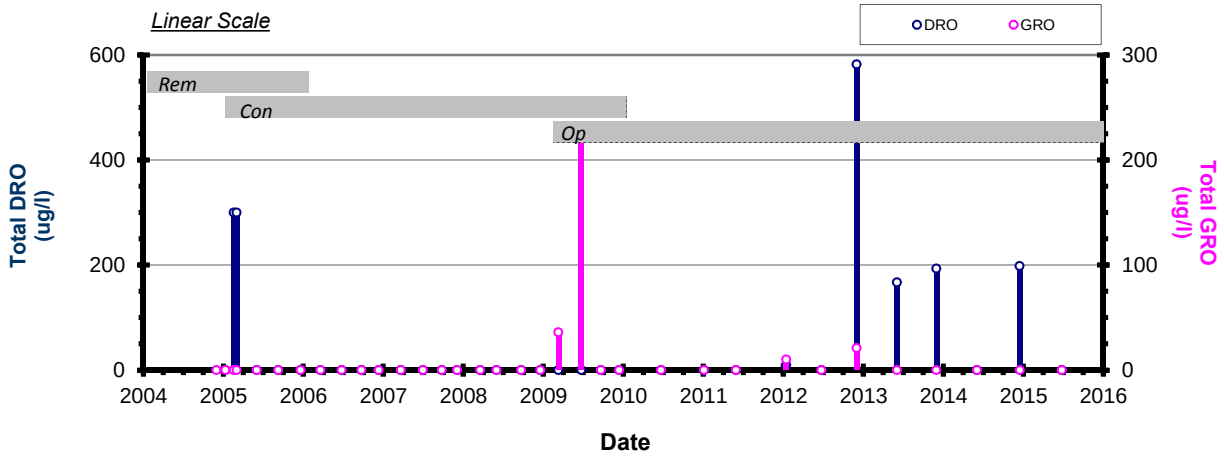
Borehole BH19 - Full Dataset
(Outside of Green Fence)

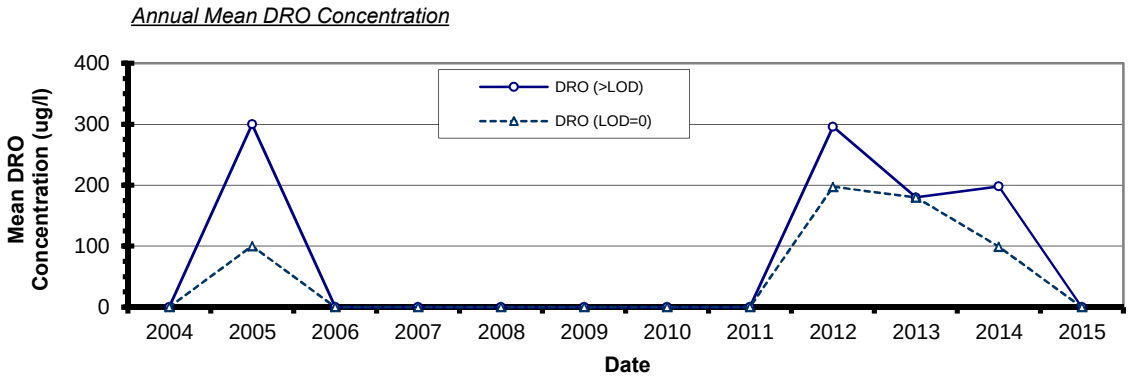


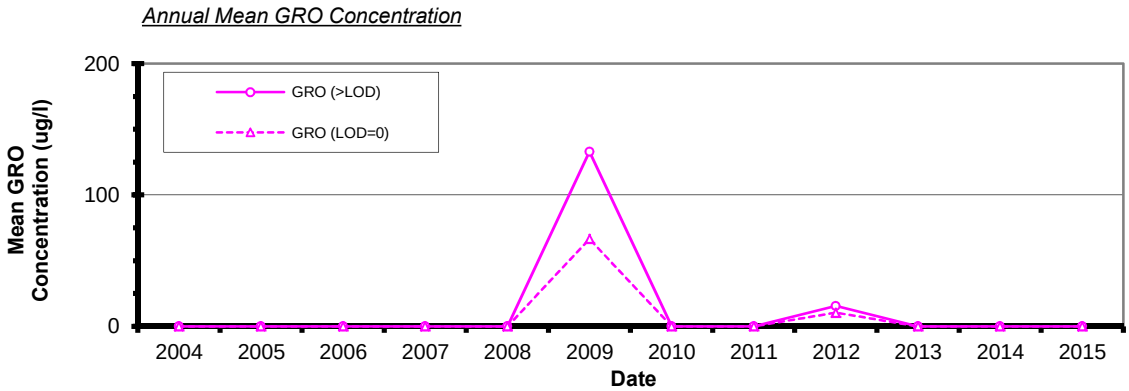




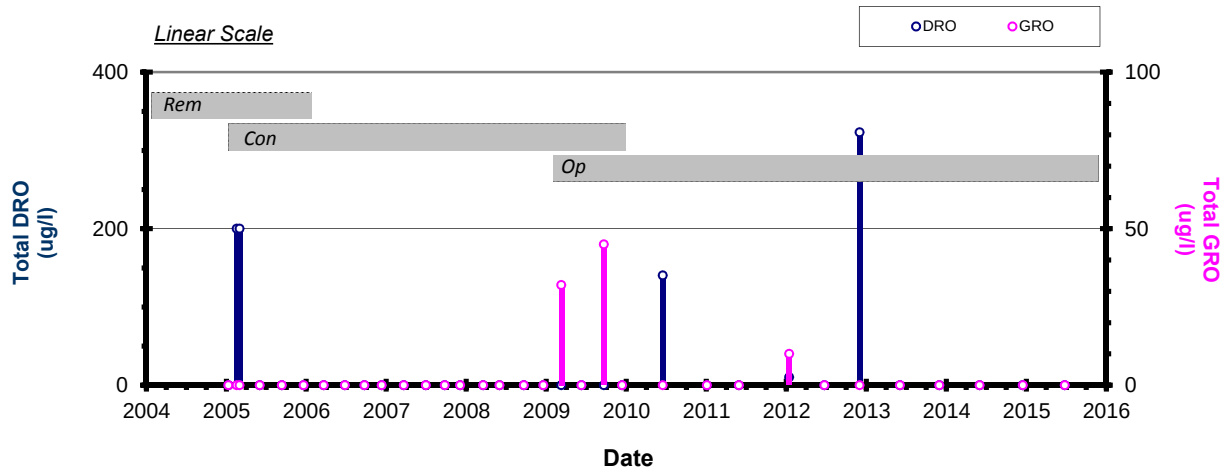
Borehole BH20 - Full Dataset
(Outside of Green Fence)

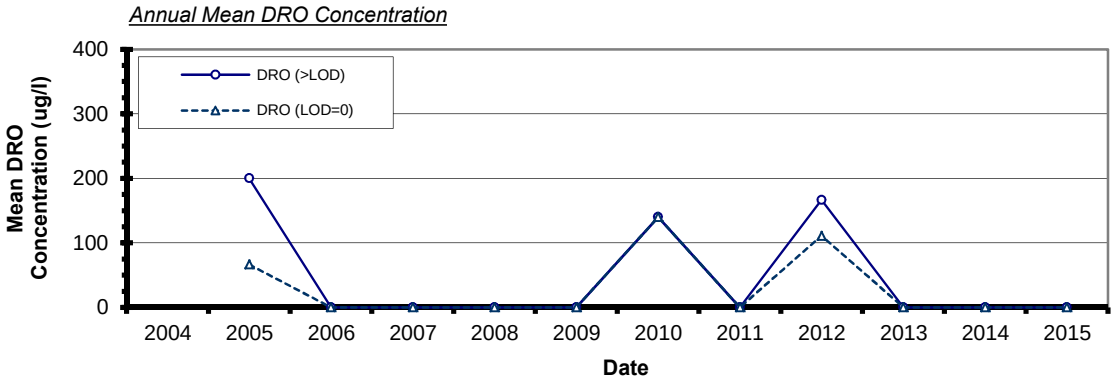


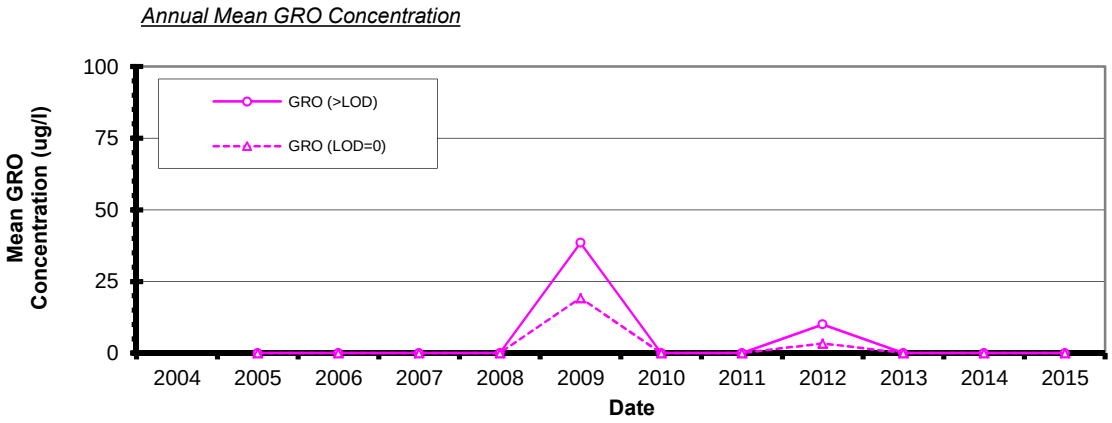




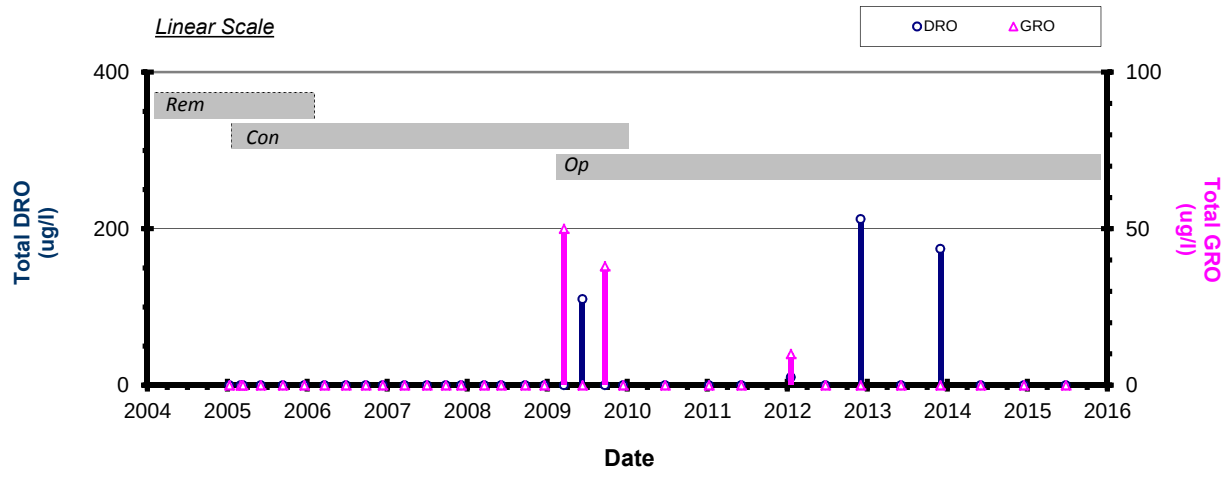
Borehole BH22 - Full Dataset
(Outside of Green Fence)

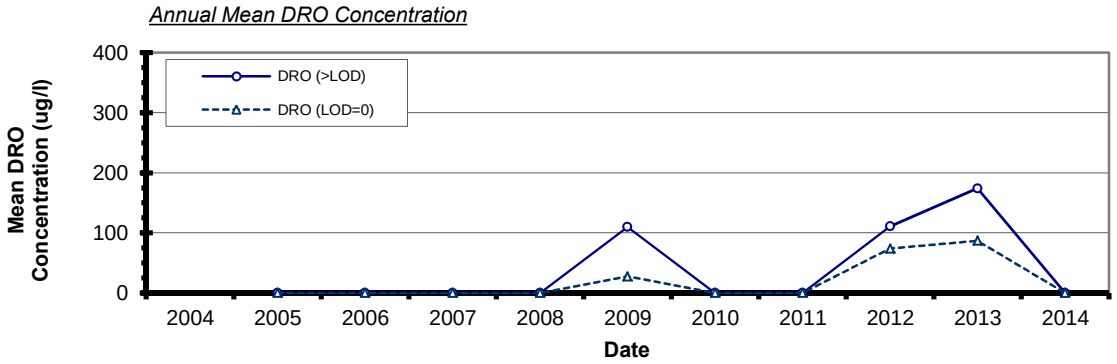


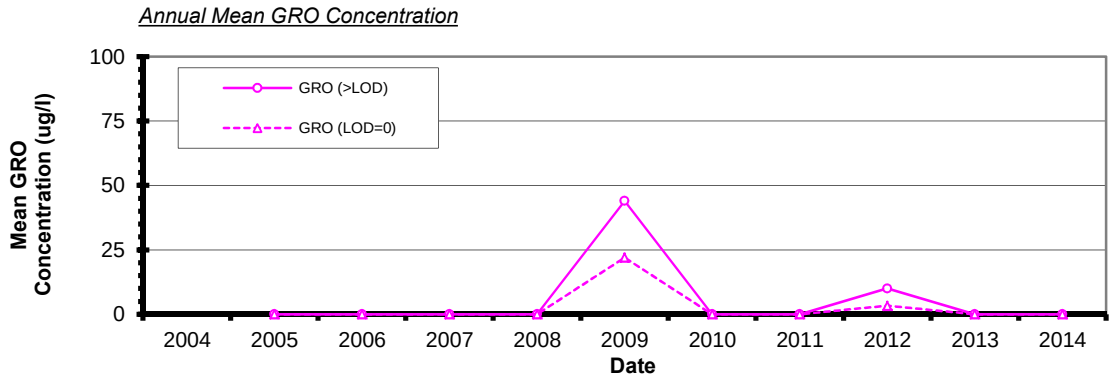




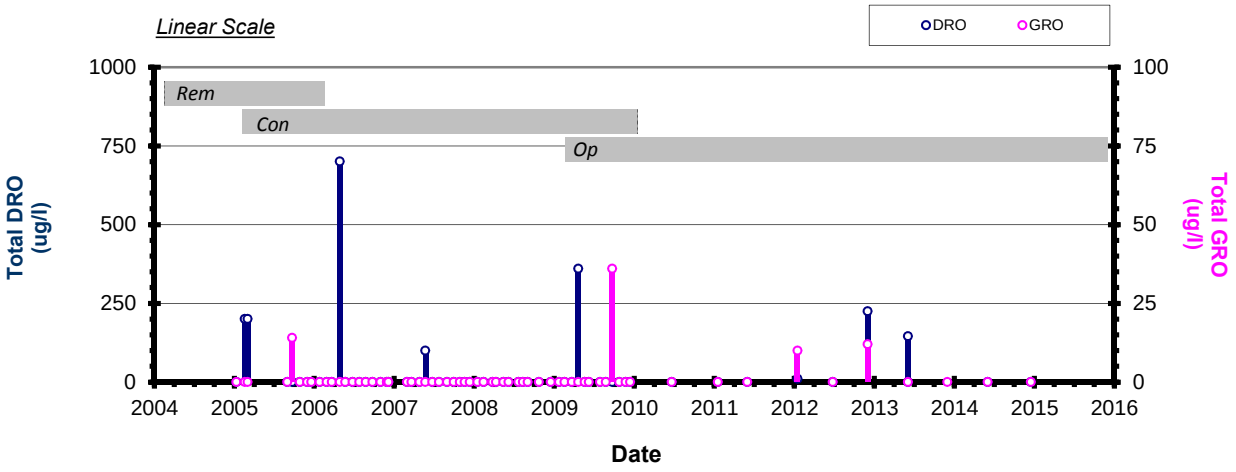
Borehole BH26
(Outside of Green Fence)

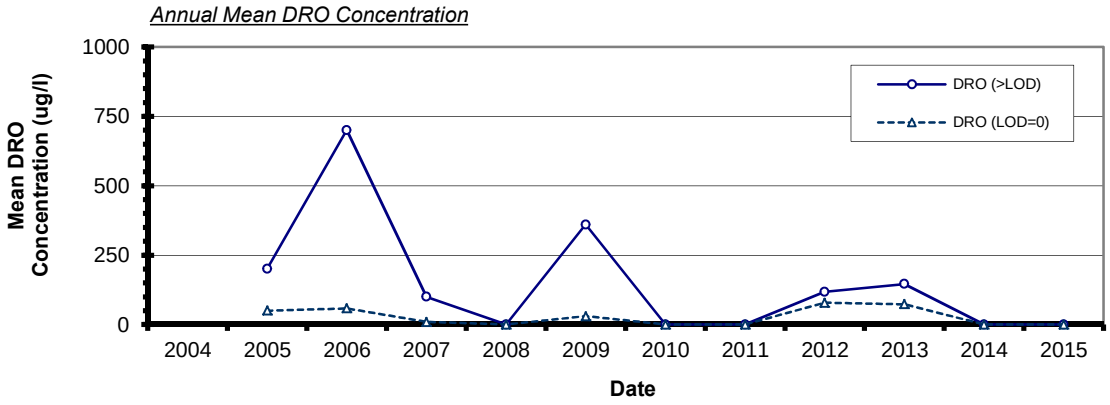


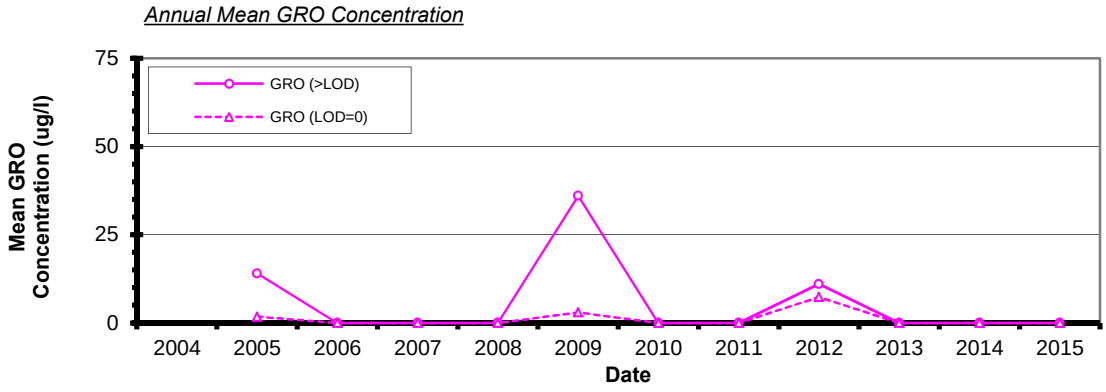




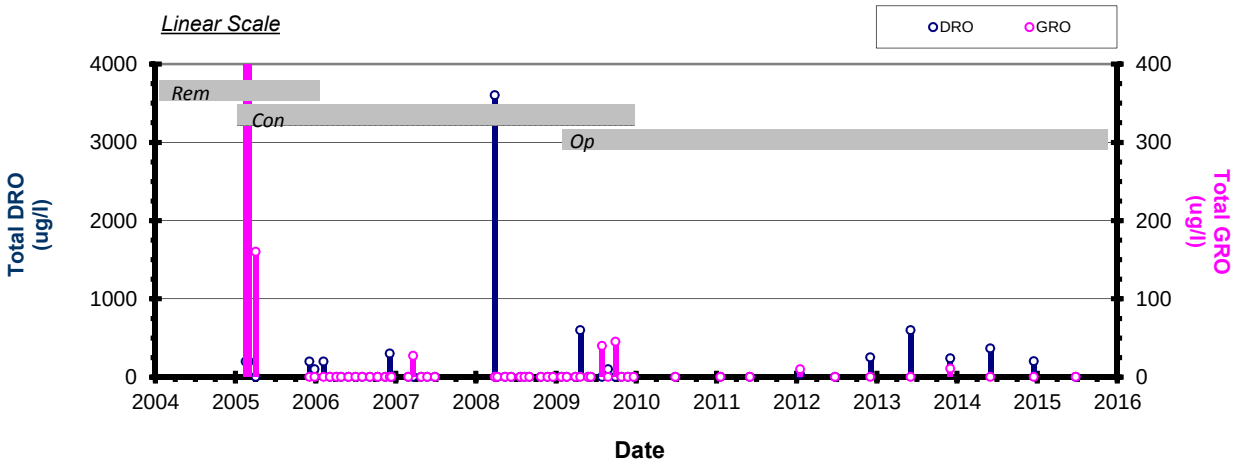
Borehole BH27a
(Outside of Green Fence)

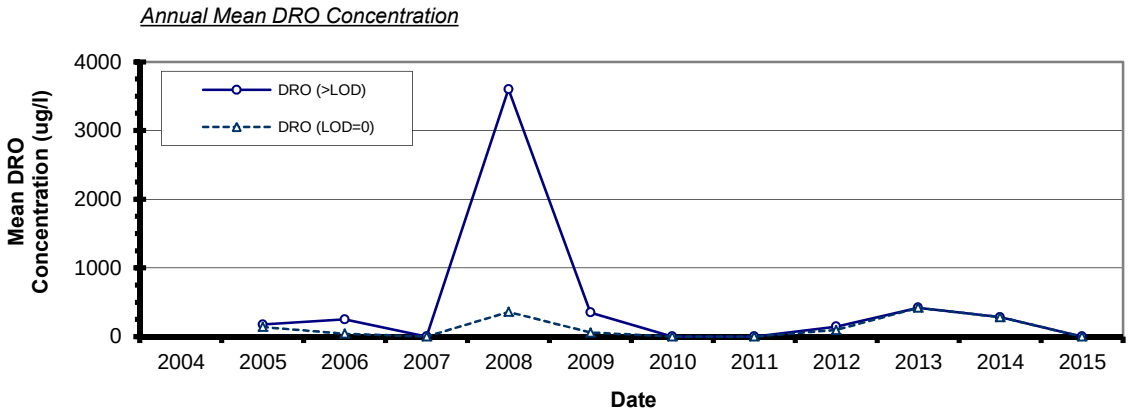


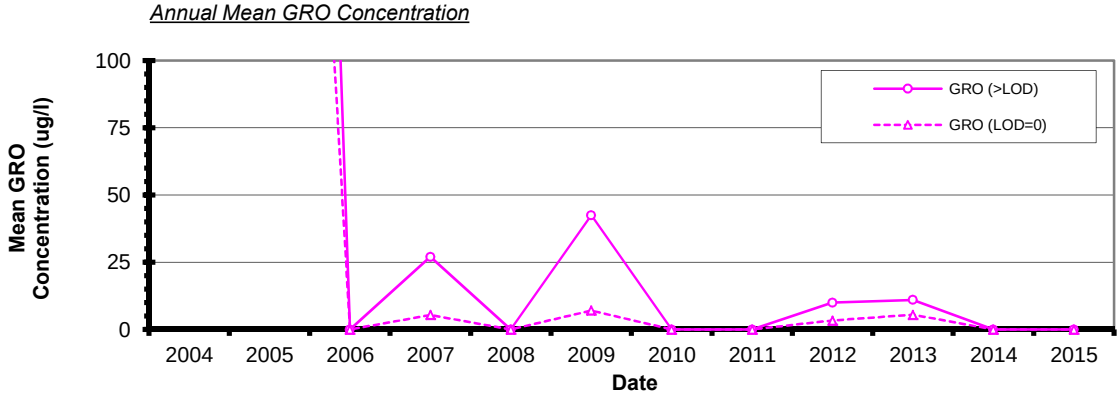




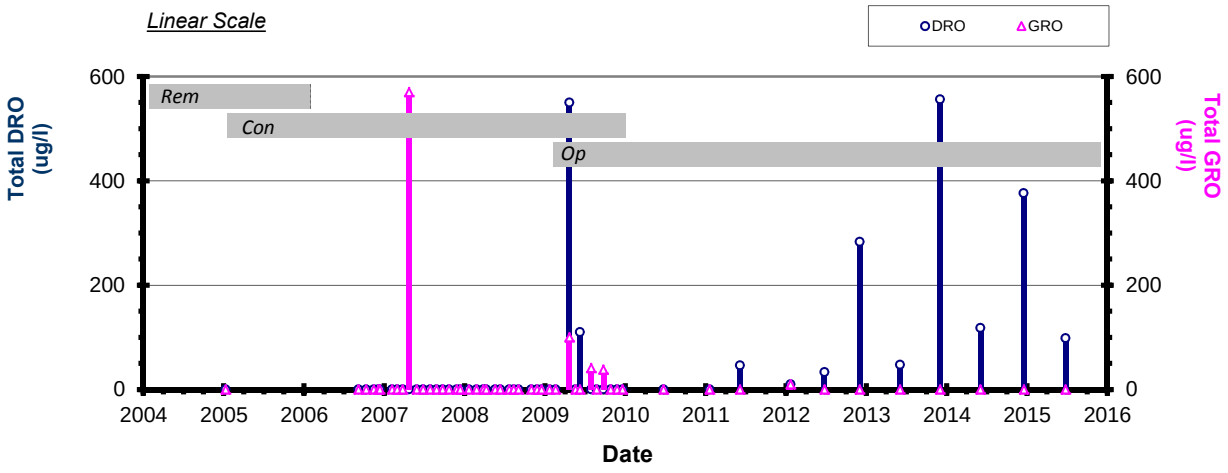
Borehole BH36b - Full Dataset
(Outside of Green Fence)

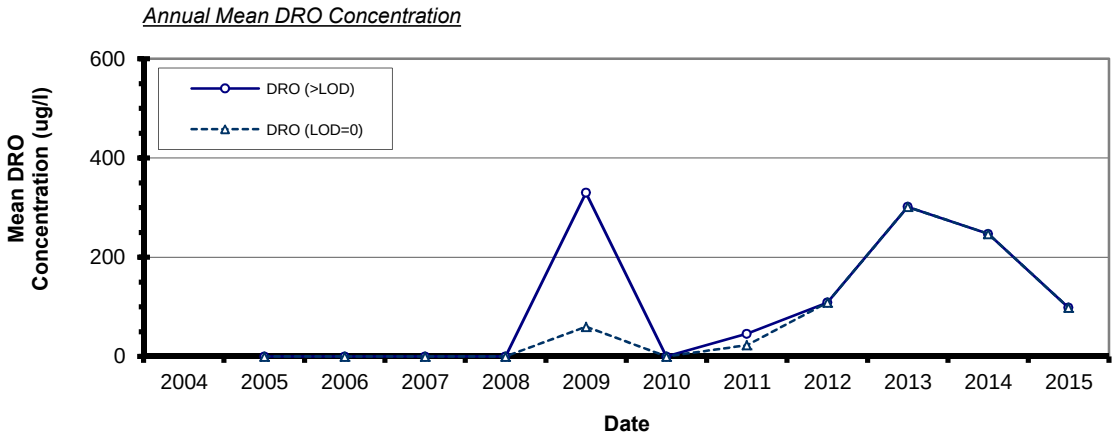


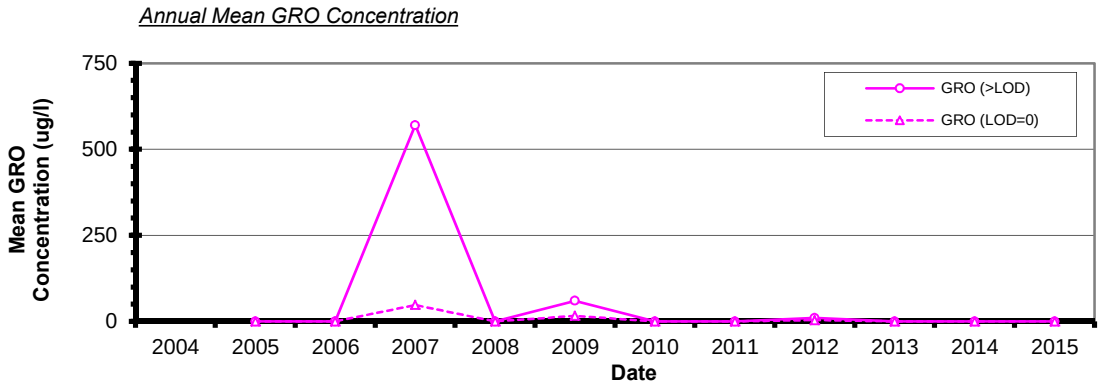




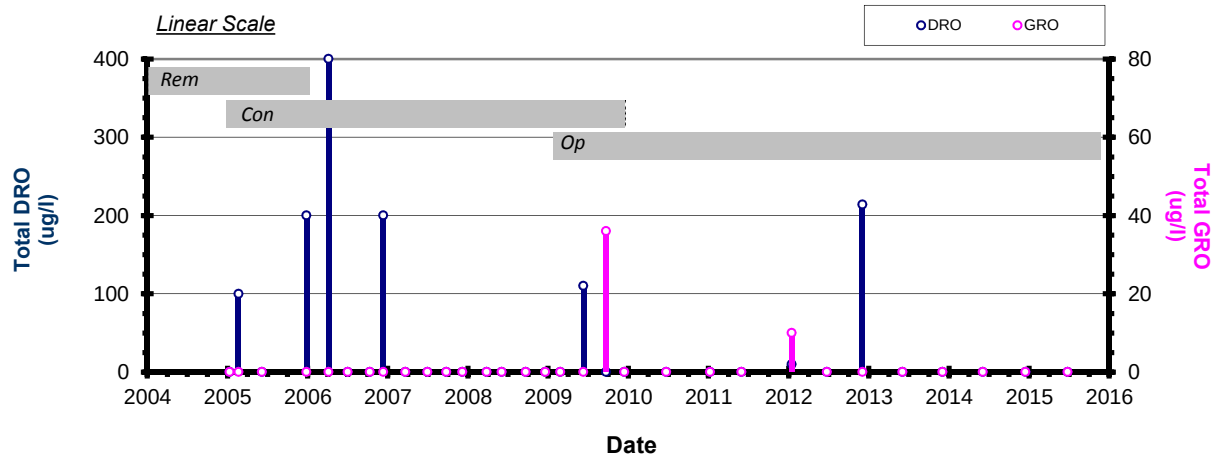
Borehole BH47a - Full Dataset
(Outside of Green Fence)

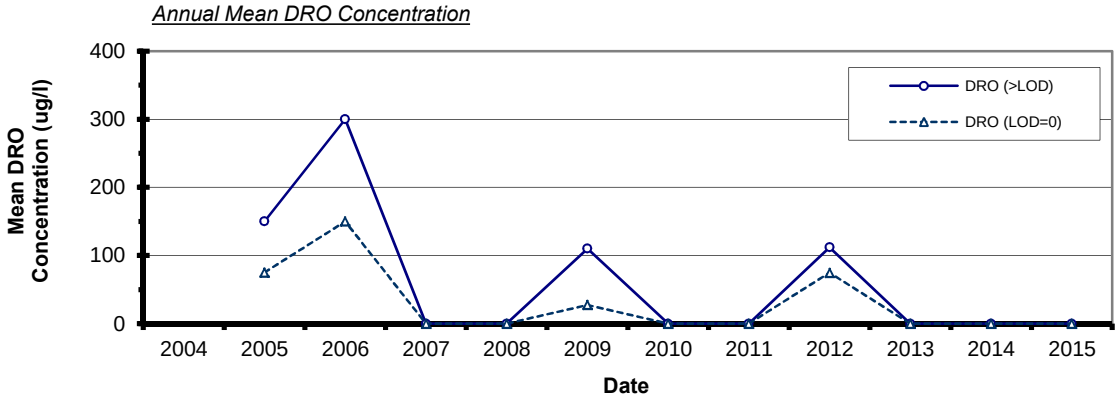


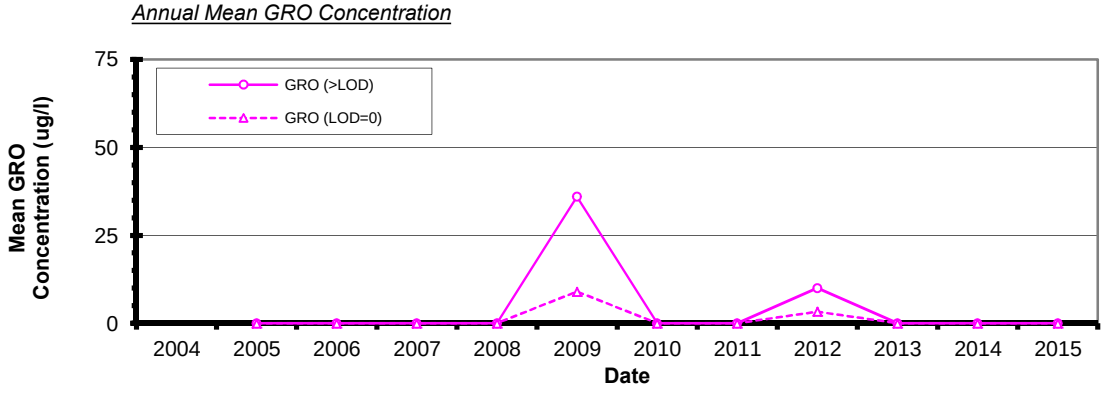




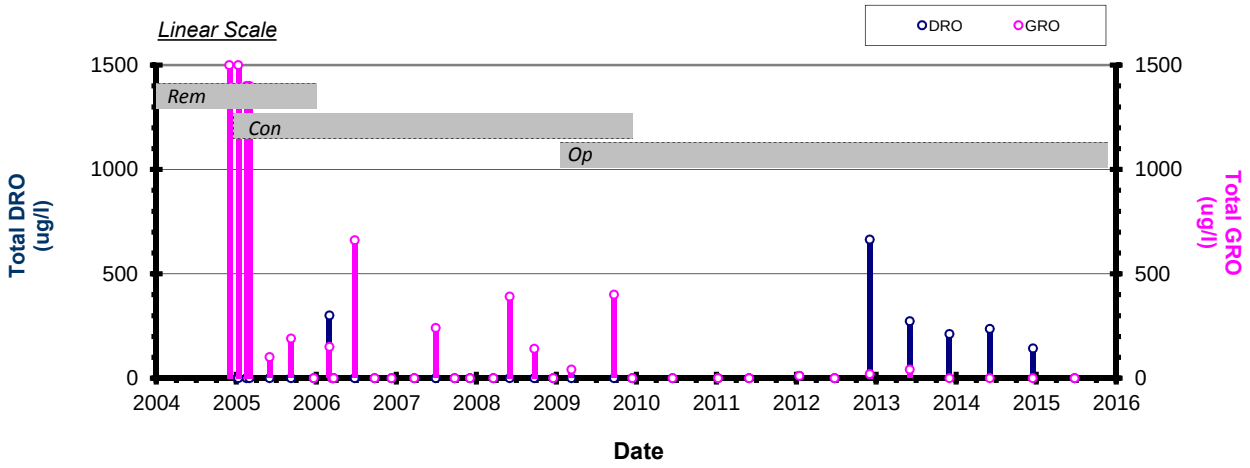
Borehole BH49
(Outside of Green Fence)

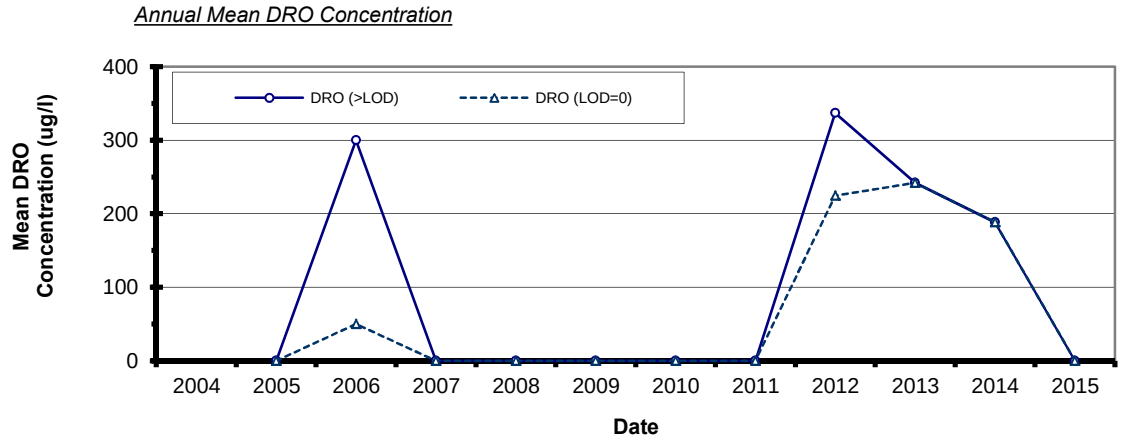


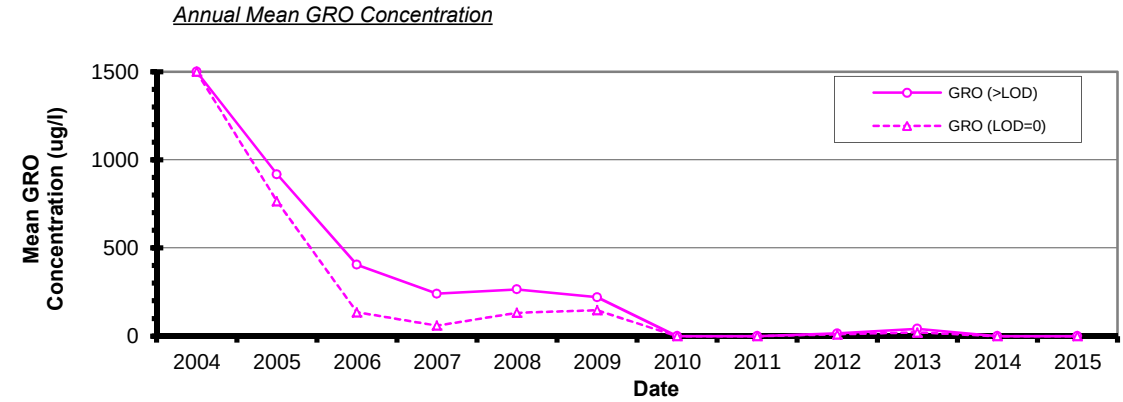




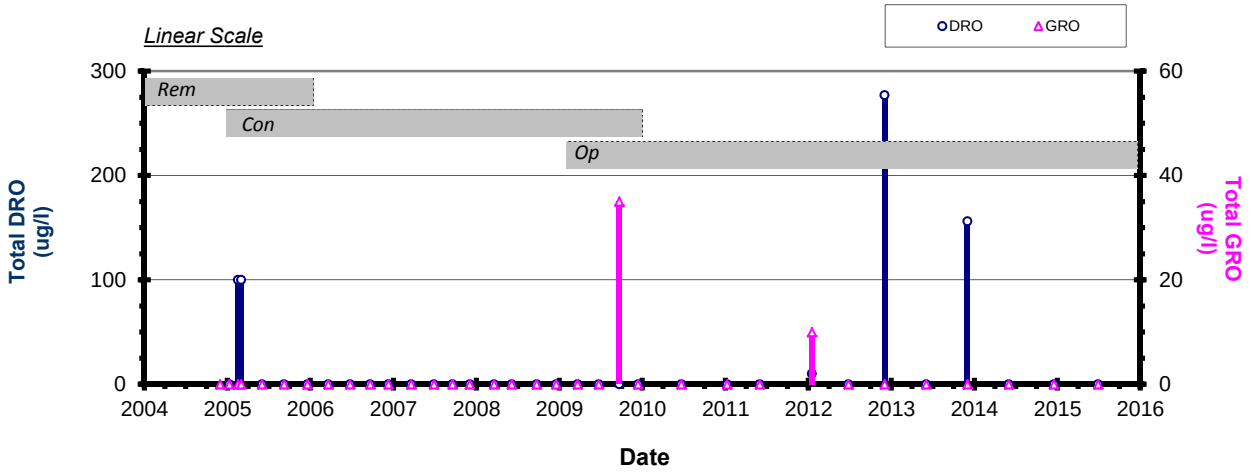
Borehole BH53
(Outside of Green Fence)

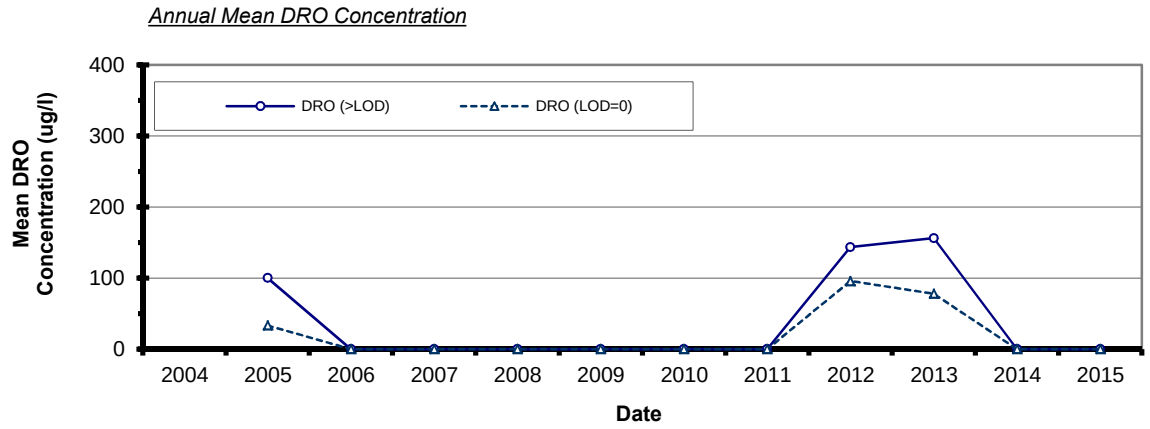


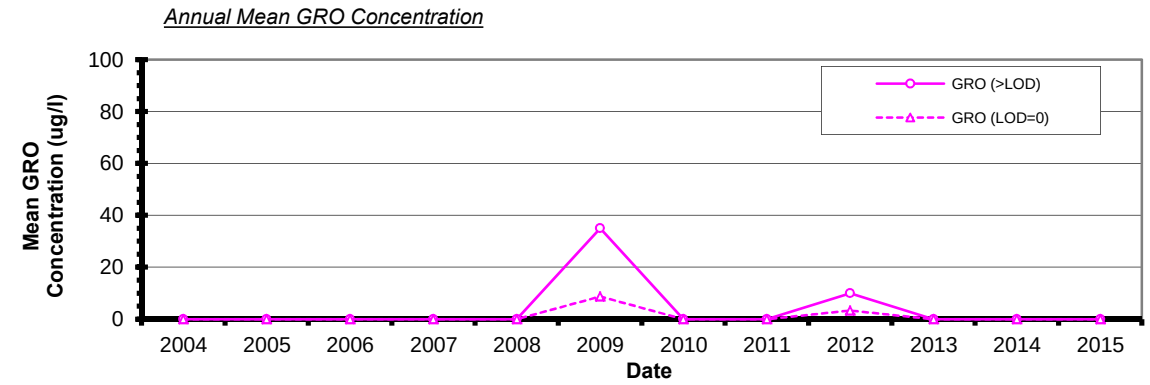




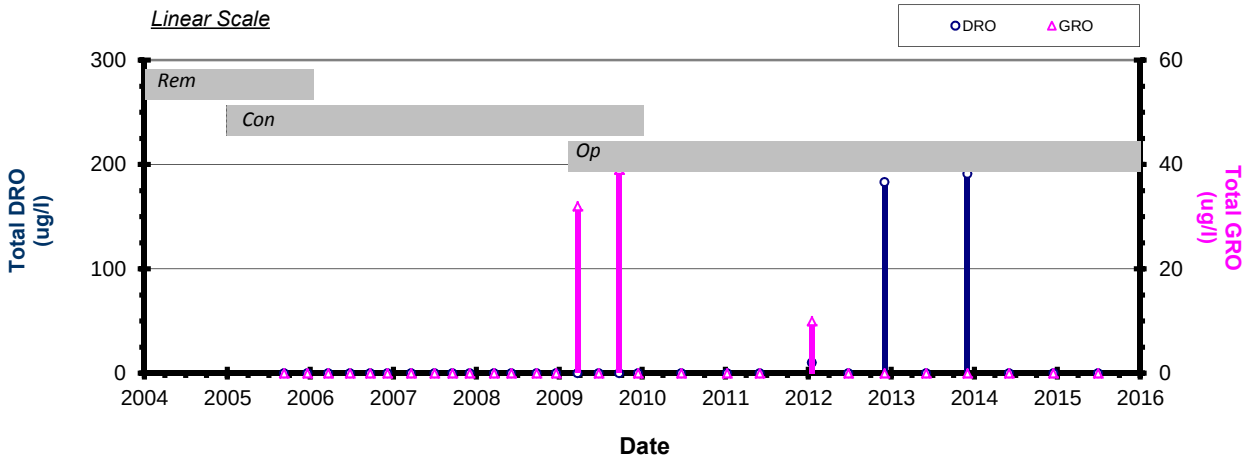
Borehole BH55
(Outside of Green Fence)

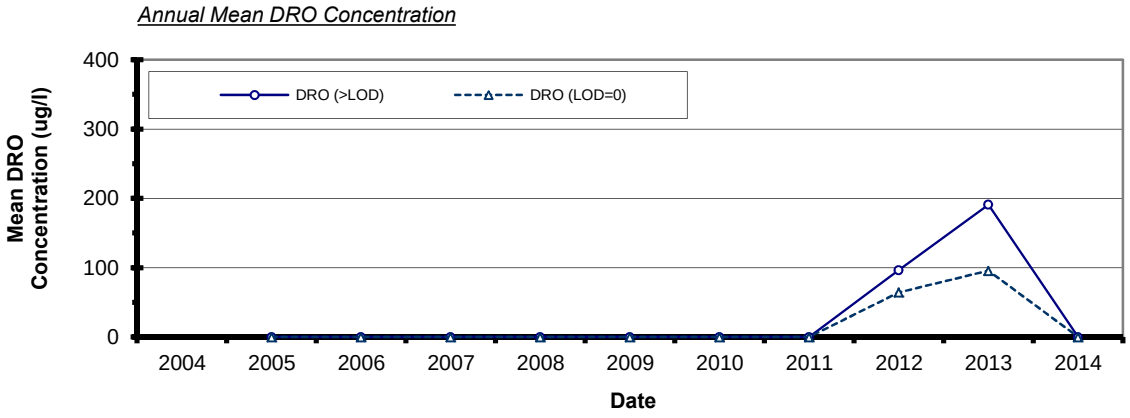


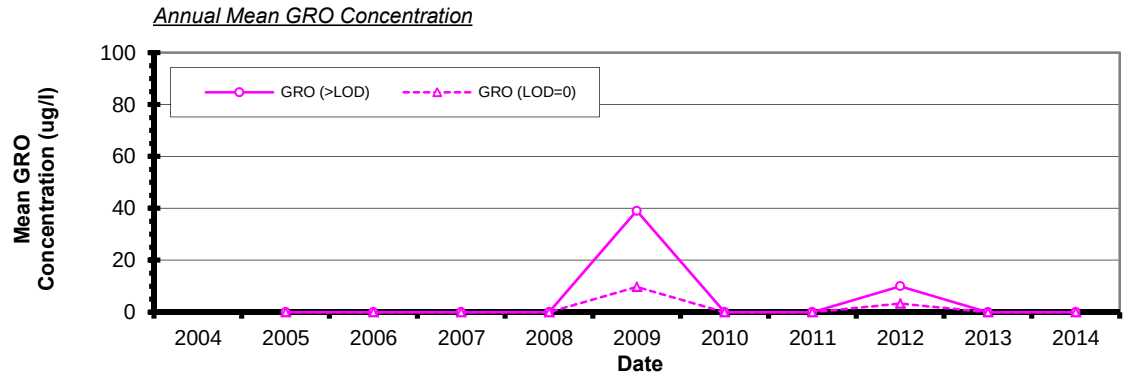




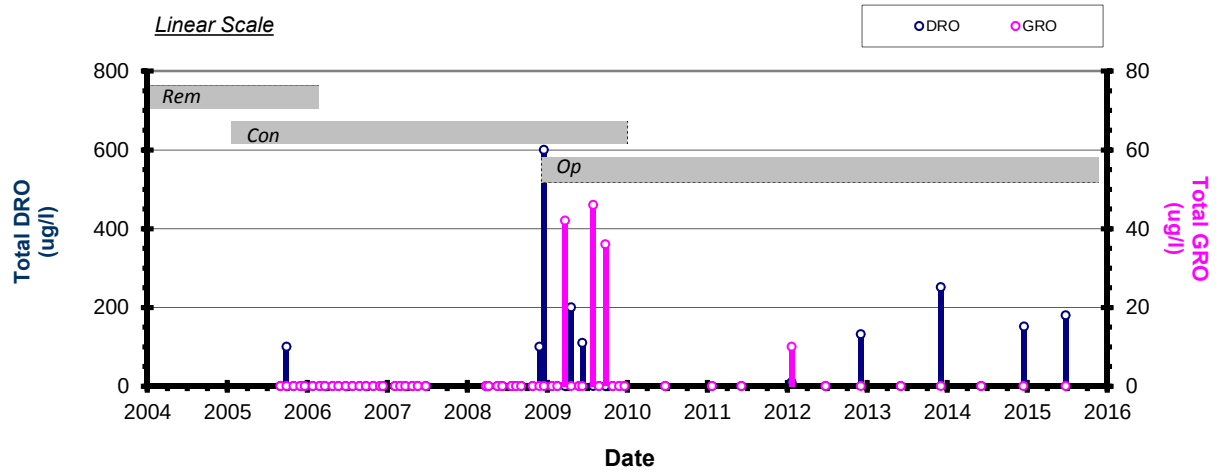
Borehole BH59
(Outside of Green Fence)

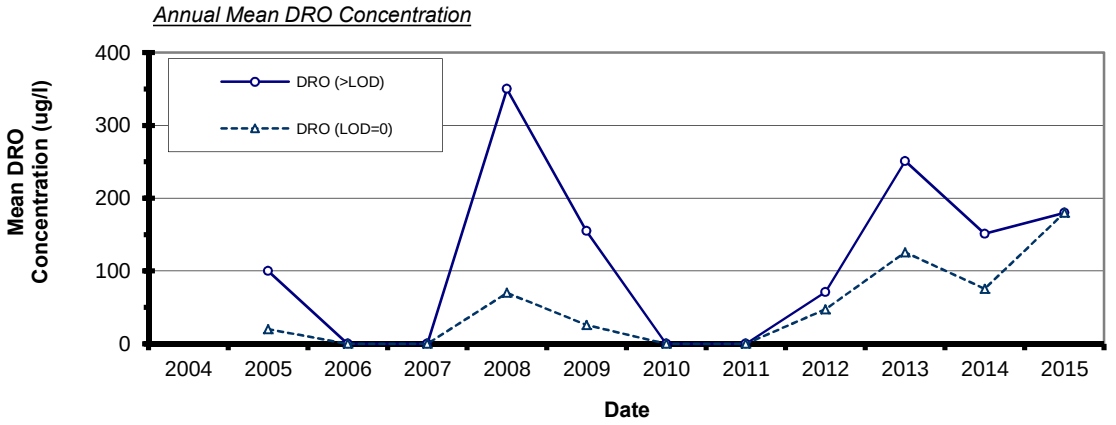


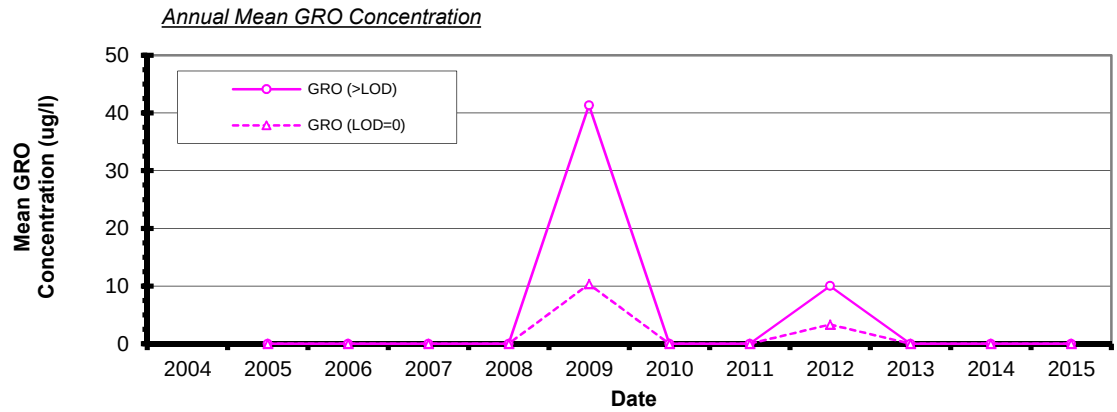




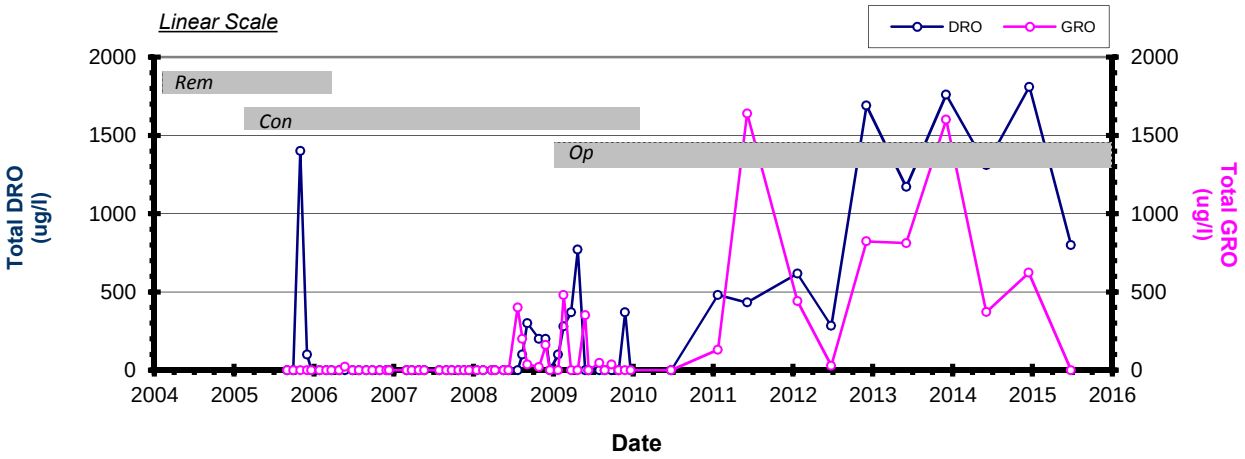
Borehole BH60b
(Outside of Green Fence)

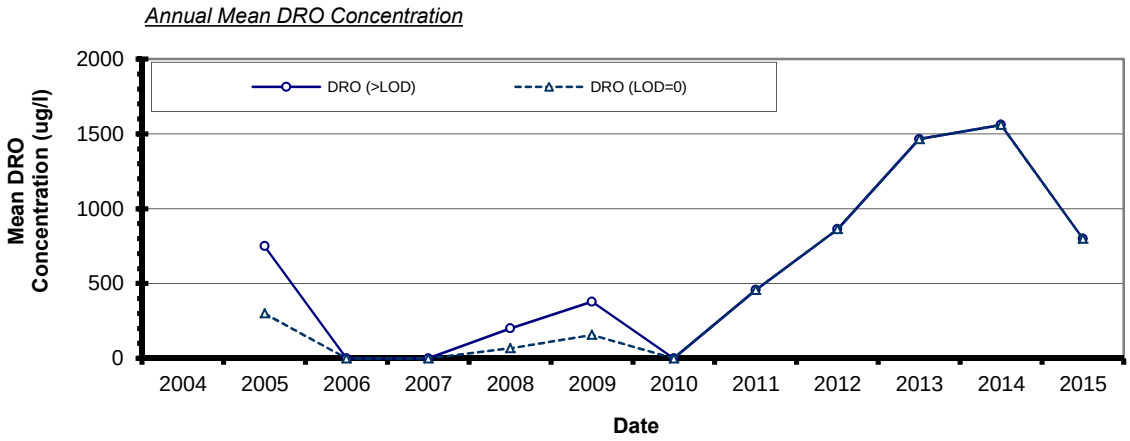


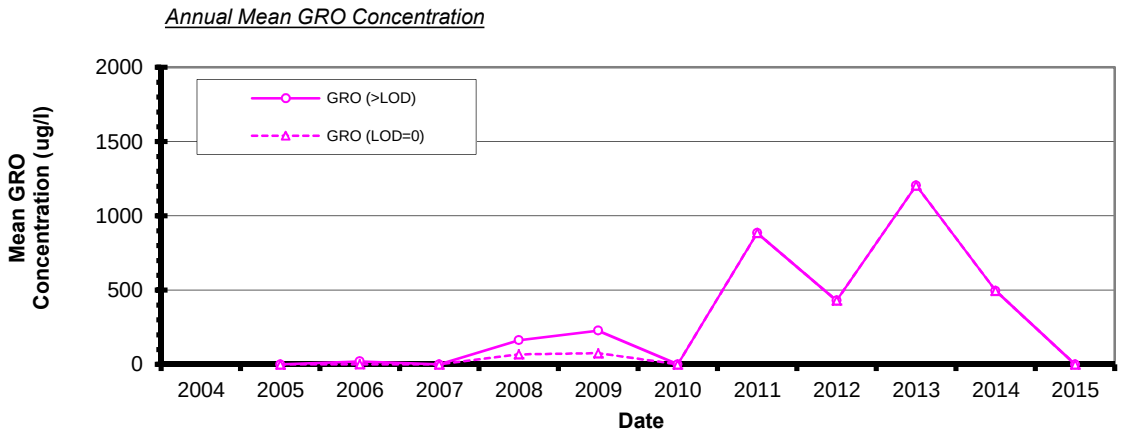




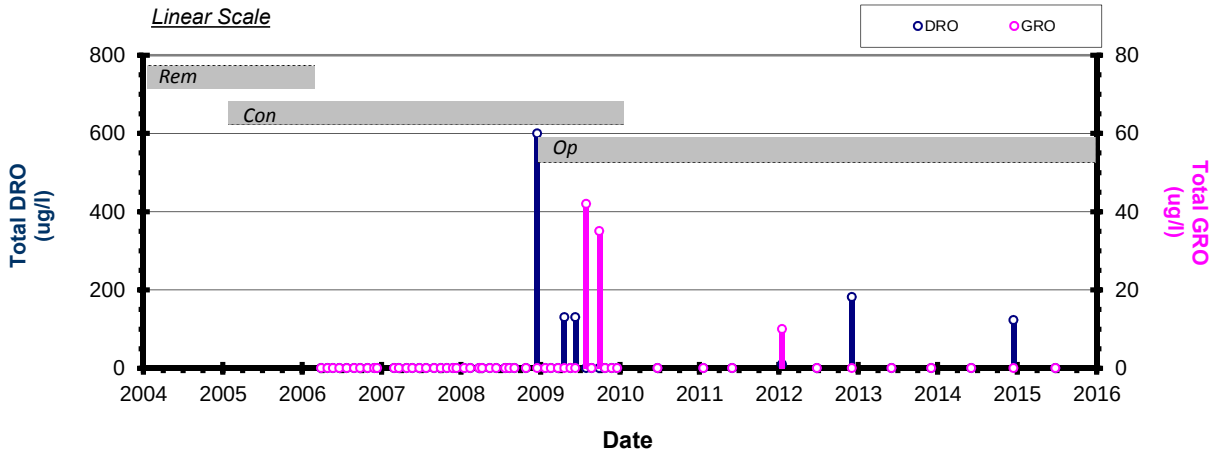
Borehole BH61a
(Outside of Green Fence)

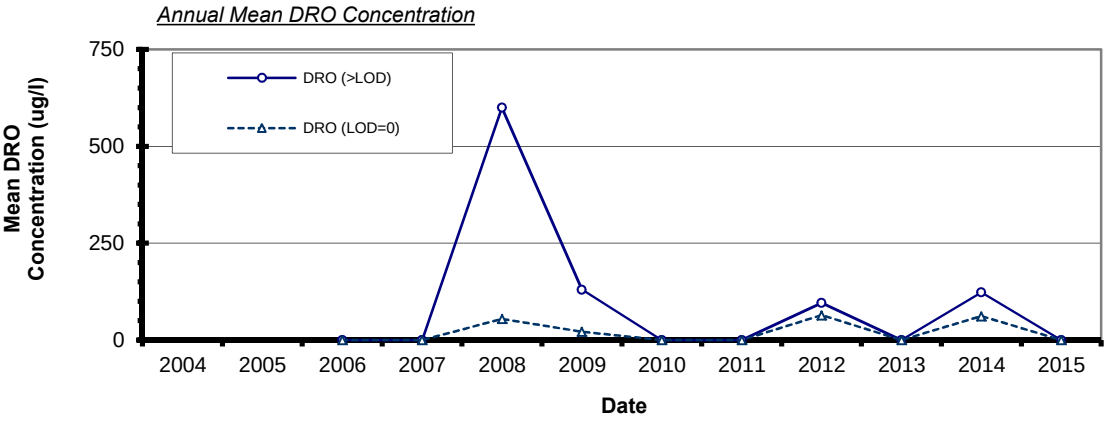


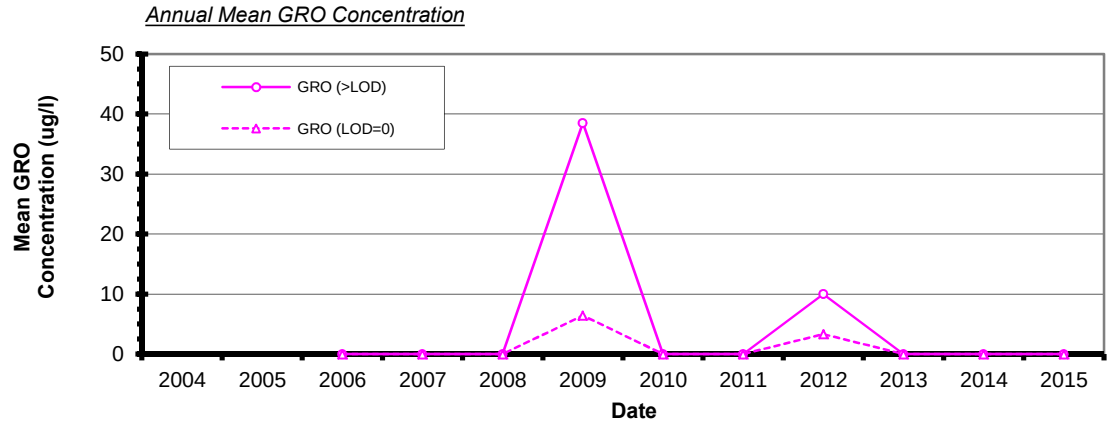




Borehole BH65
(Outside of Green Fence)







Appendix 4

Groundwater Summary Statistics (Boreholes)

JER5575U SHLNG Groundwater Monitoring
Summary Table 1: Total GRO (Full Dataset)
2004 to 2015

Borehole	Monitoring Frequency	Total Gasoline Range Organics (GRO) (C_5 - C_{10}) (GC-FID)						
		Total No. Analyses	No. Analyses above LOD*1		Concentration Range (µg/l)	Average Concentration (for analyses>LOD) (µg/l)	Average Concentration (assumes LOD=Zero) (µg/l)	Standard Deviation (for analyses>LOD) (µg/l)
Monitoring Locations Inside Green Fence								
BH34B	Monthly	115	17	15%	10 - 1800	128	18.9	418
BH41A	Monthly	122	55	45%	10 - 40000	1163	524	5752
BH42A	Monthly	84	75	89%	21 - 690000	10148	9060	79059
BH43	Monthly	129	87	67%	10 - 1300	130	88	224
BH06	Quarterly	80	5	6%	10 - 47	25	2	17
BH44	Quarterly	81	6	7%	10 - 110	41	3	38
MW01	Quarterly	21	3	14%	10 - 1380	467	67	646
MW03	Quarterly	18	4	22%	10 - 14	11	3	2
BH30A	6-Monthly	61	5	8%	10 - 5500	1114.0	91.3	2193.0
BH40A	6-Monthly	57	3	5%	10 - 740	261	13.7	339
BH45A	6-Monthly	47	2	4%	10 - 38	24.0	1.0	14.0
BH63A	6-Monthly	55	2	4%	10 - 53	31.5	1.1	21.5
BHG2	6-Monthly	57	7	12%	10 - 420	148.0	18.2	132.9
Monitoring Locations Outside Green Fence								
BH50	Quarterly	45	42	93%	2 - 5800	1697	1584	1242
BH01	6-Monthly	8	2	25%	10 - 16	13	3	3
BH18	6-Monthly	68	3	4%	10 - 39	21	1	13
BH19	6-Monthly	68	4	6%	10 - 35	27.5	1.6	10.2
BH20	6-Monthly	34	4	12%	10 - 230	74.3	8.7	90.4
BH22	6-Monthly	33	3	9%	10 - 45	29.0	2.6	14.4
BH26	6-Monthly	33	3	9%	10 - 50	32.7	3.0	16.8
BH27A	6-Monthly	64	4	6%	10 - 36	18.0	1.1	10.5
BH36A	6-Monthly	55	8	15%	10 - 1200	336.6	49.0	500.5
BH47A	6-Monthly	52	5	10%	10 - 570	151.8	14.6	211.1
BH49	6-Monthly	31	2	6%	10 - 36	23.0	1.5	13.0
BH53	6-Monthly	35	16	46%	10 - 1500	511	234	566
BH55	6-Monthly	34	2	6%	10 - 35	23	1	13
BH59A	6-Monthly	29	3	10%	10 - 39	27.0	2.8	12.4
BH60B	6-Monthly	56	4	7%	10 - 46	33.5	2.4	14.0
BH61A	6-Monthly	62	19	31%	20 - 1640	432.4	132.5	478.7
BH65A	6-Monthly	55	3	5%	10 - 42	29.0	1.6	13.7

JER5575U SHLNG Groundwater Monitoring
Summary Table 2: Total DRO (Full Dataset)
2004 to 2015

Borehole	Monitoring Frequency	Total Diesel Range Organics (DRO) measured as EPH (C_{10} - C_{40}) (GC-FID)						
		Total No. Analyses	No. Analyses above LOD*1		Concentration Range (ug/l)	Average Concentration (for analyses>LOD) (ug/l)	Average Concentration (assumes LOD=Zero) (ug/l)	Standard Deviation (for analyses>LOD)
Monitoring Locations Inside Green Fence								
BH34B	Monthly	115	87	76%	52.1 - 210000	5463	4132.7	28629
BH41A	Monthly	122	111	91%	25.6 - 130000	7805	7101	20377
BH42A	Monthly	82	82	100%	200 - 740000	46556	46556	94667
BH43	Monthly	128	100	78%	91.3 - 3300	698	545	553
BH06	Quarterly	80	28	35%	10 - 1300	155	54	231
BH44	Quarterly	80	11	14%	10 - 300	119	16	87
MW01	Quarterly	21	5	24%	10 - 125	40	10	43
MW03	Quarterly	18	18	100%	53.1 - 361	156	156	68
BH30A	6-Monthly	61	4	7%	10 - 500	190.7	12.5	192.0
BH40A	6-Monthly	57	11	19%	25 - 6150	997	192.4	1685
BH45A	6-Monthly	47	11	23%	10 - 270	122.4	28.6	72.8
BH63A	6-Monthly	55	2	4%	10 - 50.9	30.5	1.1	20.5
BHG2	6-Monthly	57	26	46%	12.7 - 1700	356.8	162.7	425.0
Monitoring Locations Outside Green Fence								
BH50	Quarterly	44	40	91%	97.4 - 4100	2021	1838	1125
BH01	6-Monthly	8	4	50%	10 - 135	80	40	45
BH18	6-Monthly	68	16	24%	36.9 - 538	179	42	129
BH19	6-Monthly	68	9	13%	10 - 500	179.5	23.8	127.7
BH20	6-Monthly	33	7	21%	10 - 582	250.0	53.0	162.9
BH22	6-Monthly	33	5	15%	10 - 323	174.6	26.5	101.6
BH26	6-Monthly	33	4	12%	10 - 212	126.5	15.3	76.5
BH27A	6-Monthly	64	8	13%	10 - 700	242.6	30.3	197.1
BH36A	6-Monthly	55	15	27%	35.7 - 3600	479.7	130.8	848.3
BH47A	6-Monthly	52	11	21%	10 - 556	202.5	42.8	196.2
BH49	6-Monthly	31	7	23%	10 - 400	176.3	39.8	113.7
BH53	6-Monthly	34	7	21%	10 - 664	262	54	187
BH55	6-Monthly	33	5	15%	10 - 277	129	19	88
BH59A	6-Monthly	29	3	10%	10 - 191	128.0	13.2	83.5
BH60B	6-Monthly	56	10	18%	10 - 600	183.4	32.8	152.1
BH61A	6-Monthly	62	21	34%	100 - 1810	692.4	234.5	571.9
BH65A	6-Monthly	55	6	11%	10 - 600	195.8	21.4	188.0

Appendix 5

Annual Average Dataset (Boreholes)

JER5575U SHLNG Groundwater Monitoring
Total Gasoline Range Organics (GRO)
Annual Averages (2004 to 2015)

INSIDE GREEN FENCE AREA

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH34A?	2004	0	0		
BH34A?	2005	8	0	None > LOD	None > LOD
BH34A?	2006	12	0	None > LOD	None > LOD
BH34A?	2007	5	0	None > LOD	None > LOD
BH34B	2008	10	1	48	8
BH34B	2009	11	2	48	8.6
BH34B	2010	12	1	1800.0	150.0
BH34B	2011	12	3	20	5
BH34B	2012	12	4	19.3	6.4
BH34B	2013	12	4	15.3	5.1
BH34B	2014	12	2	11.0	1.8
BH34B	2015	9	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH41A	2004	0	0		
BH41A	2005	5	0	None > LOD	None > LOD
BH41A	2006	13	6	3228	1490
BH41A	2007	12	8	5218	3479
BH41A	2008	12	5	140	58
BH41A	2009	11	5	205	93.0
BH41A	2010	12	1	61.0	5.1
BH41A	2011	12	3	26	7
BH41A	2012	12	8	19.6	13.1
BH41A	2013	12	7	17.7	10.3
BH41A	2014	12	8	83.0	55.3
BH41A	2015	9	4	15.8	7.0

JER5575U SHLNG Groundwater Monitoring
Total Diesel Range Organics (DRO)
Annual Averages (2004 to 2015)

INSIDE GREEN FENCE AREA

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH34A?	2004	0	0		
BH34A?	2005	8	1	100	13
BH34A?	2006	12	0	None > LOD	None > LOD
BH34A?	2007	5	0	None > LOD	None > LOD
BH34B	2008	10	10	1276	1276
BH34B	2009	11	11	1355	1355.5
BH34B	2010	12	10	327.0	272.5
BH34B	2011	12	11	566	519
BH34B	2012	12	12	178.6	178.6
BH34B	2013	12	12	306.2	306.2
BH34B	2014	12	12	183.2	183.2
BH34B	2015	9	8	191.5	170.2

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH41A	2004	0	0		
BH41A	2005	5	4	2950	2360
BH41A	2006	13	10	14410	11085
BH41A	2007	12	11	20909	19167
BH41A	2008	12	12	17267	17267
BH41A	2009	11	10	6299	5726
BH41A	2010	12	9	624	468
BH41A	2011	12	10	3646	3039
BH41A	2012	12	12	2193	2193
BH41A	2013	12	12	2168.8	2168.8
BH41A	2014	12	12	8028.5	8028.5
BH41A	2015	9	9	2163.6	2163.6

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH42A	2004	0	0		
BH42A	2005	1	1	1800	1800
BH42A	2006	2	0	None > LOD	None > LOD
BH42A	2007	1	1	780	780
BH42A	2008	6	5	2144	1787
BH42A	2009	11	10	71612	71612.1
BH42A	2010	12	9	333.7	250.3
BH42A	2011	12	12	487	487
BH42A	2012	6	6	134.3	134.3
BH42A	2013	12	10	910.8	759.0
BH42A	2014	12	12	548.2	548.2
BH42A	2015	9	9	702.1	702.1

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH42A	2004	0	0		
BH42A	2005	1	1	2500	2500
BH42A	2006	2	2	200	200
BH42A	2007	1	1	13000	13000
BH42A	2008	6	6	58267	58267
BH42A	2009	10	10	142230	142230
BH42A	2010	12	12	21508	21508
BH42A	2011	12	12	52968	52968
BH42A	2012	6	6	18411	18411
BH42A	2013	12	12	41449.2	41449.2
BH42A	2014	11	11	28014.5	28014.5
BH42A	2015	9	9	24447.8	24447.8

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH43	2004	1	1	570	570
BH43	2005	12	4	378	126
BH43	2006	12	4	366	122
BH43	2007	12	7	176	103
BH43	2008	12	10	205	171
BH43	2009	12	7	104	60.6
BH43	2010	12	10	72	60.1
BH43	2011	12	9	153	115
BH43	2012	11	11	48.3	48.3
BH43	2013	12	10	54.0	45.0
BH43	2014	12	7	41.0	23.9
BH43	2015	9	7	47.0	36.6

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH43	2004	0	0	No Analyses	No Analyses
BH43	2005	12	6	700	350
BH43	2006	12	8	713	475
BH43	2007	12	8	1113	742
BH43	2008	12	10	740	617
BH43	2009	12	8	929	619
BH43	2010	12	10	1326	1105
BH43	2011	12	12	548	548
BH43	2012	11	11	287	287
BH43	2013	12	11	385.3	353.2
BH43	2014	12	9	678.7	509.0
BH43	2015	9	7	405.3	315.2

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH06	2004	0	0		
BH06	2005	10	1	14	1
BH06	2006	12	0	None > LOD	None > LOD
BH06	2007	12	0	None > LOD	None > LOD
BH06	2008	11	0	None > LOD	None > LOD
BH06	2009	12	2	45	7.5
BH06	2010	4	0	None > LOD	None > LOD
BH06	2011	3	0	None > LOD	None > LOD
BH06	2012	5	2	10.0	4.0
BH06	2013	4	0	None > LOD	None > LOD
BH06	2014	4	0	None > LOD	None > LOD
BH06	2015	3	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH06	2004	0	0		
BH06	2005	10	3	500	150
BH06	2006	12	2	100	17
BH06	2007	12	0	None > LOD	None > LOD
BH06	2008	11	3	200	55
BH06	2009	12	1	320	27
BH06	2010	4	1	190	48
BH06	2011	3	3	55	55
BH06	2012	5	5	55	55
BH06	2013	4	4	109.3	109.3
BH06	2014	4	4	100.5	100.5
BH06	2015	3	2	122.5	81.7

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH44	2004	1	0	None > LOD	None > LOD
BH44	2005	9	2	65	14
BH44	2006	12	2	50	8
BH44	2007	12	0	None > LOD	None > LOD
BH44	2008	12	0	None > LOD	None > LOD
BH44	2009	12	0	None > LOD	None > LOD
BH44	2010	4	0	None > LOD	None > LOD
BH44	2011	3	0	None > LOD	None > LOD
BH44	2012	5	2	10.0	4.0
BH44	2013	4	0	None > LOD	None > LOD
BH44	2014	4	0	None > LOD	None > LOD
BH44	2015	3	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH44	2004	0	0	No Analyses	No Analyses
BH44	2005	9	0	None > LOD	None > LOD
BH44	2006	12	0	None > LOD	None > LOD
BH44	2007	12	1	300	25
BH44	2008	12	0	None > LOD	None > LOD
BH44	2009	12	2	145	24.2
BH44	2010	4	1	230.0	57.5
BH44	2011	3	0	None > LOD	None > LOD
BH44	2012	5	2	10.0	4.0
BH44	2013	4	2	88.5	44.3
BH44	2014	4	2	110.9	55.4
BH44	2015	3	1	75.1	25.0

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
MW01	2004	0			
MW01	2005	0			
MW01	2006	0			
MW01	2007	0			
MW01	2008	0			
MW01	2009	1	1	1380	1380.0
MW01	2010	2	0	None > LOD	None > LOD
MW01	2011	2	0	None > LOD	None > LOD
MW01	2012	5	2	10.0	4.0
MW01	2013	4	0	None > LOD	None > LOD
MW01	2014	4	0	None > LOD	None > LOD
MW01	2015	3	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
MW01	2004	0			
MW01	2005	0			
MW01	2006	0			
MW01	2007	0			
MW01	2008	0			
MW01	2009	1	0	None > LOD	None > LOD
MW01	2010	2	0	None > LOD	None > LOD
MW01	2011	2	1	33	16
MW01	2012	5	3	14.7	8.8
MW01	2013	4	0	None > LOD	None > LOD
MW01	2014	4	1	125.0	31.3
MW01	2015	3	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
MW03	2004	0			
MW03	2005	0			
MW03	2006	0			
MW03	2007	0			
MW03	2008	0			
MW03	2009	0			
MW03	2010	0			
MW03	2011	2	0	None > LOD	None > LOD
MW03	2012	5	2	10.0	4.0
MW03	2013	4	1	14.0	3.5
MW03	2014	4	1	11.0	2.8
MW03	2015	3	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
MW03	2004	0			
MW03	2005	0			
MW03	2006	0			
MW03	2007	0			
MW03	2008	0			
MW03	2009	0			
MW03	2010	0			
MW03	2011	2	2	134	134
MW03	2012	5	5	103.6	103.6
MW03	2013	4	4	174.5	174.5
MW03	2014	4	4	213.0	213.0
MW03	2015	3	3	157.3	157.3

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH30a	2004	0			
BH30a	2005	6	2	2757	919
BH30a	2006	12	0	None > LOD	None > LOD
BH30a	2007	10	1	13	1
BH30a	2008	11	0	None > LOD	None > LOD
BH30a	2009	11	1	34	3
BH30a	2010	1	0	None > LOD	None > LOD
BH30a	2011	2	0	None > LOD	None > LOD
BH30a	2012	3	1	10	3
BH30a	2013	2	0	None > LOD	None > LOD
BH30a	2014	2	0	None > LOD	None > LOD
BH30a	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH30a	2004	0			
BH30a	2005	6	1	200	33
BH30a	2006	12	0	None > LOD	None > LOD
BH30a	2007	10	0	None > LOD	None > LOD
BH30a	2008	11	0	None > LOD	None > LOD
BH30a	2009	11	1	500	45.5
BH30a	2010	1	0	None > LOD	None > LOD
BH30a	2011	2	0	None > LOD	None > LOD
BH30a	2012	3	1	10	3
BH30a	2013	2	1	52.8	26.4
BH30a	2014	2	0	None > LOD	None > LOD
BH30a	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH40a	2004	0			
BH40a	2005	1	0	None > LOD	None > LOD
BH40a	2006	10	1	740	74
BH40a	2007	12	0	None > LOD	None > LOD
BH40a	2008	11	0	None > LOD	None > LOD
BH40a	2009	12	1	33	2.8
BH40a	2010	1	0	None > LOD	None > LOD
BH40a	2011	2	0	None > LOD	None > LOD
BH40a	2012	3	1	10.0	3.3
BH40a	2013	2	0	None > LOD	None > LOD
BH40a	2014	2	0	None > LOD	None > LOD
BH40a	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH40a	2004	0			
BH40a	2005	1	0	None > LOD	None > LOD
BH40a	2006	10	0	None > LOD	None > LOD
BH40a	2007	12	0	None > LOD	None > LOD
BH40a	2008	11	0	None > LOD	None > LOD
BH40a	2009	12	3	283	70.8
BH40a	2010	1	0	None > LOD	None > LOD
BH40a	2011	2	0	None > LOD	None > LOD
BH40a	2012	3	3	2197.0	2197.0
BH40a	2013	2	2	800.0	800.0
BH40a	2014	2	2	878.5	878.5
BH40a	2015	1	1	168.0	168.0

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH45b	2004	0			
BH45b	2005	0			
BH45b	2006	10	0	None > LOD	None > LOD
BH45b	2007	6	0	None > LOD	None > LOD
BH45b	2008	10	0	None > LOD	None > LOD
BH45b	2009	10	1	38	3.8
BH45b	2010	1	0	None > LOD	None > LOD
BH45b	2011	2	0	None > LOD	None > LOD
BH45b	2012	3	1	10.0	3.3
BH45b	2013	2	0	None > LOD	None > LOD
BH45b	2014	2	0	None > LOD	None > LOD
BH45b	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH45b	2004	0			
BH45b	2005	0			
BH45b	2006	10	0	None > LOD	None > LOD
BH45b	2007	6	0	None > LOD	None > LOD
BH45b	2008	10	3	133	40
BH45b	2009	10	0	None > LOD	None > LOD
BH45b	2010	1	0	None > LOD	None > LOD
BH45b	2011	2	0	None > LOD	None > LOD
BH45b	2012	3	3	108.3	108.3
BH45b	2013	2	2	183.5	183.5
BH45b	2014	2	2	91.7	91.7
BH45b	2015	1	1	71.1	71.1

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH63a	2004	0			
BH63a	2005	0			
BH63a	2006	10	0	None > LOD	None > LOD
BH63a	2007	11	0	None > LOD	None > LOD
BH63a	2008	11	0	None > LOD	None > LOD
BH63a	2009	12	1	53	4.4
BH63a	2010	1	0	None > LOD	None > LOD
BH63a	2011	2	0	None > LOD	None > LOD
BH63a	2012	3	1	10.0	3.3
BH63a	2013	2	0	None > LOD	None > LOD
BH63a	2014	2	0	None > LOD	None > LOD
BH63a	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH63a	2004	0			
BH63a	2005	0			
BH63a	2006	10	0	None > LOD	None > LOD
BH63a	2007	11	0	None > LOD	None > LOD
BH63a	2008	11	0	None > LOD	None > LOD
BH63a	2009	12	0	None > LOD	None > LOD
BH63a	2010	1	0	None > LOD	None > LOD
BH63a	2011	2	0	None > LOD	None > LOD
BH63a	2012	3	1	10.0	3.3
BH63a	2013	2	1	50.9	25.5
BH63a	2014	2	0	None > LOD	None > LOD
BH63a	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BHG2b	2004	0			
BHG2b	2005	2	0	None > LOD	None > LOD
BHG2b	2006	10	4	227	91
BHG2b	2007	12	0	None > LOD	None > LOD
BHG2b	2008	11	1	73	7
BHG2b	2009	11	1	44	4.0
BHG2b	2010	1	0	None > LOD	None > LOD
BHG2b	2011	2	0	None > LOD	None > LOD
BHG2b	2012	3	1	10.0	3.3
BHG2b	2013	2	0	None > LOD	None > LOD
BHG2b	2014	2	0	None > LOD	None > LOD
BHG2b	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BHG2b	2004	0			
BHG2b	2005	2	2	1700	1700
BHG2b	2006	10	10	380	380
BHG2b	2007	12	7	200	117
BHG2b	2008	11	3	100	27
BHG2b	2009	11	2	160	29.1
BHG2b	2010	1	0	None > LOD	None > LOD
BHG2b	2011	2	1	13	6
BHG2b	2012	3	1	42.9	14.3
BHG2b	2013	2	0	None > LOD	None > LOD
BHG2b	2014	2	0	None > LOD	None > LOD
BHG2b	2015	1	0	None > LOD	None > LOD

OUTSIDE GREEN FENCE AREA

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH50	2004	1	1	500	500
BH50	2005	6	5	1936	1613
BH50	2006	4	3	3600	2700
BH50	2007	4	4	1721	1721
BH50	2008	4	4	1035	1035
BH50	2009	3	3	1510	1510
BH50	2010	4	4	995	995
BH50	2011	3	3	1275	1275
BH50	2012	5	4	1885	1508
BH50	2013	4	4	1331	1331
BH50	2014	4	4	1550	1550
BH50	2015	3	3	2623.3	2623.3

OUTSIDE GREEN FENCE AREA

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH50	2004	0	0	No Analyses	No Analyses
BH50	2005	6	4	1275	850
BH50	2006	4	4	2600	2600
BH50	2007	4	3	3067	2300
BH50	2008	4	4	1775	1775
BH50	2009	3	2	1300	867
BH50	2010	4	4	1215	1215
BH50	2011	3	3	1064	1064
BH50	2012	5	5	1863	1863
BH50	2013	4	4	2466	2466
BH50	2014	4	4	2848	2848
BH50	2015	3	3	2610.0	2610.0

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH01	2004	0			
BH01	2005	0			
BH01	2006	0			
BH01	2007	0			
BH01	2008	0			
BH01	2009	0			
BH01	2010	0			
BH01	2011	0			
BH01	2012	3	1	10	3
BH01	2013	2	1	16	8
BH01	2014	2	0	None > LOD	None > LOD
BH01	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH01	2004	0			
BH01	2005	0			
BH01	2006	0			
BH01	2007	0			
BH01	2008	0			
BH01	2009	0			
BH01	2010	0			
BH01	2011	0			
BH01	2012	3	2	73	48
BH01	2013	2	1	90	45
BH01	2014	2	1	83	42
BH01	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH18	2004	0			
BH18	2005	11	1	14	1
BH18	2006	12	0	None > LOD	None > LOD
BH18	2007	11	0	None > LOD	None > LOD
BH18	2008	11	0	None > LOD	None > LOD
BH18	2009	12	1	39	3
BH18	2010	1	0	None > LOD	None > LOD
BH18	2011	2	0	None > LOD	None > LOD
BH18	2012	3	1	10	3
BH18	2013	2	0	None > LOD	None > LOD
BH18	2014	2	0	None > LOD	None > LOD
BH18	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH18	2004	0			
BH18	2005	11	1	100	9
BH18	2006	12	3	133	33
BH18	2007	11	0	None > LOD	None > LOD
BH18	2008	11	1	200	18
BH18	2009	12	2	140	23
BH18	2010	1	0	None > LOD	None > LOD
BH18	2011	2	1	47	24
BH18	2012	3	3	126	126
BH18	2013	2	2	116	116
BH18	2014	2	2	474	474
BH18	2015	1	1	282	282

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH19	2004	0			
BH19	2005	11	1	35	3
BH19	2006	12	0	None > LOD	None > LOD
BH19	2007	11	0	None > LOD	None > LOD
BH19	2008	11	0	None > LOD	None > LOD
BH19	2009	12	2	33	5
BH19	2010	1	0	None > LOD	None > LOD
BH19	2011	2	0	None > LOD	None > LOD
BH19	2012	3	1	10	3
BH19	2013	2	0	None > LOD	None > LOD
BH19	2014	2	0	None > LOD	None > LOD
BH19	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH19	2004	0			
BH19	2005	11	1	200	18
BH19	2006	12	0	None > LOD	None > LOD
BH19	2007	11	1	200	18
BH19	2008	11	2	300	55
BH19	2009	12	1	150	13
BH19	2010	1	0	None > LOD	None > LOD
BH19	2011	2	0	None > LOD	None > LOD
BH19	2012	3	2	52	35
BH19	2013	2	1	183	92
BH19	2014	2	1	178	89
BH19	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH20	2004	1	0	None > LOD	None > LOD
BH20	2005	6	0	None > LOD	None > LOD
BH20	2006	4	0	None > LOD	None > LOD
BH20	2007	4	0	None > LOD	None > LOD
BH20	2008	4	0	None > LOD	None > LOD
BH20	2009	4	2	133	67
BH20	2010	1	0	None > LOD	None > LOD
BH20	2011	2	0	None > LOD	None > LOD
BH20	2012	3	2	16	10
BH20	2013	2	0	None > LOD	None > LOD
BH20	2014	2	0	None > LOD	None > LOD
BH20	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH20	2004	0	0	No Analyses	No Analyses
BH20	2005	6	2	300	100
BH20	2006	4	0	None > LOD	None > LOD
BH20	2007	4	0	None > LOD	None > LOD
BH20	2008	4	0	None > LOD	None > LOD
BH20	2009	4	0	None > LOD	None > LOD
BH20	2010	1	0	None > LOD	None > LOD
BH20	2011	2	0	None > LOD	None > LOD
BH20	2012	3	2	296	197
BH20	2013	2	2	180	180
BH20	2014	2	1	198	99
BH20	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH22	2004	0			
BH22	2005	6	0	None > LOD	None > LOD
BH22	2006	4	0	None > LOD	None > LOD
BH22	2007	4	0	None > LOD	None > LOD
BH22	2008	4	0	None > LOD	None > LOD
BH22	2009	4	2	39	19
BH22	2010	1	0	None > LOD	None > LOD
BH22	2011	2	0	None > LOD	None > LOD
BH22	2012	3	1	10	3
BH22	2013	2	0	None > LOD	None > LOD
BH22	2014	2	0	None > LOD	None > LOD
BH22	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH22	2004	0			
BH22	2005	6	2	200	67
BH22	2006	4	0	None > LOD	None > LOD
BH22	2007	4	0	None > LOD	None > LOD
BH22	2008	4	0	None > LOD	None > LOD
BH22	2009	4	0	None > LOD	None > LOD
BH22	2010	1	1	140	140
BH22	2011	2	0	None > LOD	None > LOD
BH22	2012	3	2	167	111
BH22	2013	2	0	None > LOD	None > LOD
BH22	2014	2	0	None > LOD	None > LOD
BH22	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH26	2004	0			
BH26	2005	6	0	None > LOD	None > LOD
BH26	2006	4	0	None > LOD	None > LOD
BH26	2007	4	0	None > LOD	None > LOD
BH26	2008	4	0	None > LOD	None > LOD
BH26	2009	4	2	44	22
BH26	2010	1	0	None > LOD	None > LOD
BH26	2011	2	0	None > LOD	None > LOD
BH26	2012	3	1	10	3
BH26	2013	2	0	None > LOD	None > LOD
BH26	2014	2	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH26	2004	0			
BH26	2005	6	0	None > LOD	None > LOD
BH26	2006	4	0	None > LOD	None > LOD
BH26	2007	4	0	None > LOD	None > LOD
BH26	2008	4	0	None > LOD	None > LOD
BH26	2009	4	1	110	28
BH26	2010	1	0	None > LOD	None > LOD
BH26	2011	2	0	None > LOD	None > LOD
BH26	2012	3	2	111	74
BH26	2013	2	1	174	87
BH26	2014	2	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH27a	2004	0			
BH27a	2005	8	1	14	2
BH27a	2006	12	0	None > LOD	None > LOD
BH27a	2007	11	0	None > LOD	None > LOD
BH27a	2008	11	0	None > LOD	None > LOD
BH27a	2009	12	1	36	3
BH27a	2010	1	0	None > LOD	None > LOD
BH27a	2011	2	0	None > LOD	None > LOD
BH27a	2012	3	2	11	7
BH27a	2013	2	0	None > LOD	None > LOD
BH27a	2014	2	0	None > LOD	None > LOD
BH27a	2015	0	0	No Analyses	No Analyses

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH27a	2004	0			
BH27a	2005	8	2	200	50
BH27a	2006	12	1	700	58
BH27a	2007	11	1	100	9
BH27a	2008	11	0	None > LOD	None > LOD
BH27a	2009	12	1	360	30
BH27a	2010	1	0	None > LOD	None > LOD
BH27a	2011	2	0	None > LOD	None > LOD
BH27a	2012	3	2	118	78
BH27a	2013	2	1	146	73
BH27a	2014	2	0	None > LOD	None > LOD
BH27a	2015	0	0	No Analyses	No Analyses

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH36b	2004	0			
BH36b	2005	5	3	853	512
BH36b	2006	12	0	None > LOD	None > LOD
BH36b	2007	5	1	27	5
BH36b	2008	10	0	None > LOD	None > LOD
BH36b	2009	12	2	43	7
BH36b	2010	1	0	None > LOD	None > LOD
BH36b	2011	2	0	None > LOD	None > LOD
BH36b	2012	3	1	10	3
BH36b	2013	2	1	11	6
BH36b	2014	2	0	None > LOD	None > LOD
BH36b	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH36b	2004	0			
BH36b	2005	5	4	175	140
BH36b	2006	12	2	250	42
BH36b	2007	5	0	None > LOD	None > LOD
BH36b	2008	10	1	3600	360
BH36b	2009	12	2	350	58
BH36b	2010	1	0	None > LOD	None > LOD
BH36b	2011	2	0	None > LOD	None > LOD
BH36b	2012	3	2	144	96
BH36b	2013	2	2	421	421
BH36b	2014	2	2	284	284
BH36b	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH47a	2004	0			
BH47a	2005	1	0	None > LOD	None > LOD
BH47a	2006	5	0	None > LOD	None > LOD
BH47a	2007	12	1	570	48
BH47a	2008	12	0	None > LOD	None > LOD
BH47a	2009	11	3	60	16
BH47a	2010	1	0	None > LOD	None > LOD
BH47a	2011	2	0	None > LOD	None > LOD
BH47a	2012	3	1	10	3
BH47a	2013	2	0	None > LOD	None > LOD
BH47a	2014	2	0	None > LOD	None > LOD
BH47a	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH47a	2004	0			
BH47a	2005	1	0	None > LOD	None > LOD
BH47a	2006	5	0	None > LOD	None > LOD
BH47a	2007	12	0	None > LOD	None > LOD
BH47a	2008	12	0	None > LOD	None > LOD
BH47a	2009	11	2	330	60
BH47a	2010	1	0	None > LOD	None > LOD
BH47a	2011	2	1	46	23
BH47a	2012	3	3	109	109
BH47a	2013	2	2	302	302
BH47a	2014	2	2	247	247
BH47a	2015	1	1	98	98

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH49	2004	0			
BH49	2005	4	0	None > LOD	None > LOD
BH49	2006	4	0	None > LOD	None > LOD
BH49	2007	4	0	None > LOD	None > LOD
BH49	2008	4	0	None > LOD	None > LOD
BH49	2009	4	1	36	9
BH49	2010	1	0	None > LOD	None > LOD
BH49	2011	2	0	None > LOD	None > LOD
BH49	2012	3	1	10	3
BH49	2013	2	0	None > LOD	None > LOD
BH49	2014	2	0	None > LOD	None > LOD
BH49	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH49	2004	0			
BH49	2005	4	2	150	75
BH49	2006	4	2	300	150
BH49	2007	4	0	None > LOD	None > LOD
BH49	2008	4	0	None > LOD	None > LOD
BH49	2009	4	1	110	28
BH49	2010	1	0	None > LOD	None > LOD
BH49	2011	2	0	None > LOD	None > LOD
BH49	2012	3	2	112	75
BH49	2013	2	0	None > LOD	None > LOD
BH49	2014	2	0	None > LOD	None > LOD
BH49	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH53	2004	1	1	1500	1500
BH53	2005	6	5	918	765
BH53	2006	6	2	405	135
BH53	2007	4	1	240	60
BH53	2008	4	2	265	133
BH53	2009	3	2	221	147
BH53	2010	1	0	None > LOD	None > LOD
BH53	2011	2	0	None > LOD	None > LOD
BH53	2012	3	2	15	10
BH53	2013	2	1	41	21
BH53	2014	2	0	None > LOD	None > LOD
BH53	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH53	2004	0			
BH53	2005	6	0	None > LOD	None > LOD
BH53	2006	6	1	300	50
BH53	2007	4	0	None > LOD	None > LOD
BH53	2008	4	0	None > LOD	None > LOD
BH53	2009	3	0	None > LOD	None > LOD
BH53	2010	1	0	None > LOD	None > LOD
BH53	2011	2	0	None > LOD	None > LOD
BH53	2012	3	2	337	225
BH53	2013	2	2	242	242
BH53	2014	2	2	189	189
BH53	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH55	2004	1	0	None > LOD	None > LOD
BH55	2005	6	0	None > LOD	None > LOD
BH55	2006	4	0	None > LOD	None > LOD
BH55	2007	4	0	None > LOD	None > LOD
BH55	2008	4	0	None > LOD	None > LOD
BH55	2009	4	1	35	9
BH55	2010	1	0	None > LOD	None > LOD
BH55	2011	2	0	None > LOD	None > LOD
BH55	2012	3	1	10	3
BH55	2013	2	0	None > LOD	None > LOD
BH55	2014	2	0	None > LOD	None > LOD
BH55	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH55	2004	0	0		
BH55	2005	6	2	100	33
BH55	2006	4	0	None > LOD	None > LOD
BH55	2007	4	0	None > LOD	None > LOD
BH55	2008	4	0	None > LOD	None > LOD
BH55	2009	4	0	None > LOD	None > LOD
BH55	2010	1	0	None > LOD	None > LOD
BH55	2011	2	0	None > LOD	None > LOD
BH55	2012	3	2	144	96
BH55	2013	2	1	156	78
BH55	2014	2	0	None > LOD	None > LOD
BH55	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH59	2004	0			
BH59	2005	2	0	None > LOD	None > LOD
BH59	2006	4	0	None > LOD	None > LOD
BH59	2007	4	0	None > LOD	None > LOD
BH59	2008	4	0	None > LOD	None > LOD
BH59	2009	4	2	39	10
BH59	2010	1	0	None > LOD	None > LOD
BH59	2011	2	0	None > LOD	None > LOD
BH59	2012	3	1	10	3
BH59	2013	2	0	None > LOD	None > LOD
BH59	2014	2	0	None > LOD	None > LOD
BH59	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH59	2004	0			
BH59	2005	2	0	None > LOD	None > LOD
BH59	2006	4	0	None > LOD	None > LOD
BH59	2007	4	0	None > LOD	None > LOD
BH59	2008	4	0	None > LOD	None > LOD
BH59	2009	4	0	None > LOD	None > LOD
BH59	2010	1	0	None > LOD	None > LOD
BH59	2011	2	0	None > LOD	None > LOD
BH59	2012	3	2	97	64
BH59	2013	2	1	191	96
BH59	2014	2	0	None > LOD	None > LOD
BH59	2015	1	0	None > LOD	None > LOD

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH60b	2004	0			
BH60b	2005	5	0	None > LOD	None > LOD
BH60b	2006	12	0	None > LOD	None > LOD
BH60b	2007	6	0	None > LOD	None > LOD
BH60b	2008	10	0	None > LOD	None > LOD
BH60b	2009	12	3	41	10
BH60b	2010	1	0	None > LOD	None > LOD
BH60b	2011	2	0	None > LOD	None > LOD
BH60b	2012	3	1	10	3
BH60b	2013	2	0	None > LOD	None > LOD
BH60b	2014	2	0	None > LOD	None > LOD
BH60b	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH60b	2004	0			
BH60b	2005	5	1	100	20
BH60b	2006	12	0	None > LOD	None > LOD
BH60b	2007	6	0	None > LOD	None > LOD
BH60b	2008	10	2	350	70
BH60b	2009	12	2	155	26
BH60b	2010	1	0	None > LOD	None > LOD
BH60b	2011	2	0	None > LOD	None > LOD
BH60b	2012	3	2	71	47
BH60b	2013	2	1	251	126
BH60b	2014	2	1	151	76
BH60b	2015	1	1	180	180

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH61a	2004	0			
BH61a	2005	5	0	None > LOD	None > LOD
BH61a	2006	12	1	21	2
BH61a	2007	10	0	None > LOD	None > LOD
BH61a	2008	12	5	163	68
BH61a	2009	12	4	228	76
BH61a	2010	1	0	None > LOD	None > LOD
BH61a	2011	2	2	885	885
BH61a	2012	3	3	431	431
BH61a	2013	2	2	1206	1206
BH61a	2014	2	2	497	497
BH61a	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH61a	2004	0			
BH61a	2005	5	2	750	300
BH61a	2006	12	0	None > LOD	None > LOD
BH61a	2007	10	0	None > LOD	None > LOD
BH61a	2008	12	4	200	67
BH61a	2009	12	5	378	158
BH61a	2010	1	0	None > LOD	None > LOD
BH61a	2011	2	2	456	456
BH61a	2012	3	3	863	863
BH61a	2013	2	2	1465	1465
BH61a	2014	2	2	1560	1560
BH61a	2015	1	1	799	799

Location	Year	Total Gasoline Range Organics (GRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH65	2004	0			
BH65	2005	0			
BH65	2006	10	0	None > LOD	None > LOD
BH65	2007	11	0	None > LOD	None > LOD
BH65	2008	11	0	None > LOD	None > LOD
BH65	2009	12	2	39	6
BH65	2010	1	0	None > LOD	None > LOD
BH65	2011	2	0	None > LOD	None > LOD
BH65	2012	3	1	10	3
BH65	2013	2	0	None > LOD	None > LOD
BH65	2014	2	0	None > LOD	None > LOD
BH65	2015	1	0	None > LOD	None > LOD

Location	Year	Total Diesel Range Organics (DRO)			
		No. Analyses	No. Analyses above LOD	Mean Conc. (for analyses>LOD) (µg/l)	Mean Conc. (assumes LOD=0) (µg/l)
BH65	2004	0			
BH65	2005	0			
BH65	2006	10	0	None > LOD	None > LOD
BH65	2007	11	0	None > LOD	None > LOD
BH65	2008	11	1	600	55
BH65	2009	12	2	130	22
BH65	2010	1	0	None > LOD	None > LOD
BH65	2011	2	0	None > LOD	None > LOD
BH65	2012	3	2	96	64
BH65	2013	2	0	None > LOD	None > LOD
BH65	2014	2	1	123	62
BH65	2015	1	0	None > LOD	None > LOD

Appendix 6

Detailed Trend Analysis Table (Boreholes)

Borehole ID	Monitoring Frequency	Parameter	Trend Summary (February 2012)	Trend Summary (March 2013)	Trend Summary (October 2015)
Inside Green Fence					
BH34b	Monthly	GRO	No Trend Identified	Declining	No Trend of Concern (Absent or Low Concentrations)
		DRO	Declining	Declining	Declining / stable
BH41a	Monthly	GRO	Declining	Declining	No Trend of Concern (Low or Absent Concentrations)
		DRO	Declining	Declining	No Trend of Concern (Stable Concentrations)
BH42a	Monthly	GRO	Increasing	No Trend of Concern	No Trend of Concern (Stable concentration)
		DRO	Increasing	No Trend of Concern	No Trend of Concern (Stable Concentration)
BH43	Monthly	GRO	Increasing	Declining	Declining (Concentrations now low and stable)
		DRO	Increasing	No Trend of Concern	No Trend of Concern (Lower and stable Concentration)
BH06	Quarterly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Concentration low and stable)
BH44	Quarterly	GRO	Declining	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Low / Absent Concentrations)
MW01	Quarterly	GRO	-	No Trend of Concern	No Detectable Contamination
		DRO	-	No Trend of Concern	No trend of concern (Occasional Occurrence)
MW03	Quarterly	GRO	-	No Trend of Concern	No trend of concern (Occasional Occurrence)
		DRO	-	No Trend of Concern	No trend of concern (Low and stable concentrations)
BH30a	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	Declining	No Detectable Contamination	No Detectable Contamination

Summary of Trend Analysis

Borehole ID	Monitoring Frequency	Parameter	Trend Summary (February 2012)	Trend Summary (March 2013)	Trend Summary (October 2015)
BH40a	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	No Detectable Contamination	Possible Increasing (Dec-12 Spike)	Currently stable, but generally absent prior to 2013.
BH45b	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	No Detectable Contamination	Possible Increasing (Dec-12 Spike)	No Trend of Concern (generally stable)
BH63a	6-Monthly	GRO	-	No Detectable Contamination	No Detectable Contamination
		DRO	-	No Detectable Contamination	No Detectable Contamination
BHG2b	6-Monthly	GRO	Declining	Declining	No Detectable Contamination
		DRO	Declining	Declining	No Detectable Contamination
Outside Green Fence					
BH50	Quarterly	GRO	No Trend Identified	Possible Increasing	Increasing
		DRO	No Trend Identified	Possible Increasing	Increasing (possibly stabilised)
BH01	6-Monthly	GRO	-	No Trend of Concern	No Trend of Concern (typically no contamination detected)
		DRO	-	No Trend of Concern (Dec-12 Spike)	No trend of Concern (low and variable concentrations)
BH18	6-Monthly	GRO	No Detectable Contamination	No Detectable Contamination	No Detectable Contamination
		DRO	Decreasing	No Trend of Concern (Elevated Dec-12)	Increasing
BH19	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern
BH20	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Trend of Concern
BH22	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Detectable Contamination
BH26	6-Monthly	GRO	Decreasing	No Trend of Concern	No Detectable Contamination
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Trend of Concern

Summary of Trend Analysis

Borehole ID	Monitoring Frequency	Parameter	Trend Summary (February 2012)	Trend Summary (March 2013)	Trend Summary (October 2015)
BH27a	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Generally absent)
		DRO	No Detectable Contamination	No Trend of Concern	No Trend of Concern (Generally absent)
BH36b	6-Monthly	GRO	Decreasing	No Trend of Concern	Generally No Contamination Detected
		DRO	Decreasing	No Trend of Concern	Not Trend of Concern (low and stable)
BH47a	6-Monthly	GRO	-	No Trend of Concern	No Contamination Detected
		DRO	-	Possible Increasing (Elevated Dec-12)	No Trend of Concern
BH49	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	No Detectable Contamination	No Trend of Concern (Elevated Dec-12)	No Contamination Detected
BH53	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	Decreasing	No Trend of Concern (Dec-12 Spike)	No Trend of Concern (although presence in gw only since 2013)
BH55	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Contamination Detected
BH59	6-Monthly	GRO	No Detectable Contamination	No Trend of Concern	No Contamination Detected
		DRO	No Detectable Contamination	No Trend of Concern (Dec-12 Spike)	No Contamination Detected (Since 2014)
BH60b	6-Monthly	GRO	-	No Trend of Concern	No Contamination Detected
		DRO	-	No Trend of Concern	No Trend of Concern
BH61a	6-Monthly	GRO	-	No Trend of Concern (Elevated Dec-12)	Increasing (possibly now stable or in decline)
		DRO	-	Possible Increasing (Dec-12 Spike)	Increasing (possibly now stable or in decline)
BH65	6-Monthly	GRO	-	No Trend of Concern	No Contamination Detected
		DRO	-	No Trend of Concern (Elevated Dec-12)	No Trend of Concern (generally absent)

JER5575U SHLNG Groundwater Monitoring Review
Detailed Summary of Trend Analysis and Revised Monitoring Regime

Borehole Group	Borehole ID	Position in Group	Location	Trend Analysis			Current Monitoring		REVISED MONITORING REGIME		
				Dataset Period	Parameter	Summary	Monitoring Frequency	Monitoring Suite	Monitoring Frequency	Monitoring Suite	Justification & Notes
1. Main Excavation Boundary Wells	BH30a	Eastern Boundary Wells	Inside Green Fence	Jan. 2005 - Present	GRO	No detectable contamination since 2013.	6-Monthly	DRO GRO	**Drop**	NA	General absence of contamination since monitoring began. No evidence of effects associated with SHLNG operations.
					DRO	No detectable contamination since 2014. Occasional occurrence pre-2015.					
	BH36b	Eastern Boundary Wells	Outside Green Fence	Mar. 2008 - Present	GRO	Generally no GRO identified in groundwater since 2005.	6-Monthly	DRO GRO	**Drop**	NA	No trends of concern, with GRO generally absent. No effects of associated with SHLNG operations.
					DRO	DRO present in groundwater since 2013 at stable concentration of below c. 500 ug/l. No trend of concern.					
	BH65	Northern Boundary Well	Outside Green Fence	Mar. 2006 - Present	GRO	General absence of DRO from groundwater since 2009 / 2010.	6-Monthly	DRO GRO	**Drop**	NA	General absence of petroleum hydrocarbons from groundwater. BH26 shall be used as the monitoring location demonstrating quality of groundwater flowing onto SHLNG from the North
					DRO	General absence of DRO from groundwater since 2010.					
	BH59	Northern-eastern Boundary Well	Outside Green Fence	Sep. 2005 - Present	GRO	GRO generally absent from groundwater. Not detected since 2012.	6-Monthly	DRO GRO	**Drop**	NA	Little contamination identified, with no trends of concern. BH26 shall be used as monitoring location demonstrating quality of groundwater flowing onto SHLNG from the North
					DRO	DRO rarely present in groundwater. Three "spikes" since 2012. No trend of concern identified.					
2. Monitoring Wells South of Main Excavation Area	BH18	Up-gradient	Outside Green Fence	Feb. 2005 - Present	GRO	No GRO contamination detected since 2012.	6-Monthly	DRO GRO	**No change (6-Monthly)**	No change	Possible rising trend in DRO. No obvious source for observed trends, with no SHLNG activities in this area. No clear seasonal trends in measured DRO concentrations. Eastern site boundary monitoring borehole.
					DRO	DRO more routinely observed in groundwater, with possible increasing concentrations since 2011.					
	BH19	Up-gradient	Outside Green Fence	Feb. 2005 - Present	GRO	Concentrations declined to no detectable contamination.	6-Monthly	DRO GRO	**Drop**	No change	Absence of GRO and infrequency of DRO occurrence. Absence of SHLNG activities in this area of the site. BH18 suitable eastern site boundary borehole
					DRO	DRO not encountered routinely. Typically only observed above LOD in winter (December) samples, at low concentration. No historic occurrence in groundwater. No trend of concern.					
	BHG2b	Up-gradient	Inside Green Fence	Mar. 2008 - Present	GRO	Declining concentrations since 2006. No detectable contamination since 2013.	6-Monthly	DRO GRO	**Drop**	NA	No detectable contamination.
					DRO	Declining GRO concentration since 2005. No detectable contamination since 2013.					
	BH01	Mid-flow field	Outside Green Fence	Jan. 2012 - Present	GRO	Absence or trace concentration of DRO observed.	6-Monthly	DRO GRO	**Drop**	NA	Low concentrations and no trends of concern.
					DRO	Low but variable concentration of DRO observed in groundwater, since 2012. No trend of concern.					
	BH40a	Mid-flow field	Inside Green Fence	Jan. 2005 - Present	GRO	Generally no GRO contamination detected.	6-Monthly	DRO GRO	**No change (6-Monthly)**	No change	Moderately high concentrations are observed and the borehole is located close to the main excavation area. Unlike in skim pond area, no obvious source of for DRO contamination observed seen since 2012, hence continued monitoring recommended to confirm stability or declining DRO concentrations at this location.
					DRO	DRO largely absent prior to 2012. Moderate concentrations that have been stable concentrations since 2013. Concentrations typically below 1000 ug/l with single DRO spike in 2012.					
	BH45b	Mid-flow field	Inside Green Fence	Mar. 2008 - Present	GRO	GRO generally absent from groundwater.	6-Monthly	DRO GRO	**Annual**	No change	Confirm stability of concentrations in this area, situated up hydraulic gradient of skim ponds. In the absence of any trend of concern or seasonal variability annual monitoring frequency considered acceptable.
					DRO	Infrequent presence in groundwater before 2012. Since 2012 DRO concentrations are generally low and stable at below 300 ug/l.					
	BH63a	Down-gradient	Inside Green Fence	Mar. 2006 - Present	GRO	No contamination detected	6-Monthly	DRO GRO	**Drop**	NA	Effectively no contamination identified since 2006
					DRO	No contamination detected					

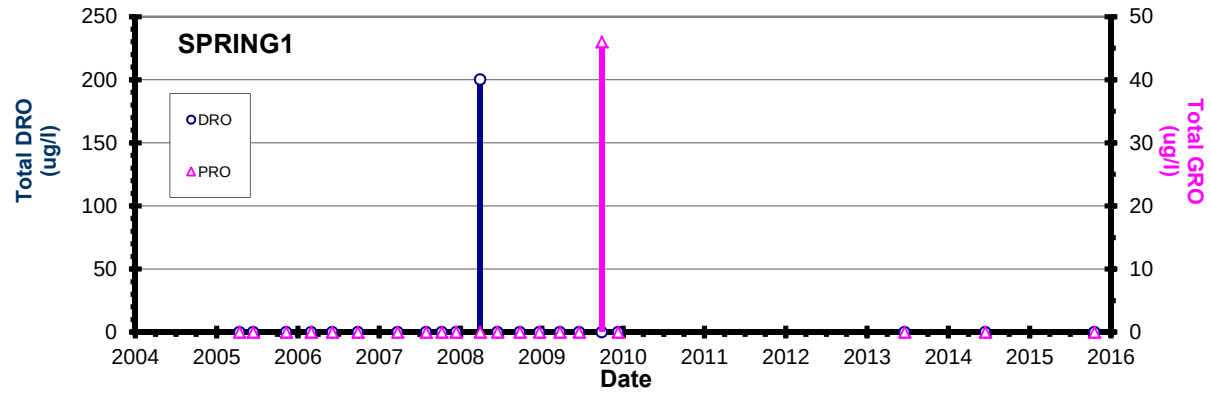
Borehole Group	Borehole ID	Position in Group	Location	Trend Analysis			Current Monitoring		REVISED MONITORING REGIME		
				Dataset Period	Parameter	Summary	Monitoring Frequency	Monitoring Suite	Monitoring Frequency	Monitoring Suite	Justification & Notes
3. Valley Area Up-stream of Skim Pond	BH41a	Sludge Pit	Inside Green Fence	Sep. 2005 - Present	GRO	Large decline in GRO concentrations since 2006 / 2007. Low and variable concentrations since 2012.	Monthly	DRO GRO SVOCs	**Annual**	DRO GRO	Known contamination source monitoring borehole characterised by high concentrations. However, concentrations have declined significantly and are now stable. Annual monitoring frequency sufficient to demonstrate continued stable trend. SVOCs unnecessary as infrequently observed at this location. Only monitoring for SVOCs if identified in down gradient defensive boreholes boreholes (i.e. BH06, BH34b and MW01)
					DRO	Significant decline in DRO concentrations since 2007. Concentrations are now significantly lower and apparently stable at approximately 2,200 µg/l.					
	BH42a	Sludge Pit	Inside Green Fence	Sep. 2005 - Present	GRO	Highest GRO concentrations observed on SHLNG site and subject to high variability. Significant decline in concentrations from 2009. Concentrations now stable albeit elevated at c. 700 µg/l	Monthly	DRO GRO SVOCs	**Product measuring with inter face meter and V/O notes**	Drop	Characterised by free phase contamination, with high and variable concentrations that are significantly lower than observed during construction phase. Owing to historical problems with the analysis of samples from this location (owing to free phase) it is recommend monitoring is restricted to measuring the depth of free phase and V/O lines of evidence. BH41a provides analytical results for the skim pond area.
					DRO	Highest concentrations observed on SHLNG site with high variability. Significant decline in concentrations since 2009. Concentrations now stable albeit elevated at c. 2,500 µg/l					
	BH43	Up-stream of Sludge Pit	Inside Green Fence	Jan. 2005 - Present	GRO	Continual decline since 2005. Concentrations now stable and low at c. 40 µg/l.	Monthly	DRO GRO SVOCs	**Annual**	DRO GRO	Contamination source monitoring point in Skim Pond area. Annual monitoring frequency sufficient to demonstrate continued stable trend. Only monitoring for SVOCs if identified in down gradient defensive boreholes boreholes (i.e. BH06, BH34b and MW01)
					DRO	Decline since 2010. Although variable, concentrations are now lower and apparently stable at c. 500 µg/l.					
	BH44	Down-stream of Sludge Pit	Inside Green Fence	Jan. 2005 - Present	GRO	No detectable contamination since 2013	Quarterly	DRO GRO	**Annual**	DRO GRO	Infrequent and low concentrations. No GRO observed. Although not a key source borehole, it is situated down gradient of key sources boreholes in skim pond area. Retain as a defensive monitoring location. Annual frequency sufficient.
					DRO	General decrease in concentrations. Occasional occurrence at concentrations above LOD. Concentrations now low when present.					
4. Valley Area Down-Stream of Skim Pond	MW03	-	Inside Green Fence	Jun. 2011 - Present	GRO	Low and infrequent occurrence on groundwater.	Quarterly	DRO GRO SVOCs	**Drop**	NA	Historically stable concentration of DRO has been observed with similar concentrations as observed in two down gradient boreholes BH 06 and BH34b. As retaining boreholes BH06, BH34b and MW01 as off-site boundary (i.e. Haven) "defensive" monitoring locations this location can be dropped.
					DRO	Stable low concentrations of c. 175 µg/l					
	BH06	-	Inside Green Fence	Feb. 2005 - Present	GRO	Declined to no detectable contamination since 2013.	Quarterly	DRO GRO	**Annual**	No change	One of three defensive monitoring boreholes situated down gradient of known sources of contamination (i.e. Skim Pond and sludge areas up stream thereof). BH06 and BH34b provide the defensive coverage across valley area, thought to be characterised by southerly flow towards the site boundary / Haven. Alternate sampling with BH34b to provide seasonal samples from both locations.
					DRO	Decline since 2005 and 2009. Concentrations now apparent low and stable at c. 100 ug/l					
	BH34b	-	Inside Green Fence	Mar. 2008 - Present	GRO	Decline since 2010. Now absent or trace concentrations observed.	Monthly	DRO GRO SVOCs	**Annual**	No change	One of three defensive monitoring boreholes situated down gradient of known sources of contamination (i.e. Skim Pond and sludge areas up stream thereof). BH06 and BH34b provide the defensive coverage across valley area, thought to be characterised by southerly flow towards the site boundary / Haven. Alternate sampling with BH06 to provide seasonal samples from both locations. Continue to monitor SVOCs as part of defensive strategy.
					DRO	Declining trend since 2008 / 2009. Concentrations now stable at c. 180 ug/l					
	MW01	-	Inside Green Fence	Dec. 2009 - Present	GRO	No detectable contamination since 2011	Quarterly	DRO GRO SVOCs	**Annual**	No change	One of three defensive monitoring boreholes situated down gradient of known sources of contamination (i.e. Skim Pond and sludge areas up stream thereof). No contamination identified in MW01. MW01 immediately up gradient from the Haven. Key defensive location. Continue to monitor SVOCs as part of defensive monitoring strategy.
					DRO	Occasional / infrequent occurrence in groundwater. No trend of concern.					
5. Process Area	BH60b	-	Outside Green Fence	Mar. 2008 - Present	GRO	Generally absence on groundwater since 2012	6-Monthly	DRO GRO	**Drop**	NA	Confidence in absence of trend of concern with stable DRO concentrations typically of less than 200 µg/l
					DRO	DRO present in groundwater but concentrations generally stable, typically of less than 200 µg/l with no trend of concern identified.					
	BH61a	-	Outside Green Fence	Sep. 2005 - Present	GRO	Absence before 2009. Routine presence since 2011., with elevate but variable concentrations. Possible evidence of recent decline.	6-Monthly	DRO GRO	**No Change (6-Monthly)**	No Change	Recent increase and elevated concentrations of both DRO and GRO. Source of trend not known, although SHLNG activities in the local area. Recommended continued monitoring until it is demonstrated that low concentrations / stable concentrations have re-established. In absence of understanding of trend, 6-montly monitoring frequency recommended.
					DRO	Absence before 2009. Routine presence since 2011, with elevated and possible rising trend, although concentrations may have stabilised					

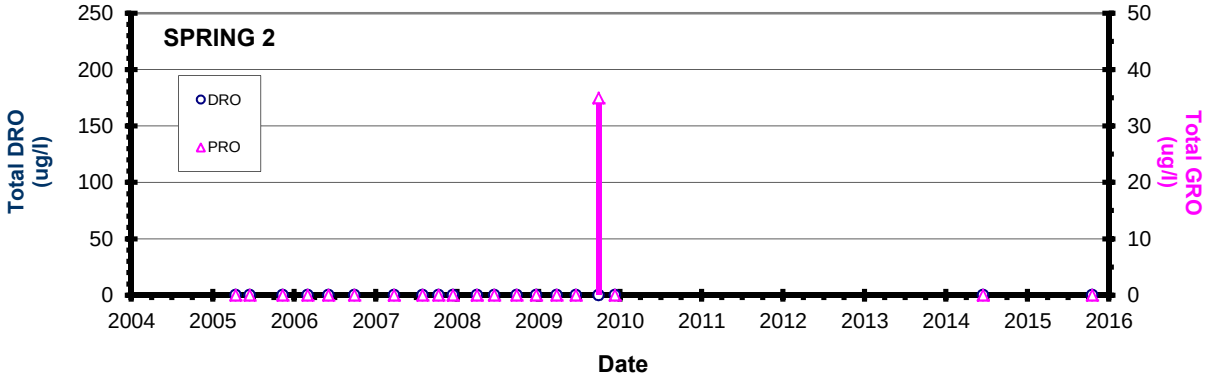
Borehole Group	Borehole ID	Position in Group	Location	Trend Analysis			Current Monitoring		REVISED MONITORING REGIME		
				Dataset Period	Parameter	Summary	Monitoring Frequency	Monitoring Suite	Monitoring Frequency	Monitoring Suite	Justification & Notes
6. Nature Conservation Area (NCA)	BH49	Southern NCA	Outside Green Fence	Jan. 2005 - Present	GRO	Generally not present in groundwater. Occasional spies since 2008.	6-Monthly	DRO GRO	**Drop**	NA	Little contamination identified, with no trends of concern.
					DRO	Generally not present in groundwater. Occasional spikes since 2008.					
	BH50	Southern NCA	Outside Green Fence	Dec. 2004 - Present	GRO	Rising concentrations since c. 2010, although observed GRO concentrations remain below historical maximum	Quarterly	DRO GRO	**Annual**	No change	Contamination legacy monitoring location (southwestern site boundary). To be retained as this site boundary borehole has shown an increase in concentrations (including of GRO) although historical maximum concentrations have not yet been exceeded. Although no activities are undertaken by SHLNG in this area the observed trend and concentrations will continue to be monitored annual as part of the ongoing monitored natural attenuation program. Annual monitoring sufficient as no strong seasonality observed in historical dataset.
					DRO	Rising concentrations since c. 2011. Approached historical maximum concentrations but may have now stabilised.					
	BH53	Mid NCA	Outside Green Fence	Dec. 2004 - Present	GRO	Generally absence in groundwater since e 2011	6-Monthly	DRO GRO	**Annual**	No change	Contamination legacy monitoring location (western site boundary). Although no activities by SHLNG in this area DRO has been identified at this location since 2013 and shows a very similar trend to that seen in borehole BH20. Continued monitoring as part of ongoing natural monitored attenuation program, to confirm the apparent declining trend.
					DRO	Routine presence of DRO in groundwater since 2013, although some evidence of declining concentrations.					
	BH20	Northern NCA	Outside Green Fence	Dec. 2004 - Present	GRO	Generally no contamination detected.	6-Monthly	DRO GRO	**Annual**	No change	Contamination legacy monitoring location (western site boundary). Although no activities by SHLNG in this area DRO has been identified at this location since 2013 and shows a very similar trend to that seen in borehole BH53. Continued monitoring as part of ongoing natural monitored attenuation program, to confirm the apparent declining trend.
					DRO	More routinely observed in groundwater since 2013. Concentrations typically low and no trend of concern					
	BH22	Northern NCA	Outside Green Fence	Jan. 2005 - Present	GRO	No GRO detected since 2012. Occurs occasionally prior to this at very low concentration	6-Monthly	DRO GRO	**Drop**	Drop	Little contamination identified, with no trends of concern.
					DRO	No DRO detected since 2013. Single spike, before which occurs rarely.					
7. High Ground to West of Skim Pond	BH47a	-	Outside Green Fence	Jan. 2005 - Present	GRO	Generally absent since 2011	6-Monthly	DRO GRO	**Annual**	No Change	Confirm concentrations stable or declining. Need to take winter sample, as historical dataset suggests seasonality to observed DRO concentrations.
					DRO	Routinely identified in groundwater since 2011. Concentrations variable. No trend of concern.					
8. Northern Site Boundary	BH26	-	Outside Green Fence	Jan. 2005 - Present	GRO	Low concentration or no contamination detected	6-Monthly	DRO GRO	**Annual**	No change	Upgradeint site boundary monitoring point
					DRO	Low concentration or no contamination detected					
	BH27a	-	Outside Green Fence	Jan. 2005 - Present	GRO	Generally absence from groundwater.	6-Monthly	DRO GRO	**Drop**	Drop	Generally no contamination detected
					DRO	Generally absent from groundwater					
	BH55	-	Outside Green Fence	Dec. 2004 - Present	GRO	General absence from Groundwater	6-Monthly	DRO GRO	**Drop**	Drop	Generally no contamination detected
					DRO	General absence from Groundwater					

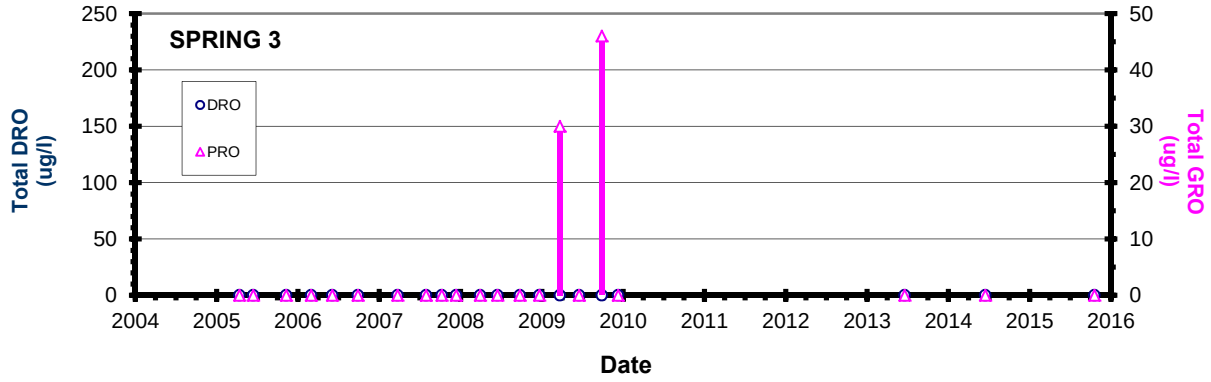
Appendix 7

Time Series Groundwater Quality Dataset (Springs)

CHART 1.1 Spring Montoring Locations







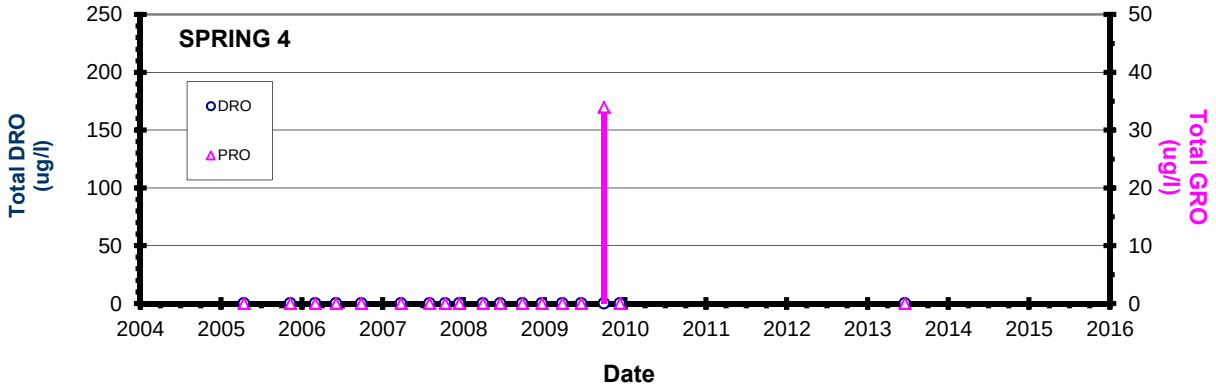
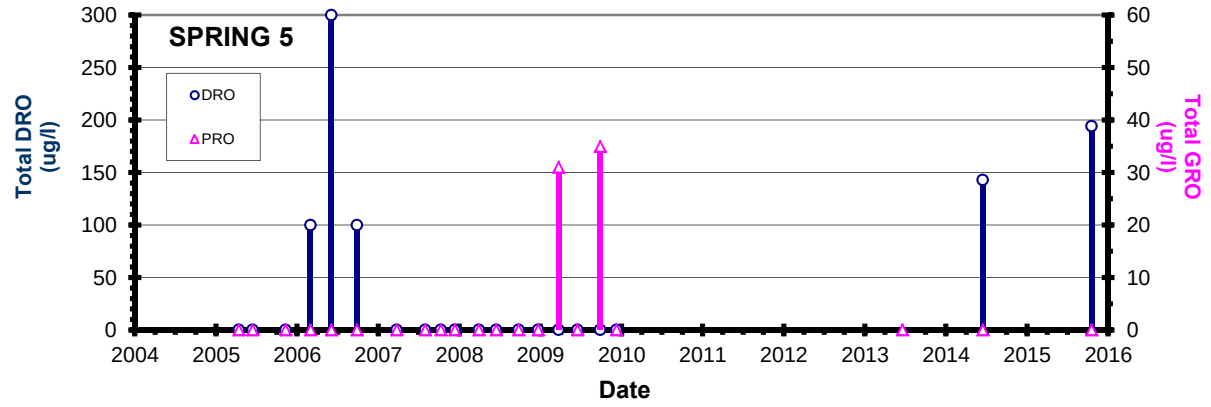
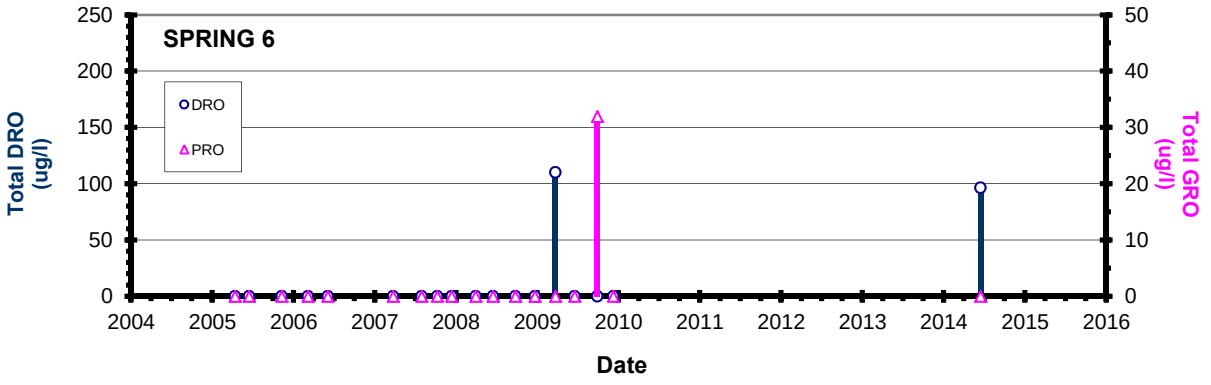
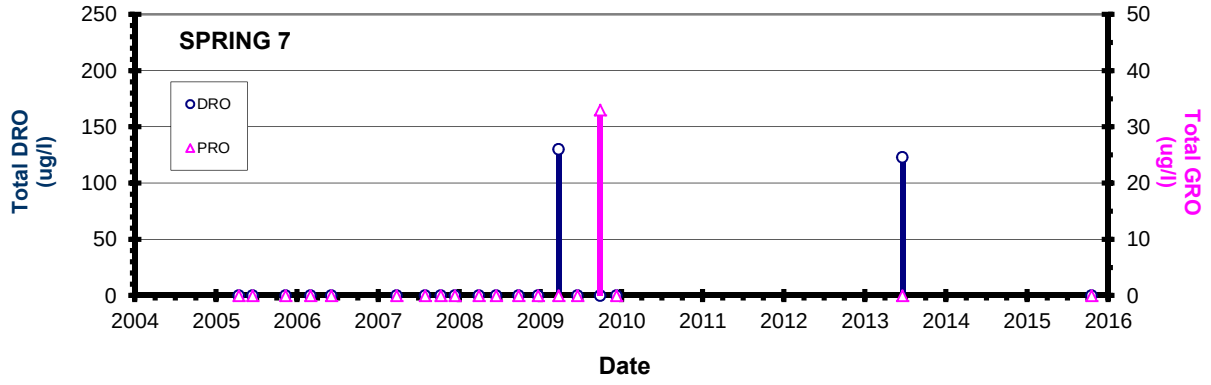


CHART 1.2 Spring Montoring Locations







Appendix 8

Pond Level Dataset

Month	POND REFERENCE							
	C15	C16	C18	C19	C20	C21	C22	Jacks
24-Oct-12	1	0.6	1.9	-	1.5	-	0.79	-
26-Nov-12	1.06	1.08 (0.08)	1.32 (0.32)	-	1.29	-	0.78	-
04-Dec-12	1.06	1.12	1.3	-	1.26	-	0.78	-
24-Oct-12	-	1.2	1.34	-	1.35	-	0.8	-
20-Feb-13	1.04	1.26	1.28	-	1.32	-	0.78	-
05-Mar-13	-	1.18	1.25	-	1.28	-	0.78	-
16-Apr-13	-	1.19	0.8	-	1.24	-	0.78	-
22-May-13	-	0.96	1.25	-	1.14	-	0.69	-
04-Jun-13	-	0.9	1.16	-	1.08	-	0.66	-
26-Jul-13	-	0.78	0.82	-	0.76	-	0.38	-
14-Aug-13	-	0.15	0.85	-	0.76	-	0.35	-
03-Sep-13	0.95	1.02	-	0.3	0.74	0.2	0.36	0.68
10-Oct-13	1.02	0.90	0.08	0.50	0.76	0.40	0.44	0.69
12-Nov-13	0.98	1.10	1.32	nr	1.12	nr	0.80	0.92
02-Dec-13	1.06	1.06	0.2	-	1.02	-	0.74	0.9
16-Jan-14	1.16	1.18	1.30	nr	1.30	nr	0.80	1.24
11-Feb-14	1.34	1.26	1.24	nr	1.40	nr	0.72	1.24
3rd & 4th Mar 14	1.3	1.28	1.28	0.78	1.34	>1	0.8	1.4
15-Apr-14	1.20	0.98	1.24	nr	1.26	nr	0.76	nr
15-May-14	1.08	0.90	1.10	nr	1.20	nr	0.62	nr
02-Jun-14	0.98	0.88	1.1	-	1.12	-	0.64	-
18-Jul-14	0.72	< 0.7	<1.2	nr	0.88	nr	0.42	0.81
21-Aug-14	<0.9	<0.8	1.24	nr	0.78	nr	0.35	0.69
2nd & 3rd Sep 14	0.98	0.6	<1.1	-	0.74	-	0.29	0.69
14-Oct-14	<1	<0.8	<1	nr	0.66	nr	0.34	0.60
14-Nov-14	1.02	1.12	1.30	nr	1.14	nr	0.80	nr
19-Dec-14	1.06	0.94	1.28	-	1.22	-	0.76	-
12-Jan-15	1.80	0.92	1.29	nr	1.28	nr	0.80	nr
12-Feb-15	0.94	0.96	1.24	nr	1.26	nr	0.78	nr
27-Mar-15	0.94	0.96	1.26	-	1.27	-	0.79	-
22-Apr-15	<0.9	<0.9	<1.2	nr	1.12	nr	0.70	nr
28-May-15	<0.9	<0.9	<1	nr	0.98	nr	0.69	nr
03-Jul-15	1.06	<0.8	<0.9	nm	0.86	nm	0.56	nm
27-Jul-15	<1	<0.9	<1	nr	0.92	nr	0.56	nr
13-Aug-15	nr	<0.8	<1	nr	<0.86	nr	0.49	nr
28th & 29th Sept 15	nr	<0.8	<1	nr	<0.8	nr	nr	nr
26-Oct-15	nr	<0.7	<0.2	nr	<0.4	nr	nr	nr
16-Nov-15	nr	<0.8	<0.2	nr	<0.9	nr	nr	nr
7th & 10th Dec 15	1.1	0.98	1.22	nr	1.19	nr	0.68	nr