



CERTIFICATE OF ANALYSIS

SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

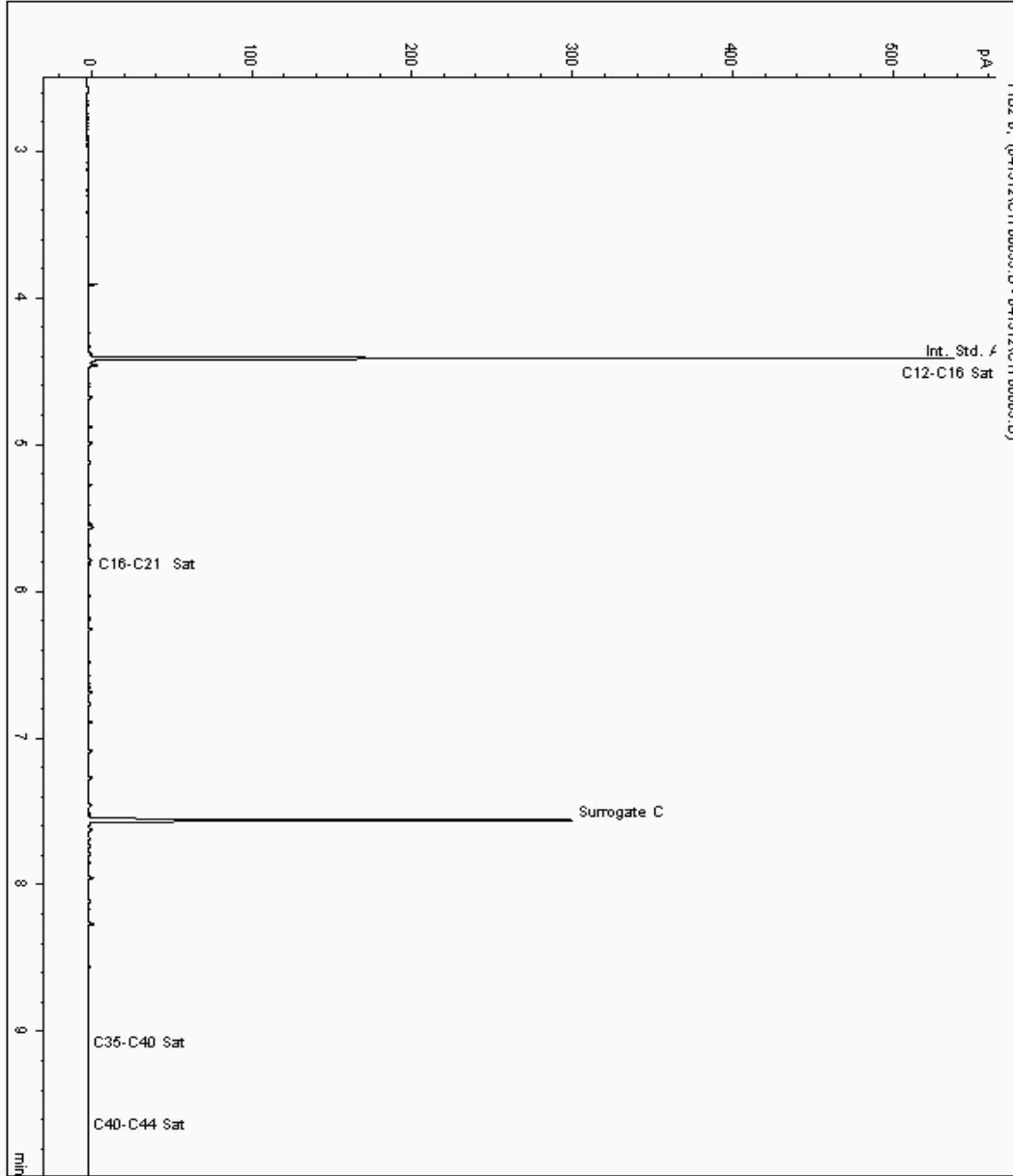
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5431349
Sample ID : BH03

Depth : 0.00 - 1.00

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

Sample Identity: 5316604-5431349
Date Acquired : 13/04/2012 18:43:09 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.030





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Report Number: 178574
Superseded Report: 178573

Chromatogram

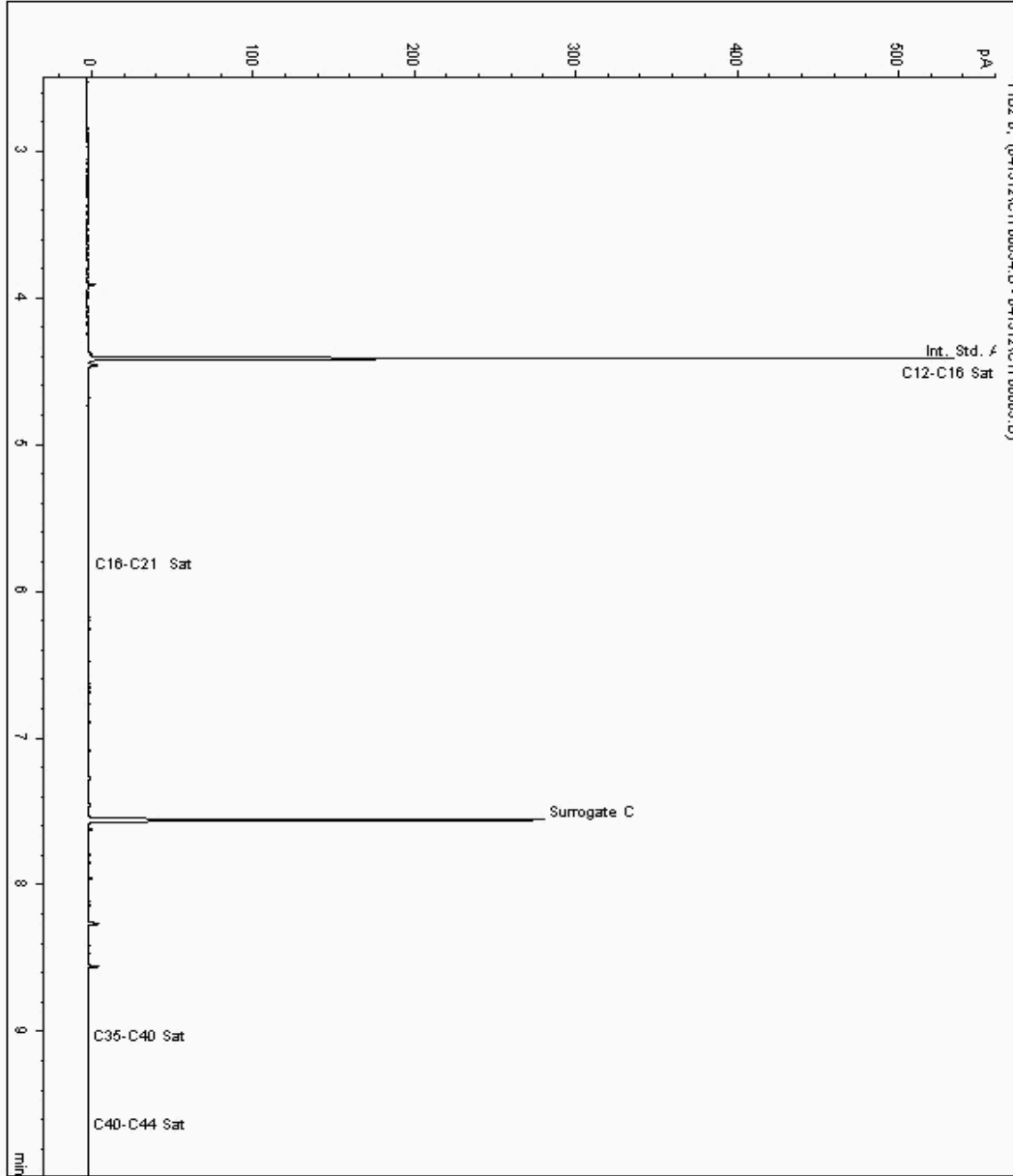
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5431375
Sample ID : WS10

Depth : 0.40 - 0.50

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

Sample Identity: 5316801-5431375
Date Acquired : 13/04/2012 19:03:23 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.950





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Superseded Report: 178573

Chromatogram

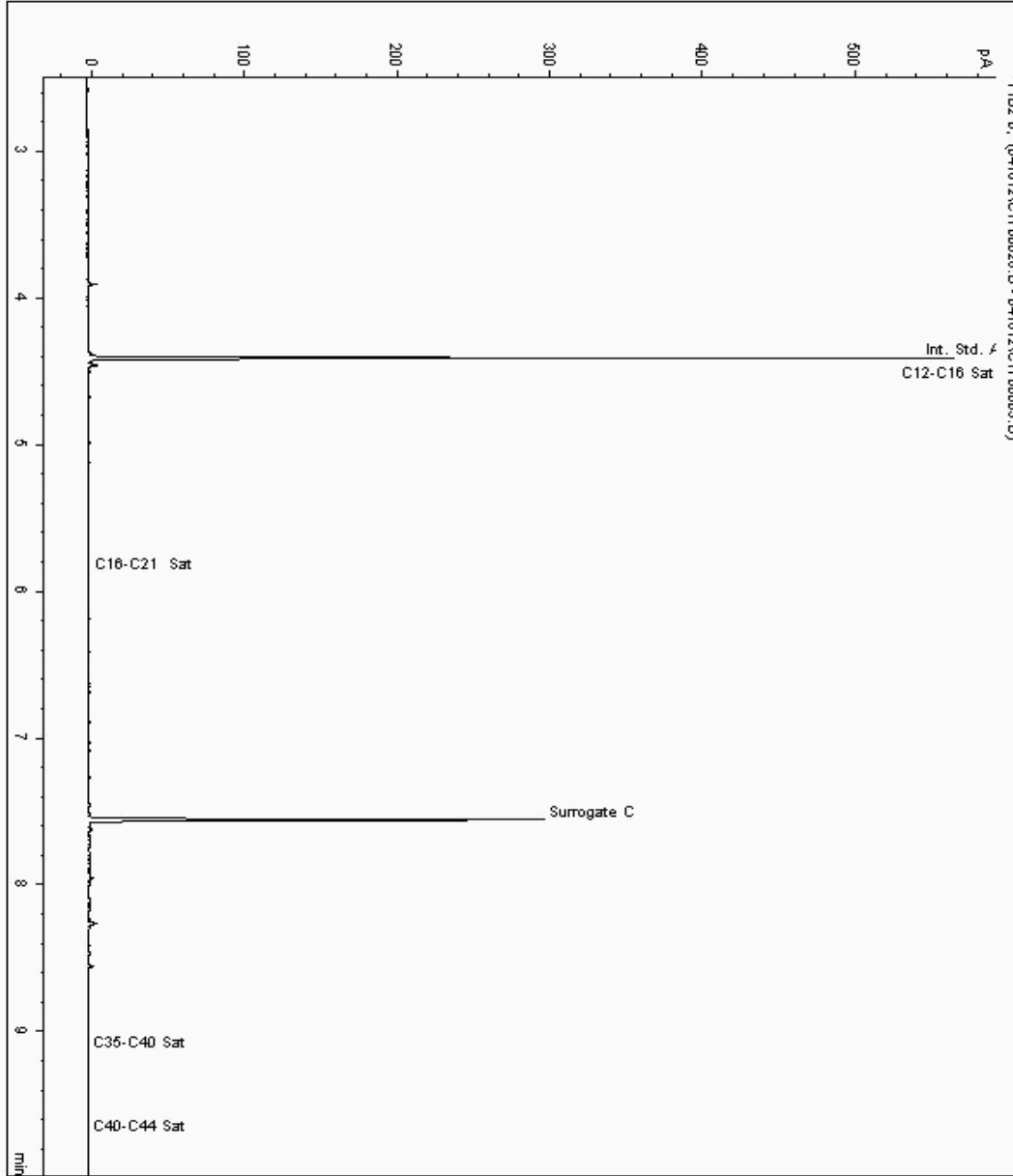
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5449334
Sample ID : TP28

Depth : 0.30

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

Sample Identity: 5316852-5449334
Date Acquired : 16/04/2012 17:58:47 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.000





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Chromatogram

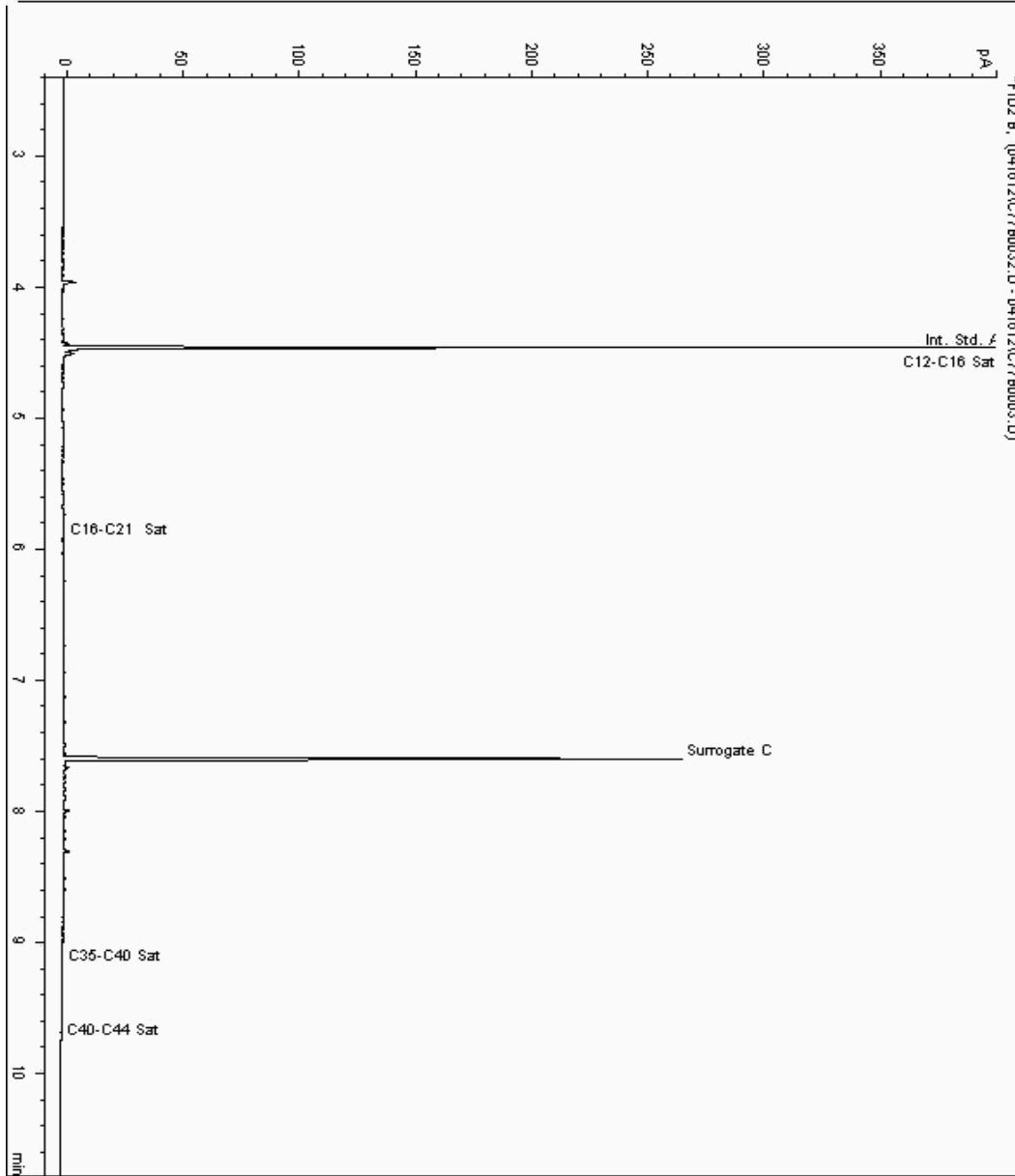
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5449388
Sample ID : TP12

Depth : 0.40

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

Sample Identity: 5316750-5449388
Date Acquired : 16/04/12 19:08:40 PM
Units : ppb
Dilution:





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Superseded Report: 178573

Chromatogram

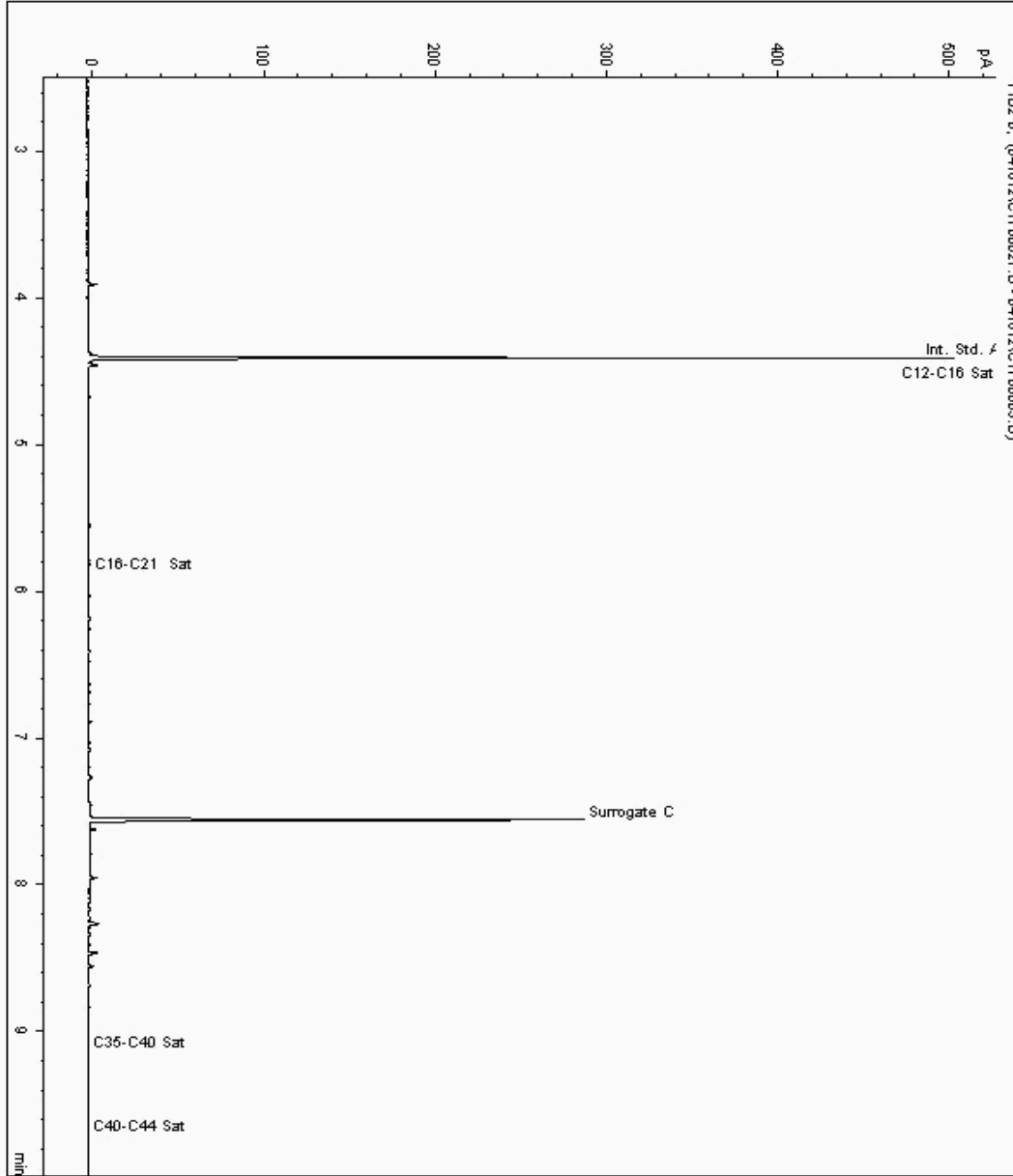
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5449401
Sample ID : TP27

Depth : 0.30

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

Sample Identity: 5316909-5449401
Date Acquired : 16/04/2012 17:38:48 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.010





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
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Order Number:
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Superseded Report: 178573

Chromatogram

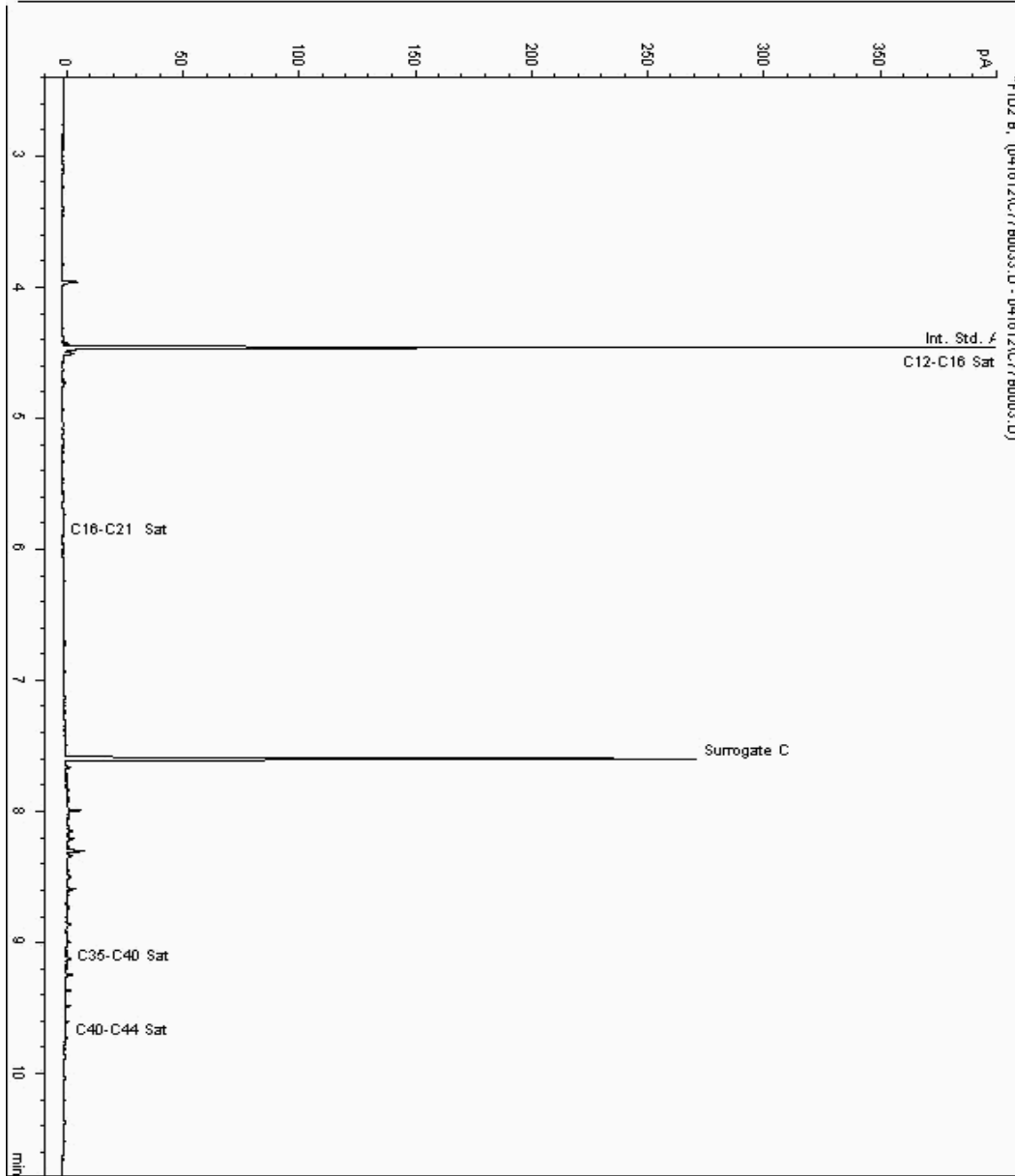
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5452412
Sample ID : TP20

Depth : 0.10 - 0.20

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

Sample Identity: 5316693-5452412
Date Acquired : 16/04/12 19:29:13 PM
Units : ppb
Dilution:





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Order Number:
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Superseded Report: 178573

Chromatogram

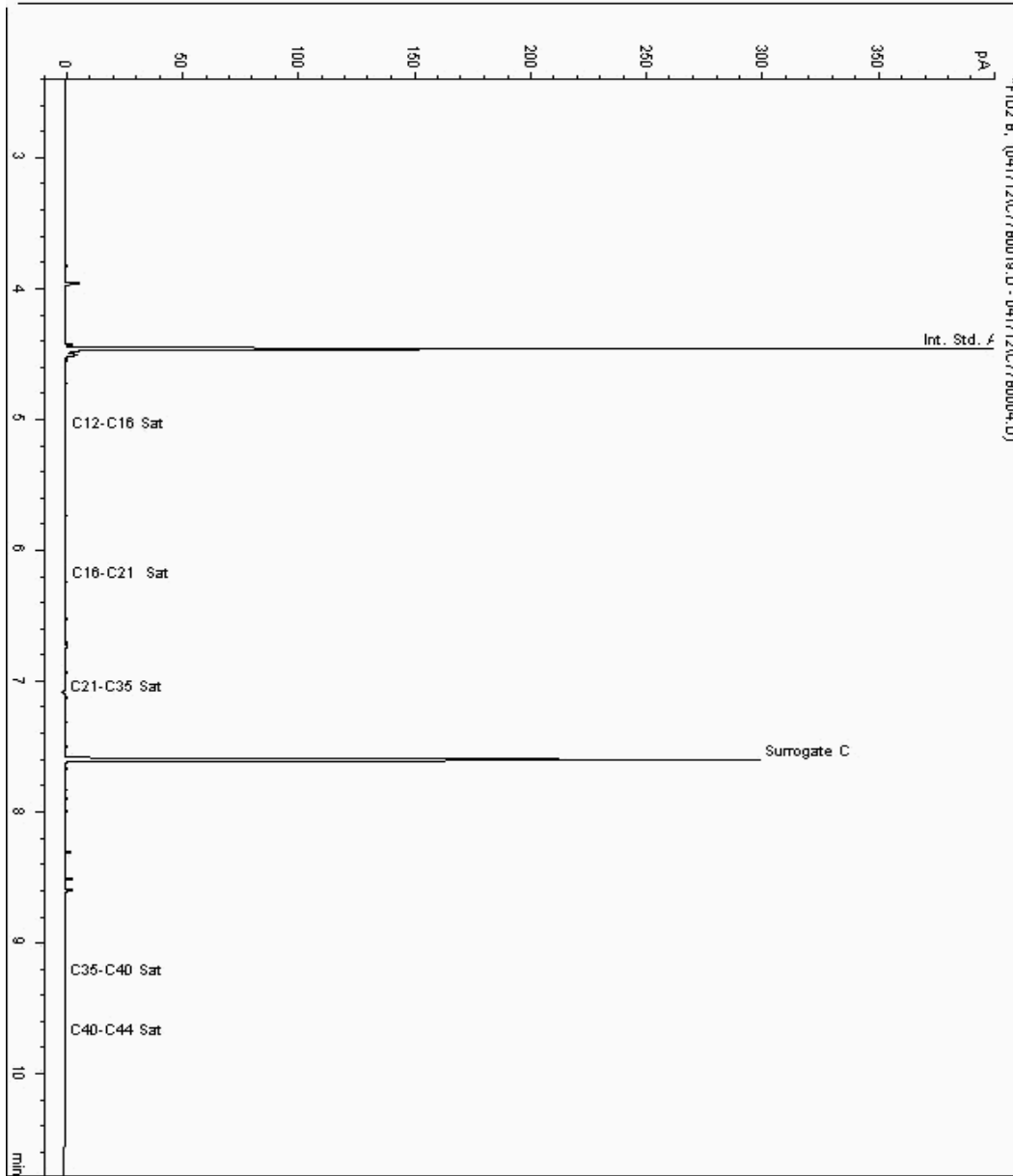
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5456146
Sample ID : TP23

Depth : 1.20

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

Sample Identity: 5316889-5456146
Date Acquired : 17/04/12 16:56:09 PM
Units : ppb
Dilution:





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SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

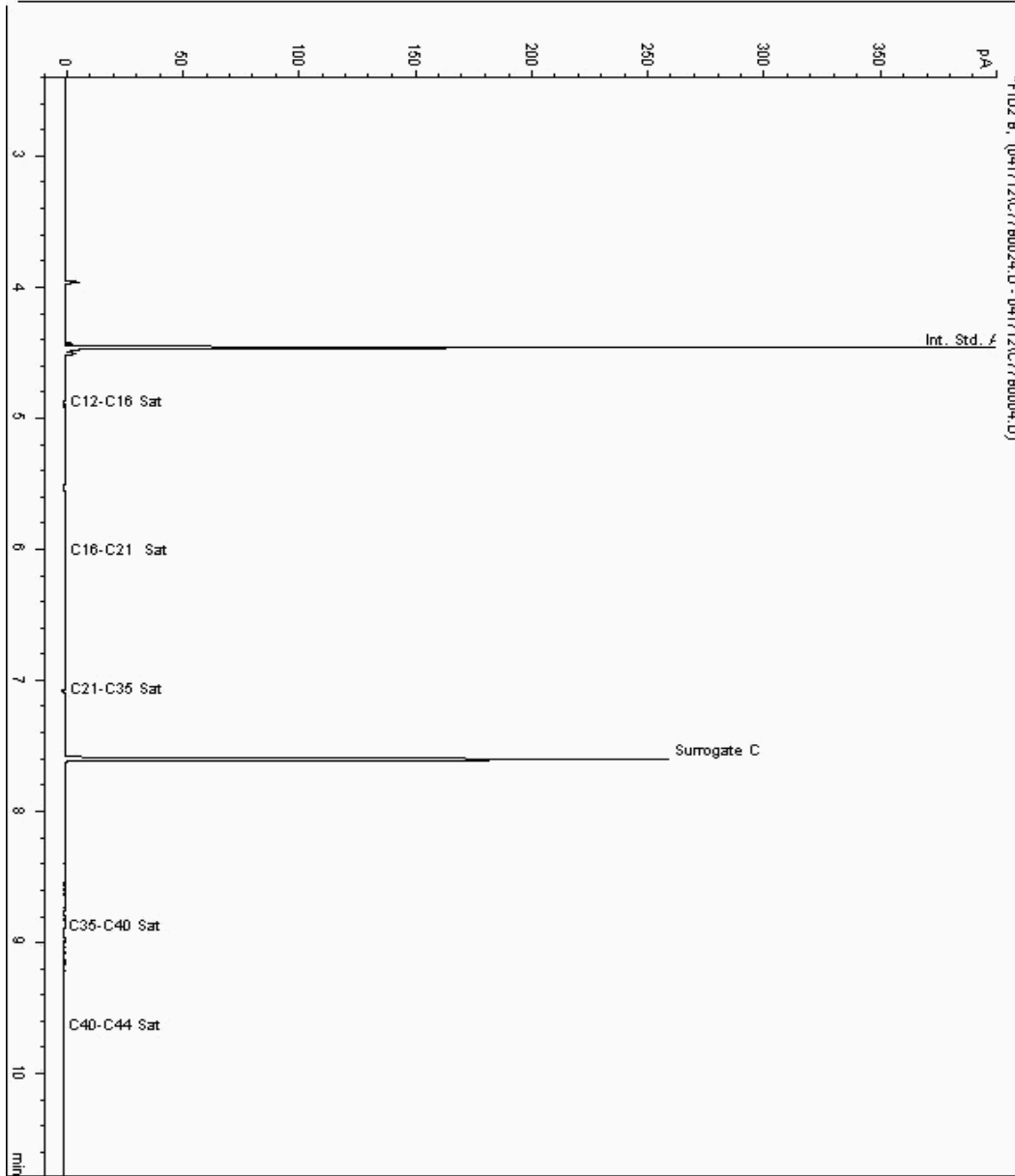
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5456264
Sample ID : TP12

Depth : 1.90

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

Sample Identity: 5316767-5456264
Date Acquired : 17/04/12 18:17:25 PM
Units : ppb
Dilution:





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Location: Lincolnshire Lakes
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Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

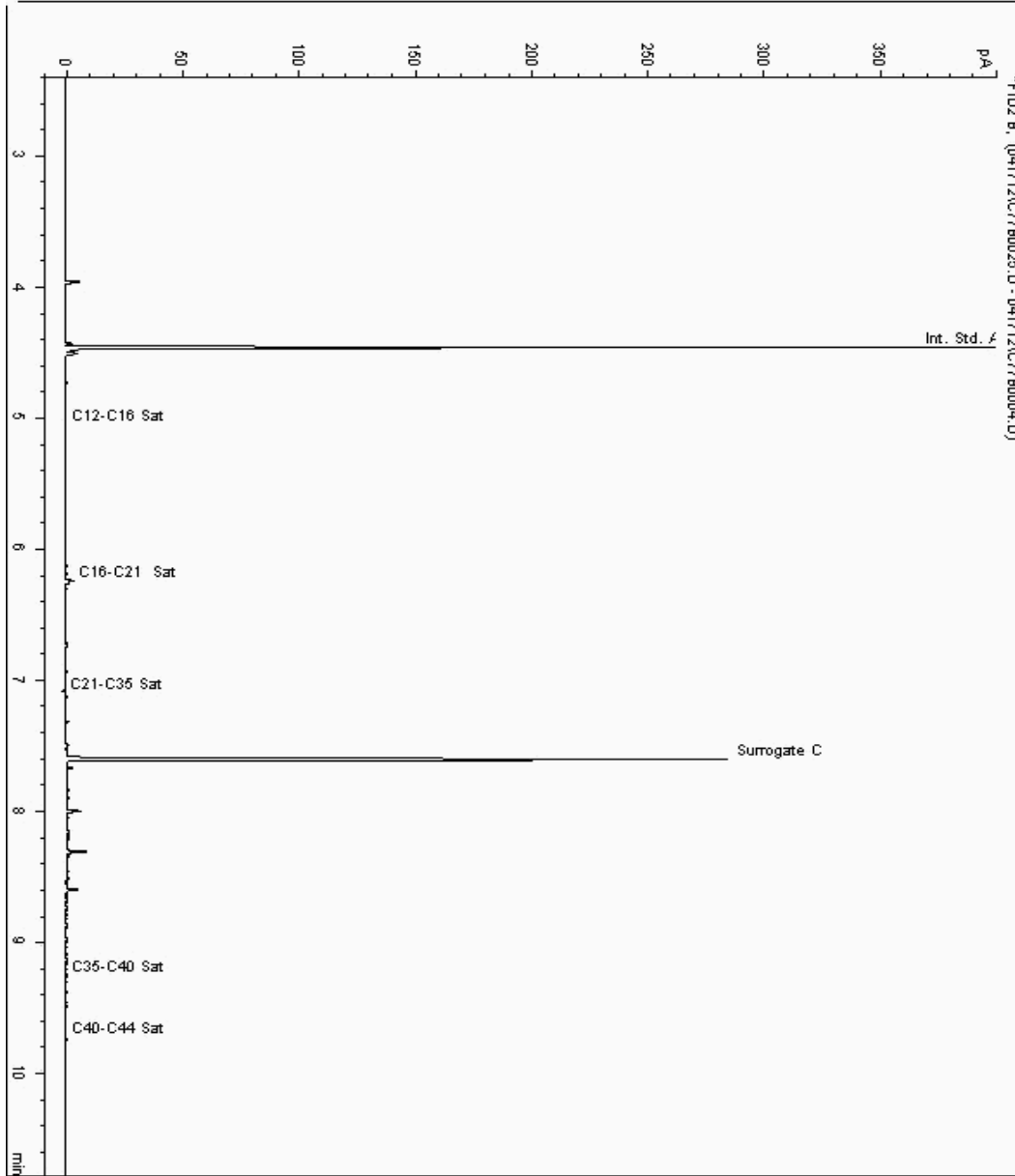
Analysis: EPH CWG (Aliphatic) GC (S)

Sample No : 5456295
Sample ID : TP19

Depth : 0.20 - 0.40

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

Sample Identity: 5316713-5456295
Date Acquired : 17/04/12 18:38:04 PM
Units : ppb
Dilution:





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
Report Number: 178574
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Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431185
Sample ID : WS10

Depth : 0.10 - 0.30





SDG: 120405-9
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Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431189
Sample ID : TP10

Depth : 0.30





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

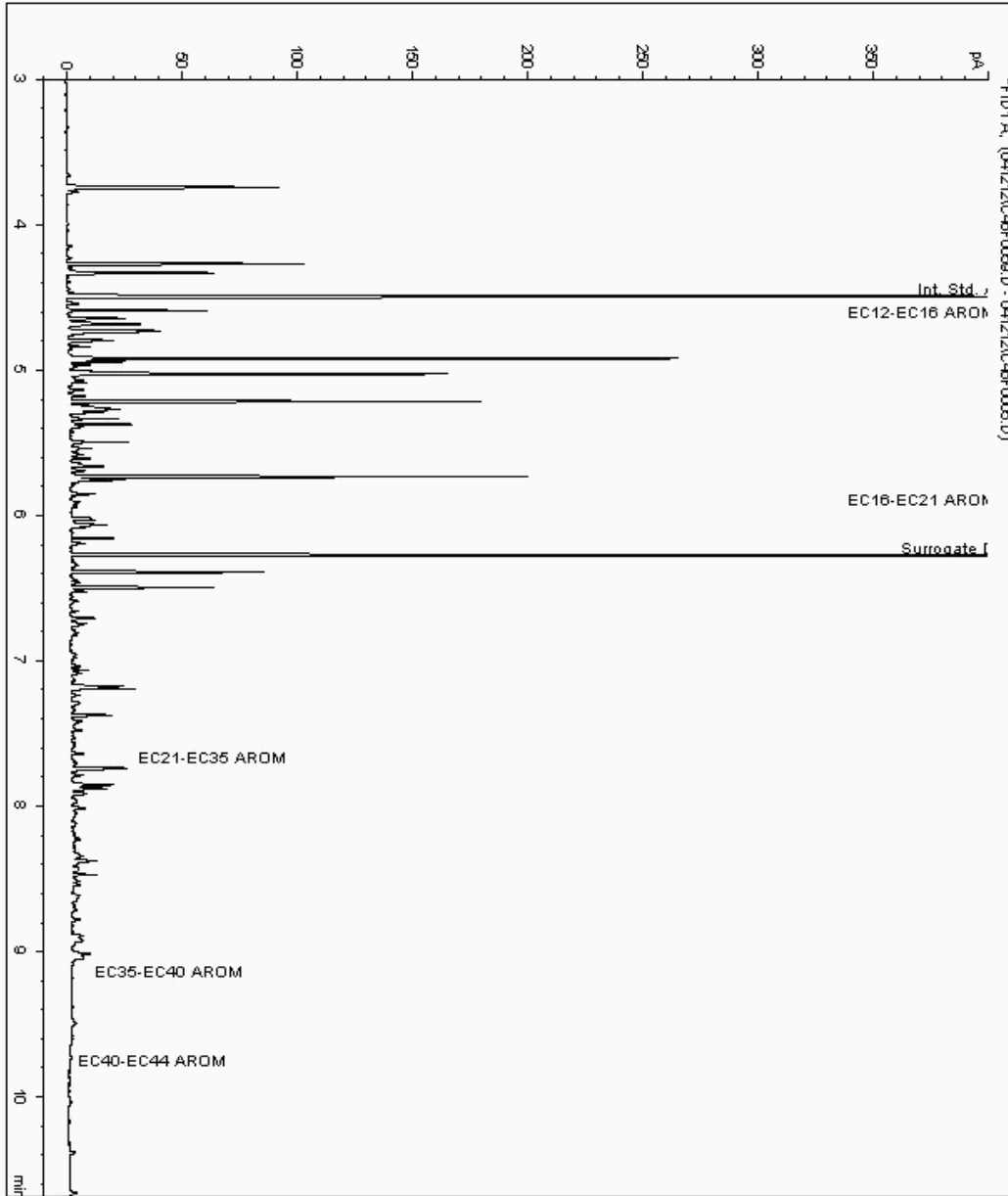
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431216
Sample ID : BH02

Depth : 0.00 - 1.00

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

Sample Identity: 5316636-5431216
Date Acquired : 13/04/12 18:36:27 PM
Units : ppb
Dilution:





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431243
Sample ID : BH08

Depth : 0.00 - 1.00





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

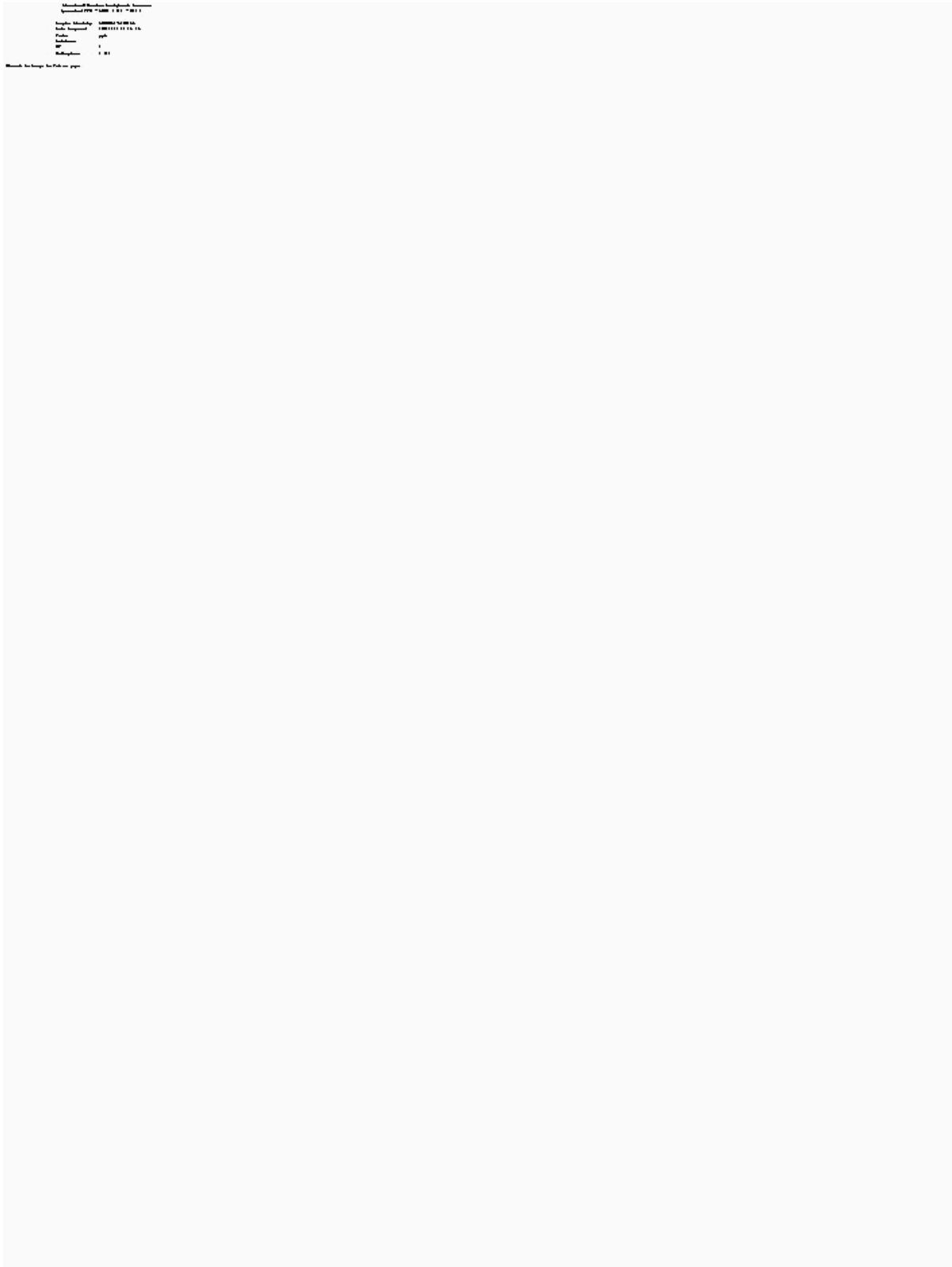
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431259
Sample ID : BH01

Depth : 0.20 - 0.40





SDG: 120405-9
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Location: Lincolnshire Lakes
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Order Number:
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Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431278
Sample ID : WS06

Depth : 0.50 - 0.60





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
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Order Number:
Report Number: 178574
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Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431293
Sample ID : BH05

Depth : 0.00 - 1.00





SDG: 120405-9
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Client Reference: 00023902

Location: Lincolnshire Lakes
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Order Number:
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Superseded Report: 178573

Chromatogram

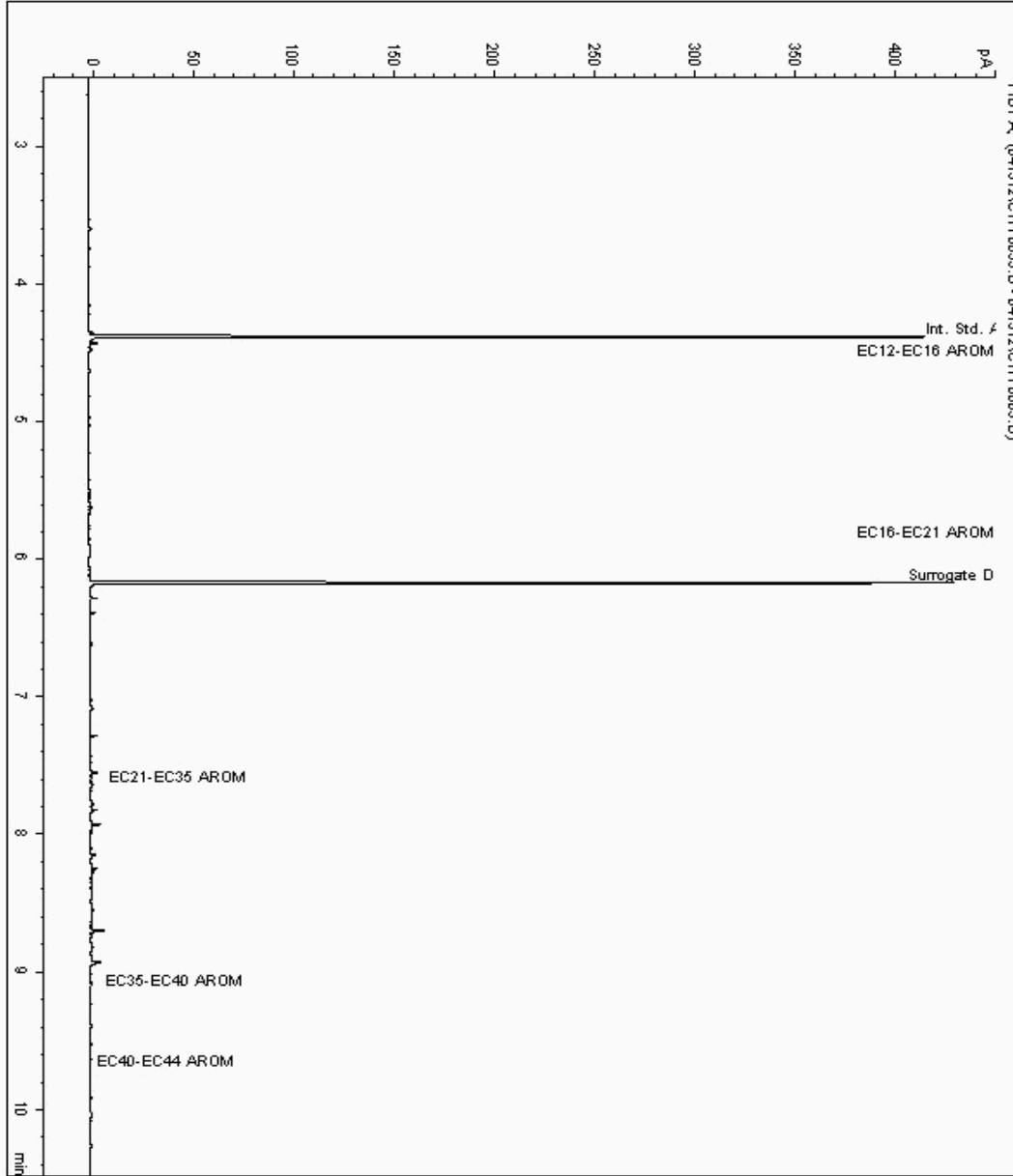
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431321
Sample ID : TP14

Depth : 0.20 - 0.30

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

Sample Identity: 5316786-5431321
Date Acquired : 13/04/2012 19:23:44 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.000





SDG: 120405-9
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Chromatogram

Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431337
Sample ID : BH06

Depth : 0.50 - 0.60





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Client Reference: 00023902

Location: Lincolnshire Lakes
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Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

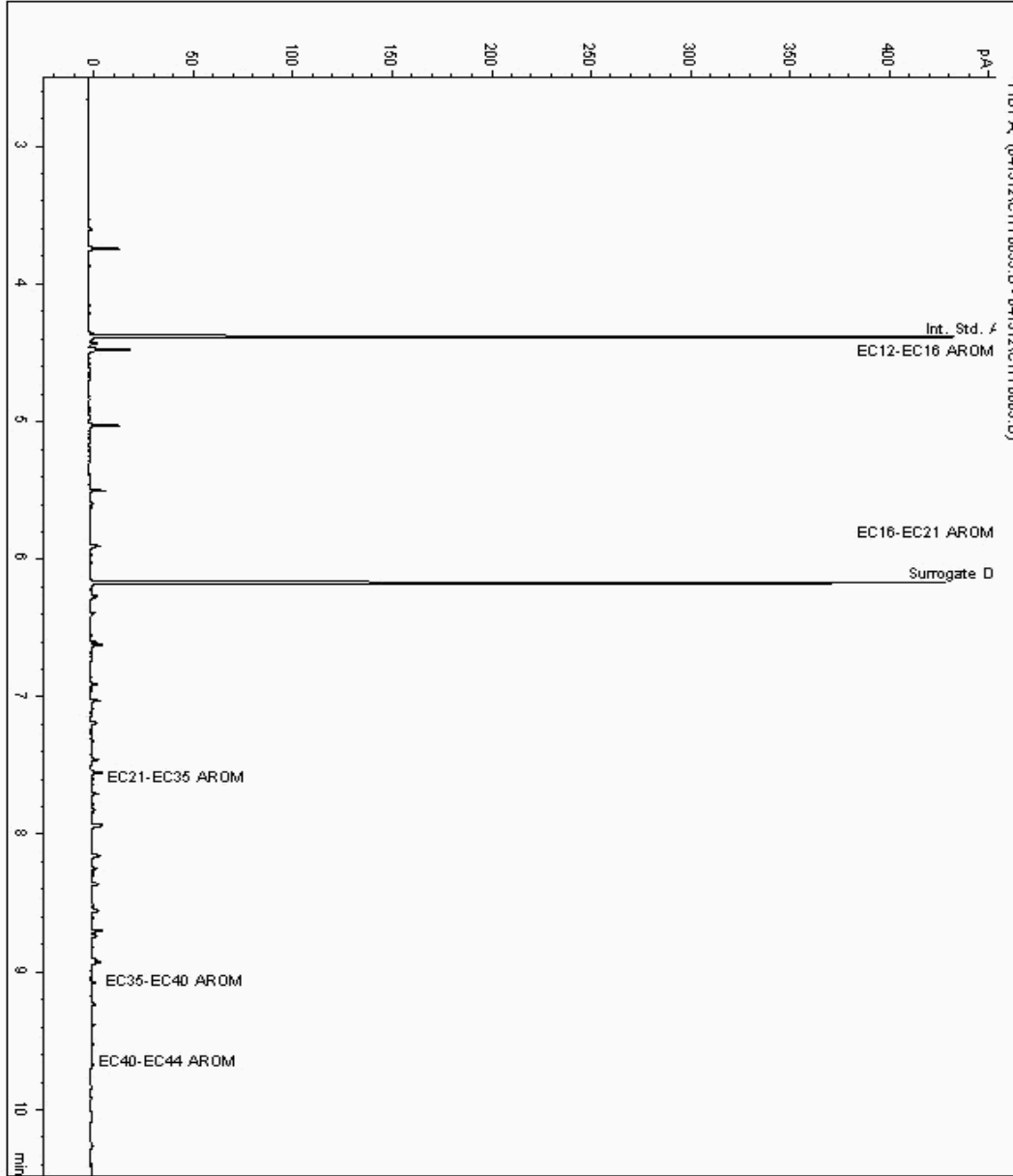
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431349
Sample ID : BH03

Depth : 0.00 - 1.00

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

Sample Identity: 5316605-5431349
Date Acquired : 13/04/2012 18:43:09 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.030





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
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Order Number:
Report Number: 178574
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Chromatogram

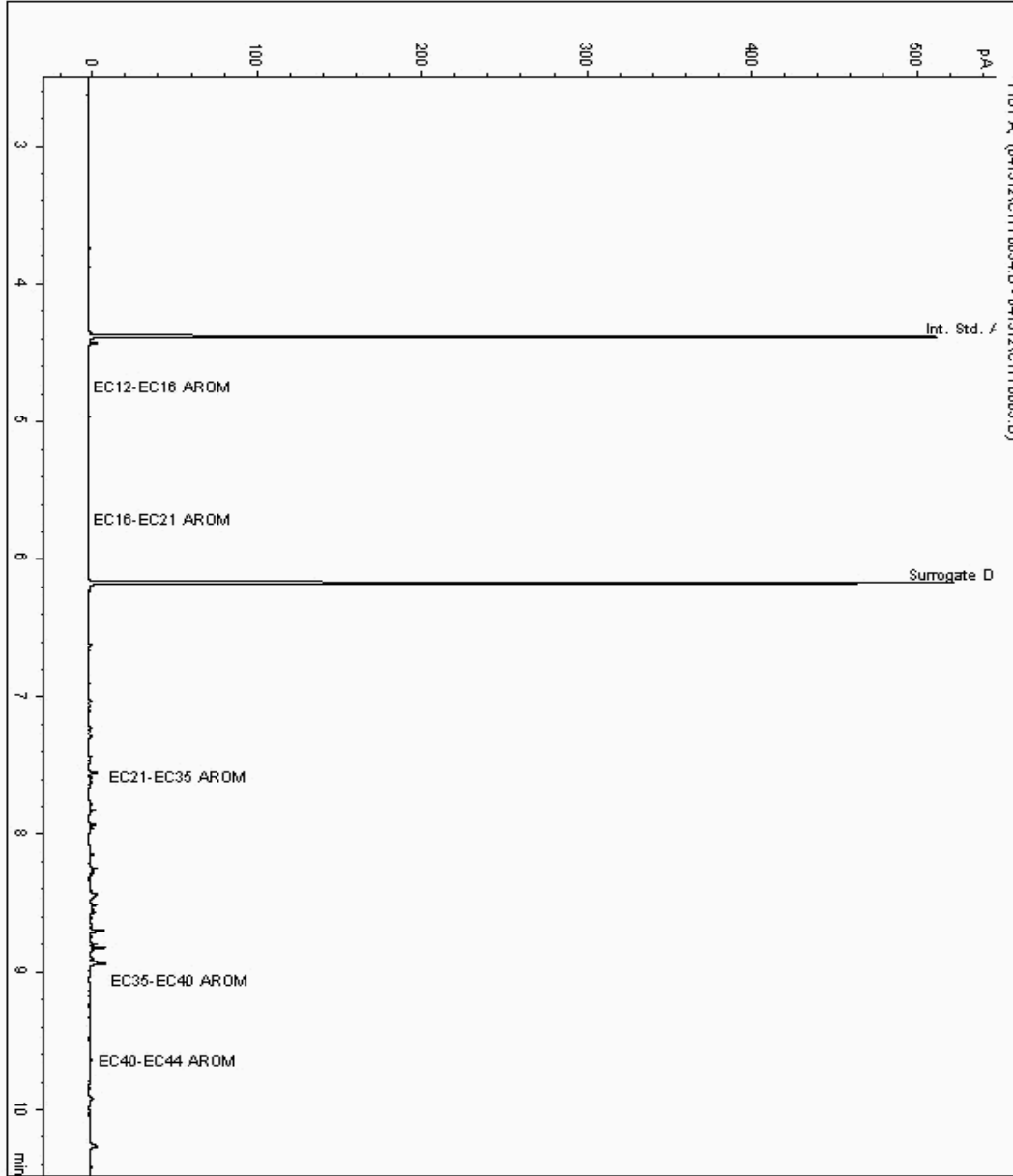
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5431375
Sample ID : WS10

Depth : 0.40 - 0.50

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

Sample Identity: 5316802-5431375
Date Acquired : 13/04/2012 19:03:23 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 0.950





SDG: 120405-9
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Order Number:
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Superseded Report: 178573

Chromatogram

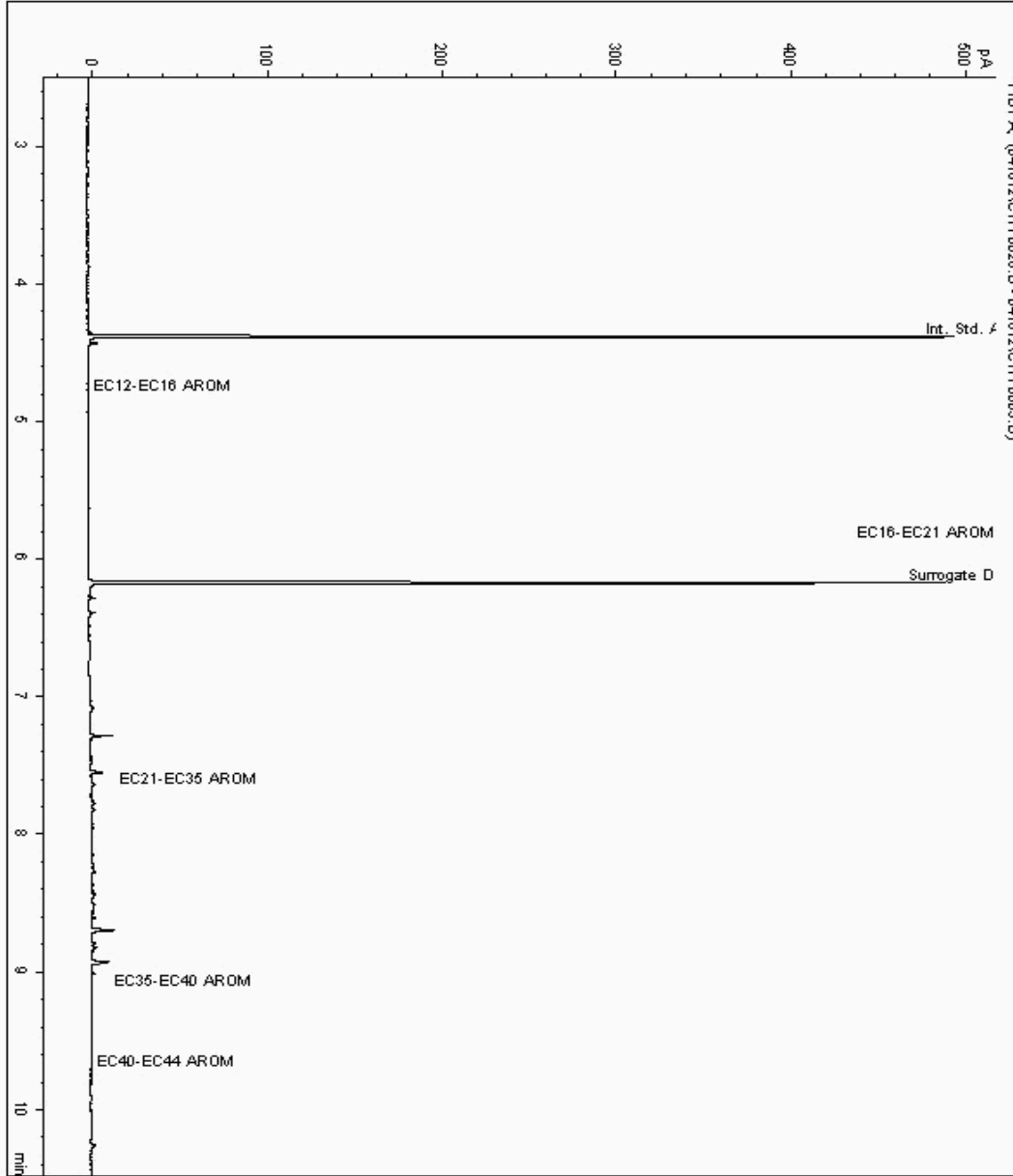
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5449334
Sample ID : TP28

Depth : 0.30

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

Sample Identity: 5316853-5449334
Date Acquired : 16/04/2012 17:58:47 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.000





SDG: 120405-9
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Chromatogram

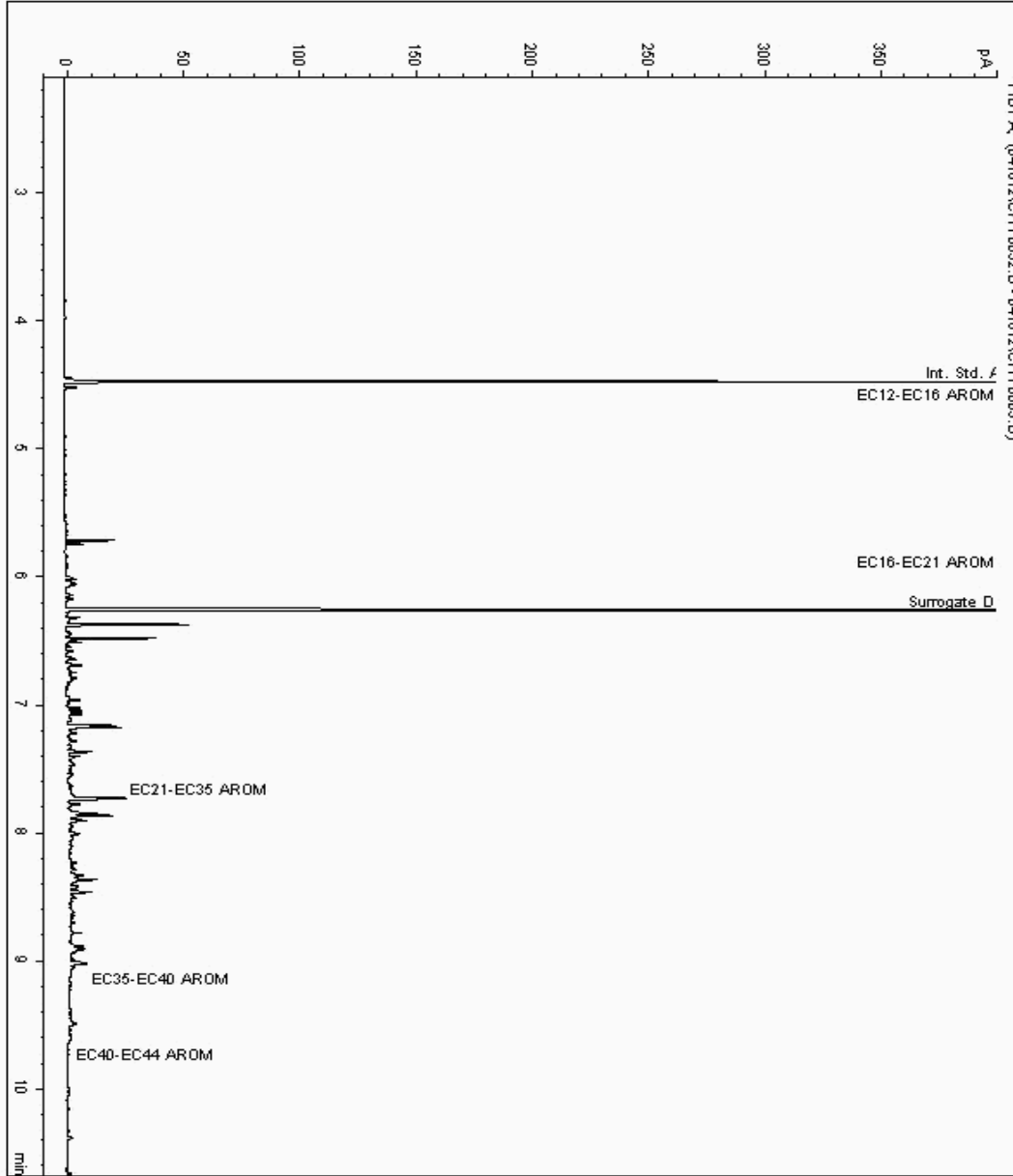
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5449388
Sample ID : TP12

Depth : 0.40

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

Sample Identity: 5316751-5449388
Date Acquired : 16/04/12 19:08:40 PM
Units : ppb
Dilution:





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
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Order Number:
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Chromatogram

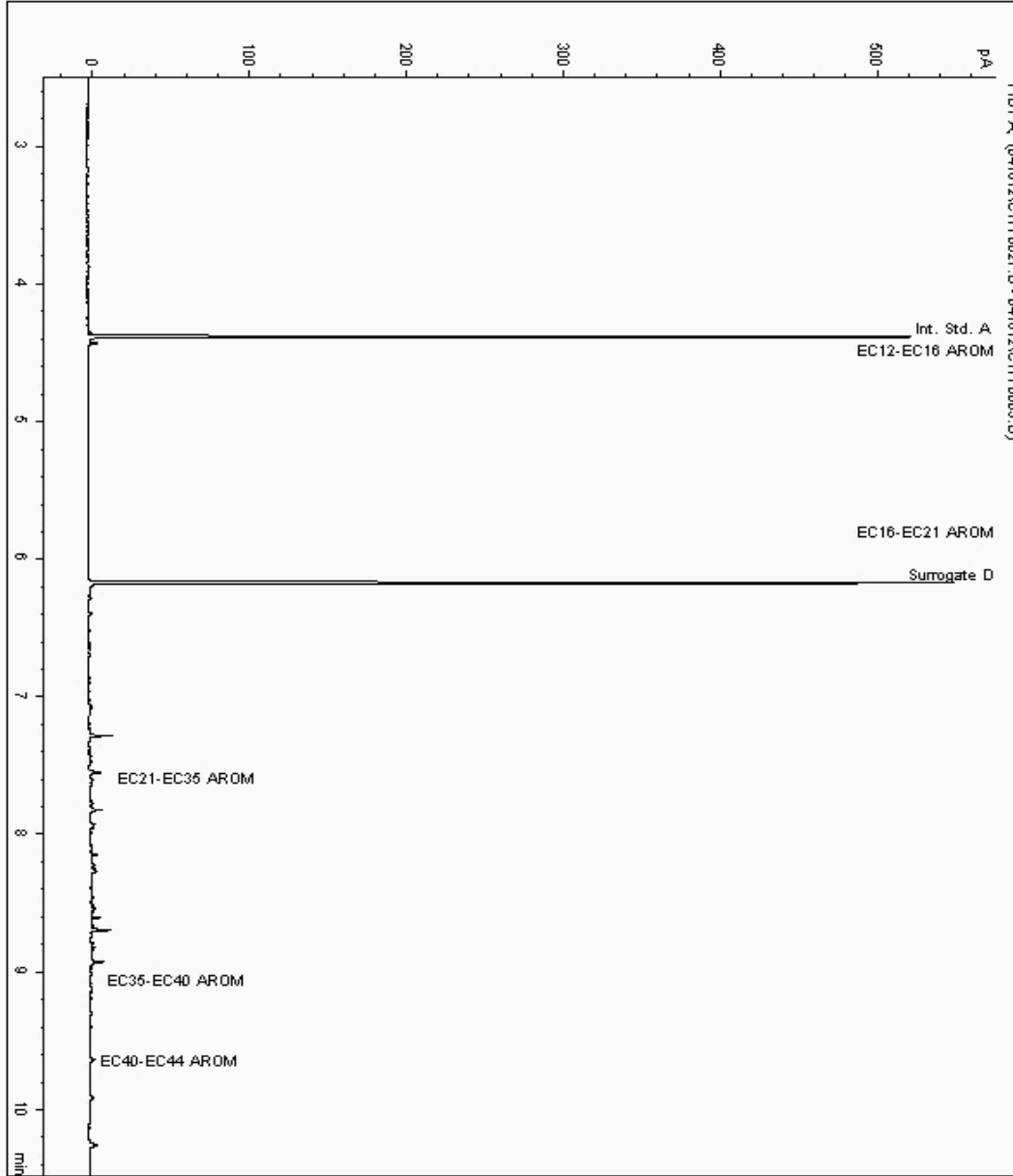
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5449401
Sample ID : TP27

Depth : 0.30

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

Sample Identity: 5316910-5449401
Date Acquired : 16/04/2012 17:38:48 PM
Units : ppb
Dilution :
CF : 1
Multiplier : 1.010





SDG: 120405-9
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Order Number:
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Superseded Report: 178573

Chromatogram

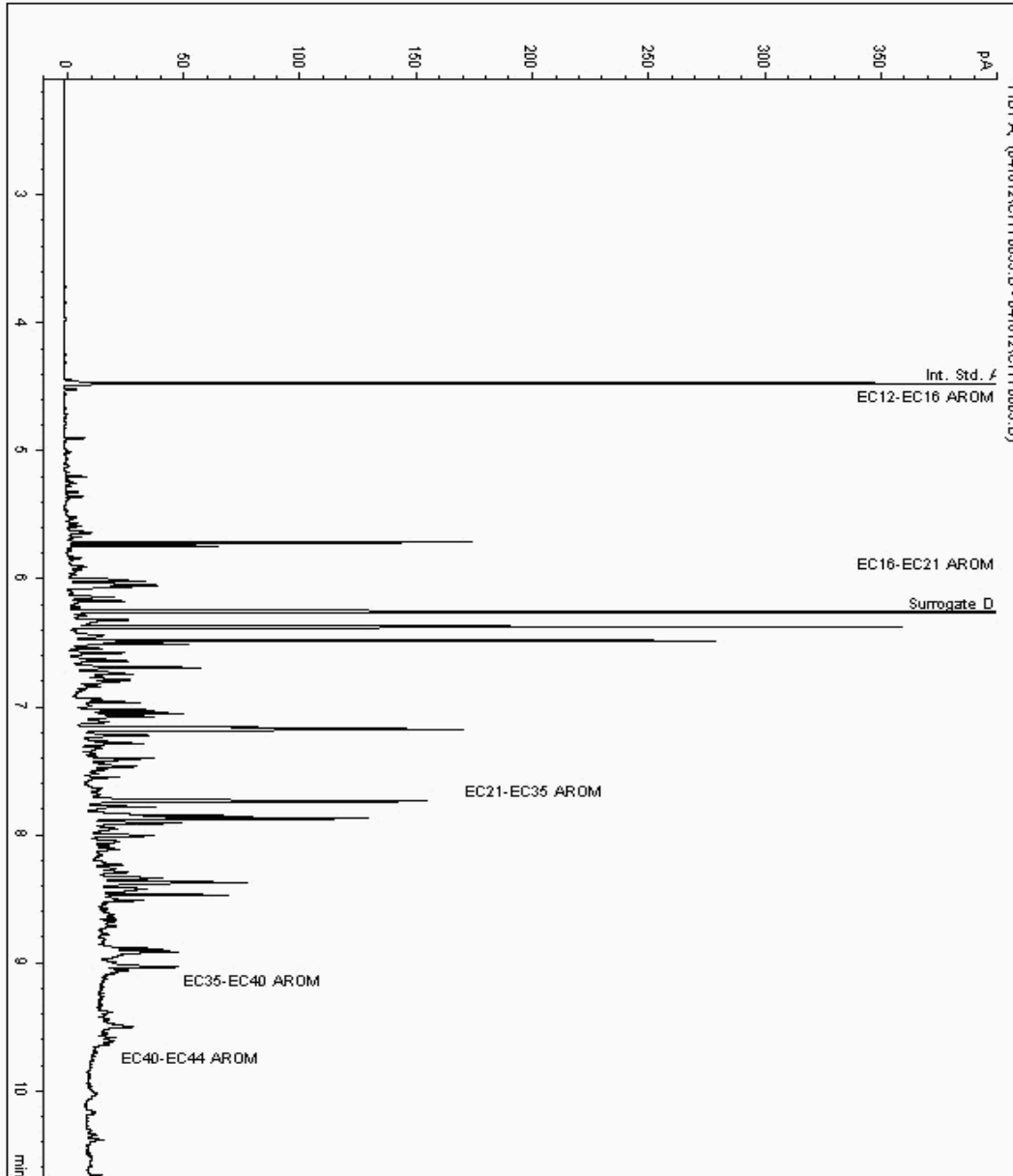
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5452412
Sample ID : TP20

Depth : 0.10 - 0.20

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

Sample Identity: 5316694-5452412
Date Acquired : 16/04/12 19:29:13 PM
Units : ppb
Dilution:





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
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Superseded Report: 178573

Chromatogram

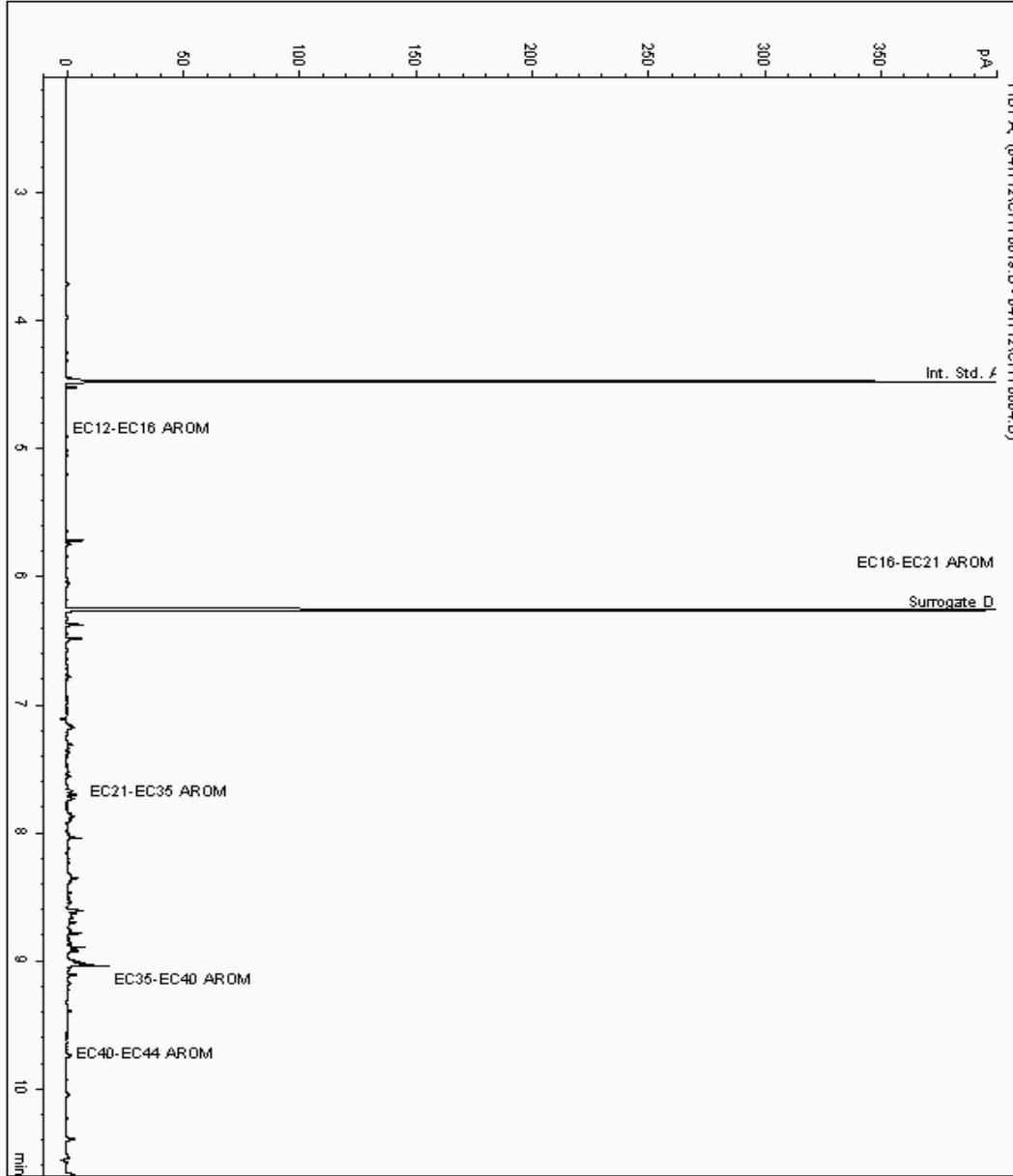
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5456146
Sample ID : TP23

Depth : 1.20

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

Sample Identity: 5316890-5456146
Date Acquired : 17/04/12 16:56:10 PM
Units : ppb
Dilution:





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Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

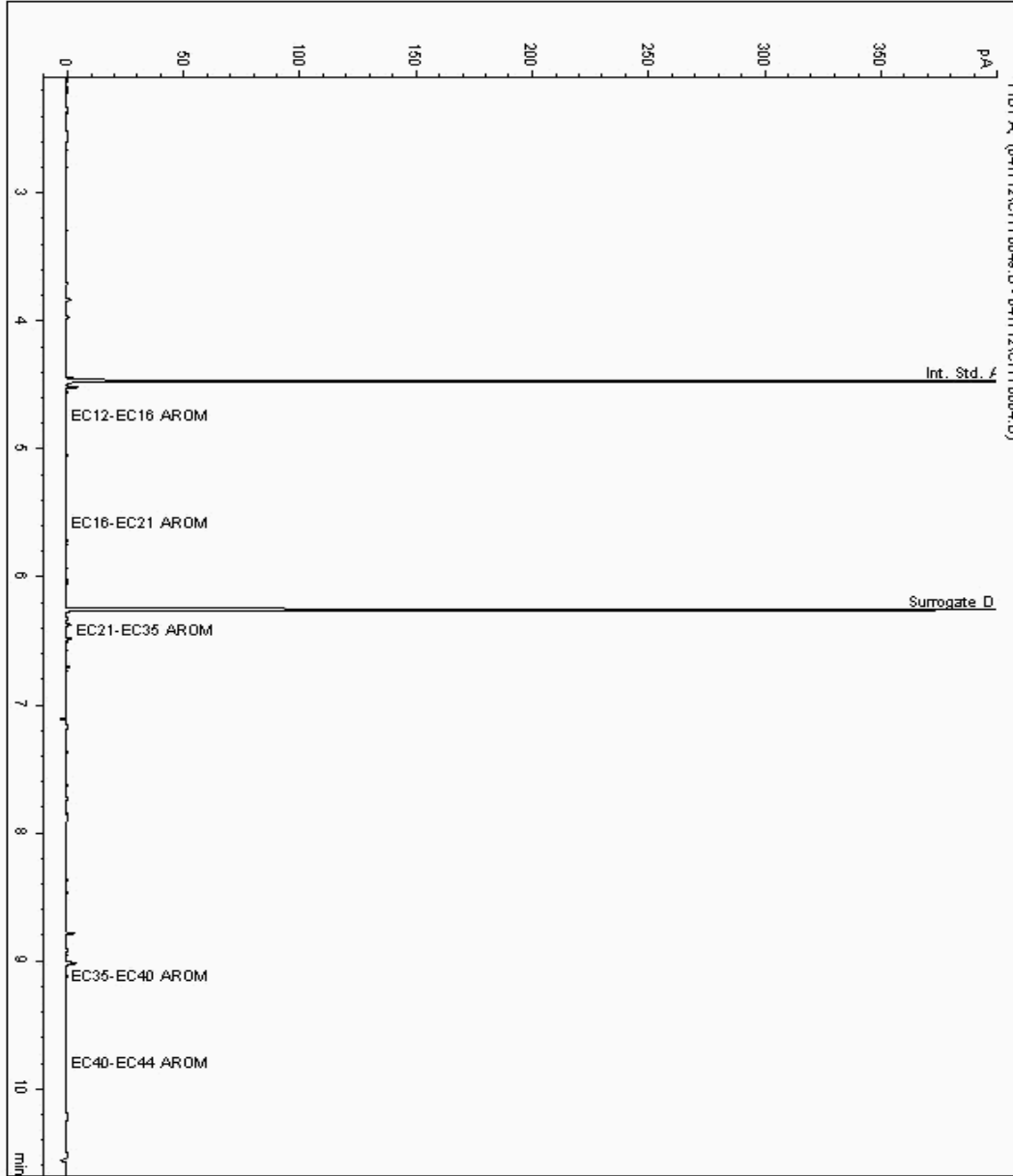
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5456264
Sample ID : TP12

Depth : 1.90

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

Sample Identity: 5316768-5456264
Date Acquired : 18/04/12 09:52:40 PM
Units : ppb
Dilution:





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
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Superseded Report: 178573

Chromatogram

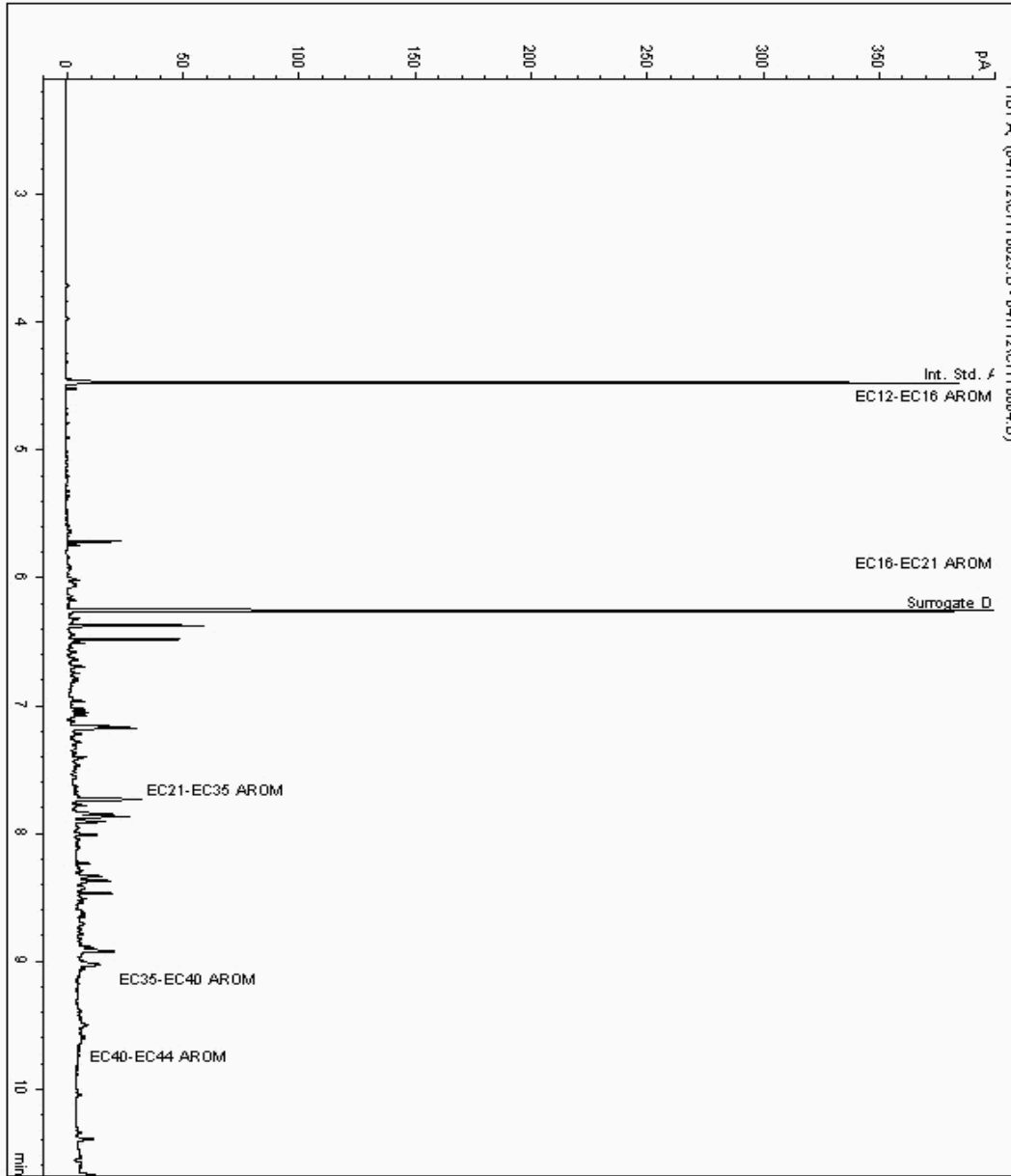
Analysis: EPH CWG (Aromatic) GC (S)

Sample No : 5456295
Sample ID : TP19

Depth : 0.20 - 0.40

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

Sample Identity: 5316714-5456295
Date Acquired : 17/04/12 18:38:04 PM
Units : ppb
Dilution:





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
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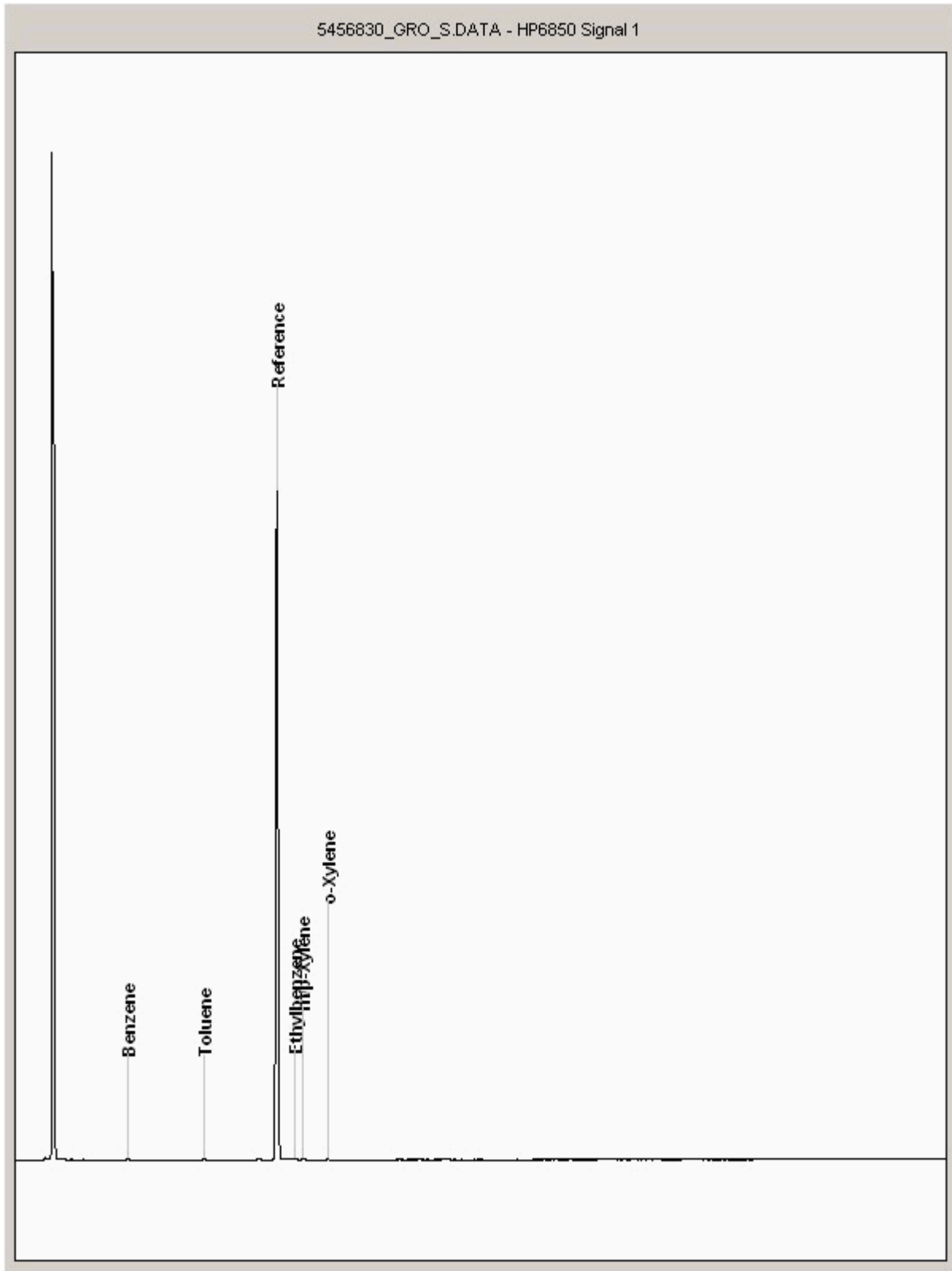
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5456830
Sample ID : TP14

Depth : 0.20 - 0.30





SDG: 120405-9
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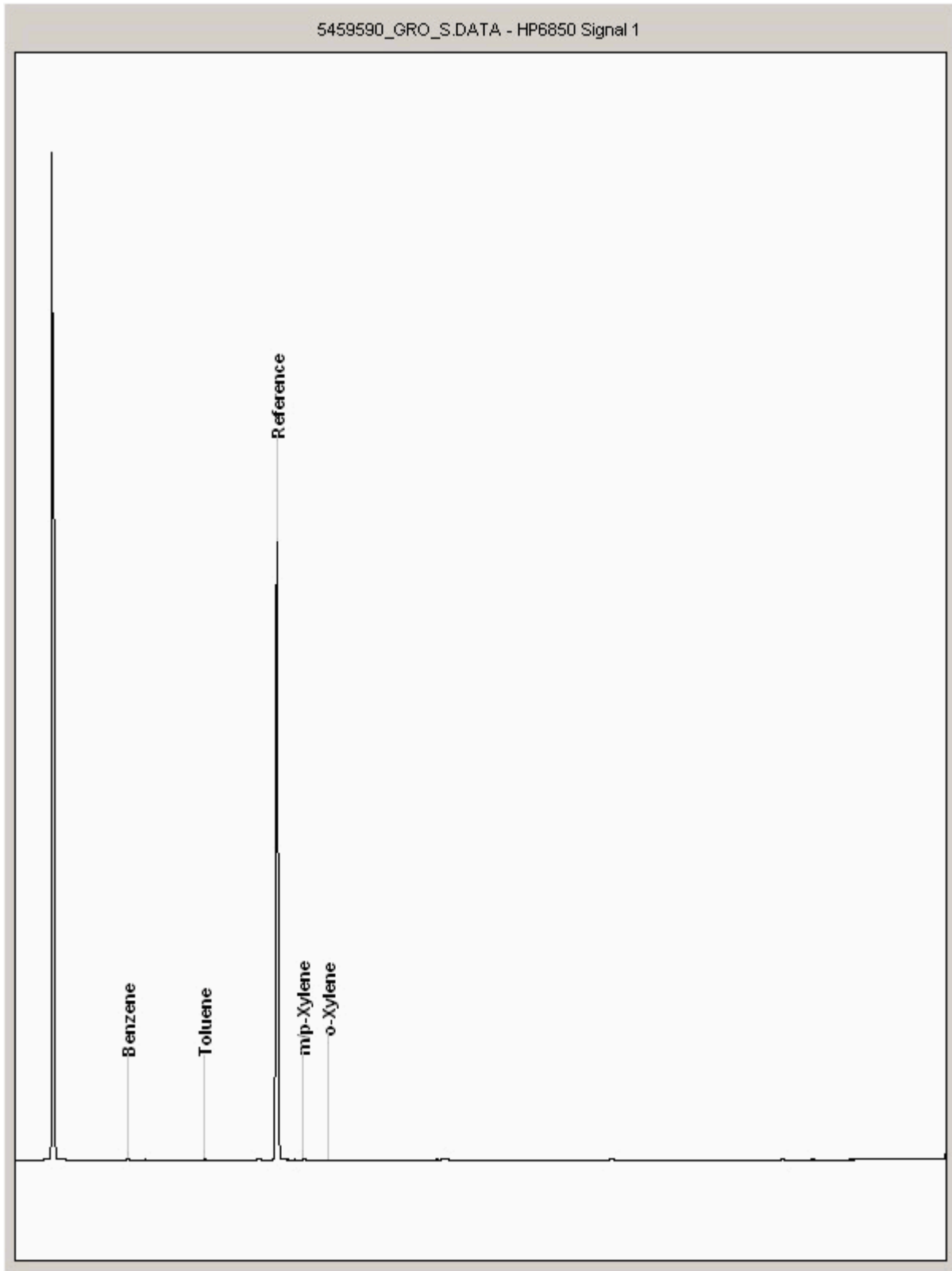
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5459590
Sample ID : BH02

Depth : 0.00 - 1.00





SDG: 120405-9
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Location: Lincolnshire Lakes
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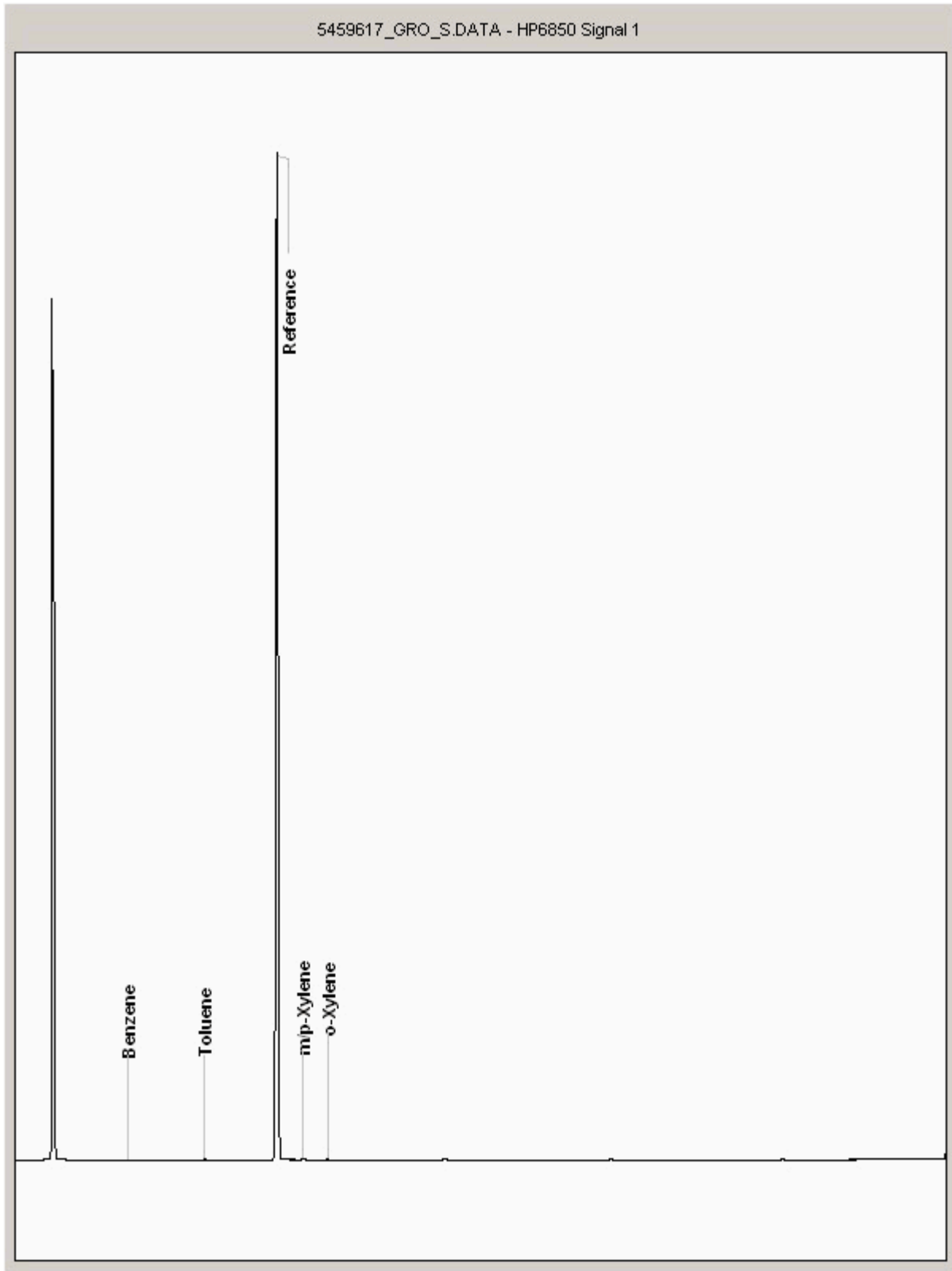
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5459617
Sample ID : WS10

Depth : 0.40 - 0.50





SDG: 120405-9
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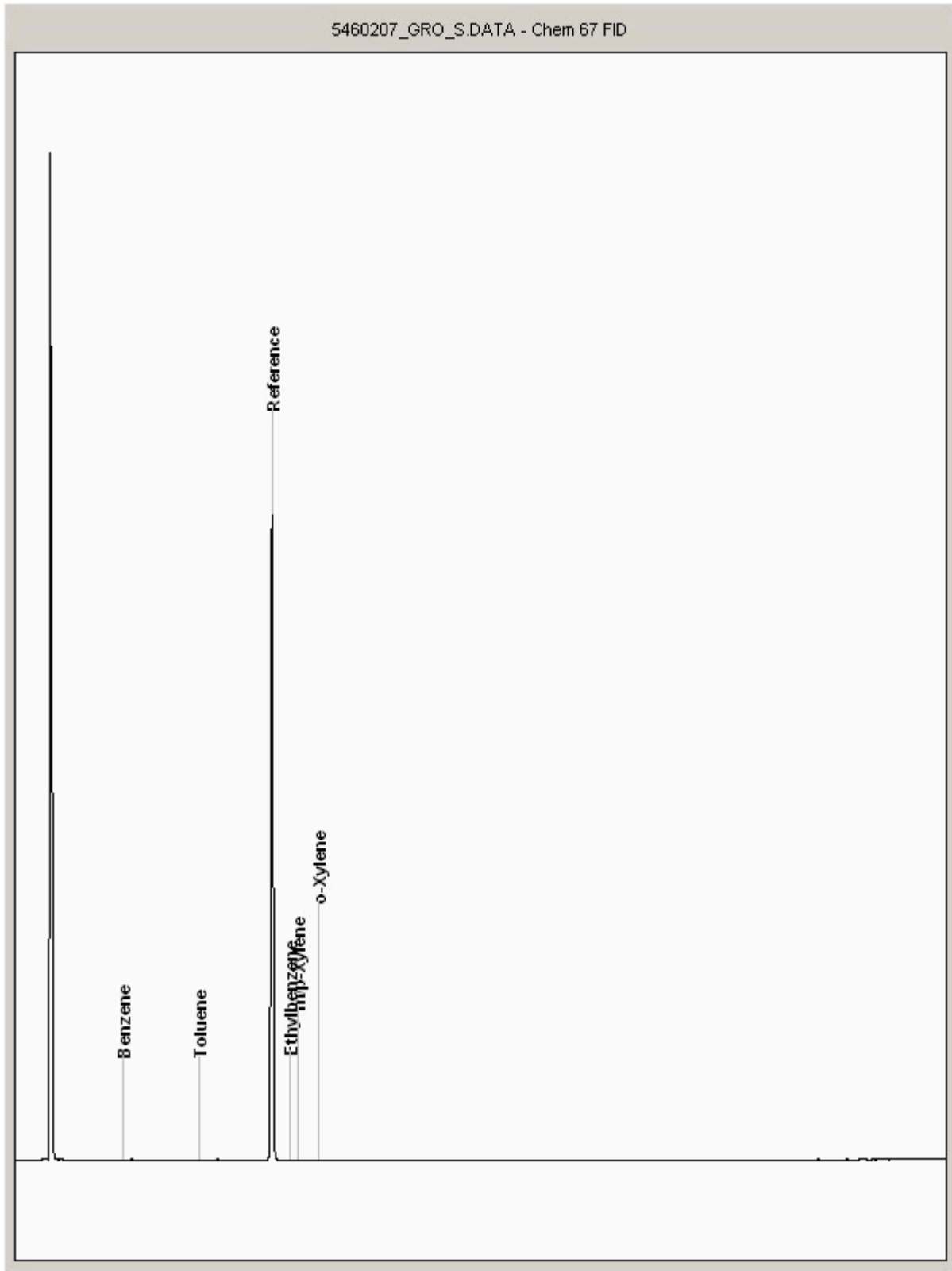
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5460207
Sample ID : TP10

Depth : 0.30





SDG: 120405-9
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Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

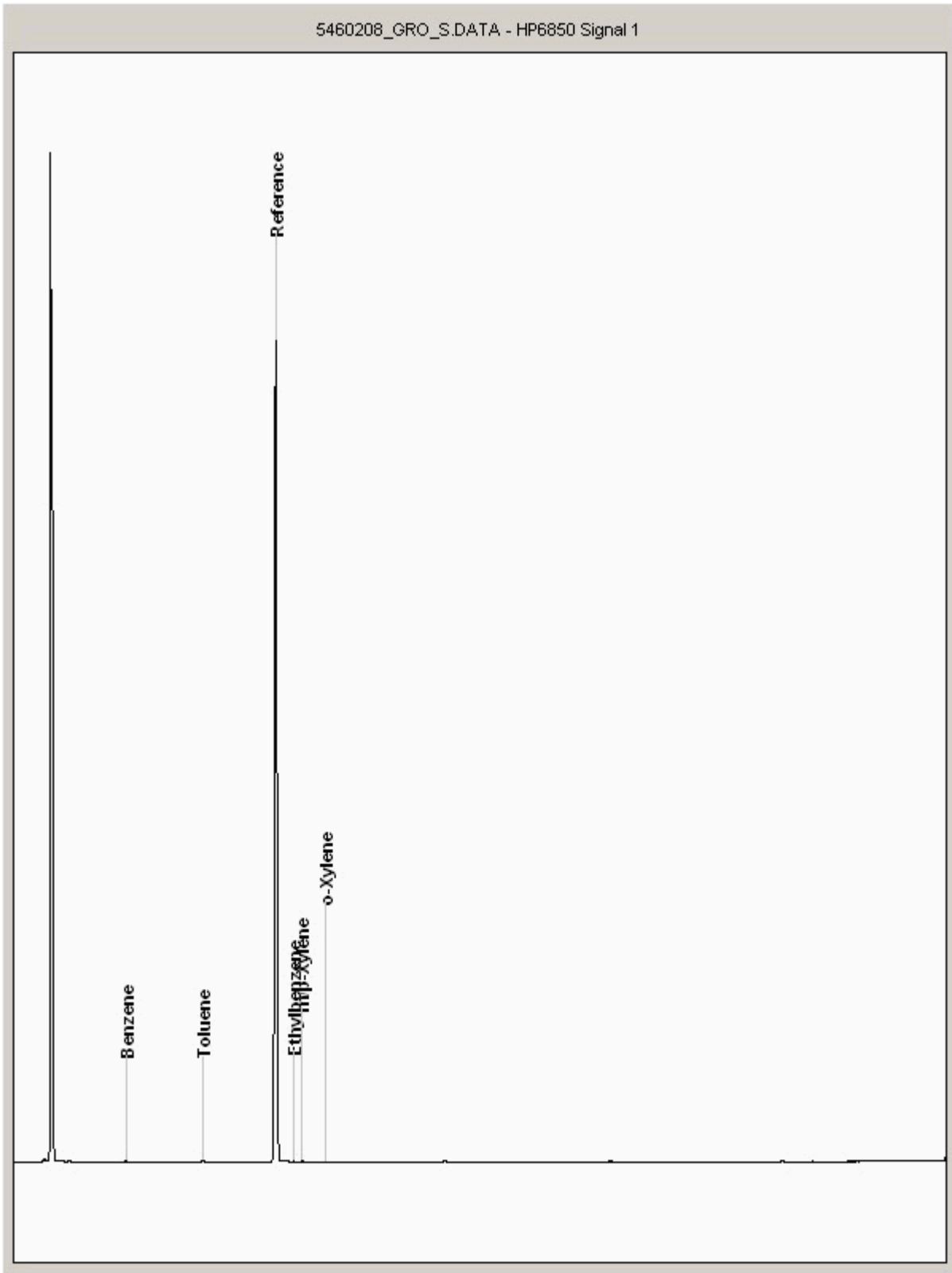
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5460208
Sample ID : TP28

Depth : 0.30





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

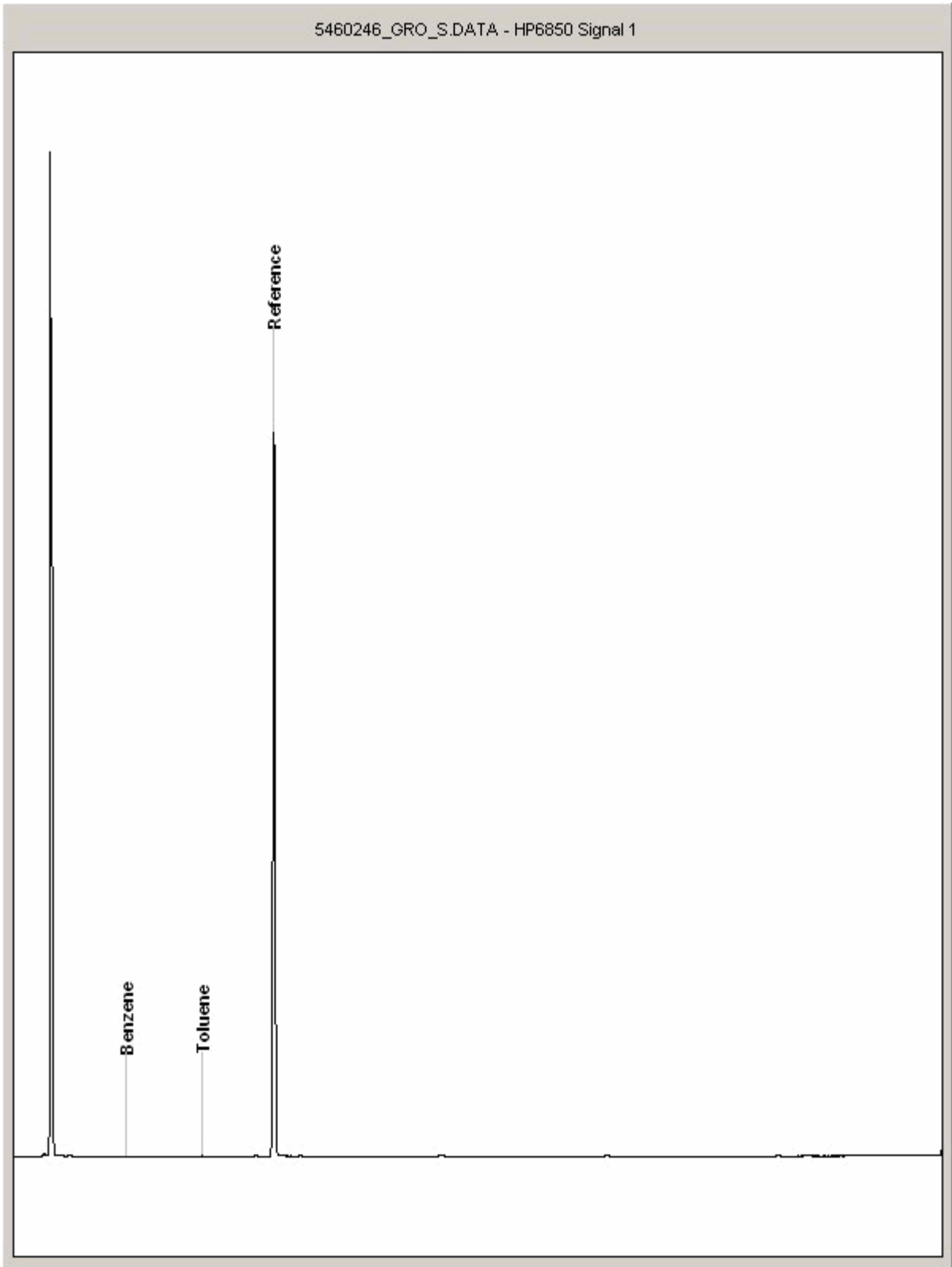
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5460246
Sample ID : TP20

Depth : 0.10 - 0.20





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

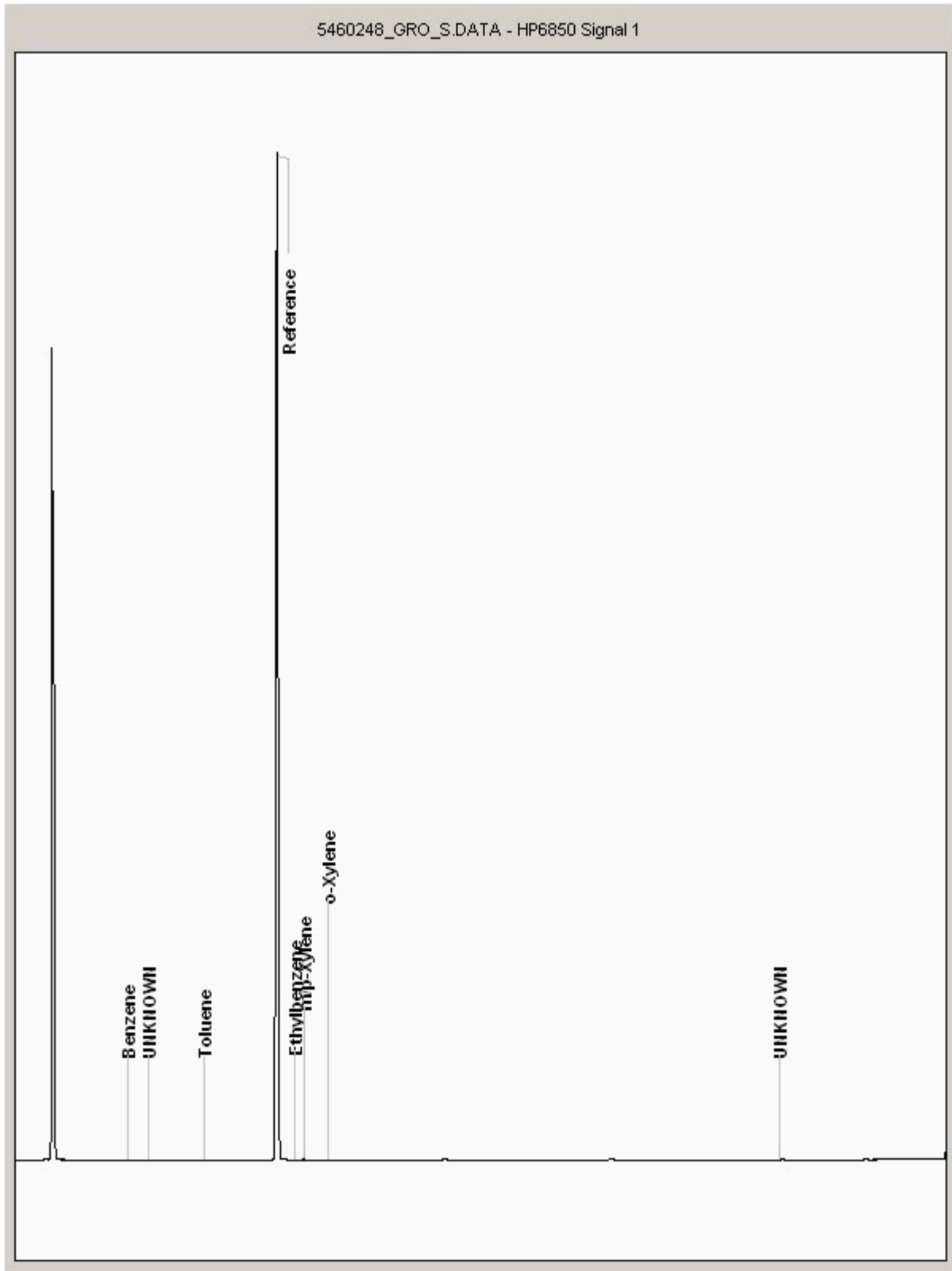
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5460248
Sample ID : TP12

Depth : 1.90





CERTIFICATE OF ANALYSIS

SDG: 120405-9
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Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

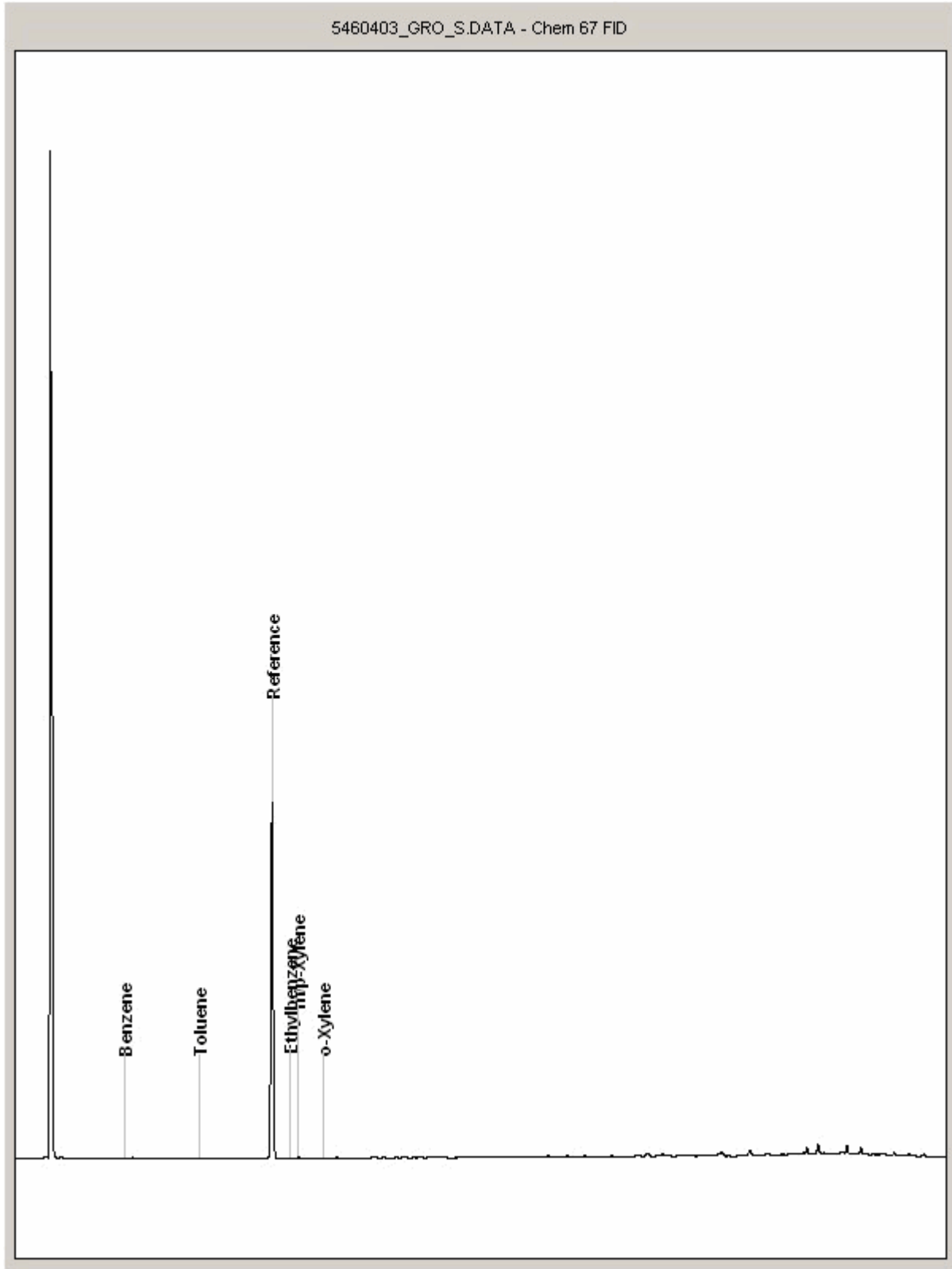
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5460403
Sample ID : BH08

Depth : 0.00 - 1.00





CERTIFICATE OF ANALYSIS

SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

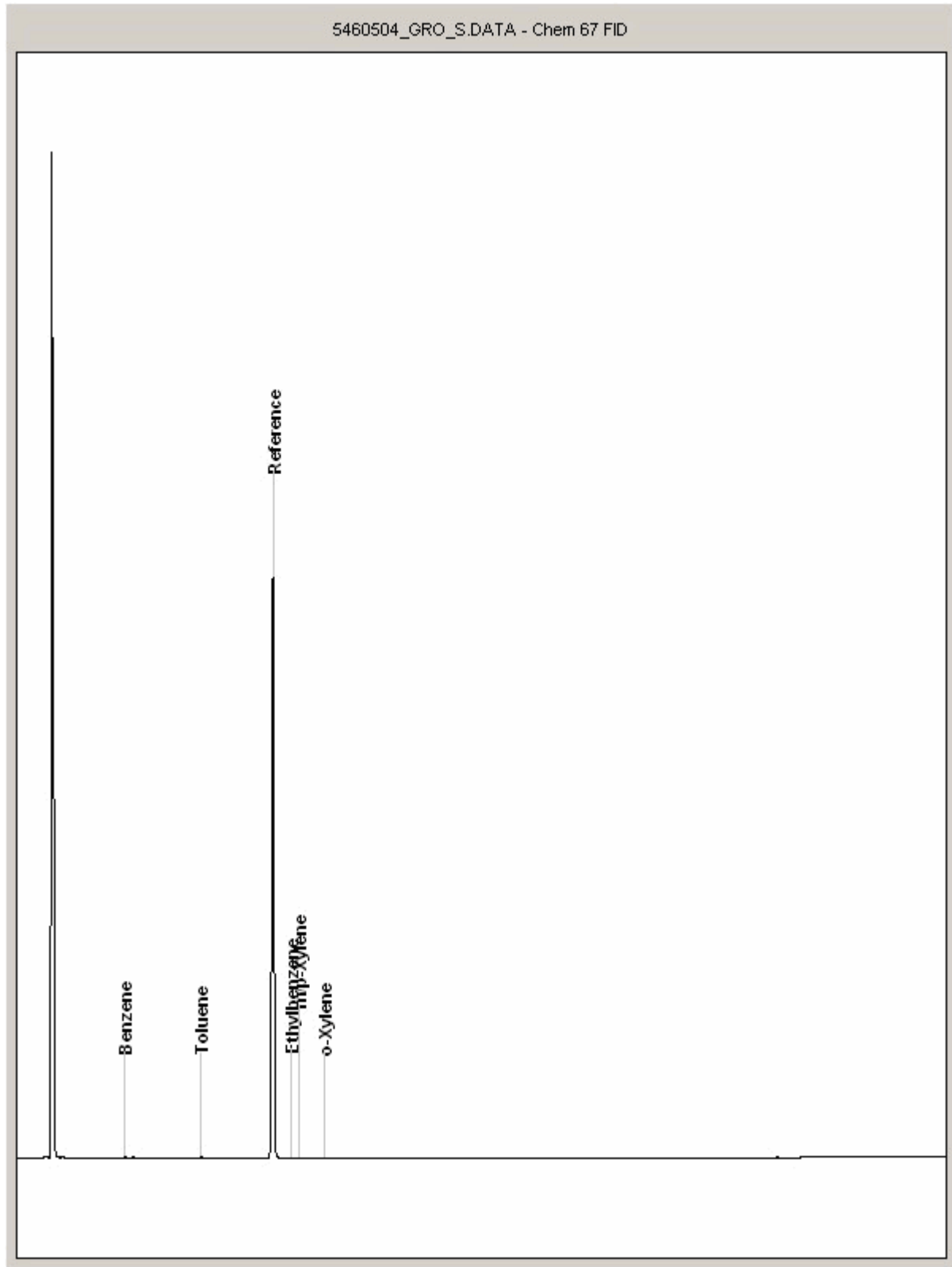
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5460504
Sample ID : BH05

Depth : 0.00 - 1.00





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

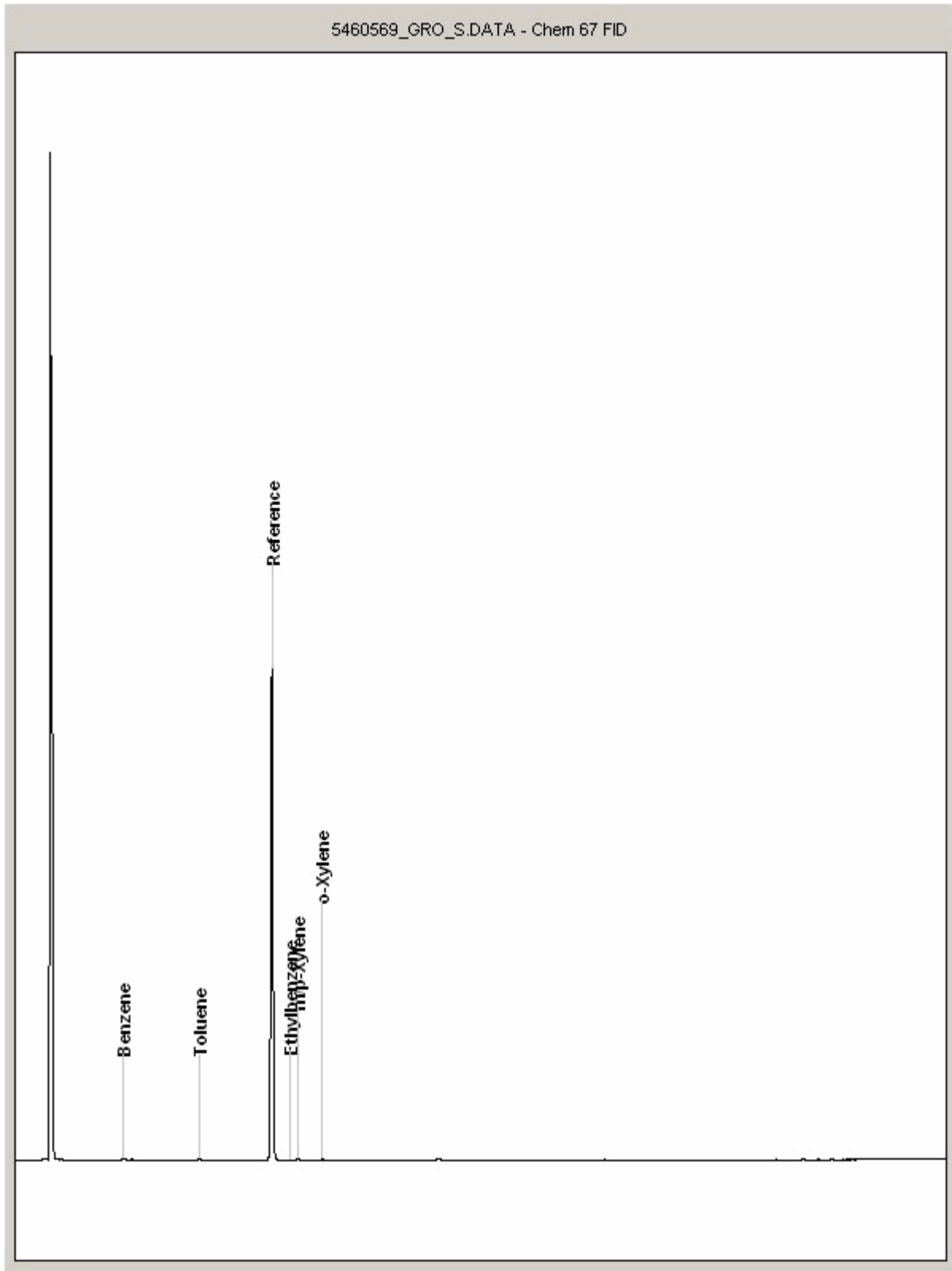
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5460569
Sample ID : BH03

Depth : 0.00 - 1.00





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

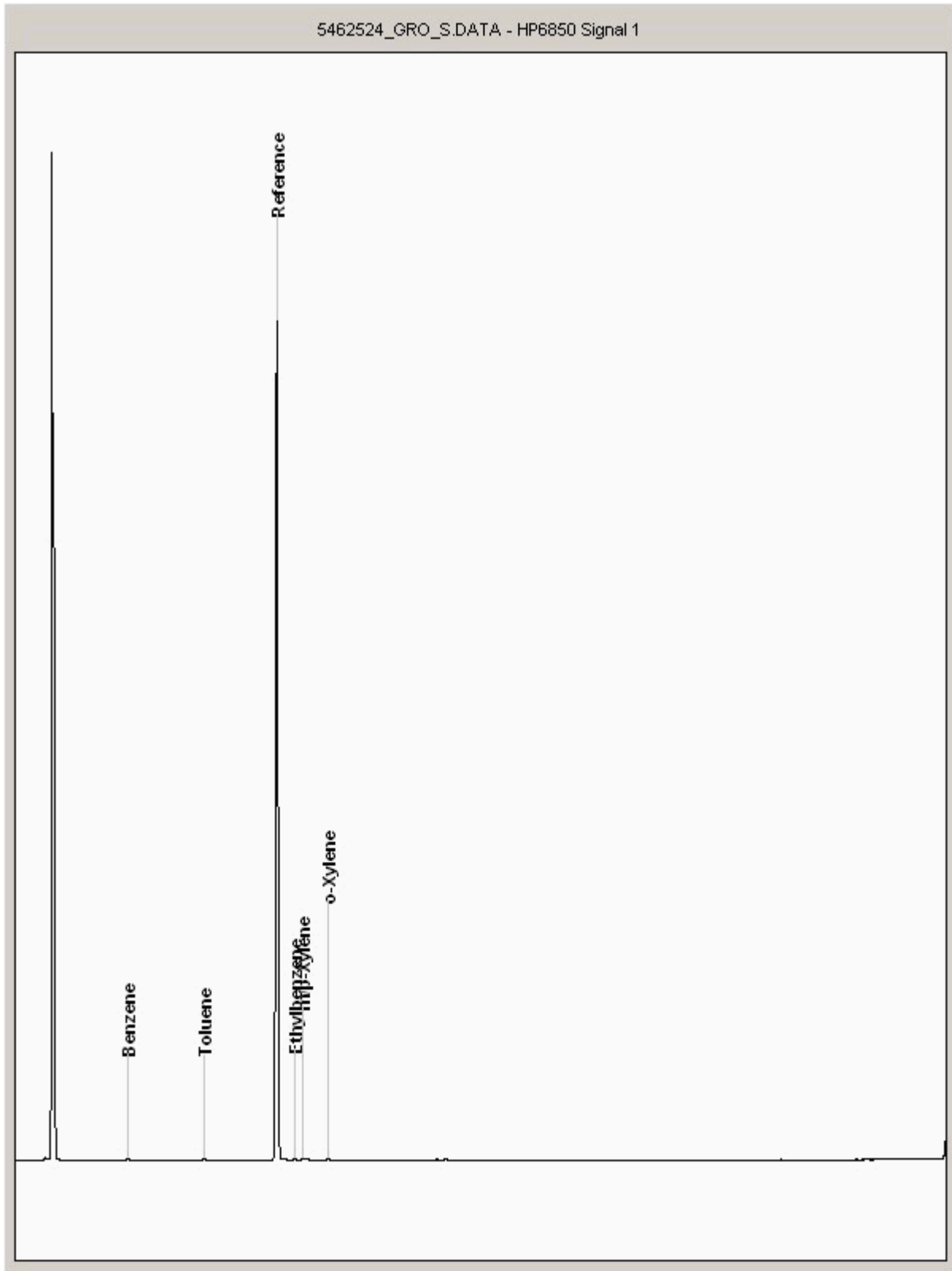
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5462524
Sample ID : TP12

Depth : 0.40





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

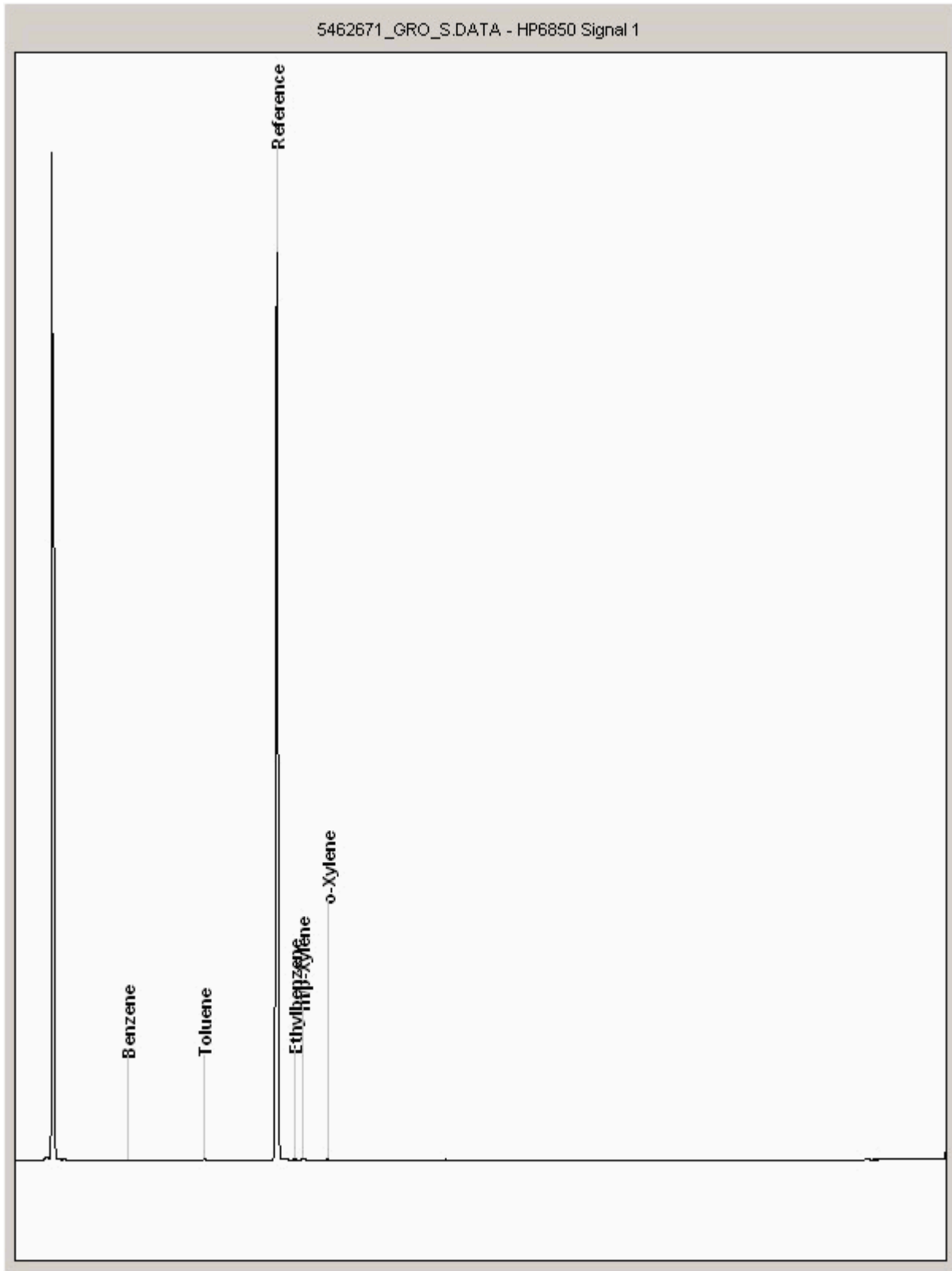
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5462671
Sample ID : TP23

Depth : 1.20





CERTIFICATE OF ANALYSIS

SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

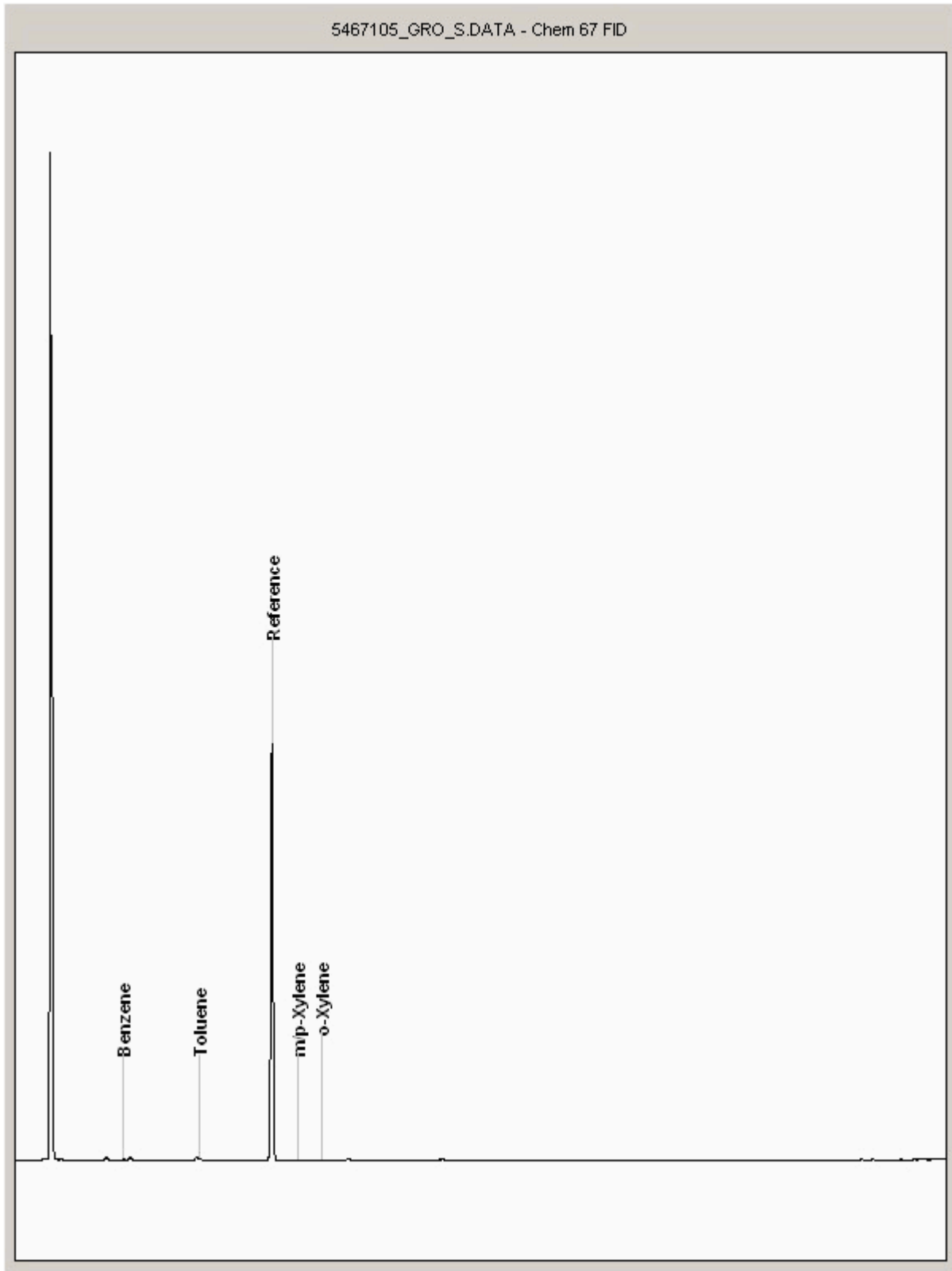
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5467105
Sample ID : TP19

Depth : 0.20 - 0.40





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

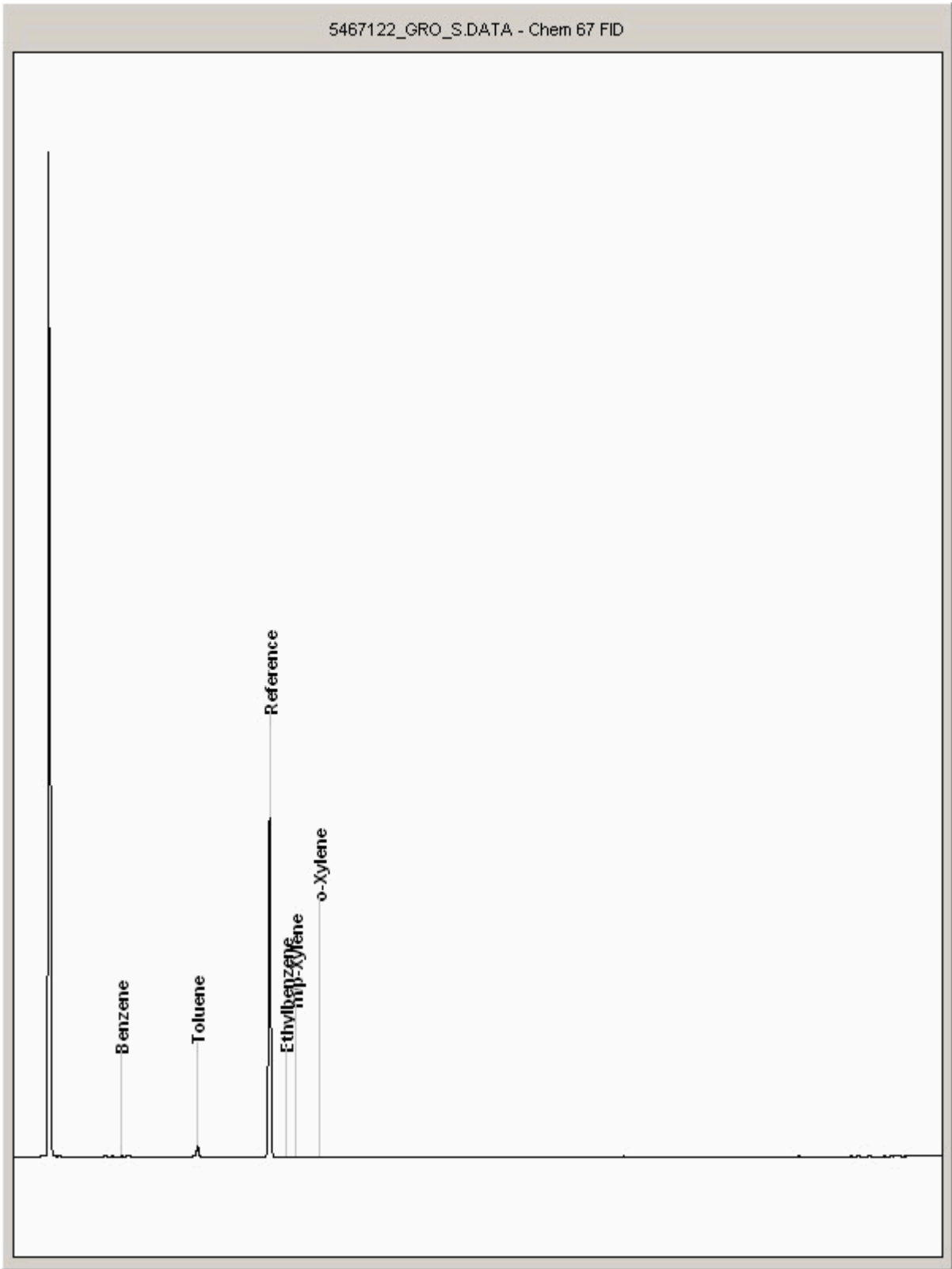
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5467122
Sample ID : TP27

Depth : 0.30





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

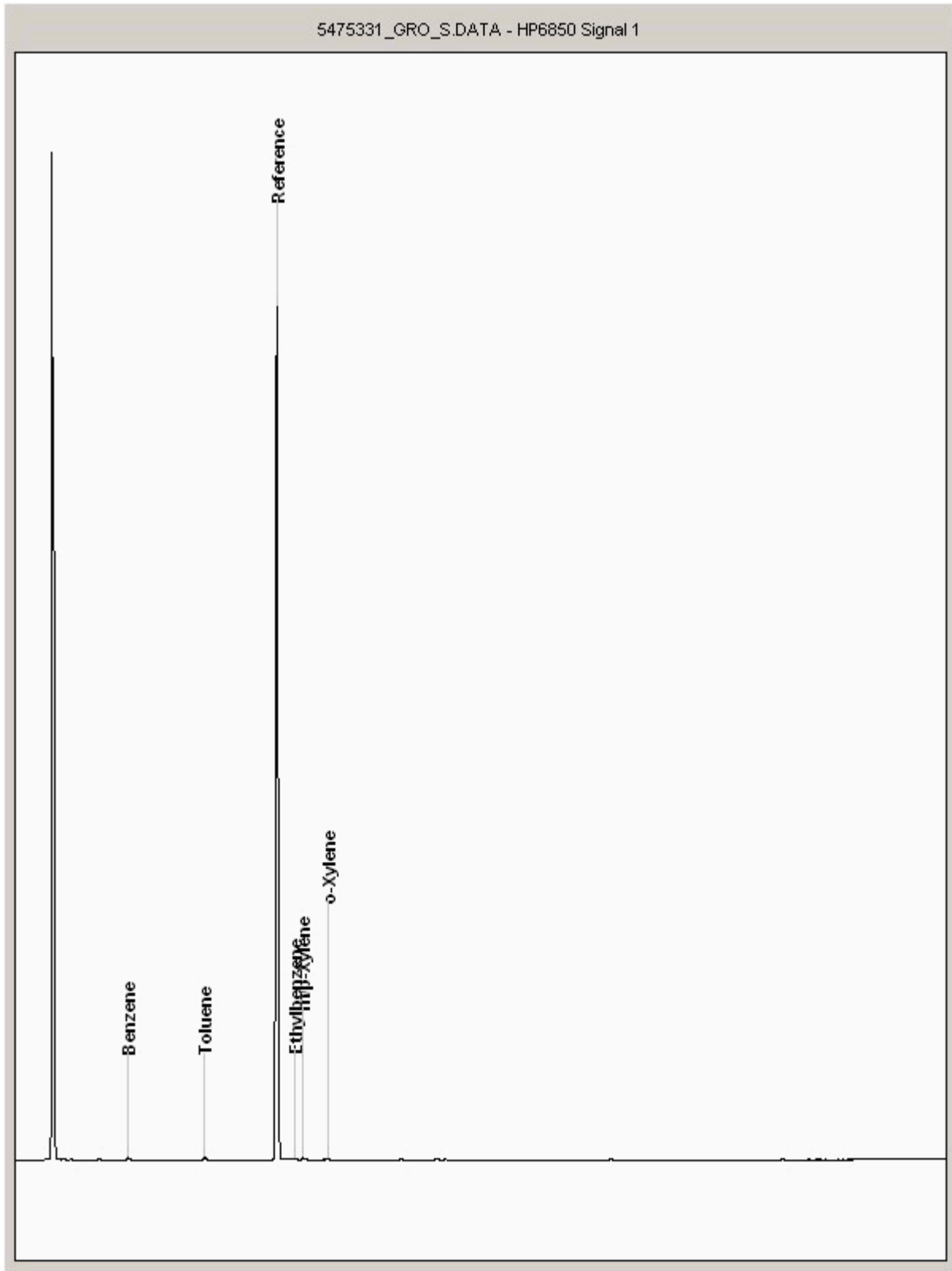
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5475331
Sample ID : BH01

Depth : 0.20 - 0.40





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

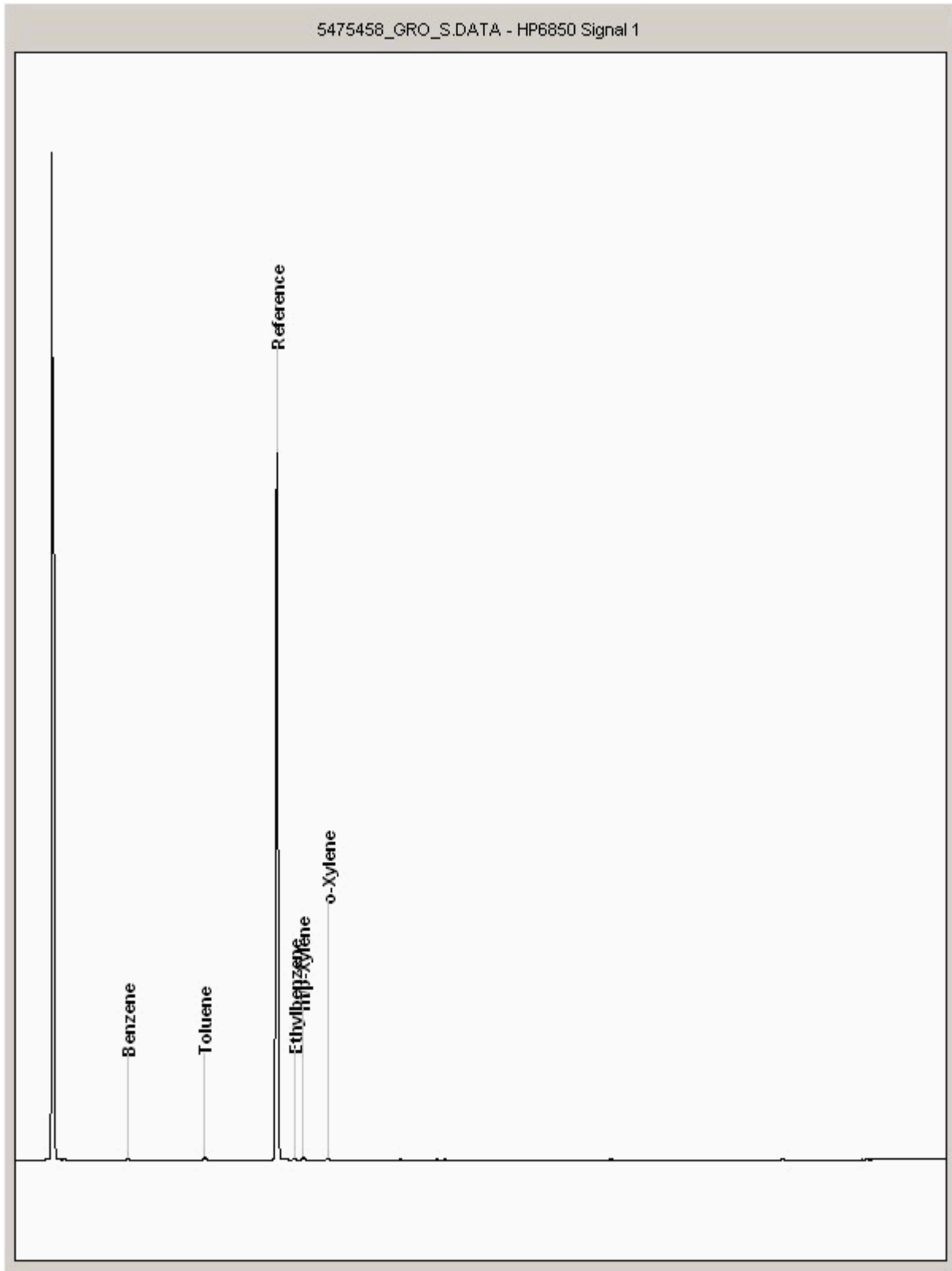
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5475458
Sample ID : BH06

Depth : 0.50 - 0.60





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

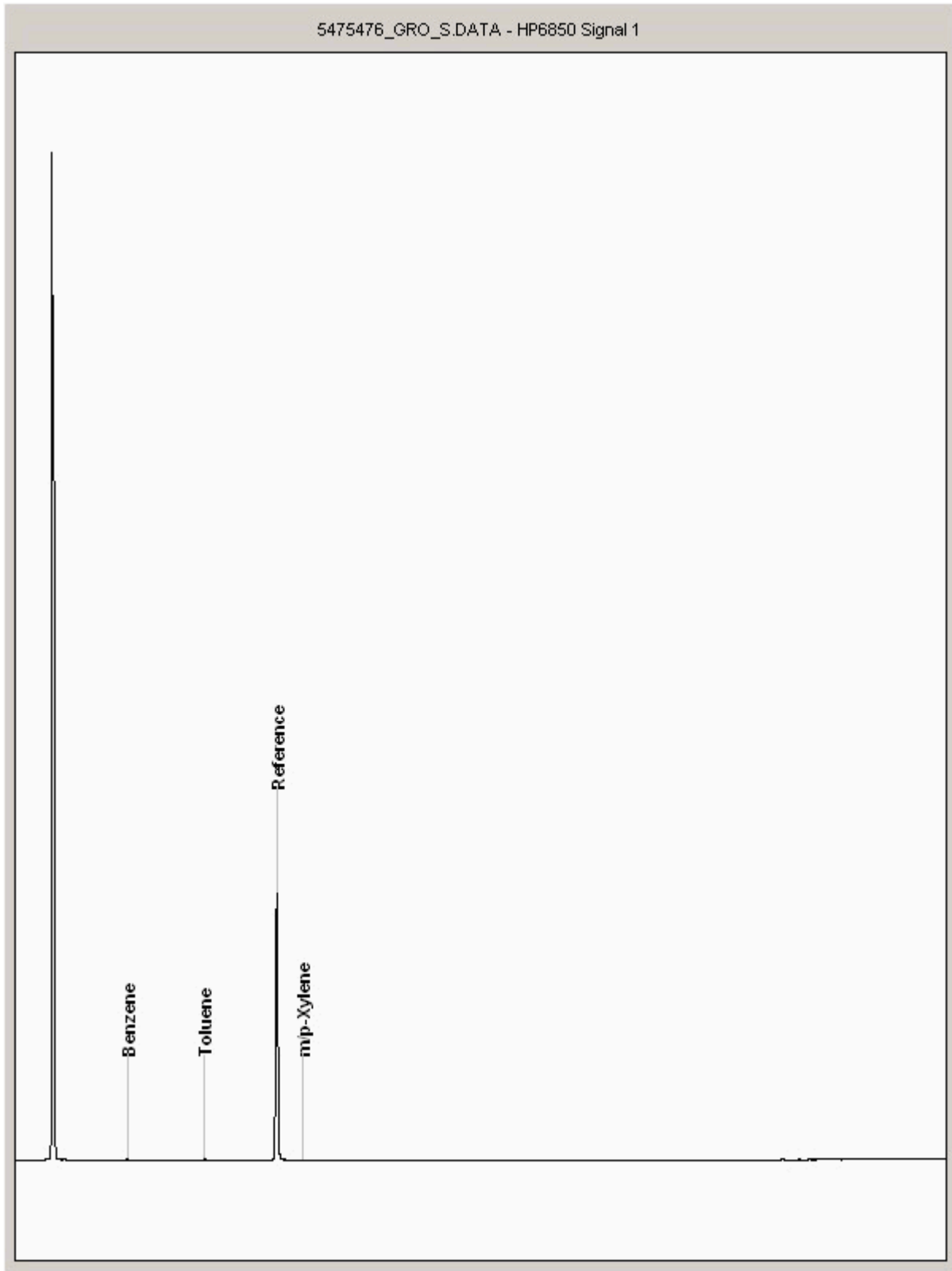
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5475476
Sample ID : WS10

Depth : 0.10 - 0.30





SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

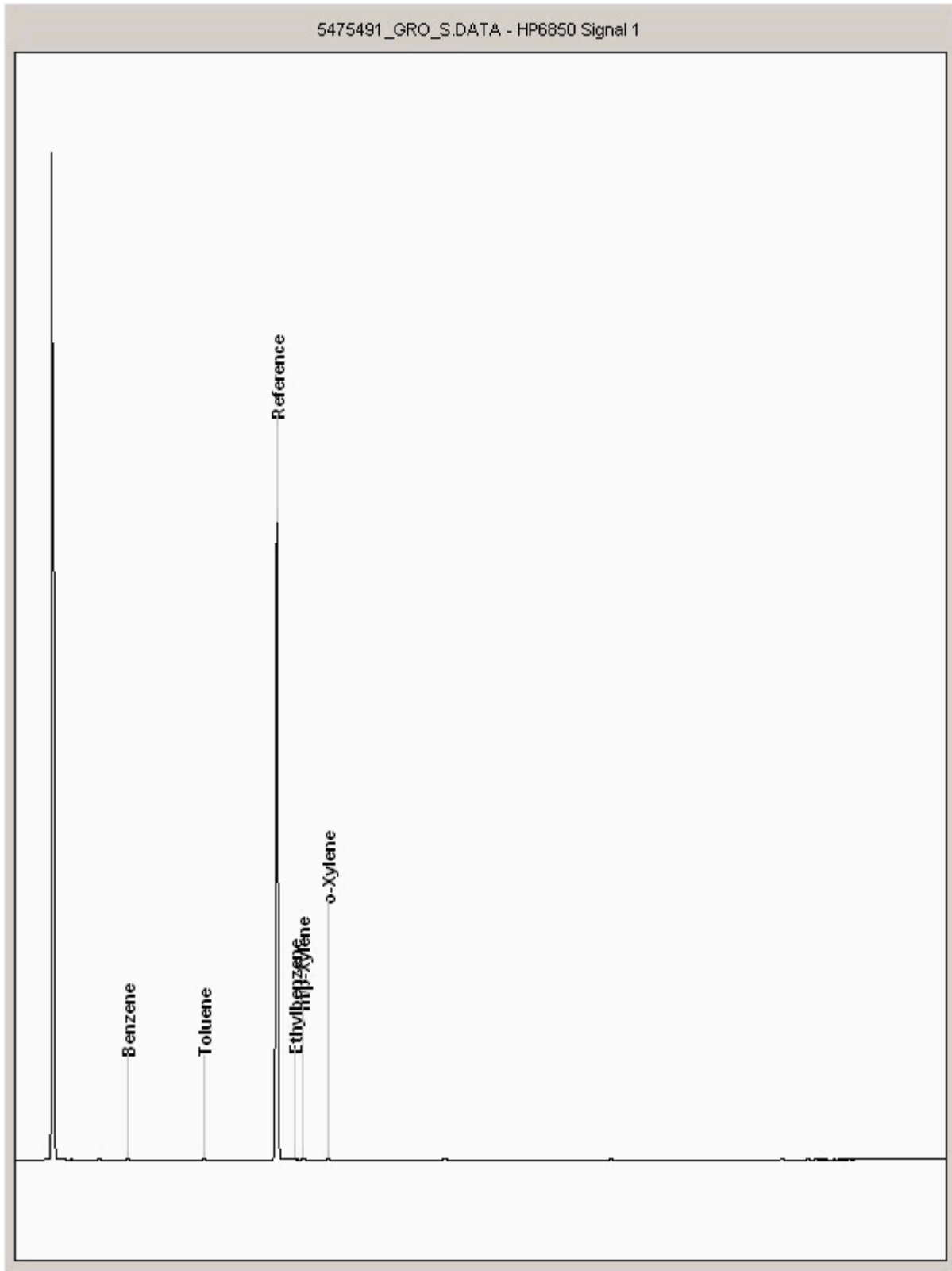
Order Number:
Report Number: 178574
Superseded Report: 178573

Chromatogram

Analysis: GRO by GC-FID (S)

Sample No : 5475491
Sample ID : WS06

Depth : 0.50 - 0.60



SDG: 120405-9
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Michael Neden

Order Number:
Report Number: 178574
Superseded Report: 178573

Appendix

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 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 Dimethylphenol, 3,5 Dimethylphenol).

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

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

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

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

20. For 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.

SOLID MATRICES EXTRACTION SUMMARY				
ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOX THERM	HPLC
PHENOLS BY GCMS	WET	DOM	SOX THERM	GC-MS
HERBICIDES	D&C	HEXANE/ACETONE	SOX THERM	GC-MS
PESTICIDES	D&C	HEXANE/ACETONE	SOX THERM	GC-MS
EPH (DFO)	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 CWGBY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCBAROCLOR 1254/PCB CON	D&C	HEXANE/ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE/ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DOM/ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY			
ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	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
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC MS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOCPOPP	DCM	LIQUID/LIQUID SHAKE	GC MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC MS
TPH by INFRARED (R)	TCE	STIRRED EXTRACTION (STIR-BAR)	R
MINERAL OIL BY R	TCE	STIRRED EXTRACTION (STIR-BAR)	R
GLYCOLS	NONE	DIRECT INJECTION	GC FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description 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 Anorthophyllite	-
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.



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

Attention: Chris Lazenby

CERTIFICATE OF ANALYSIS

Date: 26 April 2012
Customer: H_WSP_MAN
Sample Delivery Group (SDG): 120424-45
Your Reference: 00023902
Location: Lincolnshire Lakes
Report No: 179072

We received 5 samples on Saturday April 21, 2012 and 5 of these samples were scheduled for analysis which was completed on Thursday April 26, 2012. 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

Validated

SDG: 120424-45
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 66/23902/16/CL
Report Number: 179072
Superseded Report:

LIQUID Results Legend <input checked="" type="checkbox"/> Test <input checked="" type="checkbox"/> No Determination Possible	Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container	
		5494743	BH08	EW		0.5l glass bottle (AL)
		5494742	BH07	EW		0.5l glass bottle (AL)
		5494741	BH06	EW		0.5l glass bottle (AL)
		5494740	BH04	EW		1l green glass bottle
		5494739	BH02	EW		0.5l glass bottle (AL)
Anions by Kone (w)	All	NDPs: 0 Tests: 5			X X X X X	
pH Value	All	NDPs: 0 Tests: 5			X X X X X	



CERTIFICATE OF ANALYSIS

SDG: 120424-45
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 66/23902/16/CL
Report Number: 179072
Superseded Report:

Table with columns for Results Legend, Customer Sample R, BH02, BH04, BH06, BH07, BH08, and Component. Rows include Sulphate and pH measurements with LOD/Units, Method, and numerical values.



SDG: 120424-45
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 66/23902/16/CL
Report Number: 179072
Superseded Report:

Table of Results - Appendix

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

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



SDG: 120424-45
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 66/23902/16/CL
Report Number: 179072
Superseded Report:

Test Completion Dates

Lab Sample No(s)	5494739	5494740	5494741	5494742	5494743
Customer Sample Ref.	BH02	BH04	BH06	BH07	BH08
AGS Ref.	EW	EW	EW	EW	EW
Depth					
Type	LIQUID	LIQUID	LIQUID	LIQUID	LIQUID
Anions by Kone (w)	25-Apr-2012	25-Apr-2012	25-Apr-2012	25-Apr-2012	25-Apr-2012
pH Value	25-Apr-2012	25-Apr-2012	25-Apr-2012	25-Apr-2012	25-Apr-2012

SDG: 120424-45
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 66/23902/16/CL
Report Number: 179072
Superseded Report:

Appendix

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 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 Dimethylphenol, 3,5 Dimethylphenol).

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

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

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

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

20. For 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.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOX THERM	HPLC
PHENOLS BY GCMS	WET	DOM	SOX THERM	GC-MS
HERBICIDES	D&C	HEXANE ACETONE	SOX THERM	GC-MS
PESTICIDES	D&C	HEXANE ACETONE	SOX THERM	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 CWGBY GC	D&C	HEXANE ACETONE	END OVER END	GC-FID
PCBAROCLOR 1254/PCB CON	D&C	HEXANE ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE ACETONE	SHAKER	GC-FID
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DOM ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	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
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOCPOPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (R)	TCE	STIRRED EXTRACTION (STIR-BAR)	R
MINERAL OIL BY R	TCE	STIRRED EXTRACTION (STIR-BAR)	R
GLYCOLS	NONE	DIRECT INJECTION	GC-FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description 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).

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.

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



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

Attention: Chris Lazenby

CERTIFICATE OF ANALYSIS

Date: 18 May 2012
Customer: H_WSP_MAN
Sample Delivery Group (SDG): 120509-62
Your Reference: 00023902
Location: Lincolnshire Lakes
Report No: 181637

We received 3 samples on Saturday May 05, 2012 and 3 of these samples were scheduled for analysis which was completed on Friday May 18, 2012. 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

Validated

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
5557437	WS06	EW		04/05/2012
5557438	WS08	EW		04/05/2012
5557439	WS10	EW		04/05/2012

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



SDG: 120509-62
 Job: H_WSP_MAN-79
 Client Reference: 00023902

Location: Lincolnshire Lakes
 Customer: WSP Environmental
 Attention: Chris Lazenby

Order Number: 77/23902/16/CL
 Report Number: 181637
 Superseded Report:

LIQUID Results Legend <input checked="" type="checkbox"/> Test <input checked="" type="checkbox"/> No Determination Possible	Lab Sample No(s)	5557437	5557438	5557439	
	Customer Sample Reference	WS06	WS08	WS10	
	AGS Reference	EW	EW	EW	
	Depth (m)				
	Container	1l plastic (ALE221) 1l green glass bottle	1l plastic (ALE297) 1l green glass bottle	1l plastic (ALE221) 1l green glass bottle	
Anions by Kone (w)	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
GRO by GC-FID (W)	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Mercury Dissolved	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>
pH Value	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Phenols by HPLC (W)	All	NDPs: 0 Tests: 1		<input checked="" type="checkbox"/>	
Semivolatiles in liquids by GC-MS	All	NDPs: 0 Tests: 1		<input checked="" type="checkbox"/>	
TPH CWG (W)	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
VOC MS (W)	All	NDPs: 0 Tests: 3	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>



CERTIFICATE OF ANALYSIS

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Results Legend		Customer Sample R	WS06	WS08	WS10			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Date Received Date Sampled Sampled Time SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW) 04/05/2012 05/05/2012 120509-62 5557437 EW	Water(GW/SW) 04/05/2012 05/05/2012 120509-62 5557438 EW	Water(GW/SW) 04/05/2012 05/05/2012 120509-62 5557439 EW			
M	mCERTS accredited.							
S	Deviating sample.							
aq	Aqueous / settled sample.							
diss.filt	Dissolved / filtered sample.							
tot.unfilt	Total / unfiltered sample.							
*	Subcontracted test.							
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery							
(F)	Trigger breach confirmed							
Component	LOD/Units					Method		
Arsenic (diss.filt)	<0.12 µg/l	TM152	2.44 #	4.67 #	4.12 #			
Boron (diss.filt)	<9.4 µg/l	TM152	45.7 #	431 #	129 #			
Cadmium (diss.filt)	<0.1 µg/l	TM152	0.26 #	<0.1 #	<0.1 #			
Chromium (diss.filt)	<0.22 µg/l	TM152	2.68 #	10.1 #	2.33 #			
Copper (diss.filt)	<0.85 µg/l	TM152	9.89 #	3.64 #	2.21 #			
Lead (diss.filt)	<0.02 µg/l	TM152	0.633 #	0.405 #	0.238 #			
Nickel (diss.filt)	<0.15 µg/l	TM152	6.56 #	11.7 #	2.71 #			
Selenium (diss.filt)	<0.39 µg/l	TM152	8.16 #	2.31 #	11.8 #			
Zinc (diss.filt)	<0.41 µg/l	TM152	0.503 #	13 #	1.05 #			
Mercury (diss.filt)	<0.01 µg/l	TM183	<0.01 #	<0.01 #	<0.01 #			
Sulphate	<2000 µg/l	TM184	143000 #	772000 #	105000 #			
Cyanide, Total	<50 µg/l	TM227	<50 #	<50 #	<50 #			
pH	<1 pH Units	TM256	7.87 #	7.8 #	8.29 #			
Resorcinol	<10 µg/l	TM259		<10 §				
Catechol	<10 µg/l	TM259		<10 §				
Phenol	<2 µg/l	TM259		<2 § #				
Cresols	<6 µg/l	TM259		<6 § #				
Xylenols	<8 µg/l	TM259		<8 § #				
1-Naphthol	<10 µg/l	TM259		<10 §				
2,3,5-Trimethylphenol	<3 µg/l	TM259		<3 § #				
2-Isopropylphenol	<6 µg/l	TM259		<6 § #				
bis(dimethylethyl) phenol	µg/l	TM313		12				
unknown	µg/l	TM313		17				
N-Nitrosodimethylamine	<4 µg/l	TM313		<4				
Pyridine	<4 µg/l	TM313		<4				
2-Picoline	<4 µg/l	TM313		<4				
N-Nitrosomethylethylamine	<4 µg/l	TM313		<4				
Methyl methanesulfonate	<4 µg/l	TM313		<4				
N-Nitrosodiethylamine	<4 µg/l	TM313		<4				
Ethyl methanesulfonate	<4 µg/l	TM313		<4				
Phenol	<4 µg/l	TM313		<4				
Aniline	<4 µg/l	TM313		<4				
Pentachloroethane	<4 µg/l	TM313		<4				
Bis(2-chloroethyl)ether	<4 µg/l	TM313		<4				
2-Chlorophenol	<4 µg/l	TM313		<4				



SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Results Legend		Customer Sample R	WS06	WS08	WS10		
#	ISO17025 accredited.		Depth (m)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	
M	mCERTS accredited.	Sample Type	04/05/2012	04/05/2012	04/05/2012		
S	Deviating sample.	Date Sampled					
aq	Aqueous / settled sample.	Sampled Time					
diss.fit	Dissolved / filtered sample.	Date Received	05/05/2012	05/05/2012	05/05/2012		
tot.unfilt	Total / unfiltered sample.	SDG Ref	120509-62	120509-62	120509-62		
*	Subcontracted test.	Lab Sample No.(s)	5557437	5557438	5557439		
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	AGS Reference	EW	EW	EW		
(F)	Trigger breach confirmed						
Component	LOD/Units	Method					
1,3-Dichlorobenzene	<4 µg/l	TM313		<4			
1,4-Dichlorobenzene	<4 µg/l	TM313		<4			
Benzyl alcohol	<4 µg/l	TM313		<4			
1,2-Dichlorobenzene	<4 µg/l	TM313		<4			
2-Methylphenol	<4 µg/l	TM313		<4			
Bis(2-chloroisopropyl)ether	<4 µg/l	TM313		<4			
N-Nitrosopyrrolidine	<4 µg/l	TM313		<4			
3+4-Methylphenol	<4 µg/l	TM313		<4			
Acetophenone	<4 µg/l	TM313		<4			
N-Nitroso-di-N-propylamine	<4 µg/l	TM313		<4			
o-Toluidine	<4 µg/l	TM313		<4			
Hexachloroethane	<4 µg/l	TM313		<4			
Nitrobenzene	<4 µg/l	TM313		<4			
N-Nitrosopiperidine	<4 µg/l	TM313		<4			
Isophorone	<4 µg/l	TM313		<4			
2-Nitrophenol	<4 µg/l	TM313		<4			
2,4-Dimethylphenol	<4 µg/l	TM313		<4			
Bis(2-chloroethoxy)methane	<4 µg/l	TM313		<4			
3,5-Dimethylphenol	<4 µg/l	TM313		<4			
2,4-Dichlorophenol	<4 µg/l	TM313		<4			
1,2,4-Trichlorobenzene	<4 µg/l	TM313		<4			
3+4-Chlorophenol	<4 µg/l	TM313		<4			
Naphthalene	<4 µg/l	TM313		<4			
p-Chloroaniline	<4 µg/l	TM313		<4			
2,6-Dichlorophenol	<4 µg/l	TM313		<4			
Hexachloropropene	<4 µg/l	TM313		<4			
Hexachlorobutadiene	<4 µg/l	TM313		<4			
N-Nitroso-di-N-butylamine	<4 µg/l	TM313		<4			
4-Chloro-3-methylphenol	<4 µg/l	TM313		<4			
Safrole	<4 µg/l	TM313		<4			
2-Methylnaphthalene	<4 µg/l	TM313		<4			
1,2,4,5-Tetrachlorobenzene	<4 µg/l	TM313		<4			
Hexachlorocyclopentadiene	<4 µg/l	TM313		<4			
2,4,5-Trichlorophenol	<4 µg/l	TM313		<4			
2,4,6-Trichlorophenol	<4 µg/l	TM313		<4			



CERTIFICATE OF ANALYSIS

SDG: 120509-62
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Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Results Legend		Customer Sample R	WS06	WS08	WS10		
#	ISO17025 accredited.		Depth (m)	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)	
M	mCERTS accredited.	Sample Type	04/05/2012	04/05/2012	04/05/2012		
S	Deviating sample.	Date Sampled					
aq	Aqueous / settled sample.	Sampled Time					
diss.fit	Dissolved / filtered sample.	Date Received	05/05/2012	05/05/2012	05/05/2012		
tot.unfit	Total / unfiltered sample.	SDG Ref	120509-62	120509-62	120509-62		
*	Subcontracted test.	Lab Sample No.(s)	5557437	5557438	5557439		
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	AGS Reference	EW	EW	EW		
(F)	Trigger breach confirmed						
Component	LOD/Units	Method					
Isosafrole	<4 µg/l	TM313		<4			
2-Chloronaphthalene	<4 µg/l	TM313		<4			
2-Nitroaniline	<4 µg/l	TM313		<4			
1,4-Naphthoquinone	<4 µg/l	TM313		<4			
Dimethyl phthalate	<4 µg/l	TM313		<4			
Acenaphthylene	<4 µg/l	TM313		<4			
2,6-Dinitrotoluene	<4 µg/l	TM313		<4			
1,3-Dinitrobenzene	<4 µg/l	TM313		<4			
3-Nitroaniline	<4 µg/l	TM313		<4			
Acenaphthene	<4 µg/l	TM313		<4			
2,4-Dinitrophenol	<4 µg/l	TM313		<4			
4-Nitrophenol	<4 µg/l	TM313		<4			
Dibenzofuran	<4 µg/l	TM313		<4			
Pentachlorobenzene	<4 µg/l	TM313		<4			
2,4-Dinitrotoluene	<4 µg/l	TM313		<4			
1-Naphthylamine	<4 µg/l	TM313		<4			
2-Naphthylamine	<4 µg/l	TM313		<4			
2,3,4,6-Tetrachlorophenol	<4 µg/l	TM313		<4			
Diethyl Phthalate	<4 µg/l	TM313		<4			
Fluorene	<4 µg/l	TM313		<4			
4-Chlorophenylphenylether	<4 µg/l	TM313		<4			
5-Nitro-o-toluidine	<4 µg/l	TM313		<4			
4-Nitroaniline	<4 µg/l	TM313		<4			
2-Methyl-4,6-dinitrophenol	<4 µg/l	TM313		<4			
Diphenylamine	<4 µg/l	TM313		<4			
Azobenzene	<4 µg/l	TM313		<4			
1,3,5-Trinitrobenzene	<4 µg/l	TM313		<4			
Diallate	<4 µg/l	TM313		<4			
4-Bromophenylphenylether	<4 µg/l	TM313		<4			
Phenacetin	<4 µg/l	TM313		<4			
Hexachlorobenzene	<4 µg/l	TM313		<4			
4-Aminobiphenyl	<4 µg/l	TM313		<4			
Pentachlorophenol	<4 µg/l	TM313		<4			
Pronamide	<4 µg/l	TM313		<4			
Pentachloronitrobenzene	<4 µg/l	TM313		<4			



CERTIFICATE OF ANALYSIS

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

PAH Spec MS - Aqueous (W)

Results Legend		Customer Sample R	WS06	WS10			
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference					
M	mCERTS accredited.						
S	Deviating sample.						
aq	Aqueous / settled sample.						
diss.filt	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery						
(F)	Trigger breach confirmed						
Component	LOD/Units		Method				
Naphthalene (aq)	<0.1 µg/l	TM178	<0.1 #	0.142 #			
Acenaphthene (aq)	<0.015 µg/l	TM178	<0.015 #	0.31 #			
Acenaphthylene (aq)	<0.011 µg/l	TM178	<0.011 #	0.346 #			
Fluoranthene (aq)	<0.017 µg/l	TM178	0.0396 #	28.4 #			
Anthracene (aq)	<0.015 µg/l	TM178	<0.015 #	1.81 #			
Phenanthrene (aq)	<0.022 µg/l	TM178	<0.022 #	5.14 #			
Fluorene (aq)	<0.014 µg/l	TM178	<0.014 #	0.31 #			
Chrysene (aq)	<0.013 µg/l	TM178	0.0286 #	20 #			
Pyrene (aq)	<0.015 µg/l	TM178	0.0461 #	27.6 #			
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178	0.0182 #	18.3 #			
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178	<0.023 #	17.3 #			
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178	0.0285 #	25.1 #			
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178	0.0202 #	27.2 #			
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178	<0.016 #	4.61 #			
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178	<0.016 #	11.3 #			
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178	<0.014 #	11.1 #			
PAH, Total Detected USEPA 16 (aq)	<0.247 µg/l	TM178	<0.247	199			



CERTIFICATE OF ANALYSIS

SDG: 120509-62
 Job: H_WSP_MAN-79
 Client Reference: 00023902

Location: Lincolnshire Lakes
 Customer: WSP Environmental
 Attention: Chris Lazenby

Order Number: 77/23902/16/CL
 Report Number: 181637
 Superseded Report:

VOC MS (W)

Results Legend		Customer Sample R	WS06	WS08	WS10		
#	ISO17025 accredited.	Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference					
M	mCERTS accredited.		Water(GW/SW)	Water(GW/SW)	Water(GW/SW)		
S	Deviating sample.		04/05/2012	04/05/2012	04/05/2012		
aq	Aqueous / settled sample.						
diss.fit	Dissolved / filtered sample.						
tot.unfilt	Total / unfiltered sample.						
*	Subcontracted test.						
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery		05/05/2012	05/05/2012	05/05/2012		
	Trigger breach confirmed		120509-62	120509-62	120509-62		
(F)			5557437	5557438	5557439		
		EW	EW	EW			
Component	LOD/Units	Method					
Dibromofluoromethane**	%	TM208		105			
Toluene-d8**	%	TM208		101			
4-Bromofluorobenzene**	%	TM208		100			
Dichlorodifluoromethane	<1 µg/l	TM208		<1			
Chloromethane	<1 µg/l	TM208		<1			
Vinyl chloride	<1 µg/l	TM208		<1			
Bromomethane	<1 µg/l	TM208		<1			
Chloroethane	<1 µg/l	TM208		<1			
Trichlorofluoromethane	<1 µg/l	TM208		<1			
1,1-Dichloroethene	<1 µg/l	TM208		<1			
Carbon disulphide	<1 µg/l	TM208		<1			
Dichloromethane	<3 µg/l	TM208		<3			
Methyl tertiary butyl ether (MTBE)	<1 µg/l	TM208		<1			
trans-1,2-Dichloroethene	<1 µg/l	TM208		<1			
1,1-Dichloroethane	<1 µg/l	TM208		<1			
cis-1,2-Dichloroethene	<1 µg/l	TM208		<1			
2,2-Dichloropropane	<1 µg/l	TM208		<1			
Bromochloromethane	<1 µg/l	TM208		<1			
Chloroform	<1 µg/l	TM208		<1			
1,1,1-Trichloroethane	<1 µg/l	TM208		<1			
1,1-Dichloropropene	<1 µg/l	TM208		<1			
Carbontetrachloride	<1 µg/l	TM208		<1			
1,2-Dichloroethane	<1 µg/l	TM208		<1			
Benzene	<1 µg/l	TM208	<1	<1	<1		
Trichloroethene	<1 µg/l	TM208		<1			
1,2-Dichloropropane	<1 µg/l	TM208		<1			
Dibromomethane	<1 µg/l	TM208		<1			
Bromodichloromethane	<1 µg/l	TM208		<1			
cis-1,3-Dichloropropene	<1 µg/l	TM208		<1			
Toluene	<1 µg/l	TM208	<1	<1	<1		
trans-1,3-Dichloropropene	<1 µg/l	TM208		<1			
1,1,2-Trichloroethane	<1 µg/l	TM208		<1			
1,3-Dichloropropane	<1 µg/l	TM208		<1			
Tetrachloroethene	<1 µg/l	TM208		<1			
Dibromochloromethane	<1 µg/l	TM208		<1			



SDG: 120509-62
 Job: H_WSP_MAN-79
 Client Reference: 00023902

Location: Lincolnshire Lakes
 Customer: WSP Environmental
 Attention: Chris Lazenby

Order Number: 77/23902/16/CL
 Report Number: 181637
 Superseded Report:

VOC MS (W)

Results Legend			Customer Sample R			WS06	WS08	WS10		
#	ISO17025 accredited.		Depth (m) Sample Type Date Sampled Sampled Time Date Received SDG Ref Lab Sample No.(s) AGS Reference	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)				
M	mCERTS accredited.			04/05/2012	04/05/2012	04/05/2012				
S	Deviating sample.			05/05/2012	05/05/2012	05/05/2012				
aq	Aqueous / settled sample.			120509-62	120509-62	120509-62				
diss.fit	Dissolved / filtered sample.			5557437	5557438	5557439				
tot.unfit	Total / unfiltered sample.			EW	EW	EW				
*	Subcontracted test.									
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery									
(F)	Trigger breach confirmed									
Component	LOD/Units	Method								
1,2-Dibromoethane	<1 µg/l	TM208					#			
Chlorobenzene	<1 µg/l	TM208					#			
1,1,1,2-Tetrachloroethane	<1 µg/l	TM208					#			
Ethylbenzene	<1 µg/l	TM208	<1	<1	<1	#	#	#		
m,p-Xylene	<1 µg/l	TM208	<1	<1	<1	#	#	#		
o-Xylene	<1 µg/l	TM208	<1	<1	<1	#	#	#		
Styrene	<1 µg/l	TM208		<1			#			
Bromoform	<1 µg/l	TM208		<1			#			
Isopropylbenzene	<1 µg/l	TM208		<1			#			
1,1,2,2-Tetrachloroethane	<1 µg/l	TM208		<1						
1,2,3-Trichloropropane	<1 µg/l	TM208		<1			#			
Bromobenzene	<1 µg/l	TM208		<1			#			
Propylbenzene	<1 µg/l	TM208		<1			#			
2-Chlorotoluene	<1 µg/l	TM208		<1			#			
1,3,5-Trimethylbenzene	<1 µg/l	TM208		<1			#			
4-Chlorotoluene	<1 µg/l	TM208		<1			#			
tert-Butylbenzene	<1 µg/l	TM208		<1			#			
1,2,4-Trimethylbenzene	<1 µg/l	TM208		<1			#			
sec-Butylbenzene	<1 µg/l	TM208		<1			#			
4-iso-Propyltoluene	<1 µg/l	TM208		<1			#			
1,3-Dichlorobenzene	<1 µg/l	TM208		<1			#			
1,4-Dichlorobenzene	<1 µg/l	TM208		<1			#			
n-Butylbenzene	<1 µg/l	TM208		<1			#			
1,2-Dichlorobenzene	<1 µg/l	TM208		<1			#			
1,2-Dibromo-3-chloropropane	<1 µg/l	TM208		<1			#			
1,2,4-Trichlorobenzene	<1 µg/l	TM208		<1			#			
Hexachlorobutadiene	<1 µg/l	TM208		<1			#			
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208	<1	<1	<1	#	#	#		
Naphthalene	<1 µg/l	TM208		<1			#			
1,2,3-Trichlorobenzene	<1 µg/l	TM208		<1			#			
1,3,5-Trichlorobenzene	<1 µg/l	TM208		<1			#			
VOC TIC	-	TM208		No TICs identified						
Sum of detected Xylenes	<2 µg/l	TM208	<2	<2	<2					



SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Notification of Deviating Samples

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	1-Naphthol	Analysis carried out on unpreserved sample
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	2,3,5-Trimethylphenol	Analysis carried out on unpreserved sample
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	2-Isopropylphenol	Analysis carried out on unpreserved sample
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	Catechol	Analysis carried out on unpreserved sample
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	Cresols	Analysis carried out on unpreserved sample
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	Phenol	Analysis carried out on unpreserved sample
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	Resorcinol	Analysis carried out on unpreserved sample
5561157	WS08 EWZ		LIQUID	Phenols by HPLC (W)	Xylenols	Analysis carried out on unpreserved sample

Note : Test results may be compromised

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
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		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM313		Determination of semi-volatile organic compounds in Liquids by GCMS.		

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



SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Test Completion Dates

Lab Sample No(s)	5557437	5557438	5557439
Customer Sample Ref.	WS06	WS08	WS10
AGS Ref.	EW	EW	EW
Depth			
Type	LIQUID	LIQUID	LIQUID
Anions by Kone (w)	14-May-2012	14-May-2012	14-May-2012
Cyanide Comp/Free/Total/Thiocyanate	11-May-2012	11-May-2012	11-May-2012
Dissolved Metals by ICP-MS	14-May-2012	14-May-2012	14-May-2012
EPH CWG (Aliphatic) Aqueous GC (W)	14-May-2012	14-May-2012	14-May-2012
EPH CWG (Aromatic) Aqueous GC (W)	14-May-2012	14-May-2012	14-May-2012
GRO by GC-FID (W)	17-May-2012	17-May-2012	17-May-2012
Mercury Dissolved	15-May-2012	15-May-2012	15-May-2012
PAH Spec MS - Aqueous (W)	14-May-2012		14-May-2012
pH Value	15-May-2012	15-May-2012	16-May-2012
Phenols by HPLC (W)		14-May-2012	
Semivolatiles in liquids by GC-MS		18-May-2012	
TPH CWG (W)	17-May-2012	17-May-2012	17-May-2012
VOC MS (W)	16-May-2012	16-May-2012	16-May-2012



CERTIFICATE OF ANALYSIS

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

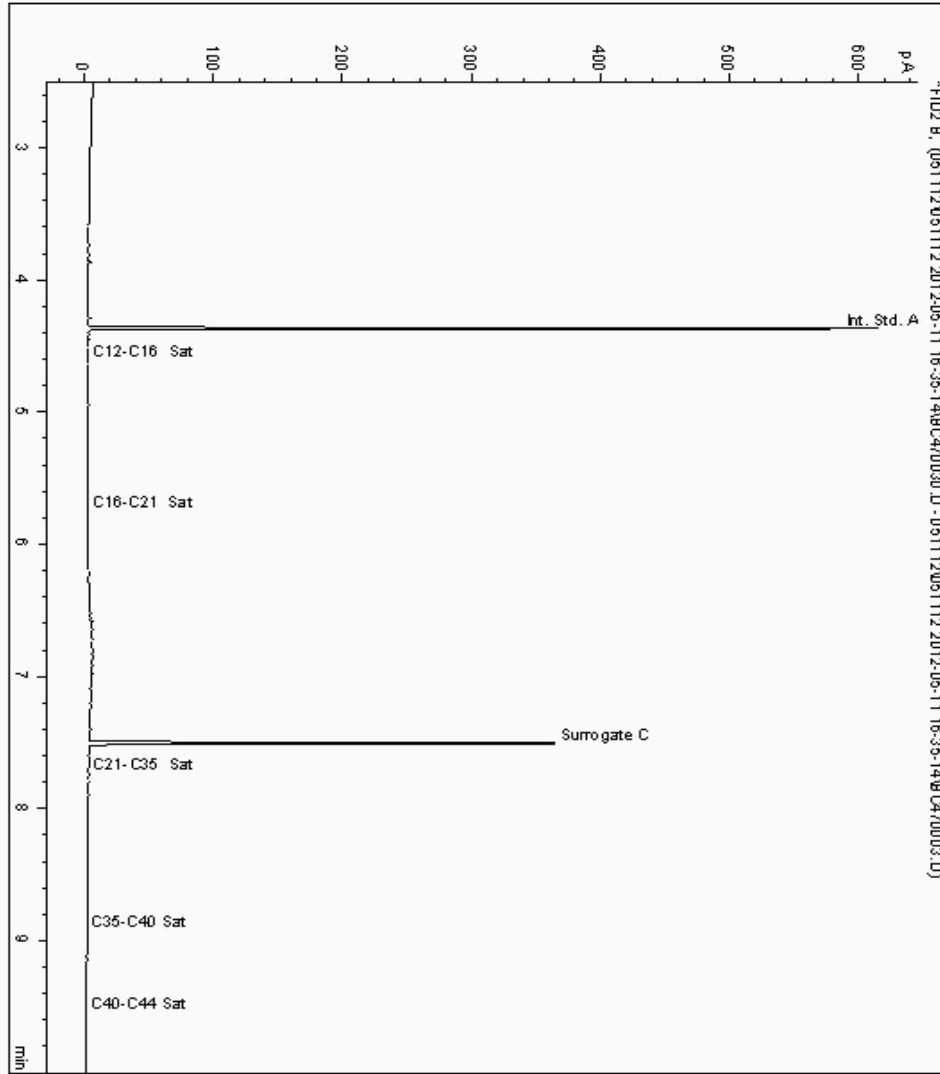
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 5561165
Sample ID : WS08

Depth :

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

Sample Identity: 5439209-5561165
Date Acquired : 12/05/12 01:04:20
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008





CERTIFICATE OF ANALYSIS

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

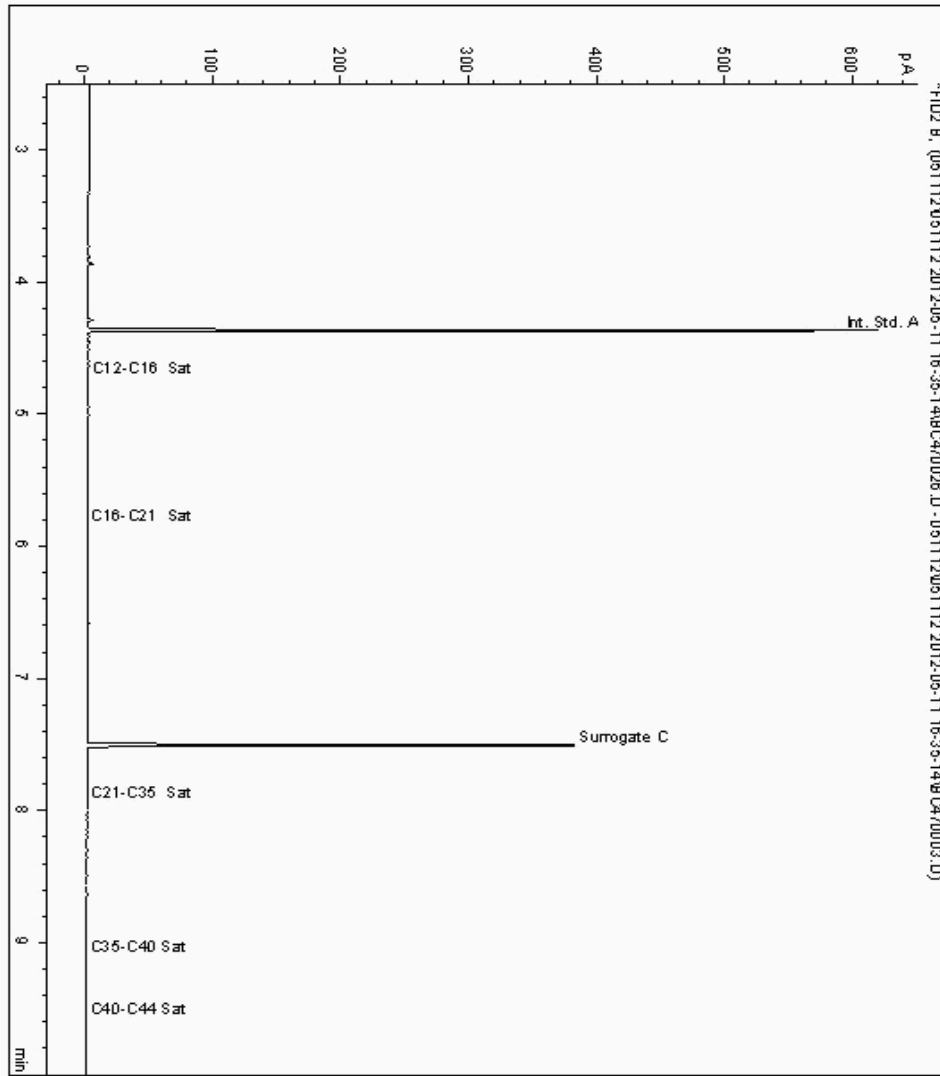
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 5561406
Sample ID : WS06

Depth :

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

Sample Identity: 5439193-5561406
Date Acquired : 12/05/12 00:07:05
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008





CERTIFICATE OF ANALYSIS

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

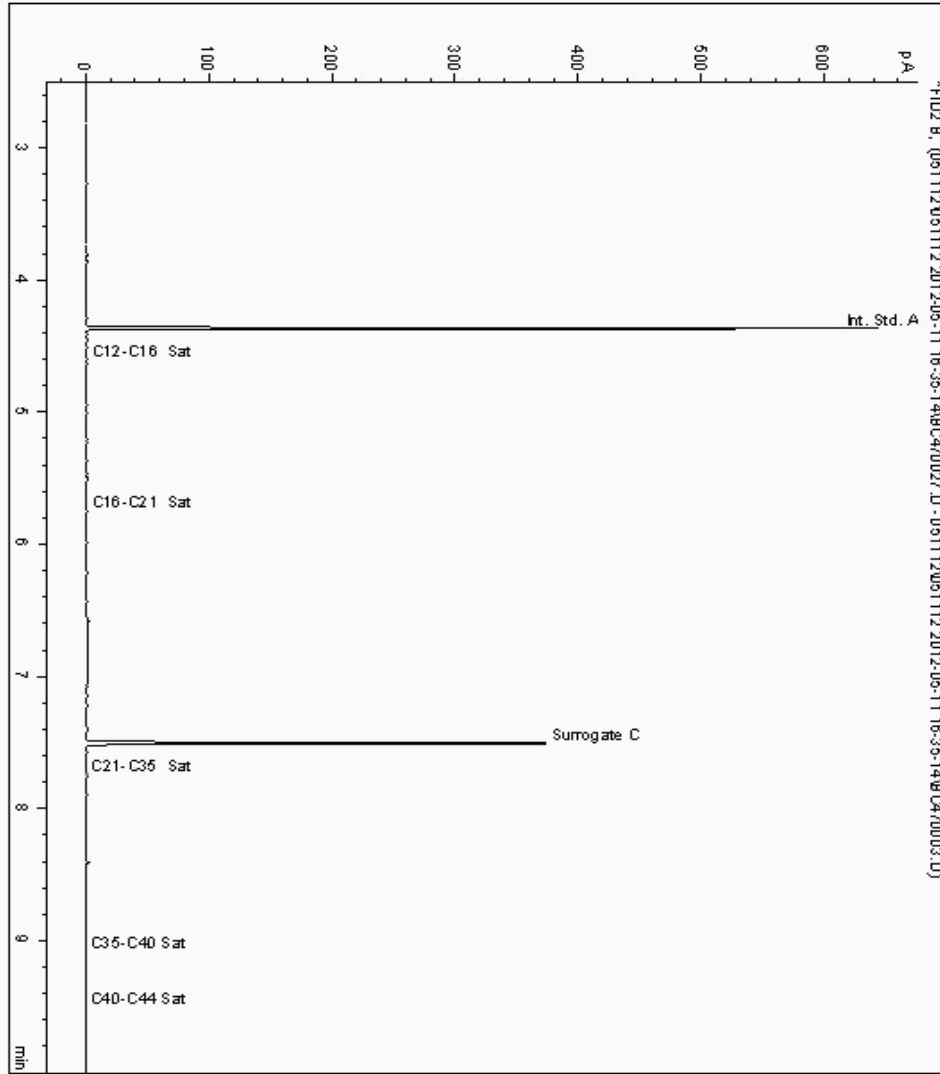
Analysis: EPH CWG (Aliphatic) Aqueous GC (W)

Sample No : 5561504
Sample ID : WS10

Depth :

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

Sample Identity: 5439223-5561504
Date Acquired : 12/05/12 00:26:00
Units : ppb
Dilution :
CF : 1
Multiplier : 0.008





SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

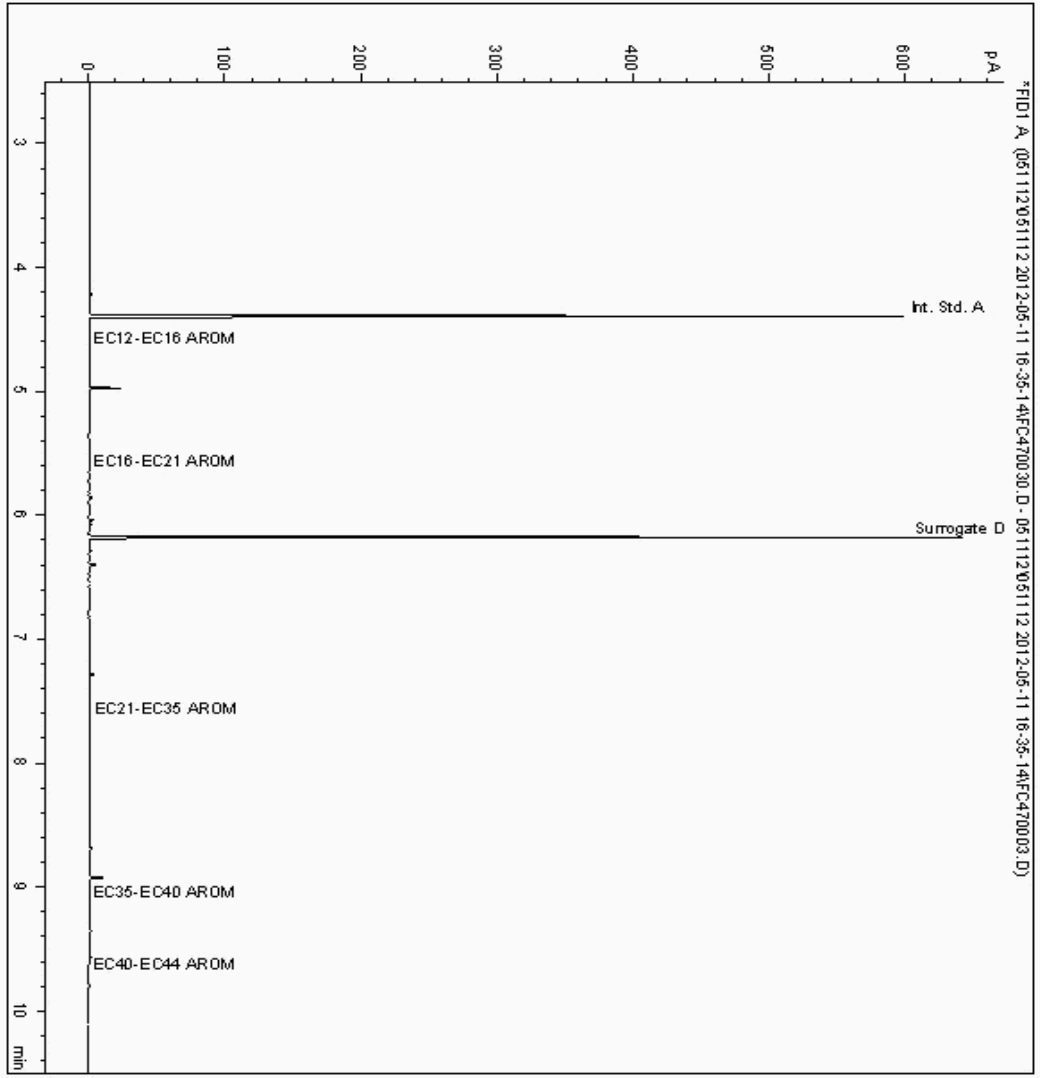
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 5561165
Sample ID : WS08

Depth :

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

Sample Identity: 5439210-5561165
Date Acquired : 12/05/12 01:04:20
Units :
Dilution :
CF : 1
Multiplier : 0.008





SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

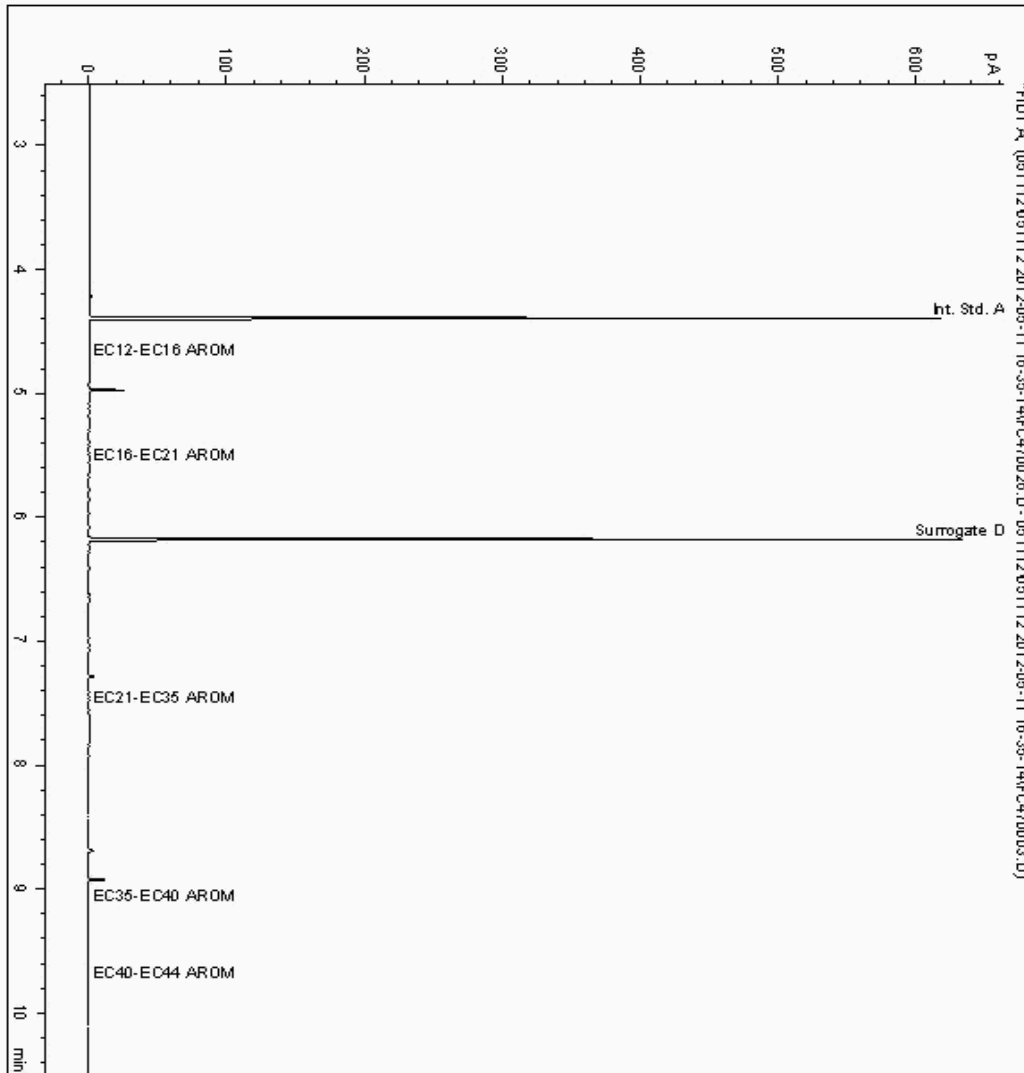
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 5561406
Sample ID : WS06

Depth :

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

Sample Identity: 5439194-5561406
Date Acquired : 12/05/12 00:07:05
Units :
Dilution :
CF : 1
Multiplier : 0.008





SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

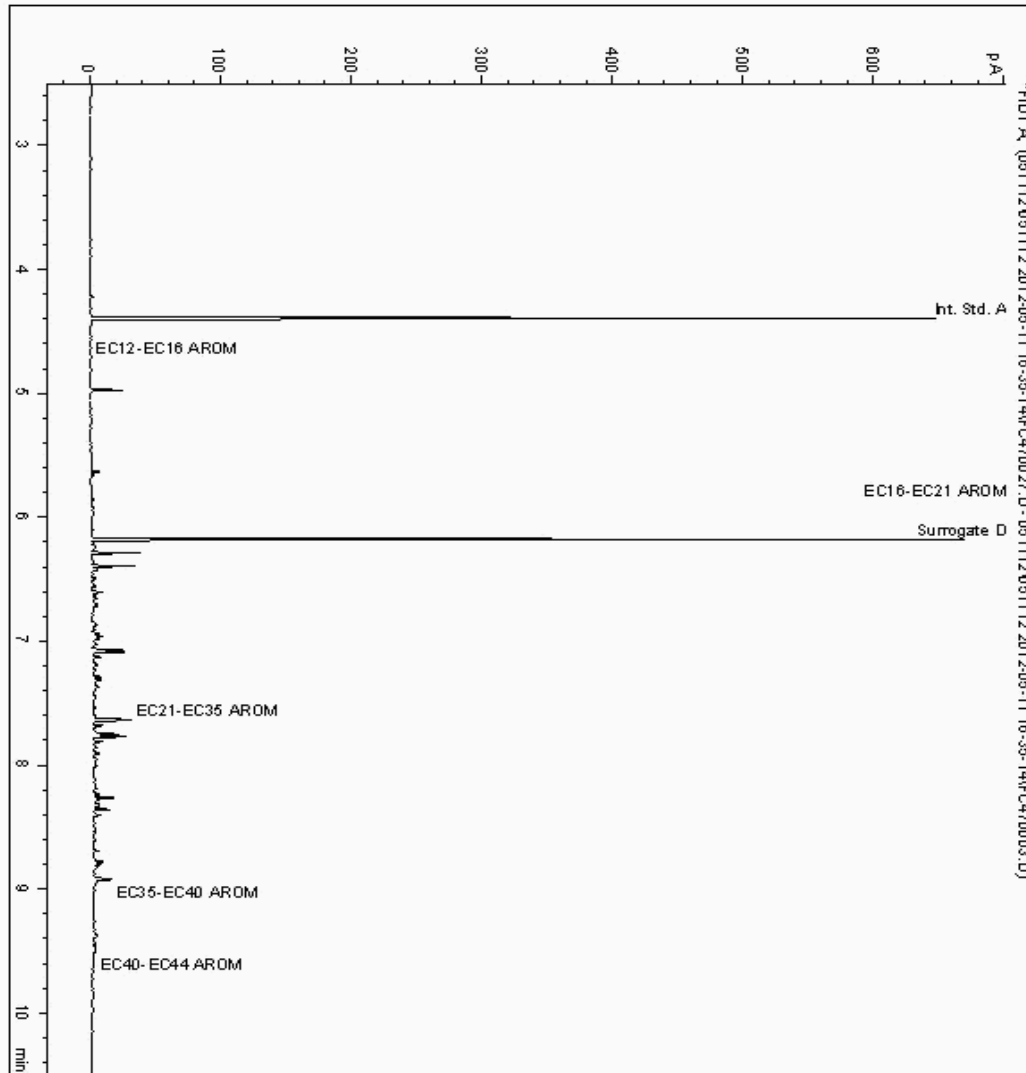
Analysis: EPH CWG (Aromatic) Aqueous GC (W)

Sample No : 5561504
Sample ID : WS10

Depth :

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

Sample Identity: 5439224-5561504
Date Acquired : 12/05/12 00:26:00
Units :
Dilution :
CF : 1
Multiplier : 0.008





SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

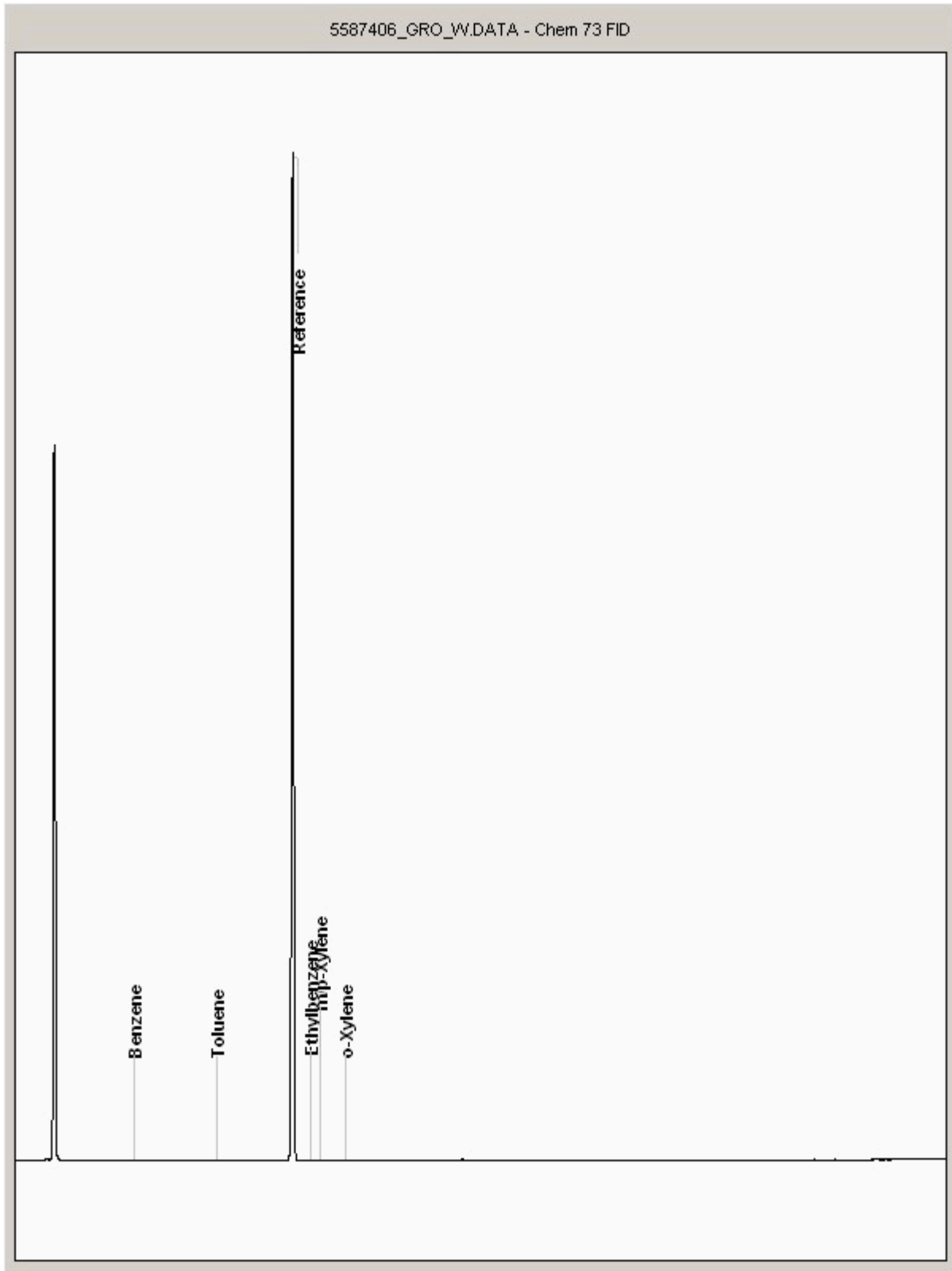
Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 5587406
Sample ID : WS10

Depth :





CERTIFICATE OF ANALYSIS

SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

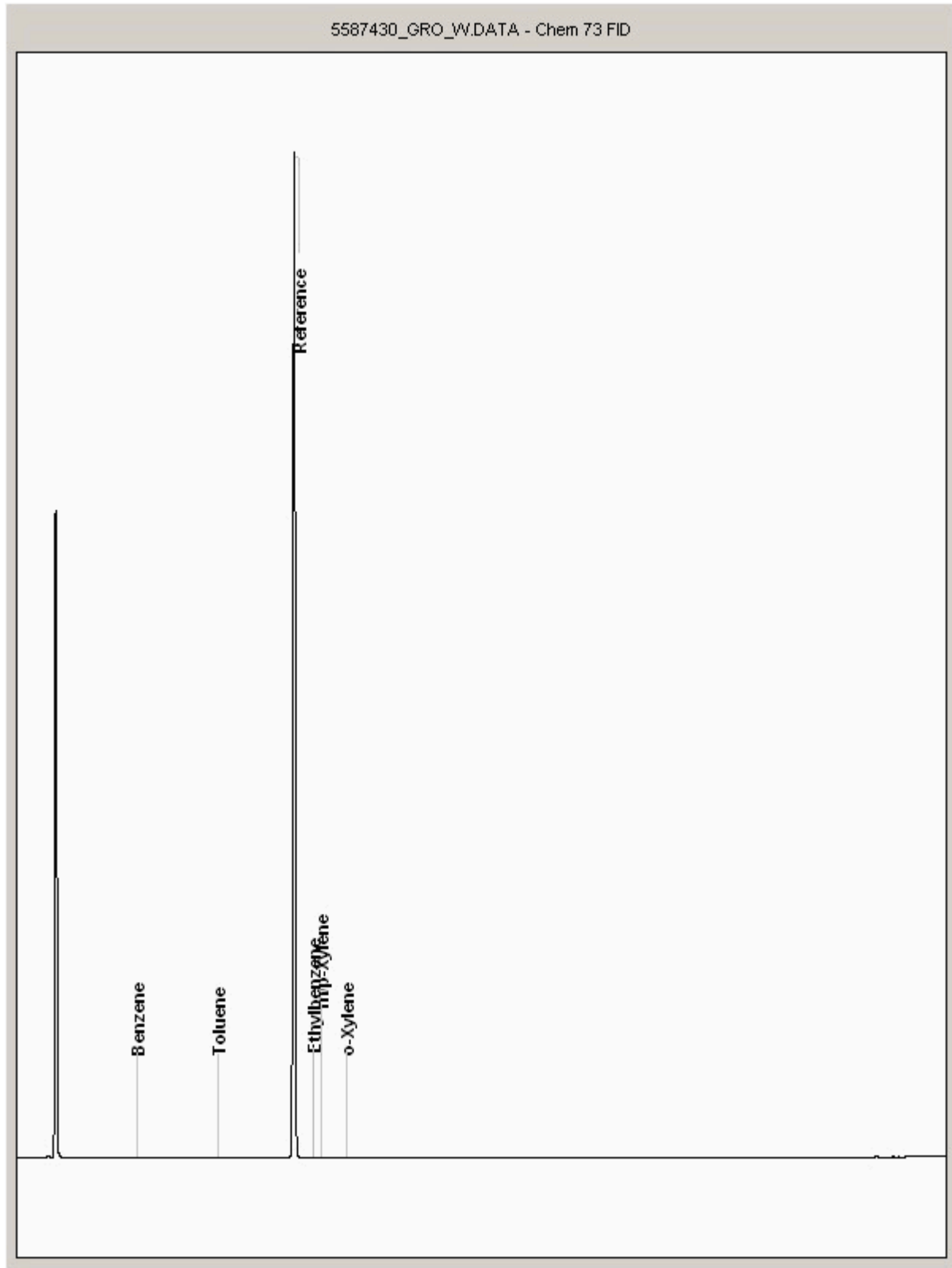
Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 5587430
Sample ID : WS06

Depth :





SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

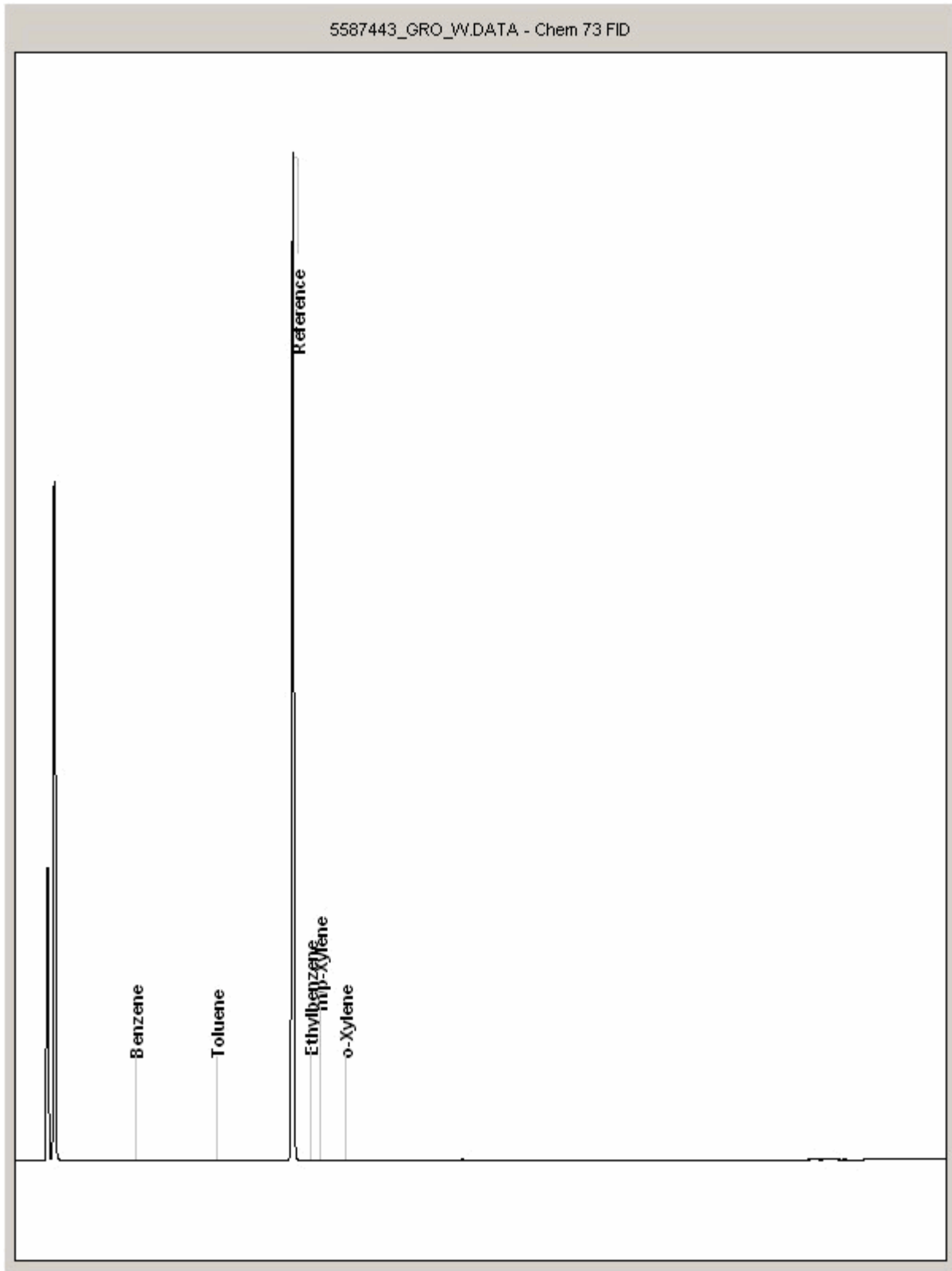
Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Chromatogram

Analysis: GRO by GC-FID (W)

Sample No : 5587443
Sample ID : WS08

Depth :



SDG: 120509-62
Job: H_WSP_MAN-79
Client Reference: 00023902

Location: Lincolnshire Lakes
Customer: WSP Environmental
Attention: Chris Lazenby

Order Number: 77/23902/16/CL
Report Number: 181637
Superseded Report:

Appendix

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

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

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for all sample types unless the sample is destroyed on testing. The prepared soil sub sample that is analysed for asbestos will be retained for a period of 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 Dimethylphenol, 3,5 Dimethylphenol).

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

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

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

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

20. For 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.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	D&C OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENTEXTRACTABLE MATTER	D&C	DOM	SOX THERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOX THERM	GRAVIMETRIC
ELEMENTAL SULPHUR	D&C	DOM	SOX THERM	HPLC
PHENOLS BY GCMS	WET	DOM	SOX THERM	GC-MS
HERBICIDES	D&C	HEXANE ACETONE	SOX THERM	GC-MS
PESTICIDES	D&C	HEXANE ACETONE	SOX THERM	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 CWGBY GC	D&C	HEXANE ACETONE	END OVER END	GC-FID
PCBAROCLOR 1254/PCB CON	D&C	HEXANE ACETONE	END OVER END	GC-MS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE ACETONE	MICROWAVE TM218.	GC-MS
>C6-C40	WET	HEXANE ACETONE	SHAKER	GC-FID
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE ACETONE	SHAKER	GC-FID
SEMIVOLATILE ORGANIC COMPOUNDS	WET	DOM ACETONE	SONICATE	GC-MS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAHMS	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
PCB7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
PCBAROCLOR 1254	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC-MS
SVOC	DCM	LIQUID/LIQUID SHAKE	GC-MS
FREESULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PESTOCPOPP	DCM	LIQUID/LIQUID SHAKE	GC-MS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GC-MS
PHENOLS MS	ACETONE	SOLID PHASE EXTRACTION	GC-MS
TPH by INFRARED (R)	TCE	STIRRED EXTRACTION (STIR-BAR)	R
MINERAL OIL BY R	TCE	STIRRED EXTRACTION (STIR-BAR)	R
GLYCOLS	NONE	DIRECT INJECTION	GC-FID

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description 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 Anorthophyllite	-
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 E

MONITORING RESULTS

Groundwater and Ground Gas Monitoring Summary



Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016

Start Date	19/04/2012
End Date	26/06/2012
No. Visits	6

	Borehole	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Flow (l/hr)		Standing Water Level (m)		Gas Screening Value Methane (l/hr)	Gas Screening Value Carbon Dioxide (l/hr)
		MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX		
1	WS01	0.0	0.1	0.0	2.1	19.0	20.6	0.0	0.1	3.04	3.41	0.0001	0.0021
2	WS02	0.0	0.1	0.0	5.7	12.9	20.5	-0.1	0.3	1.55	1.79	0.0003	0.0171
3	WS03	0.0	0.1	0.0	2.6	17.6	20.7	-0.5	0.1	1.73	1.86	0.0001	0.0026
4	WS04	0.0	0.0	0.0	2.3	18.0	20.4	0.0	0.3	1.08	1.20		0.0069
5	WS05	0.0	0.2	0.0	1.6	19.3	20.5	-0.1	0.1	0.65	0.83	0.0002	0.0016
6	WS06	0.0	0.0	0.0	1.3	18.5	20.7	-0.1	0.1	0.78	1.20		0.0013
7	WS07	0.0	0.1	0.0	3.1	17.7	20.4	-0.1	0.3	1.34	1.47	0.0003	0.0093
8	WS08	0.0	0.1	0.0	19.4	2.9	20.5	-0.2	0.1	1.40	1.65	0.0001	0.0194
9	WS09	0.0	0.0	0.0	2.4	18.7	20.5	0.0	0.1	1.00	1.19		0.0024
10	BH01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.03	1.16		
11	BH02	0.0	0.1	0.0	4.6	15.4	20.6	0.0	0.1	1.40	1.60	0.0001	0.0046
12	BH03	0.0	0.0	0.0	12.2	1.6	20.4	-0.2	0.3	1.54	1.64		0.0366
13	BH04	0.0	0.2	0.0	6.9	6.7	20.4	-0.2	0.2	2.66	2.98	0.0004	0.0138
14	BH05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.90	1.04		
15	BH06	0.0	1.4	0.0	10.9	13.3	20.6	0.0	3.0	0.09	0.66	0.042	0.327
16	BH07	0.0	0.1	0.0	1.3	19.7	20.6	-0.2	0.1	0.25	0.42	0.0001	0.0013
17	BH08	0.0	0.0	0.0	4.2	15.8	20.7	0.0	0.2	1.34	1.59		0.0084
18	WS10	0.0	0.0	0.0	2.8	17.7	20.6	-0.6	0.2	1.37	1.66		0.0056
19	BH01	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.86	1.09		
20	BH05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.02	1.42		
21	BH03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.68	3.14		
22													
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Groundwater and Ground Gas Monitoring Summary



Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016

Start Date	19/04/2012
End Date	26/06/2012
No. Visits	6

	Borehole	Standing Water Level (m)		Response Zone		Thickness of Product (mm)		PID Readings ppmV		H2S ppm	CO ppm	Was the well ever flooded?	Was Product >1mm detected?
		MIN	MAX	TOP	BASE	MIN	MAX	MIN	MAX	MAX	MAX		
1	WS01	3.0	3.4	0.5	4.5	0	0	0	0	0	0	No	No
2	WS02	1.5	1.8	1.0	3.0	0	0	0	0	0	0	No	No
3	WS03	1.7	1.9	0.6	3.0	0	0	0	0	0	0	No	No
4	WS04	1.1	1.2	0.7	3.0	0	0	0	0	0	2	No	No
5	WS05	0.6	0.8	0.7	3.0	0	0	0	0	0	0	No	No
6	WS06	0.8	1.2	0.5	2.5	0	0	0	0	0	2	No	No
7	WS07	1.3	1.5	0.5	2.4	0	0	0	0	0	0	No	No
8	WS08	1.4	1.7	0.5	2.5	0	0	0	0	0	0	No	No
9	WS09	1.0	1.2	0.5	2.5	0	0	0	0	0	0	No	No
10	BH01	1.0	1.2	10.0	10.3	0	0	0	0	0	0	Yes	No
11	BH02	1.4	1.6	1.0	6.0	0	0	0	0	0	0	No	No
12	BH03	1.5	1.6	1.0	6.0	0	0	0	0	0	0	No	No
13	BH04	2.7	3.0	1.0	6.0	0	0	0	0	0	0	No	No
14	BH05	0.9	1.0	6.0	6.3	0	0	0	0	0	0	Yes	No
15	BH06	0.1	0.7	1.0	6.0	0	0	0	0	0	0	Yes	No
16	BH07	0.2	0.4	1.0	6.0	0	0	0	0	0	0	Yes	No
17	BH08	1.3	1.6	1.0	6.0	0	0	0	0	0	0	No	No
18	WS10	1.4	1.7	0.5	2.5	0	0	0	0	0	0	No	No
19	BH01	0.9	1.1	6.0	6.3	0	0	0	0	0	0	Yes	No
20	BH05	1.0	1.4	12.0	12.3	0	0	0	0	0	0	Yes	No
21	BH03	1.7	3.1	10.0	10.3	0	0	0	0	0	0	Yes	No
22													
23													
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Groundwater and Ground Gas Monitoring Summary



Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016

Start Date	19/04/2012
End Date	26/06/2012
No. Visits	6

Visit No.	Visit Date	Pressure Trend	Start mB	End mB
1	19/04/2012	Rising	982	984
2	03/05/2012	Falling	1007	1006
3	18/05/2012	No Change	1007	1007
4	01/06/2012	Rising	1018	1020
5	15/06/2012	No Change	1003	1003
6	26/06/2012		1017	1019
7				
8				
9				
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11				
12				
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14				
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16				
17				
18				
19				
20				
21				
22				
23				
24				

	Minimum mB	Maximum mB
Barometric Pressure	982	1020

Gas Screening Value (GSV) Calculation

	GSV Max per hole (l/hr)	GSV using Max Values (l/hr)	Maximum Values (% v/v)
Carbon Dioxide	0.327	0.582	19.4

Methane	0.042	0.042	1.4
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Max Flow (l/hr)	3.0
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GSV Max Per Hole is the maximum calculated GSV using data specific to each borehole over the monitoring period.

GSV Using Max Values is a worst case estimated of the GSV using Maximum Concentration and Maximum Flow for the whole data set.

CIRIA C665 - Table 8.5 (Refer to CIRIA document for full table and notes) (2007)

	Characteristic Situation (CIRIA R149)	Comparable PIT gas regime	Risk Classification	Gas Screening Value (l/hr)	Additional Factors
	1	A	Very Low Risk	<0.07	Typically methane ≤ 1% and/or carbon dioxide ≤ 5% otherwise consider increase to Characteristic Situation 2
	2	B	Low Risk	<0.7	Borehole air flow rate not to exceed 70l/hr. Otherwise consider increase to Characteristic Situation 3
	3	C	Moderate Risk	<3.5	
	4	D	Moderate to High Risk	<15	Quantitative Risk Assessment required to evaluate scope of protection measures
	5	E	High Risk	<70	
	6	F	Very High Risk	>70	

NHBC Report No. 4 - Table 14.1 (Refer to NHBC document for full table) (March 2007)

Traffic Light Classification	Methane		Carbon Dioxide	
	Typical Max Concentration (%v/v)	Gas Screening Value (l/hr)	Typical Max Concentration (%v/v)	Gas Screening Value (l/hr)
Green	1	0.13	5	0.78
Amber	5	0.63	10	1.6
Amber 2	20	1.6	30	3.1
Red				

Notes:

- The worst-case ground gas regime identified on the site, either methane or carbon dioxide, at the worst case temporal conditions that the site may be expected to encounter will be the decider as to what Traffic Light is allocated.
- Borehole Gas Volume Flow Rate, in litres per hour is defined as Wilson and Card (1999), is the borehole flow rate multiplied by the concentrations in the air stream of the particular gas being considered;
- The typical Maximum Concentration can be exceeded in certain circumstances should the conceptual model indicate that it is safe to do so;
- The Gas Screening Value Threshold should not generally be exceeded without the completion of a detailed ground gas risk assessment taking into account site-specific conditions.

Groundwater and Ground Gas Monitoring Form



VISIT 1

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	19/04/2012
Start Time	09:30:00
End Time	18:00:00

Operator	Chris Lazenby
Pressure at Start mB	982
Pressure at End mB	984
Weather Conditions	Cloudy / Rain
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
1	WS01	0.50	4.50	0.0	0.0	982	0.1	0.1	0.1	1.5	20.4	19.5		0	0	3.21	4.08		No
2	WS02	1.00	3.00	0.0	0.0	982	0.1	0.1	0.1	4.7	20.1	13.7		0	0	1.74	2.35		No
3	WS03	0.60	3.00	0.0	0.0	982	0.1	0.1	0.1	1.1	20.3	19.8		0	0	1.79	2.60		No
4	WS04	0.70	3.00	0.0	0.0	982	0	0	0.1	1.3	20.3	19.4		0	2	1.1	2.03		No
5	WS05	0.70	3.00	0.0	0.0	982	0	0	0.1	0.9	20.5	19.9		0	0	0.645	2.00		No
6	WS06	0.50	2.50	0.1	0.1	982	0	0	0.1	1.3	20.1	18.5		0	2	1.195	1.85		No
7	WS07	0.50	2.40	0.1	0.1	982	0.1	0	0.1	2.2	20.2	18.5		0	0	1.4	2.40		No
8	WS08	0.50	2.50	0.0	0.0	982	0	0.1	0.1	13.9	20.1	7.8		0	0	1.65	2.42		No
9	WS09	0.50	2.50	0.0	0.0	982	0	0	0.1	2.4	20.1	18.7		0	0	1.04	2.33		No
10	BH01	10.00	10.30																
11	BH02	1.00	6.00	0.0	0.0	984	0	0	0.1	2.5	20.2	15.4		0	0	1.6	5.92		No
12	BH03	1.00	6.00																
13	BH04	1.00	6.00	0.0	0.0	983	0	0.2	0.1	6.9	20.2	6.7		0	0	2.98	6.00		Yes
14	BH05	6.00	6.30																
15	BH06	1.00	6.00	0.1	0.1	984	0	1	0.1	8.1	19.9	13.3		0	0	0.66	5.76		Yes
16	BH07	1.00	6.00	0.1	0.1	982	0	0	0.1	1.3	20.1	19.7		0	0	0.36	4.58		Yes

WS10 was not found.

Groundwater and Ground Gas Monitoring Form



VISIT 1

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	19/04/2012
Start Time	09:30:00
End Time	18:00:00

Operator	Chris Lazenby
Pressure at Start mB	982
Pressure at End mB	984
Weather Conditions	Cloudy / Rain
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
17	BH08	1.00	6.00	0.0	0.0	983	0	0	0.1	2.6	20.2	17.5		0	0	1.39	5.48		Yes
18	WS10	0.50	2.50																No
19	BH01	6.00	6.30																No
20	BH05	12.00	12.30																No
21	BH03	10.00	10.30																No
22																			
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COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 2

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	03/05/2012
Start Time	08:30:00
End Time	16:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1007
Pressure at End mB	1006
Weather Conditions	Overcast / Rain showers
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
1	WS01	0.50	4.50	0.0	0.0	1006	0	0	0	2.1	20.5	19.5		0	0	3.41	3.92		No
2	WS02	1.00	3.00	0.3	0.3	1006	0	0	0	3.8	20.5	14.9		0	0	1.545	2.28		No
3	WS03	0.60	3.00	0.0	0.0	1006	0	0	0	1.3	20.7	20.1		0	0	1.74	2.56		No
4	WS04	0.70	3.00	0.0	0.0	1006	0	0	0.2	1.6	20.2	19.6		0	0	1.08	1.99		No
5	WS05	0.70	3.00	0.0	0.0	1006	0	0	0	0.9	20.4	20.1		0	0	0.67	1.99		No
6	WS06	0.50	2.50	-0.1	-0.1	1007	0	0	0	0	20.2	20.1		0	0	0.775	1.81		Yes
7	WS07	0.50	2.40	0.3	0.3	1006	0	0	0.1	3.1	20.4	18.6		0	0	1.344	2.40		No
8	WS08	0.50	2.50	-0.1	-0.1	1007	0	0	0	8.3	20.5	12.6		0	0	1.395	2.42		Yes
9	WS09	0.50	2.50	0.0	0.0	1006	0	0	0	0.2	20.4	20.4		0	0	1	2.33		No
10	BH01	10.00	10.30													1.025	10.11		No
11	BH02	1.00	6.00	0.1	0.1	1006	0	0	0	2.1	20.4	16.0		0	0	1.4	5.90		No
12	BH03	1.00	6.00	0.3	0.3	1005	0	0	0	0.5	20.4	20.3		0	0	1.54	3.41		No
13	BH04	1.00	6.00	0.0	0.0	1006	0	0	0	2.1	20.4	17.0		0	0	2.927	6.04		No
14	BH05	6.00	6.30													0.96	4.93		No
15	BH06	1.00	6.00	3.0	1.8	1006	0	1.4	0	10.9	20.6	14.7		0	0	0.085	5.76		No
16	BH07	1.00	6.00	0.1	0.1	1006	0	0.1	0	0	20.4	20.6		0	0	0.25	4.57		No

COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 2

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	03/05/2012
Start Time	08:30:00
End Time	16:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1007
Pressure at End mB	1006
Weather Conditions	Overcast / Rain showers
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
17	BH08	1.00	6.00	0.0	0.0	1006	0	0	0	0.6	20.3	20.1		0	0	1.343	5.40		No
18	WS10	0.50	2.50	-0.6	-0.6	1007	0	0	0	2.5	20.6	18.7		0	0	1.365	2.48		Yes
19	BH01	6.00	6.30													0.86	5.73		No
20	BH05	12.00	12.30													1.02	12.28		No
21	BH03	10.00	10.30													1.73	10.30		No
22																			
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COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 3

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	18/05/2012
Start Time	09:00:00
End Time	15:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1007
Pressure at End mB	1007
Weather Conditions	Overcast / Sunny periods
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
1	WS01	0.50	4.50	0.0	0.0	1007	0	0	0	0	20.4	20.6		0	0	3.15	4.01		No
2	WS02	1.00	3.00	0.0	0.0	1007	0	0	0	4	20.5	16.6		0	0	1.735	2.35		No
3	WS03	0.60	3.00	0.1	0.1	1007	0	0	0	1.5	20.2	19.7		0	0	1.81	2.58		No
4	WS04	0.70	3.00	0.1	0.1	1007	0	0	0	2.3	20.4	19.7		0	0	1.15	1.99		No
5	WS05	0.70	3.00	0.1	0.1	1007	0	0	0	1.3	20.4	19.9		0	0	0.75	1.98		No
6	WS06	0.50	2.50	0.0	0.0	1007	0	0	0	0.5	20.5	20.3		0	0	0.9	1.78		No
7	WS07	0.50	2.40	0.0	0.0	1007	0	0	0	3	20.3	19.2		0	0	1.41	2.40		No
8	WS08	0.50	2.50	0.0	0.0	1007	0	0	0	16.6	20.4	6.8		0	0	1.51	2.42		No
9	WS09	0.50	2.50	0.0	0.0	1007	0	0	0	0.4	20.5	20.3		0	0	1.1	2.31		No
10	BH01	10.00	10.30													1.05	10.07		No
11	BH02	1.00	6.00	0.0	0.0	1007	0	0	0	2.5	20.6	15.9		0	0	1.45	5.88		No
12	BH03	1.00	6.00	0.0	0.0	1007	0	0	0	8.8	20.4	10.0		0	0	1.635	3.62		No
13	BH04	1.00	6.00	0.2	0.2	1007	0	0	0	6.6	20.4	6.8		0	0	2.965	6.05		No
14	BH05	6.00	6.30													0.97	4.94		No
15	BH06	1.00	6.00	0.1	0.1	1007	0	0	0	1.5	20.4	20.4		0	0	0.12	5.76		No
16	BH07	1.00	6.00	0.0	0.0	1007	0	0	0	0	20.3	20.4		0	0	0.32	4.55		No

COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 3

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	18/05/2012
Start Time	09:00:00
End Time	15:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1007
Pressure at End mB	1007
Weather Conditions	Overcast / Sunny periods
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
17	BH08	1.00	6.00	0.1	0.1	0	0	0	0	2.2	20.7	19.7		0	0	1.47	5.31		No
18	WS10	0.50	2.50	0.2	0.2	1007	0	0	0.1	2.6	20.3	18.8		0	0	1.505	2.48		No
19	BH01	6.00	6.30													1.07	5.84		No
20	BH05	12.00	12.30													1.42	12.28		No
21	BH03	10.00	10.30													1.835	10.30		No
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30																			
31																			
32																			

COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 4

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	01/06/2012
Start Time	09:00:00
End Time	15:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1018
Pressure at End mB	1020
Weather Conditions	Overcast
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
1	WS01	0.50	4.50	0.1	0.1	1018	0	0	0	1.7	20.2	19.9		0	0	3.178	4.00		No
2	WS02	1.00	3.00	-0.1	-0.1	1018	0	0	0.2	5.7	20.3	16.8		0	0	1.79	2.35		No
3	WS03	0.60	3.00	-0.1	-0.1	1018	0	0	0	2.6	20.1	18.9		0	0	1.86	2.56		No
4	WS04	0.70	3.00	0.3	0.3	1018	0	0	0	1.9	20.2	19.9		0	0	1.2	1.99		No
5	WS05	0.70	3.00	0.1	0.1	1018	0	0	0	1.6	20.1	19.8		0	0	0.83	1.96		No
6	WS06	0.50	2.50	0.1	0.1	1018	0	0	0	0.5	20.7	20.5		0	0	1.1	1.77		No
7	WS07	0.50	2.40	0.1	0.1	1018	0	0	0	1.9	20.2	19.8		0	0	1.465	2.40		No
8	WS08	0.50	2.50	-0.2	-0.2	1018	0	0	0.1	19.4	20.5	10.4		0	0	1.61	2.41		No
9	WS09	0.50	2.50	0.1	0.1	1018	0	0	0	0.4	20.1	20.1		0	0	1.185	2.31		No
10	BH01	10.00	10.30													1.16	10.08		No
11	BH02	1.00	6.00	0.0	0.0	1019	0.1	0	0.1	4.6	20.4	16.8		0	0	1.528	5.91		No
12	BH03	1.00	6.00	0.1	0.1	1019	0	0	0	2	20.1	19.4		0	0	1.635	3.66		No
13	BH04	1.00	6.00	0.1	0.1	1018	0	0	0	3.8	20.1	14.2		0	0	2.927	6.06		No
14	BH05	6.00	6.30													1.04	4.93		No
15	BH06	1.00	6.00	0.1	0.1	1020	0	0.1	0	0.9	20.3	20.3		0	0	0.19	5.76		No
16	BH07	1.00	6.00	-0.2	-0.2	1018	0	0.1	0	0.3	20.4	20.5		0	0	0.42	4.56		No

COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 4

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	01/06/2012
Start Time	09:00:00
End Time	15:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1018
Pressure at End mB	1020
Weather Conditions	Overcast
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	GAO 8067	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
17	BH08	1.00	6.00	0.2	0.2	1019	0	0	0	3.9	20.4	16.9		0	0	1.585	5.31		No
18	WS10	0.50	2.50	0.1	0.1	1018	0	0	0.2	2.8	20.1	18.8		0	0	1.658	2.48		No
19	BH01	6.00	6.30													1.09	5.73		No
20	BH05	12.00	12.30													1.24	12.28		No
21	BH03	10.00	10.30													2.15	10.30		No
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30																			
31																			
32																			

COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 5

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	15/06/2012
Start Time	09:00:00
End Time	15:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1003
Pressure at End mB	1003
Weather Conditions	Overcast - Sunny periods
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	5262	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
1	WS01	0.50	4.50	0.0	0.0	1003	0	0	1.1	1.4	19.4	19.3		0	0	3.05	3.87		No
2	WS02	1.00	3.00	0.0	0.0	1003	0	0	3.1	4.2	17.1	15.6		0	0	1.7	2.28		No
3	WS03	0.60	3.00	0.1	0.1	1003	0	0	2.2	2.2	18.5	18.4		0	0	1.81	2.55		No
4	WS04	0.70	3.00	0.0	0.0	1003	0	0	1.8	1.8	18.9	18.9		0	0	1.15	1.99		No
5	WS05	0.70	3.00	-0.1	-0.1	1003	0	0	1.3	0.5	19.3	19.8		0	0	0.71	1.98		No
6	WS06	0.50	2.50	0.1	0.1	1003	0	0	0	0	20.4	20.4		0	0	1.01	1.78		No
7	WS07	0.50	2.40	-0.1	-0.1	1003	0	0	0	2.1	20.1	18.9		0	0	1.43	2.40		No
8	WS08	0.50	2.50	0.1	0.1	1003	0	0	11.6	13.7	10.4	7.9		0	0	1.63	2.42		No
9	WS09	0.50	2.50	0.1	0.1	1003	0	0	0.2	0	19.8	19.7		0	0	1.09	2.32		No
10	BH01	10.00	10.30													1.07	10.07		No
11	BH02	1.00	6.00	0.0	0.0	1003	0	0	3.3	3.2	16.8	17.0		0	0	1.51	5.90		No
12	BH03	1.00	6.00	-0.2	-0.2	1004	0	0	8.7	8.1	7.8	8.2		0	0	1.55	3.70		No
13	BH04	1.00	6.00	-0.2	-0.2	1003	0.2	0.1	3.7	1.7	14.3	17.3		0	0	2.66	6.04		No
14	BH05	6.00	6.30													0.9	4.94		No
15	BH06	1.00	6.00	0.2	0.2	1003	0	0	0	0	20.6	20.6		0	0	0.17	5.76		No
16	BH07	1.00	6.00	0.1	0.1	1003	0	0	0	0	20.4	20.5		0	0	0.29	4.54		No

COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 5

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	15/06/2012
Start Time	09:00:00
End Time	15:00:00

Operator	Chris Lazenby / Paul Ryman
Pressure at Start mB	1003
Pressure at End mB	1003
Weather Conditions	Overcast - Sunny periods
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	5262	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
17	BH08	1.00	6.00	0.1	0.1	1004	0	0	4	4.2	16.4	15.8		0	0	1.5	5.33		No
18	WS10	0.50	2.50	0.0	0.0	1003	0	0	2.6	2.7	18.4	18.2		0	0	1.58	2.48		No
19	BH01	6.00	6.30													1.09	5.74		No
20	BH05	12.00	12.30													1.15	12.28		No
21	BH03	10.00	10.30													3.14	10.30		No
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30																			
31																			
32																			

COMMENTS & GROUND CONDITIONS:

Groundwater and Ground Gas Monitoring Form



VISIT 6

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	26/06/2012
Start Time	10:30:00
End Time	16:45:00

Operator	Chris Lazenby / Mike O'Halloran
Pressure at Start mB	1017
Pressure at End mB	1019
Weather Conditions	Sunny / Overcast
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	5262	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
1	WS01	0.50	4.50	0.0	0.0	1020	0	0	1.3	1.5	19.2	19.0		0	0	3.035	3.90		No
2	WS02	1.00	3.00	0.0	0.0	1020	0	0	2.2	4.8	18.1	12.9		0	0	1.6	2.26		No
3	WS03	0.60	3.00	-0.5	-0.5	1018	0	0	2.6	2.5	17.6	17.6		0	0	1.73	2.54		No
4	WS04	0.70	3.00	0.0	0.0	1019	0	0	2.2	2.2	18.0	18.0		0	0	1.11	1.98		No
5	WS05	0.70	3.00	0.0	0.0	1019	0.2	0	1	0.3	19.5	19.8		0	0	0.71	1.97		No
6	WS06	0.50	2.50	0.0	0.0	1020	0	0	0.1	0.7	19.9	19.5		0	0	0.945	1.77		No
7	WS07	0.50	2.40	0.0	0.0	1019	0	0	2.6	2.8	17.9	17.7		0	0	1.385	2.39		No
8	WS08	0.50	2.50	0.0	0.0	1018	0	0	6.2	16.6	13.0	2.9		0	0	1.54	2.62		No
9	WS09	0.50	2.50	0.0	0.0	1018	0	0	0.2	0	19.8	19.7		0	0	1.1	2.32		No
10	BH01	10.00	10.30													1.04	10.10		No
11	BH02	1.00	6.00	0.0	0.0	1019	0	0	3.1	2.8	16.5	17.0		0	0	1.44	5.89		No
12	BH03	1.00	6.00	0.0	0.0	1019	0	0	12.2	11.8	1.6	1.7		0	0	1.545	3.80		No
13	BH04	1.00	6.00	0.0	0.0	1020	0	0	2.3	2.7	16.8	16.4		0	0	2.83	6.07		No
14	BH05	6.00	6.30													0.955	4.94		No
15	BH06	1.00	6.00	0.0	0.0	1019	0	0	0	0	20.6	20.5		0	0	0.135	5.76		No
16	BH07	1.00	6.00	0.0	0.0	1020	0	0	0	0	20.1	20.1		0	0	0.245	4.55		No

WS09 was not monitored as it could not be located due to overgrown vegetation.

Groundwater and Ground Gas Monitoring Form



VISIT 6

Site Name	Lincolnshire Lakes
Client	Lucent Group
Job No.	23902-016
Date	26/06/2012
Start Time	10:30:00
End Time	16:45:00

Operator	Chris Lazenby / Mike O'Halloran
Pressure at Start mB	1017
Pressure at End mB	1019
Weather Conditions	Sunny / Overcast
Temperature oC	

Equipment	Serial No.	Calibrated
Gas Analyser	5262	Yes
Dipmeter	3689	N/A
Interface Probe		
PID		

	Borehole	Response Zone (m)		Gas Flow (l/hr)		Borehole Pressure (mB)	Methane (% v/v)		Carbon Dioxide (% v/v)		Oxygen (% v/v)		Other Gasses (ppmV)			Depth to Water (m)	Depth to Base (m)	Thickness of product (mm)	Sampled? (Y/N)
		Top	Bottom	Initial	Steady		Initial	Steady	Initial	Steady	Initial	Steady	PID	H2S	CO				
17	BH08	1.00	6.00	0.0	0.0	1020	0	0	1.5	2.8	19.5	17.9		0	0	1.41	5.32		No
18	WS10	0.50	2.50	-0.1	-0.1	1017	0	0	2.4	2.6	18.1	17.7		0	0	1.405	2.45		No
19	BH01	6.00	6.30													1.035	5.74		No
20	BH05	12.00	12.30													1.16	12.28		No
21	BH03	10.00	10.30													1.68	120.30		No
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30																			
31																			
32																			

COMMENTS & GROUND CONDITIONS:

APPENDIX F

WSP RISK ASSESSMENT APPROACH

Table 6.3 Classification of consequence

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in “significant harm” as defined by the Environment Protection Act 1990, Part 11A. Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem (note: the definitions of ecological systems within the Draft Circular on Contaminated Land, DETR, 2000).	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from site into controlled water. Explosion, causing building collapse (can also equate to a short-term human health risk if buildings are occupied).
Medium	Chronic damage to Human Health (“significant harm” as defined in DETR, 2000). Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution). A significant change in a particular ecosystem, or organism forming part of such ecosystem (note: the definitions of ecological systems within Draft Circular on Contaminated Land, DETR, 2000).	Concentrations of a contaminant from site exceed the generic or site-specific assessment criteria. Leaching of contaminants from a site to a Principal or Secondary Aquifer. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services (“significant harm” as defined in the Draft Circular on Contaminated Land, DETR, 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent health effects to human health (easily prevented by means such as personal protective clothing etc.) Easily repairable effects of damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discoloration of concrete.

Table 6.4 Classification of probability

Classification	Definition
High Likelihood	There is a pollution linkage and an event that appears either very likely in the short term or almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all the elements are present and in the right place, which means that it is probably that an event will occur Circumstances are such that an event is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is pollution linkage but circumstances are such that it is improbable that an event would occur even in the long term.

Table 6.5 Comparison of consequence against probability

		Consequence			
		Severe	Medium	Mild	Minor
Probability	High likelihood	Very high risk	High risk	Moderate risk	Moderate/ low risk
	Likely	High risk	Moderate risk	Moderate/ low risk	Low risk
	Low likelihood	Moderate risk	Moderate/ low risk	Low risk	Very low risk
	Unlikely	Moderate/ low risk	Low risk	Very low risk	Very low risk

Table 6.6 Description of the classified risks and likely action required

Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently hap-
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pening.

This risk, if realised, is likely to result in a substantial liability.

Urgent investigation (if not undertaken already) and remediation are likely to be required.

High risk

Harm is likely to arise to a designated receptor from an identified hazard.

Realisation of the risk is likely to present a substantial liability.

Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.

Moderate risk

It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.

Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.

Low risk

It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.

Very low risk

There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

APPENDIX G

PRELIMINARY RISK REGISTER

Preliminary Geotechnical Risk Register – Lincolnshire Lakes – Application 1

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Ground engineering solutions are unsuitable for the strata encountered on site	Ground and groundwater conditions vary significantly from those identified	Redesign of engineering solutions Financial and programme implications	Additional investigation required.	Designer and Contractor
Bearing capacity failure	Layers of weaker/compressible soils below foundations	Remedial works required Financial implications	Additional investigation required. Adjust foundation design to suit ground conditions	Designer & Contractor
Foundation depths greater than anticipated	Depth to competent soil greater than anticipated	Greater depth of excavation with associated instability and groundwater ingress Effect on programme Financial implications	Additional investigation required. Adjust foundation design to suit ground conditions Contractor to allow a contingency for variation in formation level.	Designer & Contractor
Total/differential settlement affecting serviceability of structures and infrastructure	Layers of weaker/compressible soils below foundations	Remedial works required Financial implications	Additional investigation required Adjust foundation design to suit ground conditions	Designer & Contractor
Collapse of excavations	Unstable soils & insufficient ground support	Health & Safety implications Financial implications	Excavations within the site to take into account potential instability of near surface soils. Excavations to be secured by use of ground support or battering back to a safe angle	Contractor
Excessive groundwater ingress into excavations	High groundwater table. Insufficient groundwater control	Health & Safety implications Financial implications	Allowance to be made for adequate groundwater control	Contractor

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Damage to services	Inappropriate buried services assessment	Delays Health and safety issues Financial / legal implications	Undertake appropriate services search and undertake diversion/disconnection where necessary.	Contractor
Degradation of below ground concrete	Inappropriate concrete assessment	Remedial works required Financial implications	Undertake appropriate assessment of concrete grade	Designer
Flotation of below ground structures	High groundwater levels	Redesign of below ground infrastructure	Appropriate design of below ground structures and allowance for variations in groundwater level.	Designer
Ground contamination	In filled sand pits on northern part of site	Health & Safety implications Financial implications		

Preliminary Geotechnical Risk Register – Lincolnshire Lakes – Application 2

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Ground engineering solutions are unsuitable for the strata encountered on site	Ground and groundwater conditions vary significantly from those identified	Redesign of engineering solutions Financial and programme implications	Ground investigation required within footprint of proposed new structure.	Designer and Contractor
Bearing capacity failure	Layers of weaker/compressible soils below formation	Remedial works required Financial implications	Additional investigation required.	Designer & Contractor
Total/differential settlement affecting serviceability of the structure	Layers of weaker/compressible soils below formation	Remedial works required Financial implications	Additional investigation required	Designer & Contractor
Collapse of excavations	Unstable soils & insufficient ground support	Health & Safety implications Financial implications	Excavations within the site to take into account potential instability of near surface soils. Excavations to be secured by use of ground support or battering back to a safe angle	Contractor
Excessive groundwater ingress into excavations	High groundwater table. Insufficient groundwater control	Health & Safety implications Financial implications	Allowance to be made for adequate groundwater control	Contractor
Damage to services	Inappropriate buried services assessment	Delays Health and safety issues Financial / legal implications	Undertake appropriate services search and undertake diversion/disconnection where necessary.	Contractor
Flotation of below ground	High groundwater	Redesign of below ground	Appropriate design of below ground structures and	Designer

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
structures	levels	infrastructure	allowance for variations in groundwater level.	
Degradation of below ground concrete	Inappropriate concrete assessment	Remedial works required Financial implications	Undertake appropriate assessment of concrete grade	Designer

Preliminary Geotechnical Risk Register – Lincolnshire Lakes – Application 3

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Ground engineering solutions are unsuitable for the strata encountered on site	Ground and groundwater conditions vary significantly from those identified	Redesign of engineering solutions	Ground engineering solutions are unsuitable for the strata encountered on site	Ground and groundwater conditions vary significantly from those identified
Bearing capacity failure	Layers of weaker/compressible soils below foundations	Remedial works required Financial implications	Additional investigation required. Adjust foundation design to suit ground conditions	Designer & Contractor
Foundation depths greater than anticipated	Depth to competent soil greater than anticipated	Greater depth of excavation with associated instability and groundwater ingress & Effect on programme Financial implications	Additional investigation required. Adjust foundation design to suit ground conditions Contractor to allow a contingency for variation in formation level.	Designer & Contractor
Total/differential settlement affecting serviceability of the structure	Layers of weaker/compressible soils below foundations	Remedial works required Financial implications	Additional investigation required Adjust foundation design to suit ground conditions	Designer & Contractor
Collapse of excavations	Unstable soils & insufficient ground support	Health & Safety implications Financial implications	Excavations within the site to take into account potential instability of near surface soils. Excavations to be secured by use of ground support or battering back to a safe angle	Contractor
Excessive groundwater ingress into excavations	High groundwater table. Insufficient groundwater control	Health & Safety implications Financial implications	Allowance to be made for adequate groundwater control	Contractor

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Damage to services	Inappropriate buried services assessment	Delays Health and safety issues Financial / legal implications	Undertake appropriate services search and undertake diversion/disconnection where necessary.	Contractor
Flotation of below ground structures	High groundwater levels	Redesign of below ground infrastructure	Appropriate design of below ground structures and allowance for variations in groundwater level.	Designer
Degradation of below ground concrete	Inappropriate concrete assessment	Remedial works required Financial implications	Undertake appropriate assessment of concrete grade	Designer & Contractor

Preliminary Geotechnical Risk Register – Lincolnshire Lakes – Application 4 – East of M181

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Ground engineering solutions are unsuitable for the strata encountered on site	Ground and groundwater conditions vary significantly from those identified	Redesign of engineering solutions Financial and programme implications	Ground investigation required within footprint of proposed new structure.	Designer and Contractor
Bearing capacity failure	Layers of weaker/compressible soils below foundations	Remedial works required Financial implications	Additional investigation required. Adjust foundation design to suit ground conditions	Designer & Contractor
Foundation depths greater than anticipated	Depth to competent soil greater than anticipated	Greater depth of excavation with associated instability and groundwater ingress Effect on programme Financial implications	Additional investigation required. Adjust foundation design to suit ground conditions Contractor to allow a contingency for variation in formation level.	Designer & Contractor
Total/differential settlement affecting serviceability of the structure	Layers of weaker/compressible soils below foundations	Remedial works required Financial implications	Additional investigation required Adjust foundation design to suit ground conditions	Designer & Contractor
Collapse of excavations	Unstable soils & insufficient ground support	Health & Safety implications Financial implications	Excavations within the site to take into account potential instability of near surface soils. Excavations to be secured by use of ground support or battering back to a safe angle	Contractor
Excessive groundwater ingress into excavations	High groundwater table. Insufficient groundwater control	Health & Safety implications Financial implications	Allowance to be made for adequate groundwater control	Contractor

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Damage to services	Inappropriate buried services assessment	Delays Health and safety issues Financial / legal implications	Undertake appropriate services search and undertake diversion/disconnection where necessary.	Contractor
Flotation of below ground structures	High groundwater levels	Redesign of below ground infrastructure	Appropriate design of below ground structures and allowance for variations in groundwater level.	Designer
Degradation of below ground concrete	Inappropriate concrete assessment	Remedial works required Financial implications	Undertake appropriate assessment of concrete grade	Designer

Preliminary Geotechnical Risk Register – Lincolnshire Lakes – Application 4 – West of M181

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Ground engineering solutions are unsuitable for the strata encountered on site	Ground and groundwater conditions vary significantly from those identified	Redesign of engineering solutions Financial and programme implications	Additional ground investigation required.	Designer and Contractor
Excessive total/differential settlement post construction	Inadequate design or monitoring of surcharge	Remedial works required Financial implications	Additional investigation and site trials required. Appropriate monitoring of surcharge operation	Designer & Contractor
Settlement of surcharge takes longer than anticipated	Ground less permeable than anticipated	Effect on programme Financial implications	Additional investigation and site trials required. Contractor to allow a contingency for variation in ground response.	Designer & Contractor
Surcharge produces settlement in excess, or less than that anticipated	Ground more/less compressible than anticipated	Additional surcharge materials required, or excessive excavation required to reach finished formation level	Additional investigation and site trials required. Contractor to allow a contingency for variation in ground response.	Designer & Contractor
Surcharge fails the ground	Inadequate assessment of bearing capacity/staging of surcharge	Effect on programme Financial implications	Additional investigation and site trials required.	Designer & Contractor
Poor performance of piles	Inadequate length, insufficient allowance for negative skin friction	Remedial works required Financial implications	Additional investigation required. Piles to be designed by a competent contractor taking into account the ground conditions and likely future performance of surcharged areas.	Contractor

Hazard	Cause	Consequence	Control Adopted	Risk Ownership
Collapse of excavations	Unstable soils & insufficient ground support	Health & Safety implications Financial implications	Excavations within the site to take into account potential instability of near surface soils. Excavations to be secured by use of ground support or battering back to a safe angle	Contractor
Excessive groundwater ingress into excavations	High groundwater table. Insufficient groundwater control	Health & Safety implications Financial implications	Allowance to be made for adequate groundwater control	Contractor & Structural Engineer
Damage to services	Inappropriate buried services assessment	Delays Health and safety issues Financial / legal implications	Undertake appropriate services search and undertake diversion/disconnection where necessary.	Contractor
Flotation of below ground structures	High groundwater levels	Redesign of below ground infrastructure	Appropriate design of below ground structures and allowance for variations in groundwater level.	Designer
Degradation of below ground concrete	Inappropriate concrete assessment	Remedial works required Financial implications	Undertake appropriate assessment of concrete grade	Geotechnical Engineer

APPENDIX H LIMITATIONS

LIMITATIONS FOR WSP LAND RESTORATION AND GROUND ENGINEERING DIVISION

General

WSP Environmental Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions- as included within our proposal to the Client.

Project specific appointment documents may be agreed on a project by project basis, at our discretion. A charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP Environmental Limited reserve the right to amend the fee should any changes to the appointment terms create an increase risk to WSP

The report needs to be considered in the light of the WSP proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report.

Phase 1 Geo Environmental and Preliminary Risk Assessments

The works undertaken to prepare this report comprised a study of available and easily documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the Site and correspondence with relevant authorities and other interested parties. Due to the short timescales associated with these projects responses may not have been received from all parties. WSP Environmental Limited cannot be held responsible for any disclosures that are provided post production of our report and will not automatically update our report.

The opinions given in this report have been dictated by the finite data on which they are based and are relevant only for the purpose for which the report was commissioned. The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions. Should additional information become available which may affect the opinions expressed in this report, WSP Environmental Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed. Actual risks can only be assessed following intrusive investigations of the Site.

WSP does not warrant work / data undertaken / provided by others.

This section covers reports with the following titles or combination of titles: phase 1; Desk top study; geo environmental assessment; development appraisal; preliminary environmental risk assessment; constraints report; due diligence report; geotechnical development review; environmental statement; environmental chapter; geotechnical development risk register or baseline environmental assessment.

Intrusive Investigation Reports

The investigation has been undertaken to provide information concerning the type and degree of contamination present at the Site in order to allow a generic risk assessment to be undertaken or the soil properties to allow for geotechnical development constraints to be identified.

The objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters. For Geotechnical investigations the purpose is to broadly identify the development constraints associated with the physical property of the soils underlying the site.

The amount of exploratory work, soil property and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of localised "hotspots" of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report. For example these include spatial variations in soil properties; the varying thickness and physical nature of the strata identified and changes in groundwater levels or flow rates.

The inspection; testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. WSP Environmental Limited have interpreted between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation.

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

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

During any build programme WSP Environmental Limited should be consulted if alternative ground conditions are encountered. It assumes during any site works that the contractor will use their best endeavours to manage and control groundwater and other unforeseen ground conditions. WSP Environmental Limited will not be liable for actions taken prior to consultation.

The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated with the WSP Environmental Limited risk assessment process have been outlined within the body or associated appendix of the report.

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

If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must, be confirmed by a qualified quantity surveyor.

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

Detailed Quantitative Risk Assessments and Remedial Strategy Reports

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

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

Geotechnical Design Report (GDR)

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

Monitoring (including Remediation Monitoring reports)

These reports are factual in nature and comprise monitoring, normally groundwater and ground gas and data provided by contractors as part of an earthworks or remedial works.

The data is presented and will be compared with assessment criteria.

Asbestos in soils

Unless explicitly included for in our proposal, our investigation does not include for a formal asbestos assessment. The inspection for asbestos, either as asbestos containing materials (ACMs) lying on the surface or as ACMs and/or as loose asbestos fibres within made ground / stockpiles are excluded.. Our report will include for the factual reporting of any soil screens that are collected. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and/or trace loose asbestos fibres within the soil matrix at the site.

Where we indicate in our proposal that we will consider asbestos we will undertake screening of representative soil samples for the presences / absence of loose asbestos fibres. If these are found a further and more detailed specific investigation into asbestos in soils, where asbestos quantification testing will be undertaken. These investigations are associated with more rigorous monitoring of asbestos and health and safety provisions.