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Supplemental Report 1

The original report has been revised to include the Level III deliverables package.

# WORK ORDER NUMBER: 17-03-0889

*The difference is service*

AIR | SOIL | WATER | MARINE CHEMISTRY

**Analytical Report For**

**Client:** Andersen Environmental

**Client Project Name:** Burbank Airport / 9836002041

**Attention:** Brian Martasin
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Approved for release on 04/28/2017 by:
Stephen Nowak
Project Manager

ResultLink

Email your PM

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Work Order Number: 17-03-0889


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# Work Order Narrative

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**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 03/10/17. They were assigned to Work Order 17-03-0889.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

**Holding Times:**

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

**Quality Control:**

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

**Subcontractor Information:**

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

**Additional Comments:**

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

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# Sample Summary

| | | | |
|---|---|---|---|
| Client: | Andersen Environmental<br>5261 West Imperial Highway<br>Los Angeles, CA 90045-6231 | Work Order: | 17-03-0889 |
| | | Project Name: | Burbank Airport / 9836002041 |
| | | PO Number: | |
| | | Date/Time Received: | 03/10/17 18:00 |
| | | Number of Containers: | 30 |
| Attn: | Brian Martasin | | |

| Sample Identification | Lab Number | Collection Date and Time | Number of Containers | Matrix |
|---|---|---|---|---|
| D-DU2-S-SG-01-8S | 17-03-0889-1 | 03/02/17 07:20 | 1 | Solid |
| D-DU2-S-SG-05-8S | 17-03-0889-2 | 03/03/17 15:08 | 1 | Solid |
| D-DU2-S-SG-06-8S | 17-03-0889-3 | 03/06/17 08:27 | 1 | Solid |
| D-DU2-S-SG-07-8S | 17-03-0889-4 | 03/06/17 07:33 | 1 | Solid |
| D-DU2-S-07-8 | 17-03-0889-5 | 03/06/17 09:35 | 1 | Solid |
| D-DU2-S-10-8 | 17-03-0889-6 | 03/06/17 10:06 | 1 | Solid |
| D-DU2-S-09-8 | 17-03-0889-7 | 03/06/17 14:08 | 1 | Solid |
| D-DU2-S-06-8 | 17-03-0889-8 | 03/08/17 14:55 | 1 | Solid |
| D-DU2-S-SG-02-8S | 17-03-0889-9 | 03/08/17 15:15 | 1 | Solid |
| D-DU2-S-01-8 | 17-03-0889-10 | 03/09/17 09:05 | 1 | Solid |
| D-DU2-S-02-8 | 17-03-0889-11 | 03/09/17 10:50 | 1 | Solid |
| D-DU2-S-03-8 | 17-03-0889-12 | 03/09/17 10:10 | 1 | Solid |
| D-DU2-S-04-8 | 17-03-0889-13 | 03/09/17 08:00 | 1 | Solid |
| D-DU2-S-SG-08-8S | 17-03-0889-14 | 03/09/17 13:20 | 1 | Solid |
| D-DU2-S-SG-09-8S | 17-03-0889-15 | 03/09/17 14:27 | 1 | Solid |
| D-DU2-S-SG-03-8S | 17-03-0889-16 | 03/10/17 09:30 | 1 | Solid |
| D-DU2-S-SG-04-8S | 17-03-0889-17 | 03/10/17 08:48 | 1 | Solid |
| D-DU2-S-SG-10-8S | 17-03-0889-18 | 03/10/17 08:00 | 1 | Solid |
| D-DU2-S-05-8 | 17-03-0889-19 | 03/10/17 07:25 | 1 | Solid |
| D-DU2-S-08-8 | 17-03-0889-20 | 03/10/17 11:15 | 1 | Solid |
| COMPOSITE | 17-03-0889-21 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM1-8 | 17-03-0889-22 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM2-8 | 17-03-0889-23 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM3-8 | 17-03-0889-24 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM1-8 | 17-03-0889-25 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM2-8 | 17-03-0889-26 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM3-8 | 17-03-0889-27 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM1-8 | 17-03-0889-28 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM2-8 | 17-03-0889-29 | 03/02/17 00:00 | 1 | Solid |
| D-DU2-ISM3-8 | 17-03-0889-30 | 03/02/17 00:00 | 1 | Solid |

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# Detections Summary

| | | | |
|---|---|---|---|
| Client: | Andersen Environmental | Work Order: | 17-03-0889 |
| | 5261 West Imperial Highway | Project Name: | Burbank Airport / 9836002041 |
| | Los Angeles, CA 90045-6231 | Received: | 03/10/17 |
| Attn: | Brian Martasin | | |



**Client SampleID**

| Analyte | Result | Qualifiers | RL | Units | Method | Extraction |
|---|---|---|---|---|---|---|
| D-DU2-ISM1-8 (17-03-0889-25) | | | | | | |
| Moisture | 4.5 | BU | 0.10 | % | ASTM D-2216 (M) | N/A |
| D-DU2-ISM2-8 (17-03-0889-26) | | | | | | |
| Moisture | 4.3 | BU | 0.10 | % | ASTM D-2216 (M) | N/A |
| Mercury | 0.107 | | 0.0829 | mg/kg | EPA 7471A | EPA 7471A Total |
| D-DU2-ISM3-8 (17-03-0889-27) | | | | | | |
| Moisture | 4.3 | BU | 0.10 | % | ASTM D-2216 (M) | N/A |
| TPH as Motor Oil | 5.9 | HD | 5.1 | mg/kg | EPA 8015B (M) | EPA 3550B |
| D-DU2-ISM1-8 (17-03-0889-28) | | | | | | |
| Arsenic | 1.41 | | 0.743 | mg/kg | EPA 6010B | EPA 3050B |
| Barium | 55.9 | | 0.495 | mg/kg | EPA 6010B | EPA 3050B |
| Chromium | 4.16 | | 0.248 | mg/kg | EPA 6010B | EPA 3050B |
| Cobalt | 4.41 | | 0.248 | mg/kg | EPA 6010B | EPA 3050B |
| Copper | 6.01 | | 0.495 | mg/kg | EPA 6010B | EPA 3050B |
| Lead | 1.63 | | 0.495 | mg/kg | EPA 6010B | EPA 3050B |
| Nickel | 3.69 | | 0.248 | mg/kg | EPA 6010B | EPA 3050B |
| Vanadium | 14.1 | | 0.248 | mg/kg | EPA 6010B | EPA 3050B |
| Zinc | 36.7 | | 0.990 | mg/kg | EPA 6010B | EPA 3050B |
| D-DU2-ISM2-8 (17-03-0889-29) | | | | | | |
| Barium | 55.3 | | 0.498 | mg/kg | EPA 6010B | EPA 3050B |
| Chromium | 3.87 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Cobalt | 4.11 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Copper | 5.52 | | 0.498 | mg/kg | EPA 6010B | EPA 3050B |
| Lead | 1.33 | | 0.498 | mg/kg | EPA 6010B | EPA 3050B |
| Nickel | 3.42 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Vanadium | 13.0 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Zinc | 42.6 | | 0.995 | mg/kg | EPA 6010B | EPA 3050B |
| D-DU2-ISM3-8 (17-03-0889-30) | | | | | | |
| Barium | 61.2 | | 0.498 | mg/kg | EPA 6010B | EPA 3050B |
| Chromium | 4.68 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Cobalt | 4.78 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Copper | 6.72 | | 0.498 | mg/kg | EPA 6010B | EPA 3050B |
| Lead | 1.73 | | 0.498 | mg/kg | EPA 6010B | EPA 3050B |
| Nickel | 3.80 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Vanadium | 16.0 | | 0.249 | mg/kg | EPA 6010B | EPA 3050B |
| Zinc | 40.9 | | 0.995 | mg/kg | EPA 6010B | EPA 3050B |

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* MDL is shown

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# Detections Summary

| | | | |
|---|---|---|---|
| Client: | Andersen Environmental | Work Order: | 17-03-0889 |
| | 5261 West Imperial Highway | Project Name: | Burbank Airport / 9836002041 |
| | Los Angeles, CA 90045-6231 | Received: | 03/10/17 |
| Attn: | Brian Martasin | | Page 2 of 2 |

**Client SampleID**

| Analyte | Result | Qualifiers | RL | Units | Method | Extraction |
|---|---|---|---|---|---|---|

Subcontracted analyses, if any, are not included in this summary.

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* MDL is shown

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: N/A
Method: ASTM D-2216 (M)
Units: %

Project: Burbank Airport / 9836002041



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM1-8** | **17-03-0889-25-A** | **03/02/17 00:00** | **Solid** | **N/A** | **03/14/17** | **03/14/17 17:00** | **H0314MOIB2** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Moisture | 4.5 | 0.10 | 1.00 | BU |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM2-8** | **17-03-0889-26-A** | **03/02/17 00:00** | **Solid** | **N/A** | **03/14/17** | **03/14/17 17:00** | **H0314MOIB2** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Moisture | 4.3 | 0.10 | 1.00 | BU |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM3-8** | **17-03-0889-27-A** | **03/02/17 00:00** | **Solid** | **N/A** | **03/14/17** | **03/14/17 17:00** | **H0314MOIB2** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Moisture | 4.3 | 0.10 | 1.00 | BU |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-05-014-6739** | **N/A** | **Solid** | **N/A** | **03/14/17** | **03/14/17 17:00** | **H0314MOIB2** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Moisture | ND | 0.10 | 1.00 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3550B |
| | | Method: | EPA 8015B (M) |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 2 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM1-8** | **17-03-0889-25-A** | **03/02/17 00:00** | **Solid** | **GC 47** | **03/15/17** | **03/16/17 04:45** | **170315B06A** |

Comment(s): - Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Diesel | ND | 5.1 | 1.00 | |
| TPH as Motor Oil | ND | 5.1 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 100 | 61-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM2-8** | **17-03-0889-26-A** | **03/02/17 00:00** | **Solid** | **GC 47** | **03/15/17** | **03/16/17 05:05** | **170315B06A** |

Comment(s): - Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Diesel | ND | 5.2 | 1.00 | |
| TPH as Motor Oil | ND | 5.2 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 96 | 61-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM3-8** | **17-03-0889-27-A** | **03/02/17 00:00** | **Solid** | **GC 47** | **03/15/17** | **03/16/17 19:02** | **170315B06A** |

Comment(s): - Results are reported on a dry weight basis.
- Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Diesel | ND | 5.1 | 1.00 | |
| TPH as Motor Oil | 5.9 | 5.1 | 1.00 | HD |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 101 | 61-145 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3550B |
| | | Method: | EPA 8015B (M) |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 2 of 2 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-14-353-9** | **N/A** | **Solid** | **GC 47** | **03/15/17** | **03/15/17 23:11** | **170315B06A** |

Comment(s): - Motor Oil Range Organics (C17-C44) uses a Diesel Range Organics (C10-C28) standard for quantitation and quality control.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| TPH as Diesel | ND | 5.0 | 1.00 | |
| TPH as Motor Oil | ND | 5.0 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 84 | 61-145 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM1-8** | **17-03-0889-28-A** | **03/02/17 00:00** | **Solid** | **ICP 7300** | **03/24/17** | **03/24/17 17:20** | **170324L01** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.743 | 0.990 | |
| Arsenic | 1.41 | 0.743 | 0.990 | |
| Barium | 55.9 | 0.495 | 0.990 | |
| Beryllium | ND | 0.248 | 0.990 | |
| Cadmium | ND | 0.495 | 0.990 | |
| Chromium | 4.16 | 0.248 | 0.990 | |
| Cobalt | 4.41 | 0.248 | 0.990 | |
| Copper | 6.01 | 0.495 | 0.990 | |
| Lead | 1.63 | 0.495 | 0.990 | |
| Molybdenum | ND | 0.248 | 0.990 | |
| Nickel | 3.69 | 0.248 | 0.990 | |
| Selenium | ND | 0.743 | 0.990 | |
| Silver | ND | 0.248 | 0.990 | |
| Thallium | ND | 0.743 | 0.990 | |
| Vanadium | 14.1 | 0.248 | 0.990 | |
| Zinc | 36.7 | 0.990 | 0.990 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM2-8** | **17-03-0889-29-A** | **03/02/17 00:00** | **Solid** | **ICP 7300** | **03/24/17** | **03/24/17 17:21** | **170324L01** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.746 | 0.995 | |
| Arsenic | ND | 0.746 | 0.995 | |
| Barium | 55.3 | 0.498 | 0.995 | |
| Beryllium | ND | 0.249 | 0.995 | |
| Cadmium | ND | 0.498 | 0.995 | |
| Chromium | 3.87 | 0.249 | 0.995 | |
| Cobalt | 4.11 | 0.249 | 0.995 | |
| Copper | 5.52 | 0.498 | 0.995 | |
| Lead | 1.33 | 0.498 | 0.995 | |
| Molybdenum | ND | 0.249 | 0.995 | |
| Nickel | 3.42 | 0.249 | 0.995 | |
| Selenium | ND | 0.746 | 0.995 | |
| Silver | ND | 0.249 | 0.995 | |
| Thallium | ND | 0.746 | 0.995 | |
| Vanadium | 13.0 | 0.249 | 0.995 | |
| Zinc | 42.6 | 0.995 | 0.995 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: EPA 3050B
Method: EPA 6010B
Units: mg/kg

Project: Burbank Airport / 9836002041



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM3-8** | **17-03-0889-30-A** | **03/02/17 00:00** | **Solid** | **ICP 7300** | **03/24/17** | **03/24/17 17:22** | **170324L01** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.746 | 0.995 | |
| Arsenic | ND | 0.746 | 0.995 | |
| Barium | 61.2 | 0.498 | 0.995 | |
| Beryllium | ND | 0.249 | 0.995 | |
| Cadmium | ND | 0.498 | 0.995 | |
| Chromium | 4.68 | 0.249 | 0.995 | |
| Cobalt | 4.78 | 0.249 | 0.995 | |
| Copper | 6.72 | 0.498 | 0.995 | |
| Lead | 1.73 | 0.498 | 0.995 | |
| Molybdenum | ND | 0.249 | 0.995 | |
| Nickel | 3.80 | 0.249 | 0.995 | |
| Selenium | ND | 0.746 | 0.995 | |
| Silver | ND | 0.249 | 0.995 | |
| Thallium | ND | 0.746 | 0.995 | |
| Vanadium | 16.0 | 0.249 | 0.995 | |
| Zinc | 40.9 | 0.995 | 0.995 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 4 of 4 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **097-01-002-24496** | **N/A** | **Solid** | **ICP 7300** | **03/24/17** | **03/27/17 15:57** | **170324L01** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.735 | 0.980 | |
| Arsenic | ND | 0.735 | 0.980 | |
| Barium | ND | 0.490 | 0.980 | |
| Beryllium | ND | 0.245 | 0.980 | |
| Cadmium | ND | 0.490 | 0.980 | |
| Chromium | ND | 0.245 | 0.980 | |
| Cobalt | ND | 0.245 | 0.980 | |
| Copper | ND | 0.490 | 0.980 | |
| Lead | ND | 0.490 | 0.980 | |
| Molybdenum | ND | 0.245 | 0.980 | |
| Nickel | ND | 0.245 | 0.980 | |
| Selenium | ND | 0.735 | 0.980 | |
| Silver | ND | 0.245 | 0.980 | |
| Thallium | ND | 0.735 | 0.980 | |
| Vanadium | ND | 0.245 | 0.980 | |
| Zinc | ND | 0.980 | 0.980 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Project: Burbank Airport / 9836002041

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: EPA 7471A Total
Method: EPA 7471A
Units: mg/kg



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM1-8** | **17-03-0889-25-A** | **03/02/17 00:00** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 19:10** | **170317L03** |

Comment(s): - Results are reported on a dry weight basis.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0919 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM2-8** | **17-03-0889-26-A** | **03/02/17 00:00** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 19:12** | **170317L03** |

Comment(s): - Results are reported on a dry weight basis.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | 0.107 | 0.0829 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM3-8** | **17-03-0889-27-A** | **03/02/17 00:00** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 19:15** | **170317L03** |

Comment(s): - Results are reported on a dry weight basis.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0857 | 1.00 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-16-272-2880** | **N/A** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 18:34** | **170317L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0833 | 1.00 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| | | Units: | ug/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 2 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM1-8** | **17-03-0889-28-A** | **03/02/17 00:00** | **Solid** | **GC 66** | **03/17/17** | **03/18/17 06:47** | **170317L031** |

Comment(s): - Sample extracted outside recommended holding time.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | ET |
| Aroclor-1221 | ND | 50 | 1.00 | ET |
| Aroclor-1232 | ND | 50 | 1.00 | ET |
| Aroclor-1242 | ND | 50 | 1.00 | ET |
| Aroclor-1248 | ND | 50 | 1.00 | ET |
| Aroclor-1254 | ND | 50 | 1.00 | ET |
| Aroclor-1260 | ND | 50 | 1.00 | ET |
| Aroclor-1262 | ND | 50 | 1.00 | ET |
| Aroclor-1268 | ND | 50 | 1.00 | ET |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 127 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 75 | 25-145 | |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM2-8** | **17-03-0889-29-A** | **03/02/17 00:00** | **Solid** | **GC 66** | **03/17/17** | **03/18/17 07:04** | **170317L031** |

Comment(s): - Sample extracted outside recommended holding time.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | ET |
| Aroclor-1221 | ND | 50 | 1.00 | ET |
| Aroclor-1232 | ND | 50 | 1.00 | ET |
| Aroclor-1242 | ND | 50 | 1.00 | ET |
| Aroclor-1248 | ND | 50 | 1.00 | ET |
| Aroclor-1254 | ND | 50 | 1.00 | ET |
| Aroclor-1260 | ND | 50 | 1.00 | ET |
| Aroclor-1262 | ND | 50 | 1.00 | ET |
| Aroclor-1268 | ND | 50 | 1.00 | ET |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 89 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 80 | 25-145 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: EPA 3545
Method: EPA 8082
Units: ug/kg

Project: Burbank Airport / 9836002041



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM3-8** | **17-03-0889-30-A** | **03/02/17 00:00** | **Solid** | **GC 66** | **03/17/17** | **03/18/17 07:22** | **170317L031** |

Comment(s): - Sample extracted outside recommended holding time.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | ET |
| Aroclor-1221 | ND | 50 | 1.00 | ET |
| Aroclor-1232 | ND | 50 | 1.00 | ET |
| Aroclor-1242 | ND | 50 | 1.00 | ET |
| Aroclor-1248 | ND | 50 | 1.00 | ET |
| Aroclor-1254 | ND | 50 | 1.00 | ET |
| Aroclor-1260 | ND | 50 | 1.00 | ET |
| Aroclor-1262 | ND | 50 | 1.00 | ET |
| Aroclor-1268 | ND | 50 | 1.00 | ET |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 88 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 80 | 25-145 | |

| Method Blank | 099-12-535-4108 | N/A | Solid | GC 66 | 03/17/17 | 03/18/17 05:00 | 170317L031 |
|---|---|---|---|---|---|---|---|

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 50 | 1.00 | |
| Aroclor-1221 | ND | 50 | 1.00 | |
| Aroclor-1232 | ND | 50 | 1.00 | |
| Aroclor-1242 | ND | 50 | 1.00 | |
| Aroclor-1248 | ND | 50 | 1.00 | |
| Aroclor-1254 | ND | 50 | 1.00 | |
| Aroclor-1260 | ND | 50 | 1.00 | |
| Aroclor-1262 | ND | 50 | 1.00 | |
| Aroclor-1268 | ND | 50 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 70 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 70 | 25-145 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 4 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM1-8** | **17-03-0889-25-A** | **03/02/17 00:00** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 13:19** | **170315L03** |

Comment(s): - Results are reported on a dry weight basis.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Naphthalene | ND | 0.010 | 1.00 | |
| 2-Methylnaphthalene | ND | 0.010 | 1.00 | |
| 1-Methylnaphthalene | ND | 0.010 | 1.00 | |
| Acenaphthylene | ND | 0.010 | 1.00 | |
| Acenaphthene | ND | 0.010 | 1.00 | |
| Fluorene | ND | 0.010 | 1.00 | |
| Phenanthrene | ND | 0.010 | 1.00 | |
| Anthracene | ND | 0.010 | 1.00 | |
| Fluoranthene | ND | 0.010 | 1.00 | |
| Pyrene | ND | 0.010 | 1.00 | |
| Benzo (a) Anthracene | ND | 0.010 | 1.00 | |
| Chrysene | ND | 0.010 | 1.00 | |
| Benzo (k) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (b) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (a) Pyrene | ND | 0.010 | 1.00 | |
| Indeno (1,2,3-c,d) Pyrene | ND | 0.010 | 1.00 | |
| Dibenz (a,h) Anthracene | ND | 0.010 | 1.00 | |
| Benzo (g,h,i) Perylene | ND | 0.010 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 2-Fluorobiphenyl | 76 | 13-127 | |
| Nitrobenzene-d5 | 86 | 17-137 | |
| p-Terphenyl-d14 | 100 | 4-160 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 2 of 4 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM2-8** | **17-03-0889-26-A** | **03/02/17 00:00** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 13:40** | **170315L03** |

Comment(s): - Results are reported on a dry weight basis.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Naphthalene | ND | 0.010 | 1.00 | |
| 2-Methylnaphthalene | ND | 0.010 | 1.00 | |
| 1-Methylnaphthalene | ND | 0.010 | 1.00 | |
| Acenaphthylene | ND | 0.010 | 1.00 | |
| Acenaphthene | ND | 0.010 | 1.00 | |
| Fluorene | ND | 0.010 | 1.00 | |
| Phenanthrene | ND | 0.010 | 1.00 | |
| Anthracene | ND | 0.010 | 1.00 | |
| Fluoranthene | ND | 0.010 | 1.00 | |
| Pyrene | ND | 0.010 | 1.00 | |
| Benzo (a) Anthracene | ND | 0.010 | 1.00 | |
| Chrysene | ND | 0.010 | 1.00 | |
| Benzo (k) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (b) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (a) Pyrene | ND | 0.010 | 1.00 | |
| Indeno (1,2,3-c,d) Pyrene | ND | 0.010 | 1.00 | |
| Dibenz (a,h) Anthracene | ND | 0.010 | 1.00 | |
| Benzo (g,h,i) Perylene | ND | 0.010 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 2-Fluorobiphenyl | 78 | 13-127 | |
| Nitrobenzene-d5 | 84 | 17-137 | |
| p-Terphenyl-d14 | 112 | 4-160 | |

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-ISM3-8** | **17-03-0889-27-A** | **03/02/17 00:00** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 14:00** | **170315L03** |

Comment(s): - Results are reported on a dry weight basis.

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Naphthalene | ND | 0.010 | 1.00 | |
| 2-Methylnaphthalene | ND | 0.010 | 1.00 | |
| 1-Methylnaphthalene | ND | 0.010 | 1.00 | |
| Acenaphthylene | ND | 0.010 | 1.00 | |
| Acenaphthene | ND | 0.010 | 1.00 | |
| Fluorene | ND | 0.010 | 1.00 | |
| Phenanthrene | ND | 0.010 | 1.00 | |
| Anthracene | ND | 0.010 | 1.00 | |
| Fluoranthene | ND | 0.010 | 1.00 | |
| Pyrene | ND | 0.010 | 1.00 | |
| Benzo (a) Anthracene | ND | 0.010 | 1.00 | |
| Chrysene | ND | 0.010 | 1.00 | |
| Benzo (k) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (b) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (a) Pyrene | ND | 0.010 | 1.00 | |
| Indeno (1,2,3-c,d) Pyrene | ND | 0.010 | 1.00 | |
| Dibenz (a,h) Anthracene | ND | 0.010 | 1.00 | |
| Benzo (g,h,i) Perylene | ND | 0.010 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 2-Fluorobiphenyl | 80 | 13-127 | |
| Nitrobenzene-d5 | 90 | 17-137 | |
| p-Terphenyl-d14 | 90 | 4-160 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Analytical Report

Andersen Environmental
5261 West Imperial Highway
Los Angeles, CA 90045-6231

Date Received: 03/10/17
Work Order: 17-03-0889
Preparation: EPA 3545
Method: EPA 8270C SIM PAHs
Units: mg/kg

Project: Burbank Airport / 9836002041



| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-14-035-383** | **N/A** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 10:58** | **170315L03** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Naphthalene | ND | 0.010 | 1.00 | |
| 2-Methylnaphthalene | ND | 0.010 | 1.00 | |
| 1-Methylnaphthalene | ND | 0.010 | 1.00 | |
| Acenaphthylene | ND | 0.010 | 1.00 | |
| Acenaphthene | ND | 0.010 | 1.00 | |
| Fluorene | ND | 0.010 | 1.00 | |
| Phenanthrene | ND | 0.010 | 1.00 | |
| Anthracene | ND | 0.010 | 1.00 | |
| Fluoranthene | ND | 0.010 | 1.00 | |
| Pyrene | ND | 0.010 | 1.00 | |
| Benzo (a) Anthracene | ND | 0.010 | 1.00 | |
| Chrysene | ND | 0.010 | 1.00 | |
| Benzo (k) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (b) Fluoranthene | ND | 0.010 | 1.00 | |
| Benzo (a) Pyrene | ND | 0.010 | 1.00 | |
| Indeno (1,2,3-c,d) Pyrene | ND | 0.010 | 1.00 | |
| Dibenz (a,h) Anthracene | ND | 0.010 | 1.00 | |
| Benzo (g,h,i) Perylene | ND | 0.010 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 2-Fluorobiphenyl | 85 | 13-127 | |
| Nitrobenzene-d5 | 100 | 17-137 | |
| p-Terphenyl-d14 | 99 | 4-160 | |

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RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.

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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3550B |
| | | Method: | EPA 8015B (M) |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **17-03-1039-1** | **Sample** | **Solid** | **GC 47** | **03/15/17** | **03/16/17 00:35** | **170315S06** |
| **17-03-1039-1** | **Matrix Spike** | **Solid** | **GC 47** | **03/15/17** | **03/15/17 23:53** | **170315S06** |
| **17-03-1039-1** | **Matrix Spike Duplicate** | **Solid** | **GC 47** | **03/15/17** | **03/16/17 00:14** | **170315S06** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | ND | 400.0 | 420.4 | 105 | 378.9 | 95 | 64-130 | 10 | 0-15 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| Project: Burbank Airport / 9836002041 | | | Page 2 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **17-03-1236-1** | **Sample** | **Solid** | **ICP 7300** | **03/24/17** | **03/27/17 15:40** | **170324S01** |
| **17-03-1236-1** | **Matrix Spike** | **Solid** | **ICP 7300** | **03/24/17** | **03/27/17 15:41** | **170324S01** |
| **17-03-1236-1** | **Matrix Spike Duplicate** | **Solid** | **ICP 7300** | **03/24/17** | **03/27/17 15:42** | **170324S01** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 25.00 | 2.051 | 8 | 4.269 | 17 | 50-115 | 70 | 0-20 | 3,4 |
| Arsenic | 26.60 | 25.00 | 53.29 | 107 | 50.55 | 96 | 75-125 | 5 | 0-20 | |
| Barium | 358.7 | 25.00 | 354.7 | 4X | 356.3 | 4X | 75-125 | 4X | 0-20 | Q |
| Beryllium | 0.6747 | 25.00 | 25.15 | 98 | 24.62 | 96 | 75-125 | 2 | 0-20 | |
| Cadmium | 1.878 | 25.00 | 24.98 | 92 | 24.29 | 90 | 75-125 | 3 | 0-20 | |
| Chromium | 59.53 | 25.00 | 79.72 | 81 | 83.93 | 98 | 75-125 | 5 | 0-20 | |
| Cobalt | 24.86 | 25.00 | 47.13 | 89 | 45.20 | 81 | 75-125 | 4 | 0-20 | |
| Copper | 2023 | 25.00 | 1871 | 4X | 1872 | 4X | 75-125 | 4X | 0-20 | Q |
| Lead | 34.76 | 25.00 | 98.15 | 254 | 64.76 | 120 | 75-125 | 41 | 0-20 | 3,4 |
| Molybdenum | 2.013 | 25.00 | 25.31 | 93 | 24.20 | 89 | 75-125 | 4 | 0-20 | |
| Nickel | 26.28 | 25.00 | 48.11 | 87 | 46.05 | 79 | 75-125 | 4 | 0-20 | |
| Selenium | 2.422 | 25.00 | 28.15 | 103 | 25.47 | 92 | 75-125 | 10 | 0-20 | |
| Silver | 1.721 | 12.50 | 15.49 | 110 | 15.59 | 111 | 75-125 | 1 | 0-20 | |
| Thallium | ND | 25.00 | 12.62 | 50 | 16.16 | 65 | 75-125 | 25 | 0-20 | 3,4 |
| Vanadium | 71.01 | 25.00 | 89.40 | 74 | 88.81 | 71 | 75-125 | 1 | 0-20 | 3 |
| Zinc | 114.9 | 25.00 | 133.1 | 4X | 136.5 | 4X | 75-125 | 4X | 0-20 | Q |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 7471A Total |
| | | Method: | EPA 7471A |
| Project: Burbank Airport / 9836002041 | | | Page 3 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **17-03-0980-1** | **Sample** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 15:22** | **170317S03** |
| **17-03-0980-1** | **Matrix Spike** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 18:38** | **170317S03** |
| **17-03-0980-1** | **Matrix Spike Duplicate** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 18:40** | **170317S03** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.8350 | 0.9955 | 119 | 1.104 | 132 | 71-137 | 10 | 0-14 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| Project: Burbank Airport / 9836002041 | | | Page 4 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **D-DU2-ISM1-8** | **Sample** | **Solid** | **GC 66** | **03/17/17** | **03/18/17 06:47** | **170317S031** |
| **D-DU2-ISM1-8** | **Matrix Spike** | **Solid** | **GC 66** | **03/17/17** | **03/18/17 05:35** | **170317S031** |
| **D-DU2-ISM1-8** | **Matrix Spike Duplicate** | **Solid** | **GC 66** | **03/17/17** | **03/18/17 05:53** | **170317S031** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | ND | 100.0 | 89.50 | 90 | 78.00 | 78 | 50-135 | 14 | 0-20 | |
| Aroclor-1260 | ND | 100.0 | 84.00 | 84 | 75.00 | 75 | 50-135 | 11 | 0-20 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| Project: Burbank Airport / 9836002041 | | | Page 5 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | MS/MSD Batch Number |
|---|---|---|---|---|---|---|
| **17-03-0888-27** | **Sample** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 17:43** | **170315S03** |
| **17-03-0888-27** | **Matrix Spike** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 16:22** | **170315S03** |
| **17-03-0888-27** | **Matrix Spike Duplicate** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 16:42** | **170315S03** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | ND | 0.1000 | 0.08581 | 86 | 0.09139 | 91 | 20-150 | 6 | 0-33 | |
| 2-Methylnaphthalene | ND | 0.1000 | 0.1116 | 112 | 0.1223 | 122 | 29-137 | 9 | 0-31 | |
| 1-Methylnaphthalene | ND | 0.1000 | 0.09328 | 93 | 0.1029 | 103 | 34-136 | 10 | 0-29 | |
| Acenaphthylene | ND | 0.1000 | 0.07751 | 78 | 0.08692 | 87 | 29-131 | 11 | 0-32 | |
| Acenaphthene | ND | 0.1000 | 0.08150 | 82 | 0.09017 | 90 | 29-137 | 10 | 0-28 | |
| Fluorene | ND | 0.1000 | 0.08285 | 83 | 0.09355 | 94 | 36-132 | 12 | 0-27 | |
| Phenanthrene | ND | 0.1000 | 0.1000 | 100 | 0.1150 | 115 | 20-144 | 14 | 0-27 | |
| Anthracene | ND | 0.1000 | 0.09854 | 99 | 0.1147 | 115 | 26-134 | 15 | 0-27 | |
| Fluoranthene | ND | 0.1000 | 0.09940 | 99 | 0.1204 | 120 | 20-151 | 19 | 0-26 | |
| Pyrene | 0.01225 | 0.1000 | 0.1060 | 94 | 0.1368 | 125 | 20-150 | 25 | 0-32 | |
| Benzo (a) Anthracene | ND | 0.1000 | 0.09480 | 95 | 0.1106 | 111 | 24-150 | 15 | 0-24 | |
| Chrysene | 0.01940 | 0.1000 | 0.1061 | 87 | 0.1264 | 107 | 25-145 | 17 | 0-28 | |
| Benzo (k) Fluoranthene | 0.02293 | 0.1000 | 0.1062 | 83 | 0.1315 | 109 | 28-148 | 21 | 0-26 | |
| Benzo (b) Fluoranthene | ND | 0.1000 | 0.1089 | 109 | 0.1641 | 164 | 21-153 | 40 | 0-26 | 3,4 |
| Benzo (a) Pyrene | 0.01233 | 0.1000 | 0.09923 | 87 | 0.1420 | 130 | 29-149 | 35 | 0-22 | 4 |
| Indeno (1,2,3-c,d) Pyrene | 0.01480 | 0.1000 | 0.05988 | 45 | 0.08525 | 70 | 20-154 | 35 | 0-25 | 4 |
| Dibenz (a,h) Anthracene | ND | 0.1000 | 0.06281 | 63 | 0.07512 | 75 | 20-132 | 18 | 0-26 | |
| Benzo (g,h,i) Perylene | 0.02695 | 0.1000 | 0.06264 | 36 | 0.09318 | 66 | 20-148 | 39 | 0-27 | 4 |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - Sample Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | N/A |
| | | Method: | ASTM D-2216 (M) |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 1 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | Duplicate Batch Number |
|---|---|---|---|---|---|---|
| **17-03-0888-25** | **Sample** | **Solid** | **N/A** | **03/14/17 00:00** | **03/14/17 17:00** | **H0314MOID2** |
| **17-03-0888-25** | **Sample Duplicate** | **Solid** | **N/A** | **03/14/17 00:00** | **03/14/17 17:00** | **H0314MOID2** |

| Parameter | Sample Conc. | DUP Conc. | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|
| Moisture | 5.600 | 5.900 | 5 | 0-10 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3550B |
| | | Method: | EPA 8015B (M) |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-14-353-9** | **LCS** | **Solid** | **GC 47** | **03/15/17** | **03/15/17 23:32** | **170315B06A** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| TPH as Diesel | 400.0 | 407.9 | 102 | 61-145 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| Project: Burbank Airport / 9836002041 | | | Page 2 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **097-01-002-24496** | **LCS** | **Solid** | **ICP 7300** | **03/24/17** | **03/27/17 16:17** | **170324L01** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | 25.00 | 23.59 | 94 | 80-120 | 73-127 | |
| Arsenic | 25.00 | 23.95 | 96 | 80-120 | 73-127 | |
| Barium | 25.00 | 26.79 | 107 | 80-120 | 73-127 | |
| Beryllium | 25.00 | 24.10 | 96 | 80-120 | 73-127 | |
| Cadmium | 25.00 | 25.28 | 101 | 80-120 | 73-127 | |
| Chromium | 25.00 | 25.50 | 102 | 80-120 | 73-127 | |
| Cobalt | 25.00 | 25.72 | 103 | 80-120 | 73-127 | |
| Copper | 25.00 | 25.85 | 103 | 80-120 | 73-127 | |
| Lead | 25.00 | 25.91 | 104 | 80-120 | 73-127 | |
| Molybdenum | 25.00 | 24.68 | 99 | 80-120 | 73-127 | |
| Nickel | 25.00 | 25.41 | 102 | 80-120 | 73-127 | |
| Selenium | 25.00 | 23.70 | 95 | 80-120 | 73-127 | |
| Silver | 12.50 | 12.46 | 100 | 80-120 | 73-127 | |
| Thallium | 25.00 | 24.87 | 99 | 80-120 | 73-127 | |
| Vanadium | 25.00 | 24.33 | 97 | 80-120 | 73-127 | |
| Zinc | 25.00 | 25.27 | 101 | 80-120 | 73-127 | |

Total number of LCS compounds: 16
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 7471A Total |
| | | Method: | EPA 7471A |
| Project: Burbank Airport / 9836002041 | | | Page 3 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-16-272-2880** | **LCS** | **Solid** | **Mercury 08** | **03/17/17** | **03/17/17 18:36** | **170317L03** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Mercury | 0.8350 | 0.7488 | 90 | 85-121 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| Project: Burbank Airport / 9836002041 | | | Page 4 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-12-535-4108** | **LCS** | **Solid** | **GC 66** | **03/17/17** | **03/18/17 05:17** | **170317L031** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Aroclor-1016 | 100.0 | 79.50 | 80 | 50-135 | |
| Aroclor-1260 | 100.0 | 81.50 | 82 | 50-135 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/10/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0889 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| Project: Burbank Airport / 9836002041 | | | Page 5 of 5 |

| Quality Control Sample ID | Type | Matrix | Instrument | Date Prepared | Date Analyzed | LCS Batch Number |
|---|---|---|---|---|---|---|
| **099-14-035-383** | **LCS** | **Solid** | **GC/MS EEE** | **03/15/17** | **03/16/17 11:18** | **170315L03** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Naphthalene | 0.1000 | 0.1027 | 103 | 51-129 | 38-142 | |
| 2-Methylnaphthalene | 0.1000 | 0.1209 | 121 | 50-127 | 37-140 | |
| 1-Methylnaphthalene | 0.1000 | 0.1084 | 108 | 54-132 | 41-145 | |
| Acenaphthylene | 0.1000 | 0.09108 | 91 | 50-123 | 38-135 | |
| Acenaphthene | 0.1000 | 0.09195 | 92 | 53-125 | 41-137 | |
| Fluorene | 0.1000 | 0.09348 | 93 | 55-127 | 43-139 | |
| Phenanthrene | 0.1000 | 0.1050 | 105 | 50-122 | 38-134 | |
| Anthracene | 0.1000 | 0.1047 | 105 | 50-132 | 36-146 | |
| Fluoranthene | 0.1000 | 0.1046 | 105 | 55-127 | 43-139 | |
| Pyrene | 0.1000 | 0.1036 | 104 | 50-134 | 36-148 | |
| Benzo (a) Anthracene | 0.1000 | 0.1019 | 102 | 50-133 | 36-147 | |
| Chrysene | 0.1000 | 0.1045 | 104 | 51-129 | 38-142 | |
| Benzo (k) Fluoranthene | 0.1000 | 0.1096 | 110 | 49-150 | 32-167 | |
| Benzo (b) Fluoranthene | 0.1000 | 0.1044 | 104 | 50-142 | 35-157 | |
| Benzo (a) Pyrene | 0.1000 | 0.1046 | 105 | 50-134 | 36-148 | |
| Indeno (1,2,3-c,d) Pyrene | 0.1000 | 0.1004 | 100 | 50-148 | 34-164 | |
| Dibenz (a,h) Anthracene | 0.1000 | 0.1050 | 105 | 50-133 | 36-147 | |
| Benzo (g,h,i) Perylene | 0.1000 | 0.1084 | 108 | 50-130 | 37-143 | |

Total number of LCS compounds: 18
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

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RPD: Relative Percent Difference. CL: Control Limits

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# Sample Analysis Summary Report

Work Order: 17-03-0889 Page 1 of 1

| Method | Extraction | Chemist ID | Instrument | Analytical Location |
|---|---|---|---|---|
| ASTM D-2216 (M) | N/A | 1009 | N/A | 1 |
| EPA 6010B | EPA 3050B | 935 | ICP 7300 | 1 |
| EPA 7471A | EPA 7471A Total | 868 | Mercury 08 | 1 |
| EPA 8015B (M) | EPA 3550B | 1027 | GC 47 | 1 |
| EPA 8082 | EPA 3545 | 669 | GC 66 | 1 |
| EPA 8270C SIM PAHs | EPA 3545 | 907 | GC/MS EEE | 1 |

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# Glossary of Terms and Qualifiers

Work Order: 17-03-0889 Page 1 of 1

| Qualifiers | Definition |
|---|---|
| * | See applicable analysis comment. |
| < | Less than the indicated value. |
| > | Greater than the indicated value. |
| 1 | Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification. |
| 2 | Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification. |
| 3 | Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control. |
| 4 | The MS/MSD RPD was out of control due to suspected matrix interference. |
| 5 | The PDS/PDSD or PES/PESD associated with this batch of samples was out of control due to suspected matrix interference. |
| 6 | Surrogate recovery below the acceptance limit. |
| 7 | Surrogate recovery above the acceptance limit. |
| B | Analyte was present in the associated method blank. |
| BU | Sample analyzed after holding time expired. |
| BV | Sample received after holding time expired. |
| CI | See case narrative. |
| E | Concentration exceeds the calibration range. |
| ET | Sample was extracted past end of recommended max. holding time. |
| HD | The chromatographic pattern was inconsistent with the profile of the reference fuel standard. |
| HDH | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected). |
| HDL | The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected). |
| J | Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated. |
| JA | Analyte positively identified but quantitation is an estimate. |
| ME | LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean). |
| ND | Parameter not detected at the indicated reporting limit. |
| Q | Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater. |
| SG | The sample extract was subjected to Silica Gel treatment prior to analysis. |
| X | % Recovery and/or RPD out-of-range. |
| Z | Analyte presence was not confirmed by second column or GC/MS analysis. |
| | Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are reported on a wet weight basis. |
| | Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of <= 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time. |
| | A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations. |

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# 17-03-0889

EFI Global

EFI Global
5261 West Imperial Highway, Los Angeles CA 90045
Tel: (310) 854-6300 Fax: (310) 854-0199 www.AndersenEnviro.com

## Chain-of-Custody Record



| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Composite | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DU2-ISM1-3 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 2 | D-DU2-ISM2-3 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 3 | D-DU2-ISM3-3 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 4 | D-DU2-ISM1-8 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 5 | D-DU2-ISM2-8 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 6 | D-DU2-ISM3-8 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 7 | D-DU2-ISM1-15 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 8 | D-DU2-ISM2-15 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 9 | D-DU2-ISM3-15 | | | X | | X | | | X | | | | 3/2,3/3,3/6,3/8,3/9,3/10 | |
| 10 | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | |
| 15 | | | | | | | | | | | | | | |
| 16 | | | | | | | | | | | | | | |
| 17 | | | | | | | | | | | | | | |
| 18 | | | | | | | | | | | | | | |
| 19 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |

17-03-0889

| Method | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOCs, EPA Method 8260B | PAHs, EPA Method 8270C | Metals, EPA Method 6010B/7470A | Lead, EPA Method 6010B | Arsenic, EPA Method 6010B | STLC Lead EPA Method | TCLP Lead EPA Method | PCBs, EPA Method 8082 | TPH full chain, EPA Method 8015M | TPHd, TPHmo, EPA Method 8015M | Composite | Hold |
| | X | X | | | | | X | | X | X | |
| | X | X | | | | | X | | X | X | |
| | X | X | | | | | X | | X | X | |
| | X | X | | | | | X | | X | X | |
| | X | X | | | | | X | | X | X | |
| | X | X | | | | | X | | X | X | |
| | | | | | | | | | | | X |
| | | | | | | | | | | | X |
| | | | | | | | | | | | X |

| Container | | | | |
|---|---|---|---|---|
| 4- or 8-ounce Glass | VOA | EZ Draw (EPA 5035) | Acetate Liner | Amber Bottle |
| | | | X | |
| | | | X | |
| | | | X | |
| | | | X | |
| | | | X | |
| | | | X | |
| | | | X | |
| | | | X | |
| | | | X | |

| Turnaround Time | | |
|---|---|---|
| 24 hours | Normal | 48 Hours |
| | X | |
| | X | |
| | X | |
| | X | |
| | X | |
| | X | |
| | | |
| | | |
| | | |

| Relinquished by | Date | Time | Received by | Date | Time | Remarks |
|---|---|---|---|---|---|---|
| | 03/10/17 | | | 03/10/17 | 1800 | Sample condition (circle): Chilled Intact |
| | | | | | | 15-footers on hold pending results of shallow samples |
| | | | | | | Original samples for ISM previously submitted |



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| LAB_SDG | LAB_SAMPLE_NUMBER | FIELD_SAMPLE | SAMPLING_DATE | SAMPLING_TIME | MATRIX | DEPTH | PROJECT_ID |
|---|---|---|---|---|---|---|---|
| 17-03-0217 | 17-03-0217-2 | D-DU2-S-SG-01-8S | 20170302 | 07:20:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0336 | 17-03-0336-2 | D-DU2-S-SG-05-8S | 20170303 | 15:08:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0444 | 17-03-0444-2 | D-DU2-S-SG-06-8S | 20170306 | 08:27:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0444 | 17-03-0444-6 | D-DU2-S-SG-07-8S | 20170306 | 07:33:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0444 | 17-03-0444-10 | D-DU2-S-07-8 | 20170306 | 09:35:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0444 | 17-03-0444-13 | D-DU2-S-10-8 | 20170306 | 10:06:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0444 | 17-03-0444-17 | D-DU2-S-09-8 | 20170306 | 14:08:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0637 | 17-03-0637-2 | D-DU2-S-06-8 | 20170308 | 14:55:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0637 | 17-03-0637-5 | D-DU2-S-SG-02-8S | 20170308 | 15:15:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0755 | 17-03-0755-2 | D-DU2-S-01-8 | 20170309 | 09:05:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0755 | 17-03-0755-5 | D-DU2-S-02-8 | 20170309 | 10:50:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0755 | 17-03-0755-8 | D-DU2-S-03-8 | 20170309 | 10:10:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0755 | 17-03-0755-11 | D-DU2-S-04-8 | 20170309 | 08:00:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0755 | 17-03-0755-14 | D-DU2-S-SG-08-8S | 20170309 | 13:20:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0755 | 17-03-0755-18 | D-DU2-S-SG-09-8S | 20170309 | 14:27:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0856 | 17-03-0856-2 | D-DU2-S-SG-03-8S | 20170310 | 09:30:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0856 | 17-03-0856-5 | D-DU2-S-SG-04-8S | 20170310 | 08:48:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0856 | 17-03-0856-8 | D-DU2-S-SG-10-8S | 20170310 | 08:00:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0856 | 17-03-0856-12 | D-DU2-S-05-8 | 20170310 | 07:25:00 | Soil | 8 | Burbank Airport / 9836002041 |
| 17-03-0856 | 17-03-0856-16 | D-DU2-S-08-8 | 20170310 | 11:15:00 | Soil | 8 | Burbank Airport / 9836002041 |

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D-DU2-ISM 2-8
D-DU2-ISM 3-8



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# Chain-of-Custody Record



17-03-0217

| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-042-S-SG-01-03 | 1 | | X | | X | | | X | | | | 3/2/17 | 7:16 |
| 2 | -85 | 2 | | X | | X | | | X | | | | " | 7:20 |
| 3 | -155 | 3 | | X | | X | | | X | | | | " | 7:30 |
| 4 | | | | | | | | | | | | | | |
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| 19 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |

| Method | | | | | | | | | | | | | Container | | | | | Turnaround Time | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| VOCs, EPA Method 8260B | PAHs, EPA Method 8270C SIM | Metals, EPA Method 6010B/7471A | Lead, EPA Method 6010B | Arsenic, EPA Method 6010B | STLC Lead EPA Method | TCLP Lead EPA Method | PCBs, EPA Method 8082 | TPH full chain, EPA Method 8015M | TPHd, TPHmo, EPA Method 8015M | Composite | Hold | 4- or 8-ounce Glass | 250-ml Poly Bottle | EZ Draw (EPA 5035) | Acetate Liner | 1-l Amber Bottle | 24 hours | 48 hours | Normal |
| | X | X | | | | | X | X | | | X | | | | | X | | | X |
| | | | | | | | | | | | X | | | | | X | | | |
| | | | | | | | | | | | X | | | | | X | | | |

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| | 3/2/17 | 1545 | | 3/2/17 | 1545 |
| | 3/2/17 | 1734 | | 3/2/17 | 1734 |

Remarks

Sample condition (circle): Chilled Intact

Hold on all D-042 soil samples received for 1st composites



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eurofins | Calscience

WORK ORDER NUMBER: 17-03- 0217

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 03 / 2 / 2017

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 1.8 °C (w/ CF): 1.8 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 1091

**CUSTODY SEAL:**

Cooler ☑ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: 1091

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 300

**SAMPLE CONDITION:**

| | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☐ | ☐ | ☑ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☑ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** (Trip Blank Lot Number: _____)

**Aqueous:** ☐ VOA ☐ VOA**h** ☐ VOA**na₂** ☐ 100PJ ☐ 100PJ**na₂** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB ☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s** ☐ 500PB ☐ 1AGB ☐ 1AGB**na₂** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (P) ☐ EnCores® (____) ☐ TerraCores® (____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na₂** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 300

Reviewed by: 836



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# Chain-of-Custody Record

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| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time | Method: VOCs, EPA Method 8260B | Method: PAHs, EPA Method 8270C SIM | Method: Metals, EPA Method 6010B/7471A | Method: Lead, EPA Method 6010B | Method: Arsenic, EPA Method 6010B | Method: STLC Lead EPA Method | Method: TCLP Lead EPA Method | Method: PCBs, EPA Method 8082 | Method: TPH full chain, EPA Method 8015M | Method: TPHd, TPHmo, EPA Method 8015M | Method: Composite | Method: Hold | Container: 4- or 8-ounce Glass | Container: 250-ml Poly Bottle | Container: EZ Draw (EPA 5035) | Container: Acetate Liner | Container: 1-l Amber Bottle | Turnaround Time: 24 hours | Turnaround Time: 48 hours | Turnaround Time: Normal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DU2-S-SG-05-035 | | | X | | X | | | X | | | | 3/3/17 | 15:00 | | ~~X~~ | ~~X~~ | | | | | ~~X~~ | | ~~X~~ | | X | | | | X | | | | ~~X~~ |
| 2 | D-DU2-S-SG-0585 | | | X | | X | | | X | | | | " | 15:08 | | | | | | | | | | | | X | | | | X | | | | |
| 3 | D-DU2-S-SG-05135 | | | X | | X | | | X | | | | " | 15:20 | | X | X | | | | | X | | X | | ~~X~~ | | | | X | | | | X |
| 4 | D-DU2-S-SG-05255 | | | X | | X | | | X | | | | " | 15:48 | | X | X | | 3/3/17 | | | X | | X | | ~~X~~ | | | | X | | | | X |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 20 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| [signature] | 3/3/17 | | | 3/3/17 | |

Remarks: 3' and 8' samples [signature] 3/3/17

Sample condition (circle): Chilled Intact

Hold until all D-DU2 samples received for ISM composites. They take sample from center of each liner unless otherwise indicated on liner.

Hold remaining portions of 15-foot samples (after extraction) pending results of the shallower ISM samples

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## Chain-of-Custody Record



17-03-0336

| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DU2-S-SG-0535 | 1 | | X | | X | | | X | | | | 3/3/17 | 15:00 |
| 2 | D-DU2-S-SG-0538 | 2 | | X | | X | | | X | | | | " | 15:08 |
| 3 | D-DU2-S-SG-0535 | 3 | | X | | X | | | X | | | | " | 15:20 |
| 4 | D-DU2-S-SG-0525 | 4 | | X | | X | | | X | | | | " | 15:48 |
| 5 | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | |
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| 19 | | | | | | | | | | | | | | |
| 20 | | | | | | | | | | | | | | |

Method: VOCs, EPA Method 8260B; PAHs, EPA Method 8270C SIM; Metals, EPA Method 6010B/7471A; Lead, EPA Method 6010B; Arsenic, EPA Method 6010B; STLC Lead EPA Method; TCLP Lead EPA Method; PCBs, EPA Method 8082; TPH full chain, EPA Method 8015M; TPHd, TPHmo, EPA Method 8015M; Composite; Hold

Container: 4- or 8-ounce Glass; 250-ml Poly Bottle; EZ Draw (EPA 5035); Acetate Liner; 1-l Amber Bottle

Turnaround Time: 24 hours; 48 hours; Normal

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| | 3/3/17 | 16.00 | EGA | 3/3/17 | 16.00 |
| | 3/03/17 | 18.45 | | 3/3/17 | 1845 |

Remarks

Sample condition (circle): Chilled Intact

Hold until COC D-DU2 samples received for 15% composites. Then take sample from center of each liner unless otherwise indicated on liner.

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WORK ORDER NUMBER: 17-03-0336

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: EFI/ANDERSEN

DATE: 03 / 03 / 2017

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 3.3 °C (w/ CF): 3.3 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 804

**CUSTODY SEAL:**

Cooler ☑ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: 804

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: 1052

| **SAMPLE CONDITION:** | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☐ | ☐ | ☑ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☑ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** (Trip Blank Lot Number: _____)

**Aqueous:** ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 1017



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## Chain-of-Custody Record



17-03-0444

| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time | Method: OCPs, EPA Method 8081A | Method: PAHs, EPA Method 8270C SIM | Method: Metals, EPA Method 6010B/7471A | Method: Lead, EPA Method 6010B | Method: Arsenic, EPA Method 6010B | Method: STLC Lead EPA Method | Method: TCLP Lead EPA Method | Method: PCBs, EPA Method 8082 | Method: TPH full chain, EPA Method 8015M | Method: TPHd, TPHmo, EPA Method 8015M | Method: Composite | Method: Hold | Container: 4- or 8-ounce Glass | Container: 250-ml Poly Bottle | Container: EZ Draw (EPA 5035) | Container: Acetate Liner | Container: 1-l Amber Bottle | Turnaround Time: 24 hours | Turnaround Time: 48 hours | Turnaround Time: Normal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DU2S-SG-06-3S | | | X | | X | | | X | | | | 3/6/17 | 8:26 | | X | X | | | | | X | X | | X | | | | X | | | | X |
| 2 | -8S | | | X | | X | | | X | | | | " | 8:27 | | | | | | | | | | | | X | | | | X | | | | |
| 3 | -15S | | | X | | X | | | X | | | | " | 8:35 | | X | X | | | | | X | | X | | | | | | X | | | | X |
| 4 | -25S | | | X | | X | | | X | | | | " | 8:43 | | X | X | | | | | X | | X | | | | | | X | | | | X |
| 5 | D-DU2-S-SG-07-3S | | | X | | X | | | X | | | | " | 7:29 | | | | | | | | | | | | X | | | | X | | | | |
| 6 | -8S | | | X | | X | | | X | | | | " | 7:33 | | | | | | | | | | | | X | | | | X | | | | |
| 7 | -15S | | | X | | X | | | X | | | | " | 7:45 | | X | X | | | | | X | | X | | | | | | X | | | | X |
| 8 | -25S | | | X | | X | | | X | | | | " | 7:52 | | X | X | | | | | X | | X | | | | | | X | | | | X |
| 9 | D-DU2-S-07-3S @ 3.5 | | | X | | X | | | X | | | | " | 9:30 | | | | | | | | | | | | X | | | | X | | | | |
| 10 | -8S | | | X | | X | | | X | | | | " | 9:35 | | | | | | | | | | | | X | | | | X | | | | |
| 11 | -15 | | | X | | X | | | X | | | | " | 9:42 | | | | | | | | | | | | X | | | | X | | | | |
| 12 | D-DU2-S-10-3 | | | X | | X | | | X | | | | " | 10:03 | | | | | | | | | | | | X | | | | X | | | | |
| 13 | -8 | | | X | | X | | | X | | | | " | 10:06 | | | | | | | | | | | | X | | | | X | | | | |
| 14 | -15 | | | X | | X | | | X | | | | " | 10:12 | | | | | | | | | | | | X | | | | X | | | | |
| 15 | D-DU2-S-09-3 | | | X | | X | | | X | | | | " | 14:05 | X | | | | | | | | | | | | | | | X | | | | X |
| 16 | -3 | | | X | | X | | | X | | | | " | 14:05 | | | | | | | | | | | | X | | | | X | | | | |
| 17 | -8 | | | X | | X | | | X | | | | " | 14:08 | | | | | | | | | | | | X | | | | X | | | | |
| 18 | -15 | | | X | | X | | | X | | | | " | 14:13 | | | | | | | | | | | | X | | | | X | | | | |

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| | 3/6/17 | 1430 | | 3/6/17 | 1430 |
| | 3/6/17 | 1719 | | 3/6/17 | 1719 |

**Remarks**

Sample condition (circle): Chilled Intact

Hold 3' +5' samples until all D-DU2 samples received for 15M composites.

Take sample from center of liner unless otherwise indicated on liner

Hold remaining 15' samples (after extraction) for additional 15M composites as needed.

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eurofins | Calscience

WORK ORDER NUMBER: 17-03- 0444

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: EFI Global

DATE: 03 / 6 / 2017

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 3.7 °C (w/ CF): 3.7 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 678

**CUSTODY SEAL:**

Cooler ☒ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: 678

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A Checked by: 1053

| **SAMPLE CONDITION:** | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☐ | ☐ | ☑ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☑ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** **(Trip Blank Lot Number:** _____**)**

**Aqueous:** ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1053

Reviewed by: 689

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# Chain-of-Custody Record



17-03-0637

| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DH2-5-06-3 | | | X | | X | | | X | | | | 3/8/17 | 14:50 |
| 2 | -8 | | | X | | X | | | X | | | | | 14:55 |
| 3 | -15 | | | X | | X | | | X | | | | | 15:00 |
| 4 | D-DH2-5-SG-02-35 | | | X | | X | | | X | | | | | 15:10 |
| 5 | -85 | | | X | | X | | | X | | | | | 15:15 |
| 6 | -155 | | | X | | X | | | X | | | | | 15:30 |

| Number | Method: OCPs, EPA Method 8081A | PAHs, EPA Method 8270C SIM | Metals, EPA Method 6010B/7471A | Lead, EPA Method 6010B | Arsenic, EPA Method 6010B | STLC Lead EPA Method | TCLP Lead EPA Method | PCBs, EPA Method 8082 | TPH full chain, EPA Method 8015M | TPHd, TPHmo, EPA Method 8015M | Composite | Hold | Container: 4- or 8-ounce Glass | Container: 250-ml Poly Bottle | Container: EZ Draw (EPA 5035) | Container: Acetate Liner | Container: 1-l Amber Bottle | Turnaround Time: 24 hours | Turnaround Time: 48 hours | Turnaround Time: Normal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | X | X | | | | | X | X | | | X | | | | X | | | | X |
| 2 | | | | | | | | | | | | X | | | | | | | | |
| 3 | | | | | | | | | | | | X | | | | | | | | |
| 4 | | | | | | | | | | | | X | | | | | | | | |
| 5 | | | | | | | | | | | | X | | | | | | | | |
| 6 | | | | | | | | | | | | X | | | | | | | | |

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| | 3/8/17 | 1620 | | 3/8/17 | 1620 |
| | 3/8/17 | 1810 | | 3/8/17 | 18:10 |

Remarks

Sample condition (circle): Chilled Intact

Hold until add for a D-DH2 received for 15% composite. Take sample from end of line.



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WORK ORDER NUMBER: 17-03- 0637

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 03 / 8 / 2017

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 2.0 °C (w/ CF): 2.0 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☑ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter

Checked by: 1091

**CUSTODY SEAL:**

| | | | | | |
|---|---|---|---|---|---|
| Cooler | ☑ Present and Intact | ☐ Present but Not Intact | ☐ Not Present | ☐ N/A | Checked by: 1091 |
| Sample(s) | ☐ Present and Intact | ☐ Present but Not Intact | ☑ Not Present | ☐ N/A | Checked by: 1110 |

| **SAMPLE CONDITION:** | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☐ | ☐ | ☑ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☑ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** (Trip Blank Lot Number: _____)

**Aqueous:** ☐ VOA ☐ VOAh ☐ VOA$na_2$ ☐ 100PJ ☐ 100PJ$na_2$ ☐ 125AGB ☐ 125AGBh ☐ 125AGBp ☐ 125PB

☐ 125PBznna ☐ 250AGB ☐ 250CGB ☐ 250CGBs ☐ 250PB ☐ 250PBn ☐ 500AGB ☐ 500AGJ ☐ 500AGJs

☐ 500PB ☐ 1AGB ☐ 1AGB$na_2$ ☐ 1AGBs ☐ 1PB ☐ 1PBna ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (P) ☐ EnCores® (____) ☐ TerraCores® (____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **$na_2$** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1110

Reviewed by: 681



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# EFI Global

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# Chain-of-Custody Record



| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DU2-S-01-3 | | | X | | X | | | X | | | | 3/9/17 | 8:55 |
| 2 | -8 | | | | | | | | | | | | | 9:05 |
| 3 | -15 | | | | | | | | | | | | | 9:30 |
| 4 | D-DU2-S-02-3 | | | | | | | | | | | | | 10:45 |
| 5 | -8 | | | | | | | | | | | | | 10:50 |
| 6 | -15 | | | | | | | | | | | | | 10:55 |
| 7 | D-DU2-S-03-3 | | | | | | | | | | | | | 10:05 |
| 8 | -8 | | | | | | | | | | | | | 10:10 |
| 9 | -15 | | | | | | | | | | | | | 10:15 |
| 10 | D-DU2-S-04-3 | | | | | | | | | | | | | 7:55 |
| 11 | -8 | | | | | | | | | | | | | 8:00 |
| 12 | -15 | | | | | | | | | | | | | 8:25 |
| 13 | D-DU2-S-SG-08-3S | | | | | | | | | | | | | 13:15 |
| 14 | -8S | | | | | | | | | | | | | 15:20 |
| 15 | -15S | | | | | | | | | | | | | 13:40 |
| 16 | -25S | | | | | | | | | | | | | 13:50 |
| 17 | D-DU2-S-SG-09-3S | | | | | | | | | | | | | 14:23 |
| 18 | -8S | | | | | | | | | | | | | 14:27 |
| 19 | -15S | | | | | | | | | | | | | 14:40 |
| 20 | -25S | | | | | | | | | | | | | 14:44 |

| Method | | | | | | | | | | | | | Container | | | | | Turnaround Time | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCPs, EPA Method 8081A | PAHs, EPA Method 8270C SIM | Metals, EPA Method 6010B/7471A | Lead, EPA Method 6010B | Arsenic, EPA Method 6010B | STLC Lead EPA Method | TCLP Lead EPA Method | PCBs, EPA Method 8082 | TPH full chain, EPA Method 8015M | TPHd, TPHmo, EPA Method 8015M | Composite | Hold | 4- or 8-ounce Glass | 250-ml Poly Bottle | EZ Draw (EPA 5035) | Acetate Liner | 1-l Amber Bottle | 24 hours | 48 hours | Normal |
| | | | | | | | | | | | X | | | | X | | | | X |
| | | | | | | | | | | | | | | | | | | | |
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| X | X | | | | | X | | X | | | | | | | | | | | X |
| X | X | | | | | X | | X | | | | | | | | | | | X |
| | | | | | | | | | | | | | | | | | | | |
| X | X | | | | | X | | X | | | | | | | | | | | X |
| X | X | | | | | X | | X | | | | | | | | | | | X |

3/10

| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| | 3/9/17 | | | 3/9/17 | |

Remarks

Sample condition (circle): Chilled Intact

Take sample from center of liner unless otherwise indicated.

Hold all samples until all for DU received, analysis on separate COC.

Analyze discretely where indicated.
Retain aliquot of D-DU2-S-SG-08-15S and D-DU2-S-SG-09-15S for ISM compositing as needed.

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EFI Global

EFI Global
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# Chain-of-Custody Record

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17-03-0755

| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DU2-S-01-3 | | | X | | X | | | X | | | | 3/9/17 | 8:55 |
| 2 | -8 | | | | | | | | | | | | | 9:05 |
| 3 | -15 | | | | | | | | | | | | | 9:30 |
| 4 | D-DU2-S-02-3 | | | | | | | | | | | | | 10:45 |
| 5 | -8 | | | | | | | | | | | | | 10:50 |
| 6 | -15 | | | | | | | | | | | | | 10:55 |
| 7 | D-DU2-S-03-3 | | | | | | | | | | | | | 10:05 |
| 8 | -8 | | | | | | | | | | | | | 10:10 |
| 9 | -15 | | | | | | | | | | | | | 10:15 |
| 10 | D-DU2-S-04-3 | | | | | | | | | | | | | 7:55 |
| 11 | -8 | | | | | | | | | | | | | 8:00 |
| 12 | -15 | | | | | | | | | | | | | 8:25 |
| 13 | D-DU2-S-SG-08-3S | | | | | | | | | | | | | 13:15 |
| 14 | -8S | | | | | | | | | | | | | 13:20 |
| 15 | -15S | | | | | | | | | | | | | 13:40 |
| 16 | -25S | | | | | | | | | | | | | 13:50 |
| 17 | D-DU2-S-SG-09-3S | | | | | | | | | | | | | 14:23 |
| 18 | -8S | | | | | | | | | | | | | 14:27 |
| 19 | -15S | | | | | | | | | | | | | 14:40 |
| 20 | -25S | | | | | | | | | | | | | 14:44 |

| Method | | | | | | | | | | | | | | Container | | | | | Turnaround Time | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCPs, EPA Method 8081A | PAHs, EPA Method 8270C SIM | Metals, EPA Method 6010B/7471A | Lead, EPA Method 6010B | Arsenic, EPA Method 6010B | STLC Lead EPA Method | TCLP Lead EPA Method | PCBs, EPA Method 8082 | TPH full chain, EPA Method 8015M | TPHd, TPHmo, EPA Method 8015M | Composite | Hold | 4- or 8-ounce Glass | 250-ml Poly Bottle | EZ Draw (EPA 5035) | Acetate Liner | 1-l Amber Bottle | 24 hours | 48 hours | Normal |
| | | | | | | | | | | | X | | | | X | | | | X |
| | | | | | | | | | | | | | | | | | | | |
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| Relinquished by | Date | Time | Received by | Date | Time |
|---|---|---|---|---|---|
| [signature] | 3/9/17 | 1530 | [signature] | 3/9/17 | 1530 |
| [signature] | 3/9/17 | 1720 | [signature] | 3/9/17 | 1720 |

Remarks

Sample condition (circle): Chilled Intact

Take sample from center of liner unless otherwise indicated.

Hold all samples until all for DU received, analysis on separate COC.



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eurofins | Calscience

WORK ORDER NUMBER: 17-03- 0755

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: Andersen

DATE: 03 / 9 / 2017

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 1.8 °C (w/ CF): 1.8 °C; ☑ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 1091

**CUSTODY SEAL:**

Cooler ☑ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: 1091

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☑ Not Present ☐ N/A Checked by: TJ

| **SAMPLE CONDITION:** | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☑ | ☐ | ☐ |
| COC document(s) received complete | ☑ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☑ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☑ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☑ | ☐ | ☐ |
| Proper containers for analyses requested | ☑ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☑ | ☐ | ☐ |
| Samples received within holding time | ☑ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☑ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☐ | ☐ | ☑ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☑ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☑ |

**CONTAINER TYPE:** (Trip Blank Lot Number: _____)

**Aqueous:** ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☐ 8ozCGJ ☐ 16ozCGJ ☑ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = $H_3PO_4$, Labeled/Checked by: TJ

**s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH Reviewed by: 1017

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# EFI Global

EFI Global
5261 West Imperial Highway, Los Angeles C. . 90045
Tel: (310) 854-6300 Fax: (310) 854-0199 www.AndersenEnviro.com

# Chain-of-Custody Record



| | | |
|---|---|---|
| Analytical Laboratory: | Calscience | Job # 9836002041 |
| Project Name: | Burbank Airport | NA |
| Project Address: | 2627 N. Hollywood Way, Burbank | |
| Project Manager: | B. Martasin | |
| Sampled by: | G. Baader | |
| Phone/Email: | 310-854-6300, brian_martasin@efiglobal.com | |
| Phone/Email: | Robert Cheung, 510-529-5948, RCheung@Geosyntec.com | |

17-03-0856

| Number | Sample ID | Lab ID | Type: Grab | Type: Discrete | Matrix: Water | Matrix: Soil | Matrix: Vapor | Matrix: Other | Preservative: Cold (4° C) | Preservative: HNO3 | Preservative: NaHSO4 | Preservative: HCl | Sampling Information: Date | Sampling Information: Time | Method: OCPs, EPA Method 8081A | Method: PAHs, EPA Method 8270C SIM | Method: Metals, EPA Method 6010B/7471A | Method: Lead, EPA Method 6010B | Method: Arsenic, EPA Method 6010B | Method: STLC Lead EPA Method | Method: TCLP Lead EPA Method | Method: PCBs, EPA Method 8082 | Method: TPH full chain, EPA Method 8015M | Method: TPHd, TPHmo, EPA Method 8015M | Method: Composite | Method: Hold | Container: 4- or 8-ounce Glass | Container: 250-ml Poly Bottle | Container: EZ Draw (EPA 5035) | Container: Acetate Liner | Container: 1-l Amber Bottle | Turnaround Time: 24 hours | Turnaround Time: 48 hours | Turnaround Time: Normal |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | D-DH2-5-SG-03-3S | | | X | | X | | | X | | | | 3/10/17 | 9:28 | | | | | | | | | | | | X | | | | X | | | | X |
| 2 | -8S | | | | | | | | | | | | | 9:30 | | | | | | | | | | | | | | | | | | | | |
| 3 | -15S | | | | | | | | | | | | | 9:35 | | | | | | | | | | | | | | | | | | | | |
| 4 | D-DH2-5-SG-04-3S | | | | | | | | | | | | | 8:46 | | | | | | | | | | | | | | | | | | | | |
| 5 | -8S | | | | | | | | | | | | | 8:48 | | | | | | | | | | | | | | | | | | | | |
| 6 | -15S | | | | | | | | | | | | | 9:00 | | | | | | | | | | | | | | | | | | | | |
| 7 | D-DH2-5-SG-10-3S | | | | | | | | | | | | | 7:55 | | | | | | | | | | | | | | | | | | | | |
| 8 | -8S | | | | | | | | | | | | | 8:00 | | | | | | | | | | | | | | | | | | | | |
| 9 | -15S | | | | | | | | | | | | | 8:05 | | X | X | | | | | X | X | | | | | | | | | | | X |
| 10 | -25S | | | | | | | | | | | | | 8:15 | | X | X | | | | | X | X | | | | | | | | | | | X |
| 11 | D-DH2-5-05-3 | | | | | | | | | | | | | 7:20 | | | | | | | | | | | | | | | | | | | | |
| 12 | -8 | | | | | | | | | | | | | 7:25 | | | | | | | | | | | | | | | | | | | | |
| 13 | -15 | | | | | | | | | | | | | 7:37 | | | | | | | | | | | | | | | | | | | | |
| 14 | D-DH2-5-08-1 | | X | | | | | | | | | | | 10:45 | X | | | | | | | | | | | | X | | | | | | | X |
| 15 | -3 | | X | | | | | | | | | | | 11:03 | | | | | | | | | | | | | X | | | | | | | |
| 16 | 6 | | | X | | | | | | | | | | 11:15 | | | | | | | | | | | | | X | | | X | | | | |
| 17 | 15 | | | X | | | | | | | | | | 11:20 | | | | | | | | | | | | | X | | | X | | | | |

| Relinquished by | Date | Time | Received by | Date | Time | Remarks |
|---|---|---|---|---|---|---|
| | 3/9/17 | 15.15 | EG | 3/10/17 | 15.15 | Sample condition (circle): Chilled Intact |
| | 3/10/17 | 1600 | | 3/10/17 | 1600 | Take sample from center of liner unless otherwise indicated. |
| | | | | | | Hold all samples until all for DU received, analysis on separate COC. |

Then analyzed composite of the 3' and 8' samples. Hold all 15' for additional analysis as needed. Hold aliquot of SG-10-15S

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WORK ORDER NUMBER: 17-03- 0856

# SAMPLE RECEIPT CHECKLIST

COOLER 1 OF 1

CLIENT: EFI

DATE: 03 / 10 / 2017

**TEMPERATURE:** (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Thermometer ID: SC3B (CF: 0.0°C); Temperature (w/o CF): 3.4 °C (w/ CF): 3.4 °C; ☒ Blank ☐ Sample

☐ Sample(s) outside temperature criteria (PM/APM contacted by: _____)

☐ Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling

☐ Sample(s) received at ambient temperature; placed on ice for transport by courier

Ambient Temperature: ☐ Air ☐ Filter Checked by: 804

**CUSTODY SEAL:**

Cooler ☒ Present and Intact ☐ Present but Not Intact ☐ Not Present ☐ N/A Checked by: 804

Sample(s) ☐ Present and Intact ☐ Present but Not Intact ☒ Not Present ☐ N/A Checked by: 1110

| **SAMPLE CONDITION:** | Yes | No | N/A |
|---|---|---|---|
| Chain-of-Custody (COC) document(s) received with samples | ☒ | ☐ | ☐ |
| COC document(s) received complete | ☒ | ☐ | ☐ |
| ☐ Sampling date ☐ Sampling time ☐ Matrix ☐ Number of containers | | | |
| ☐ No analysis requested ☐ Not relinquished ☐ No relinquished date ☐ No relinquished time | | | |
| Sampler's name indicated on COC | ☒ | ☐ | ☐ |
| Sample container label(s) consistent with COC | ☒ | ☐ | ☐ |
| Sample container(s) intact and in good condition | ☒ | ☐ | ☐ |
| Proper containers for analyses requested | ☒ | ☐ | ☐ |
| Sufficient volume/mass for analyses requested | ☒ | ☐ | ☐ |
| Samples received within holding time | ☒ | ☐ | ☐ |
| Aqueous samples for certain analyses received within 15-minute holding time | | | |
| ☐ pH ☐ Residual Chlorine ☐ Dissolved Sulfide ☐ Dissolved Oxygen | ☐ | ☐ | ☒ |
| Proper preservation chemical(s) noted on COC and/or sample container | ☐ | ☐ | ☒ |
| Unpreserved aqueous sample(s) received for certain analyses | | | |
| ☐ Volatile Organics ☐ Total Metals ☐ Dissolved Metals | | | |
| Container(s) for certain analysis free of headspace | ☐ | ☐ | ☒ |
| ☐ Volatile Organics ☐ Dissolved Gases (RSK-175) ☐ Dissolved Oxygen (SM 4500) | | | |
| ☐ Carbon Dioxide (SM 4500) ☐ Ferrous Iron (SM 3500) ☐ Hydrogen Sulfide (Hach) | | | |
| Tedlar™ bag(s) free of condensation | ☐ | ☐ | ☒ |

**CONTAINER TYPE:** (Trip Blank Lot Number: _____)

**Aqueous:** ☐ VOA ☐ VOA**h** ☐ VOA**na$_2$** ☐ 100PJ ☐ 100PJ**na$_2$** ☐ 125AGB ☐ 125AGB**h** ☐ 125AGB**p** ☐ 125PB

☐ 125PB**znna** ☐ 250AGB ☐ 250CGB ☐ 250CGB**s** ☐ 250PB ☐ 250PB**n** ☐ 500AGB ☐ 500AGJ ☐ 500AGJ**s**

☐ 500PB ☐ 1AGB ☐ 1AGB**na$_2$** ☐ 1AGB**s** ☐ 1PB ☐ 1PB**na** ☐ _____ ☐ _____ ☐ _____ ☐ _____

**Solid:** ☐ 4ozCGJ ☒ 8ozCGJ ☐ 16ozCGJ ☒ Sleeve (P) ☐ EnCores® (_____) ☐ TerraCores® (_____) ☐ _____

**Air:** ☐ Tedlar™ ☐ Canister ☐ Sorbent Tube ☐ PUF ☐ _____ **Other Matrix** (_____): ☐ _____ ☐ _____

Container: **A** = Amber, **B** = Bottle, **C** = Clear, **E** = Envelope, **G** = Glass, **J** = Jar, **P** = Plastic, and **Z** = Ziploc/Resealable Bag

Preservative: **b** = buffered, **f** = filtered, **h** = HCl, **n** = $HNO_3$, **na** = NaOH, **na$_2$** = $Na_2S_2O_3$, **p** = $H_3PO_4$, **s** = $H_2SO_4$, **u** = ultra-pure, **x** = $Na_2SO_3$+$NaHSO_4.H_2O$, **znna** = Zn $(CH_3CO_2)_2$ + NaOH

Labeled/Checked by: 1110

Reviewed by: 680

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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0889

## CONDITION UPON RECEIPT:

Eurofins Calscience, Inc. received (20) solid samples on March 2-3; 6; 8-10, 2017. A total of (20) containers were received in good condition and at temperatures of 1.8°C, 3.3°C, 3.7°C, 2.0°C and 3.4°C, which were within the recommended temperature of 0°C – 6°C.

| Client Sample ID | Lab Sample ID | Date & Time Sampled | Date & Time Received |
|---|---|---|---|
| D-DU2-S-SG-01-8S | 17-03-0889-1 | 03/02/17 07:20 | 03/10/17 18:00 |
| D-DU2-S-SG-05-8S | 17-03-0889-2 | 03/03/17 15:08 | 03/10/17 18:00 |
| D-DU2-S-SG-06-8S | 17-03-0889-3 | 03/06/17 08:27 | 03/10/17 18:00 |
| D-DU2-S-SG-07-8S | 17-03-0889-4 | 03/06/17 07:33 | 03/10/17 18:00 |
| D-DU2-S-07-8 | 17-03-0889-5 | 03/06/17 09:35 | 03/10/17 18:00 |
| D-DU2-S-10-8 | 17-03-0889-6 | 03/06/17 10:06 | 03/10/17 18:00 |
| D-DU2-S-09-8 | 17-03-0889-7 | 03/06/17 14:08 | 03/10/17 18:00 |
| D-DU2-S-06-8 | 17-03-0889-8 | 03/08/17 14:55 | 03/10/17 18:00 |
| D-DU2-S-SG-02-8S | 17-03-0889-9 | 03/08/17 15:15 | 03/10/17 18:00 |
| D-DU2-S-01-8 | 17-03-0889-10 | 03/09/17 09:05 | 03/10/17 18:00 |
| D-DU2-S-02-8 | 17-03-0889-11 | 03/09/17 10:50 | 03/10/17 18:00 |
| D-DU2-S-03-8 | 17-03-0889-12 | 03/09/17 10:10 | 03/10/17 18:00 |
| D-DU2-S-04-8 | 17-03-0889-13 | 03/09/17 08:00 | 03/10/17 18:00 |
| D-DU2-S-SG-08-8S | 17-03-0889-14 | 03/09/17 13:20 | 03/10/17 18:00 |
| D-DU2-S-SG-09-8S | 17-03-0889-15 | 03/09/17 14:27 | 03/10/17 18:00 |
| D-DU2-S-SG-03-8S | 17-03-0889-16 | 03/10/17 09:30 | 03/10/17 18:00 |
| D-DU2-S-SG-04-8S | 17-03-0889-17 | 03/10/17 08:48 | 03/10/17 18:00 |
| D-DU2-S-SG-10-8S | 17-03-0889-18 | 03/10/17 08:00 | 03/10/17 18:00 |
| D-DU2-S-05-8 | 17-03-0889-19 | 03/10/17 07:25 | 03/10/17 18:00 |
| D-DU2-S-08-8 | 17-03-0889-20 | 03/10/17 11:15 | 03/10/17 18:00 |
| COMPOSITE | 17-03-0889-21 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM1-8 | 17-03-0889-22 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM2-8 | 17-03-0889-23 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM3-8 | 17-03-0889-24 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM1-8 | 17-03-0889-25 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM2-8 | 17-03-0889-26 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM3-8 | 17-03-0889-27 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM1-8 | 17-03-0889-28 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM2-8 | 17-03-0889-29 | 03/02/17 00:00 | 03/10/17 18:00 |
| D-DU2-ISM3-8 | 17-03-0889-30 | 03/02/17 00:00 | 03/10/17 18:00 |

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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0889

## DATA SUMMARY:

As per the chain of custody (COC), the samples were analyzed using one or more of the following methodologies:

- ASTM D-2216 (M) Moisture Content (Solid)
- EPA 6010B Title 22 Metals (Solid)
- EPA 7471A Mercury (Solid)
- EPA 8015B (M) Diesel and Motor Oil Ranges (Solid)
- EPA 8082 PCB Aroclors (Solid)
- EPA 8270C SIM PAHs (Solid)

The samples were analyzed within the suggested EPA holding time for the requested methods unless otherwise noted.

Sample results were reported in the RL format.

The sample data is reported in dry weight. The instrument printouts do not reflect the correction for dry weight.

Any dilutions made to the sample(s) and/or QC will be noted in the following narrative. Reporting limits have been adjusted accordingly.

Manual integrations made to the data will be noted in the following narrative. The before and amended chromatograms have been included in the data package.

All sample and analytical QC are within acceptance criteria unless otherwise noted.

## ASTM D-2216 (M) Moisture Content (Solid):

Samples -25 through -27 were analyzed for % Moisture by ASTM D-2216 (M). The samples were prepared and analyzed on 03/14/17 in batch #s H0314MOIB2 / H0314MOID2.

Samples were analyzed after recommended holding time.

Balance Calibration/Verification:

All values were within acceptance criteria.

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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0889

Sample and QC:

A sample from another work order was used as the sample duplicate for quality control. The method blank was non-detect and the duplicate analysis was within acceptance criteria.

**EPA 6010B Title 22 Metals (Solid):**

Samples -28 through -30 were analyzed for Metals by EPA 6010B. The samples were prepared and analyzed on 03/24/17 in batch #s 170324L01 / 170324S01 on ICP 7300.

Initial Calibration, Initial Calibration Verification, and Initial Calibration Blank:

All values were within acceptance criteria.

Continuing Calibration Verification and Continuing Calibration Blank:

All values were within acceptance criteria.

ICS A/AB:

All values were within acceptance criteria.

Sample and QC:

The method blank was non-detect and the LCS was within acceptance criteria.

A non-client sample was used for the MS/MSD; refer to the MS/MSD summary form for further information.

**EPA 7471A Mercury (Solid):**

Samples -25 through -27 were analyzed for Mercury by EPA 7471A. The samples were prepared and analyzed on 03/17/17 in batch #s 170317L03 / 170317S03 on Mercury 08.

Initial Calibration, Initial Calibration Verification, and Initial Calibration Blank:

All values were within acceptance criteria.

Continuing Calibration Verification and Continuing Calibration Blank:

All values were within acceptance criteria.

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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0889

Sample and QC:

The method blank was non-detect and the LCS was within acceptance criteria.

A non-client sample was used for the MS/MSD; refer to the MS/MSD summary form for further information.

**EPA 8015B (M) Diesel and Motor Oil Ranges (Solid):**

Samples -25 through -27 were analyzed for Diesel and Motor Oil Ranges by EPA 8015B (M). The samples were prepared on 03/15/17 and analyzed on 03/16/17 in batch #s 170315B06A / 170315S06 on GC 47.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 03/13/17 on GC 47. The ICAL was within the 20% RSD acceptance criteria and the ICV was within the 30% D acceptance criteria.

For the Diesel and Motor Oil Ranges, Diesel is used for the initial calibration and spiking standards. The surrogate recoveries for the samples and QC were calculated from the 5-point surrogate curve analyzed with the Diesel ICAL.

Continuing Calibration Verification:

All values were within the 20% D acceptance criteria.

Sample and QC:

The method blank was non-detect; the LCS and all surrogate recoveries were within acceptance criteria.

A non-client sample was used for the MS/MSD; refer to the MS/MSD summary form for further information.

Manual integration was performed on (1) or more samples, MS/MSD and MS/MSD parent sample to correct the peak and/or baseline integration.

**EPA 8082 PCB Aroclors (Solid):**

Samples -28 through -30 were analyzed for Polychlorinated Biphenyls Aroclors by EPA 8082. The samples were prepared on 03/17/17 and analyzed on 03/18/17 in batch #s 170317L031 / 170317S031 on GC 66.



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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0889

Samples were extracted after recommended holding time.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 02/22/17 on GC 66. The ICAL was within the 20% RSD acceptance criteria and the ICV was within the 15% D acceptance criteria for Aroclors 1016 and 1260. Single point response factors were generated for all other Aroclors.

Continuing Calibration Verification:

All values were within the 15% D acceptance criteria.

Sample and QC:

Sample -28 was used for the MS/MSD. The method blank was non-detect; the LCS, MS/MSD and all surrogate recoveries were within acceptance criteria.

**EPA 8270C SIM PAHs (Solid):**

Samples -25 through -27 were analyzed for Polynuclear Aromatic Hydrocarbons by EPA 8270C SIM. The samples were prepared on 03/15/17 and analyzed on 03/16/17 in batch #s 170315L03 / 170315S03 on GC/MS EEE.

Initial Calibration and Initial Calibration Verification:

The initial calibration was performed on 03/13/17 on GC/MS EEE. The ICAL was within the 15% RSD acceptance criteria and the ICV was within the 20% D acceptance criteria.

Continuing Calibration Verification:

All values were within the 20% D acceptance criteria.

Tuning Standards:

All instrument tuning standards (DFTPP) were within acceptance criteria.

Sample and QC:

A sample from another work order was used for the MS/MSD. The method blank was non-detect; the LCS, MS/MSD, all surrogate and internal standard recoveries were within acceptance criteria except for the MS/MSD % recoveries and /or RPDs for Benzo (a) Pyrene, Benzo (b) Fluoranthene, Benzo (g,h,i) Perylene and Indeno (1,2,3-c,d) Pyrene, which were above the control limits.



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# ASTM D-2216 (M)
# Moisture Content
# (Solid)

# RAW DATA

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# RAW DATA SHEET
# FOR METHOD: ASTM D-2216 (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 1,009 |
| INSTRUMENT: | N/A | D/T ANALYZED: | 2017-03-14 17:00 |
| EXTRACTION : | N/A | REVIEWED BY: | 1,009 |
| D/T EXTRACTED: | 2017-03-14 00:00 | D/T REVIEWED: | 2017-03-15 15:14 |

DATA FILE: NONE

**# 25** **CLIENT SAMPLE NUMBER: D-DU2-ISM1-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | H0314MOIB2 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 1.00 g |
| MS/MSD BATCH: | H0314MOID2 | FINAL VOLUME / WEIGHT: | DEFAULT: 1.00 ml |
| UNITS: | % | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Moisture | 4.50 | 1.00 | 4.50 | 0.10 | c |

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# RAW DATA SHEET
# FOR METHOD: ASTM D-2216 (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 1,009 |
| INSTRUMENT: | N/A | D/T ANALYZED: | 2017-03-14 17:00 |
| EXTRACTION : | N/A | REVIEWED BY: | 1,009 |
| D/T EXTRACTED: | 2017-03-14 00:00 | D/T REVIEWED: | 2017-03-15 15:14 |
| DATA FILE: | NONE | | |

**# 26** **CLIENT SAMPLE NUMBER: D-DU2-ISM2-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | H0314MOIB2 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 1.00 g |
| MS/MSD BATCH: | H0314MOID2 | FINAL VOLUME / WEIGHT: | DEFAULT: 1.00 ml |
| UNITS: | % | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Moisture | 4.30 | 1.00 | 4.30 | 0.10 | c |

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# RAW DATA SHEET
# FOR METHOD: ASTM D-2216 (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 1,009 |
| INSTRUMENT: | N/A | D/T ANALYZED: | 2017-03-14 17:00 |
| EXTRACTION : | N/A | REVIEWED BY: | 1,009 |
| D/T EXTRACTED: | 2017-03-14 00:00 | D/T REVIEWED: | 2017-03-15 15:14 |

DATA FILE: NONE

**# 27** **CLIENT SAMPLE NUMBER: D-DU2-ISM3-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | H0314MOIB2 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 1.00 g |
| MS/MSD BATCH: | H0314MOID2 | FINAL VOLUME / WEIGHT: | DEFAULT: 1.00 ml |
| UNITS: | % | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Moisture | 4.30 | 1.00 | 4.30 | 0.10 | c |

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: ASTM D-2216 (M)

| | | | |
|---|---|---|---|
| **MB SAMPLE ID:** | **099-05-014-6739** | ANALYZED BY: | 1,009 |
| MB BATCH ID: | H0314MOIB2 | D/T ANALYZED: | 2017-03-14 17:00 |
| INSTRUMENT: | N/A | REVIEWED BY: | 1,009 |
| EXTRACTION: | N/A | D/T REVIEWED: | 2017-03-15 15:14 |
| D/T EXTRACTED: | 2017-03-14 00:00 | MATRIX: | Soil |

DATA FILE: NONE

**CLIENT WORK ORDER: 17-03-0889**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 25 | | D-DU2-ISM1-8 | 2017-03-14 17:00 | NONE |
| 26 | | D-DU2-ISM2-8 | 2017-03-14 17:00 | NONE |
| 27 | | D-DU2-ISM3-8 | 2017-03-14 17:00 | NONE |

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# RAW DATA SHEET
# FOR METHOD: ASTM D-2216 (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **099-05-014** | ANALYZED BY: | 1,009 |
| INSTRUMENT: | N/A | D/T ANALYZED: | 2017-03-14 17:00 |
| EXTRACTION : | N/A | REVIEWED BY: | 1,009 |
| D/T EXTRACTED: | 2017-03-14 00:00 | D/T REVIEWED: | 2017-03-15 15:14 |

DATA FILE: NONE

**# MB** **CLIENT SAMPLE NUMBER: Method Blank**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | H0314MOIB2 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 1.00 g |
| MS/MSD BATCH: | | FINAL VOLUME / WEIGHT: | DEFAULT: 1.00 ml |
| UNITS: | % | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Moisture | 0.000 | 1.00 | ND | 0.10 | |

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# DUPLICATE REPORT
# FOR METHOD: ASTM D-2216 (M)

**DUP SAMPLE ID: 17-03-0888-25**
DUP BATCH : H0314MOID2
INSTRUMENTS:
SAMPLE: N/A
DUP SAMPLE: N/A

EXTRACTION : N/A
D/T EXTRACTED :
SAMPLE: 2017-03-14 00:00
DUP SAMPLE: 2017-03-14 00:00

ANALYZED BY: 1,050
D/T ANALYZED
SAMPLE: 2017-03-14 17:00
DUP SAMPLE: 2017-03-14 17:00
REVIEWED BY: 1,050
D/T REVIEWED 2017-04-17 10:09

| COMPOUND | SAMPLE CONC | DUP CONC | % RPD | CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| Moisture | 5.600 | 5.900 | 5 | 0-10 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| SDP | | |



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# Moisture Content Raw Data Logbook

| METHOD | MATRIX | DATE 1050 3/14/17 | ANALYST(S) | BATCH NUMBER |
|---|---|---|---|---|
| ASTM D2216(M) | ☑ Solid ☐ Sediment ☐ Other | Preparation: 3/14/17 | 1050/1009 | MB: H0314 MOIB2 |
| | | Analysis: 3/14/17 | ↳ | Sample Duplicate: ↳ D2 |

| CEL ID # | MASS (g) DISH | DRY DISH | MOISTURE | % MOISTURE | RL (%) | COMMENTS | ALUMINUM DISH SUPPLY ID |
|---|---|---|---|---|---|---|---|
| MB | 1.91 | 1.91 | 0.00 | 0.00 | 0.10 | | G007-66-15 |

| CEL ID # | % MOISTURE | RPD | CONTROL LIMIT | OVEN ID | THERMOMETER ID / CF (°C) | OVEN TEMP (°C) | BATCH PREP TIME (hh:mm) |
|---|---|---|---|---|---|---|---|
| Sample 17-03-0888-25A | 5.6 | 5 | 0 – 10 | ☑ IO 07 | ☑ TSS IO7A CF: -2 | Start: 103 | Start: 0900 |
| Duplicate ↳ | 5.9 | | | ☐ IO 08 | ☐ TSS IO8A CF: | End: 103 | End: 1700 |
| Instructions: CEL ID consists of Work Order Number and Container ID | | | | ☐ | ☐ CF: | | |

| CEL ID # | MASS (g) DISH | DISH + SAMPLE (as-received) | SAMPLE (as-received) | DISH + SAMPLE (oven-dried) | MOISTURE | % MOISTURE WET-BASED | % MOISTURE DRY-BASED | BALANCE ID # | RL (%) | QUAL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Duplicate 17-03-0888-25A | 1.86 | 12.44 | 10.58 | 11.82 | 0.62 | 5.9 | | 63 | 0.10 | | |
| 17-03-0888-25A | 1.91 | 12.44 | 10.53 | 11.85 | 0.59 | 5.6 | | ↓ | ↓ | | |
| -26A | 1.86 | 12.30 | 10.44 | 11.69 | 0.61 | 5.8 | | | | | |
| ↓ -27A | 1.85 | 12.39 | 10.54 | 11.81 | 0.58 | 5.5 | | | | | |
| 17-03-0889-25A | 1.85 | 12.63 | 10.78 | 12.14 | 0.49 | 4.5 | | | | | |
| -26A | 1.88 | 12.15 | 10.27 | 11.71 | 0.44 | 4.3 | | | | | |
| ↓ -27A | 1.88 | 12.67 | 10.79 | 12.21 | 0.46 | 4.3 | | | | | |
| 17-03-0890-25A | 1.89 | 12.15 | 10.26 | 11.68 | 0.47 | 4.6 | | | | | |
| -26A | 1.88 | 12.18 | 10.30 | 11.70 | 0.48 | 4.7 | | | | | |
| ↓ -27A | 1.85 | 12.86 | 11.01 | 12.34 | 0.52 | 4.7 | | ↓ | ↓ | | |

BATCH TIME
Time (24 Hr): 1700
Initials: 1050/1009

# Drying / Weighing Cycle Raw Data Logbook

**Analyte:** ☑ Moisture Content, ☐ Solids Content, ☐ Total Dissolved Solids (TDS), ☐ Total Suspended Solids (TSS), ☐ Volatile Solids (VS), ☐ Volatile Suspended Solids (VSS), ☐ Lipid Content, ☐ Mobility Extraction (TCLP/SPLP/STLC), ☐ Other (Specified) _____

| METHOD | | | | MASS CHANGE CONTROL LIMIT | COMMENTS |
|---|---|---|---|---|---|
| ☑ ASTM D2216(M) | ☐ EPA 160.4 | ☐ SM 2540 C | ☐ WET (STLC) | Moisture/Solids Content: < 0.1% of previous mass | BATCH TIME Time (24 Hr): 1700 Initials: 1050/11009 |
| ☐ EPA 160.1 | ☐ EPA 1311 | ☐ SM 2540 D | ☐ Other | TDS/TSS/VS/VSS: < 4% of previous mass or 0.5 mg, whichever is less | |
| ☐ EPA 160.2 | ☐ EPA 1312 | ☐ SM 2540 E | | TCLP/SPLP/STLC: within ± 1% of previous mass | |
| ☐ EPA 160.3 | ☐ SM 2540 B | ☐ SOP-M489 | | | |

| MATRIX | DATE | ANALYST(S) | BATCH NUMBER | | COMMENTS |
|---|---|---|---|---|---|
| Solid | Preparation: 03/14/17 | 1050/11009 | MB: H0314 MoI B2 | LCS/LCSD: NA | |
| | Analysis: ↳ | ↳ | Sample Duplicate: ↳ D2 | Sample Duplicate or MS/MSD: NA | |

| ECI ID # | OVEN ID # | CONTAINER + RESIDUE (OVEN-DRIED) CYCLE 1 MASS (g) | CYCLE 1 TIME (hh:mm) IN | CYCLE 1 TIME (hh:mm) OUT | CYCLE 2 MASS (g) | CYCLE 2 TIME (hh:mm) IN | CYCLE 2 TIME (hh:mm) OUT | CYCLE 3 MASS (g) | CYCLE 3 TIME (hh:mm) IN | CYCLE 3 TIME (hh:mm) OUT | FINAL MASS CHANGE WITHIN LIMITS | BALANCE ID # | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB | 10-07 | 1.91 | 1000 | 1400 | 1.91 | 1500 | 1600 | | | | (Y) N | 63 | |
| LCS | | | | | | | | | | | Y N | | |
| LCSD | | | | | | | | | | | Y N | | |
| MS | | | | | | | | | | | Y N | | |
| MSD/Duplicate | | | | | | | | | | | Y N | | |
| Duplicate 17-03-0888-25A | 10-07 | 11.82 | 1000 | 1400 | 11.82 | 1500 | 1600 | | | | (Y) N | 63 | |
| 17-03-0888-25A | ↓ | 11.85 | ↓ | ↓ | 11.85 | ↓ | ↓ | | | | (Y) N | ↓ | |
| 26A | | 11.69 | | | 11.69 | | | | | | (Y) N | | |
| 27A | | 11.81 | | | 11.81 | | | | | | (Y) N | | |
| 17-03-0889-25A | | 12.14 | | | 12.14 | | | | | | (Y) N | | |
| 26A | | 11.71 | | | 11.71 | | | | | | (Y) N | | |
| 27A | | 12.21 | | | 12.21 | | | | | | (Y) N | | |
| 17-03-0890-25A | | 11.68 | | | 11.68 | | | | | | (Y) N | | |
| 26A | | 11.70 | | | 11.70 | | | | | | (Y) N | | |
| 27A | ↓ | 12.34 | ↓ | ↓ | 12.34 | ↓ | ↓ | | | | (Y) N | ↓ | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |

# BALANCE CALIBRATION CHECK LOG

**Eurofins Calscience**

Date performed: 3/14/17 Initials: IIII

| ID | Class 2 Weight (g) | Reading (g) | Acceptance Range | Pass? (circle one) | Comment (If not passed, note removal or corrective action) |
|---|---|---|---|---|---|
| 25 | 1 | 1.00 | 0.98 - 1.02 | Y N | IO Lab |
| | 100 | 100.02 | 98.00 - 102.00 | Y N | |
| | 500 | 500.12 | 498.00 - 502.00 | Y N | |
| 62 | 0.002 | .0020 | 0.00180 - 0.00220 | Y N | IO Lab |
| | 1 | .9995 | 0.99900 - 1.00100 | Y N | |
| | 100 | 99.9964 | 99.90000 - 100.10000 | Y N | |
| 26 | 1 | 1.00 | 0.98 - 1.02 | Y N | IO Lab |
| | 100 | 99.99 | 98.00 - 102.00 | Y N | |
| 55 | 1 | .99 | 0.98 - 1.02 | Y N | IO Lab |
| | 100 | 99.98 | 98.00 - 102.00 | Y N | |
| | 500 | 499.92 | 498.00 - 502.00 | Y N | |
| 11 | 1 | 1.01 | 0.98 - 1.02 | Y N | IO Lab |
| | 100 | 100.01 | 98.00 - 102.00 | Y N | |
| 66 | 0.002 | .0020 | 0.00180 - 0.00220 | Y N | Metals |
| | 1 | .9995 | 0.99900 - 1.00100 | Y N | |
| | 100 | 100.0005 | 99.90000 - 100.10000 | Y N | |
| 53 | 0.1 | .10 | 0.09 - 0.11 | Y N | Extractions |
| | 1 | 1.00 | 0.98 - 1.02 | Y N | |
| | 100 | 100.00 | 98.00 - 102.00 | Y N | |
| | 500 | 500.02 | 498 - 502 | Y N | |
| ~~20~~ 76 | 1 | .98 | 0.98 - 1.02 | Y N | Extractions |
| | 100 | 99.82 | 98.00 - 102.00 | Y N | |
| | 500 | 499.16 | 498.00 - 502.00 | Y N | |
| 57 | 100 | 100.00 | 98.0-102.0 | Y N | Extractions |
| | 1000 | 1000.0 | 998.0-1002.0 | Y N | |
| | 2000 | 2000.1 | 1998.0-2002.0 | Y N | |
| 52 | 0.002 | .0020 | 0.0018 - 0.0022 | Y N | Extractions |
| | 1 | .9995 | 0.9990 - 1.0010 | Y N | |
| | 100 | 99.9965 | 99.9000 - 100.1000 | Y N | |
| 71 | 0.002 | .0019 | 0.0018 - 0.0022 | Y N | BOD Room |
| | 1 | .9995 | 0.9990 - 1.0010 | Y N | |
| | 100 | 99.9971 | 99.9000 - 100.1000 | Y N | |
| 63 | 0.1 | .10 | 0.09 - 0.11 | Y N | BOD Room |
| | 100 | 99.99 | 98.00 - 102.00 | Y N | |
| 64 | 1 | 1.00 | 0.98 - 1.02 | Y N | Metals Clean Room |
| | 10 | 10.00 | 9.8 - 10.2 | Y N | |
| | 100 | 100.00 | 98.00 - 102.00 | Y N | |
| 72 | 0.002 | .0019 | 0.0018 - 0.0022 | Y N | Oil & Grease Room |
| | 1 | 9997 | 0.9990 - 1.0010 | Y N | |
| | 100 | 100.0016 | 99.9000 - 100.1000 | Y N | |
| 30 | 1 | 1.00 | 0.98 - 1.02 | Y N | Oil & Grease Room |
| | 100 | 100.00 | 98.00 - 102.00 | Y N | |

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# EPA 8015B (M)

# Diesel + Motor Oil

# RAW DATA

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# EPA 8015B (M)

# Diesel + Motor Oil

# INITIAL CALIBRATION

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# INITIAL CALIBRATION QUALITY CONTROL SUMMARY
# FOR METHOD: EPA 8015B (M)

ICAL WORK ORDER: 099-14-354-36-5901
ICAL BATCH ID: 170313I008
INSTRUMENT: GC 47

ANALYZED BY: 1,027
ICAL D/T ANALYZED: 2017-03-13 13:22
REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 14:43

| COMPOUND | COMP. TYPE | CALIB. MODEL | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg. RF | Min. RF | %RSD | %RSD CL | R or R^2 | R or R^2 CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | C | Avg RF | 957.840 | 867.749 | 857.547 | 844.399 | 867.606 | | | | | 879.028 | 0.00 | 5 | 0-20 | | | PASS |

**Data Files:**

| Level # | D/T Analyzed | Data File |
|---|---|---|
| 1 | 2017-03-13 13:22 | T:\GC_47\GC_47_data\2017\170313\17031305.d\Report.txt17031305 |
| 2 | 2017-03-13 13:43 | T:\GC_47\GC_47_data\2017\170313\17031306.d\Report.txt17031306 |
| 3 | 2017-03-13 14:04 | T:\GC_47\GC_47_data\2017\170313\17031307.d\Report.txt17031307 |
| 4 | 2017-03-13 14:25 | T:\GC_47\GC_47_data\2017\170313\17031308.d\Report.txt17031308 |
| 5 | 2017-03-13 14:45 | T:\GC_47\GC_47_data\2017\170313\17031309.d\Report.txt17031309 |

LR - E: Linear Regression (Equal Weight)
Avg RF: Average Response Factor
LR - IC: Linear Regression (Inverse Concentration Weight)
QR - E: Quadratic Regression (Equal Weight)
LR - ISC: Linear Regression (Inverse Square Concentration Weight)

# INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8015B (M)

**ICV WORK ORDER:** **099-14-354-36-5901**
INITIAL BATCH: 170313I008
INSTRUMENT: GC 47

ANALYZED BY: 1027
D/T ANALYZED:
INITIAL: 2017-03-13 13:22
ICV: 2017-03-13 15:06
REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 14:43

DATA FILE: T:\GC_47\GC_47_data\2017\170313\17031310.d\Report.txt17031310

| COMPOUND NAME | COMP TYPE | CALIB MODEL | MIN RF | AVG RF | ICV RF | AMOUNT | ICV CONC | ICV %D | ICV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | C | Avg Resp | 0.00 | 879.028 | 847.702 | | | 4 | 0-30 | PASS |

MIN RF: Method Specified Minimum Response Factor

Report Date : 14-Mar-2017 11:19 Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 14:39
End Cal Date : 13-MAR-2017 17:12
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Cal Date : 13-Mar-2017 18:42 d2ef
Curve Type : Average

Calibration File Names:
Level 1: /chem1/SVOA/GC_47.i/170228.b/17022829.d
Level 2: /chem1/SVOA/GC_47.i/170228.b/17022830.d
Level 3: /chem1/SVOA/GC_47.i/170228.b/17022831.d
Level 4: /chem1/SVOA/GC_47.i/170228.b/17022832.d
Level 5: /chem1/SVOA/GC_47.i/170228.b/17022833.d

| Compound | 5.000 Level 1 | 200.000 Level 2 | 400.000 Level 3 | 800.000 Level 4 | 1600.000 Level 5 | RRF | % RSD |
|---|---|---|---|---|---|---|---|
| S 5 TPH as JP5 rf | 1136528 | 959265 | 851171 | 828283 | 975207 | 950091 | 13 |
| S 8 TPH Gas/Diesel rf | 591780 | 649189 | 665035 | 645455 | 610996 | 632491 | 5 |
| S 15 TPH as Diesel rf | 957840 | 867749 | 857547 | 844399 | 867606 | 879028 | 5 |

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 14:39
End Cal Date : 13-MAR-2017 17:12
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Cal Date : 13-Mar-2017 18:42 d2ef
Curve Type : Average

| Compound | 5.000 Level 1 | 200.000 Level 2 | 400.000 Level 3 | 800.000 Level 4 | 1600.000 Level 5 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|
| S 27 Diesel Range Organics rf | 851761 | 797322 | 788534 | 776714 | 810300 | 804926 | 4 |
| S 276 Diesel Range Organics BP | 851761 | 797322 | 788534 | 776714 | 810300 | 804926 | 4 |
| S 32 Oil Range Organics rf | 553687 | 622085 | 601778 | 595073 | 613163 | 597157 | 4 |
| S 36 TPH as Motor Oil rf | 560814 | 623995 | 603333 | 596587 | 614719 | 599890 | 4 |

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 06-DEC-2016 14:39
End Cal Date : 13-MAR-2017 17:12
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Cal Date : 13-Mar-2017 18:42 d2ef
Curve Type : Average

| Compound | 5.000 Level 1 | 200.000 Level 2 | 400.000 Level 3 | 800.000 Level 4 | 1600.000 Level 5 | RRF | % RSD |
|---|---|---|---|---|---|---|---|
| $ 93 n-Octacosane | 965963 | 835334 | 810491 | 808377 | 836944 | 851422 | 8 |

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031310.d
Report Date: 03/14/2017 11:15

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: ICV D400 C28 50 L102516G
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170313.b/8015d.m

Injection Date and Time: 13-MAR-2017 15:06
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D/Drift | Curve Type |
|---|---|---|---|---|---|---|
| TPH as Diesel | 879028.259 | 847702.295 | 0.00 | 4 | 15 | Averaged |
| Diesel Range Organics | 804926.336 | 805423.718 | 0.00 | 0 | 15 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D/Drift | Curve Type |
|---|---|---|---|---|---|---|
| n-Octacosane | 851421.884 | 831883.120 | 0.00 | 2 | 20 | Averaged |



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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031305.d
Lab Smp Id:
Inj Date : 13-MAR-2017 13:22
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D5 C28 0.625 L102516B
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 02:19 Cal File: 17022829.d
Als bottle: 5 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppm) | ( ppm) |
| $ 93 n-Octacosane | 7.850 | 7.850 | 0.000 | 603727 | 0.62500 | 0.709 |
| S 15 TPH as Diesel | 0.803-8.046 | | | 4789201 | 5.00000 | 5.448 |
| S 27 Diesel Range Organics | 2.406-8.046 | | | 4258807 | 5.00000 | 5.290 |
| S 276 Diesel Range Organics (C10-C28 | 2.406-8.046 | | | 4258807 | 5.00000 | 5.290 |

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031305.d

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Date : 13-MAR-2017 13:22

Client ID:

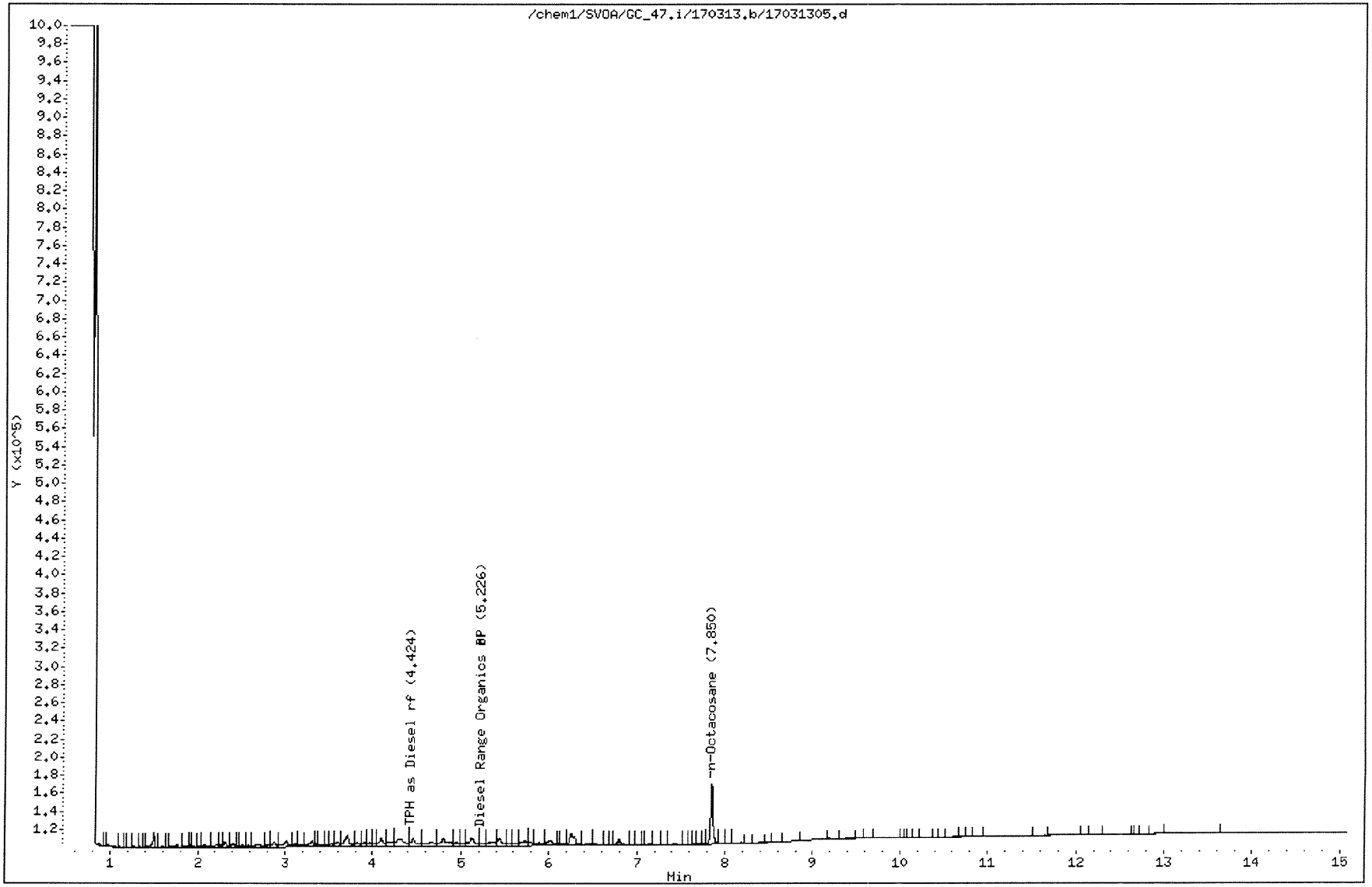
Instrument: GC_47.i

Sample Info: ICAL D5 C28 0.625 L102516B

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031306.d Page 1
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031306.d
Lab Smp Id:
Inj Date : 13-MAR-2017 13:43
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D200 C28 25 L102516C
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 02:40 Cal File: 17022830.d
Als bottle: 6 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( ppm) |
|---|---|---|---|---|---|---|
| $ 93 n-Octacosane | 7.853 | 7.853 | 0.000 | 20883355 | 25.0000 | 24.527 |
| S 15 TPH as Diesel | 0.803-8.046 | | | 173549727 | 200.000 | 197.433 |
| S 27 Diesel Range Organics | 2.406-8.046 | | | 159464469 | 200.000 | 198.110 |
| S 276 Diesel Range Organics (C10-C28 | 2.406-8.046 | | | 159464469 | 200.000 | 198.110 |

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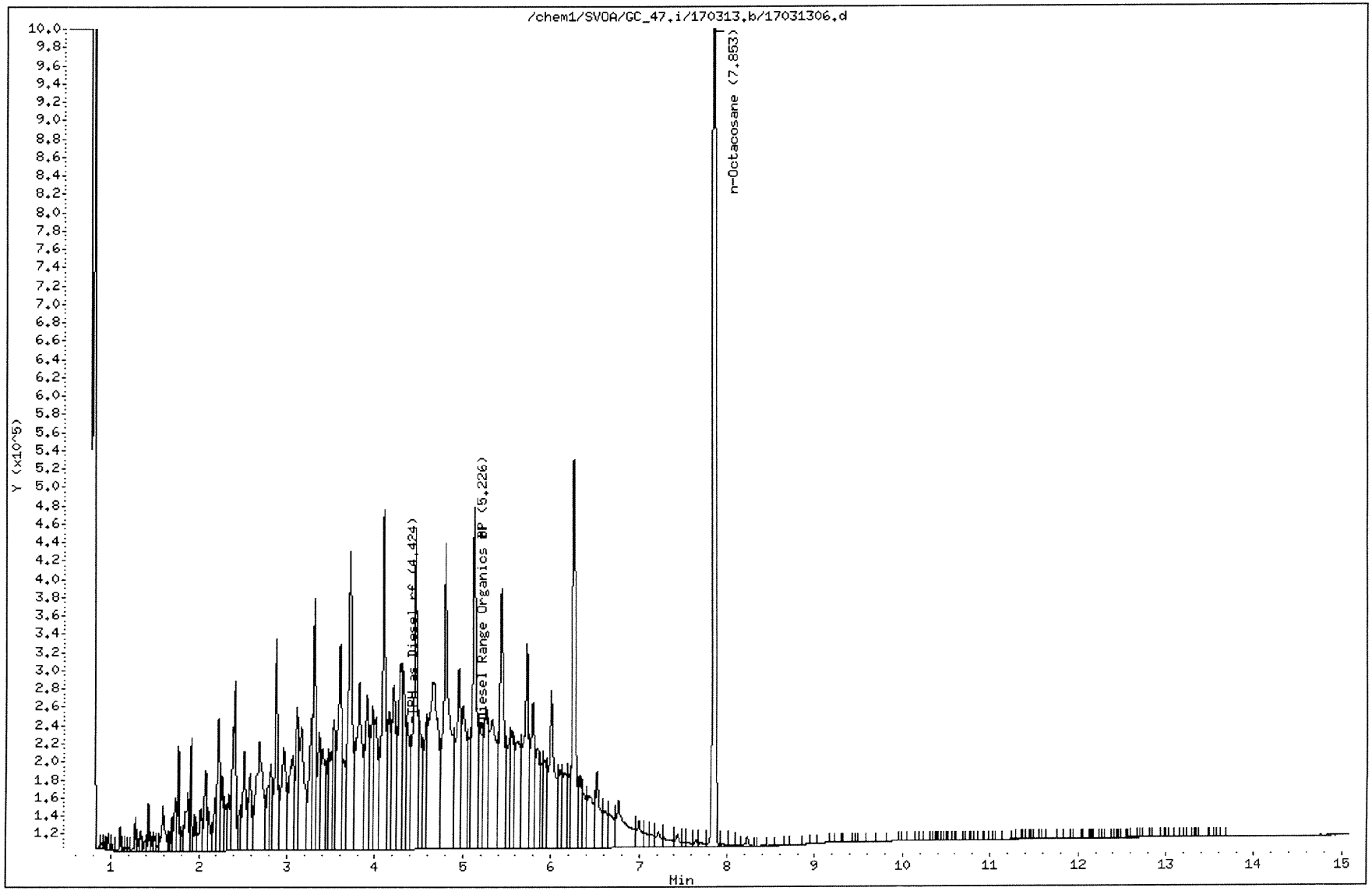
Data File: /chem1/SVOA/GC_47.i/170313.b/17031306.d
Date : 13-MAR-2017 13:43
Client ID:
Sample Info: ICAL D200 C28 25 L102516C

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031307.d
Lab Smp Id:
Inj Date : 13-MAR-2017 14:04
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:02 Cal File: 17022831.d
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppm) | ( ppm) |
| $ 93 n-Octacosane | 7.856 | 7.856 | 0.000 | 40524559 | 50.0000 | 47.596 |
| S 15 TPH as Diesel | 0.803-8.046 | | | 343018706 | 400.000 | 390.224 |
| S 27 Diesel Range Organics | 2.406-8.046 | | | 315413593 | 400.000 | 391.853 |
| S 276 Diesel Range Organics (C10-C28 | 2.406-8.046 | | | 315413593 | 400.000 | 391.853 |

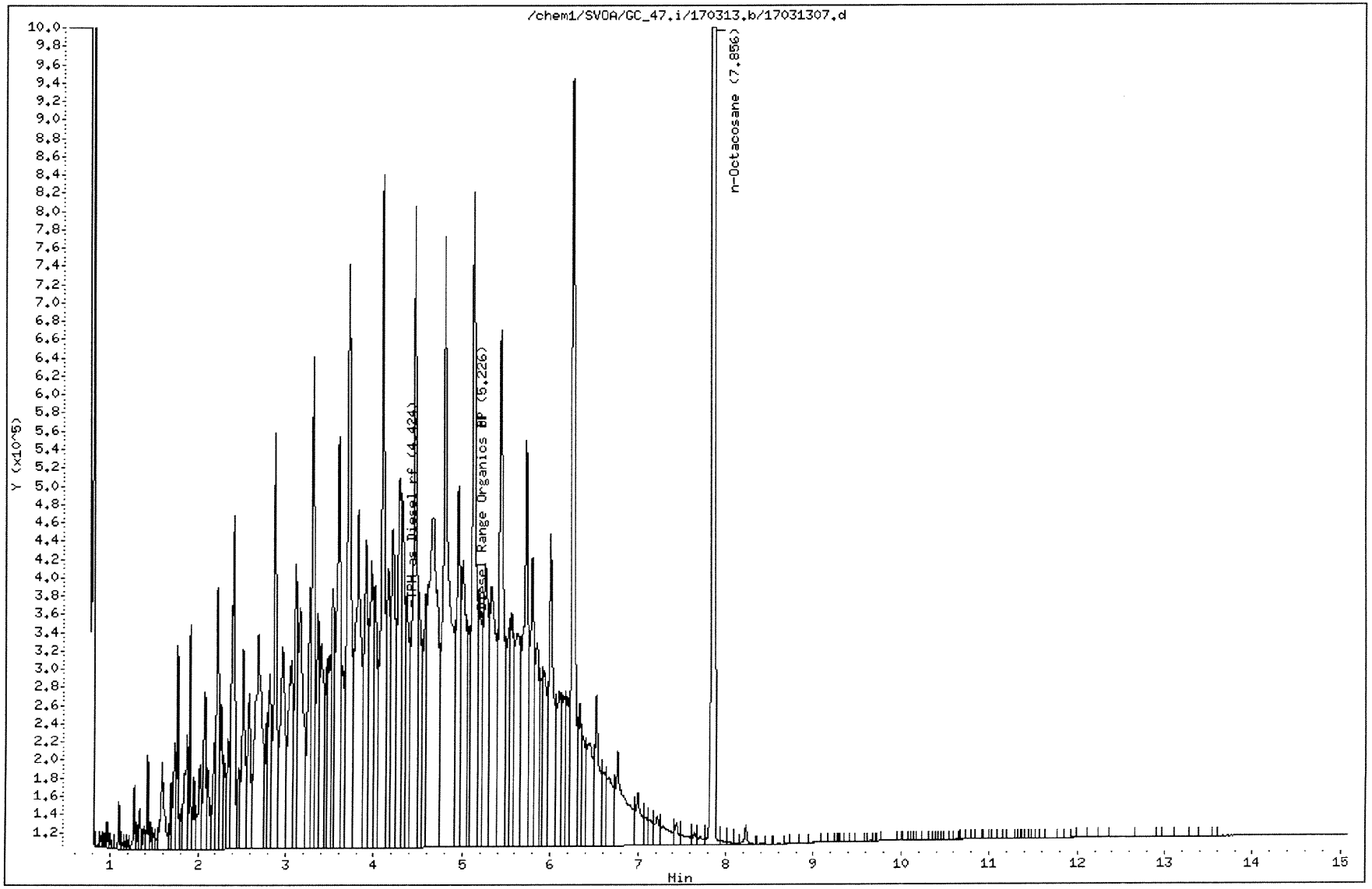
Return to Contents

Data File: /chem1/SVOA/GC_47.i/170313.b/17031307.d
Date : 13-MAR-2017 14:04
Client ID:
Sample Info: ICAL D400 C28 50 L102516D

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031308.d Page 1
Report Date: 13-Mar-2017 16:38

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031308.d
Lab Smp Id:
Inj Date : 13-MAR-2017 14:25
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL D800 C28 100 L102516E
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:23 Cal File: 17022832.d
Als bottle: 8 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( ppm) |
|---|---|---|---|---|---|---|
| $ 93 n-Octacosane | 7.862 | 7.862 | 0.000 | 80837705 | 100.000 | 94.944 |
| S 15 TPH as Diesel | 0.803-8.046 | | | 675519412 | 800.000 | 768.484 |
| S 27 Diesel Range Organics | 2.406-8.046 | | | 621371159 | 800.000 | 771.960 |
| S 276 Diesel Range Organics (C10-C28 | 2.406-8.046 | | | 621371159 | 800.000 | 771.960 |

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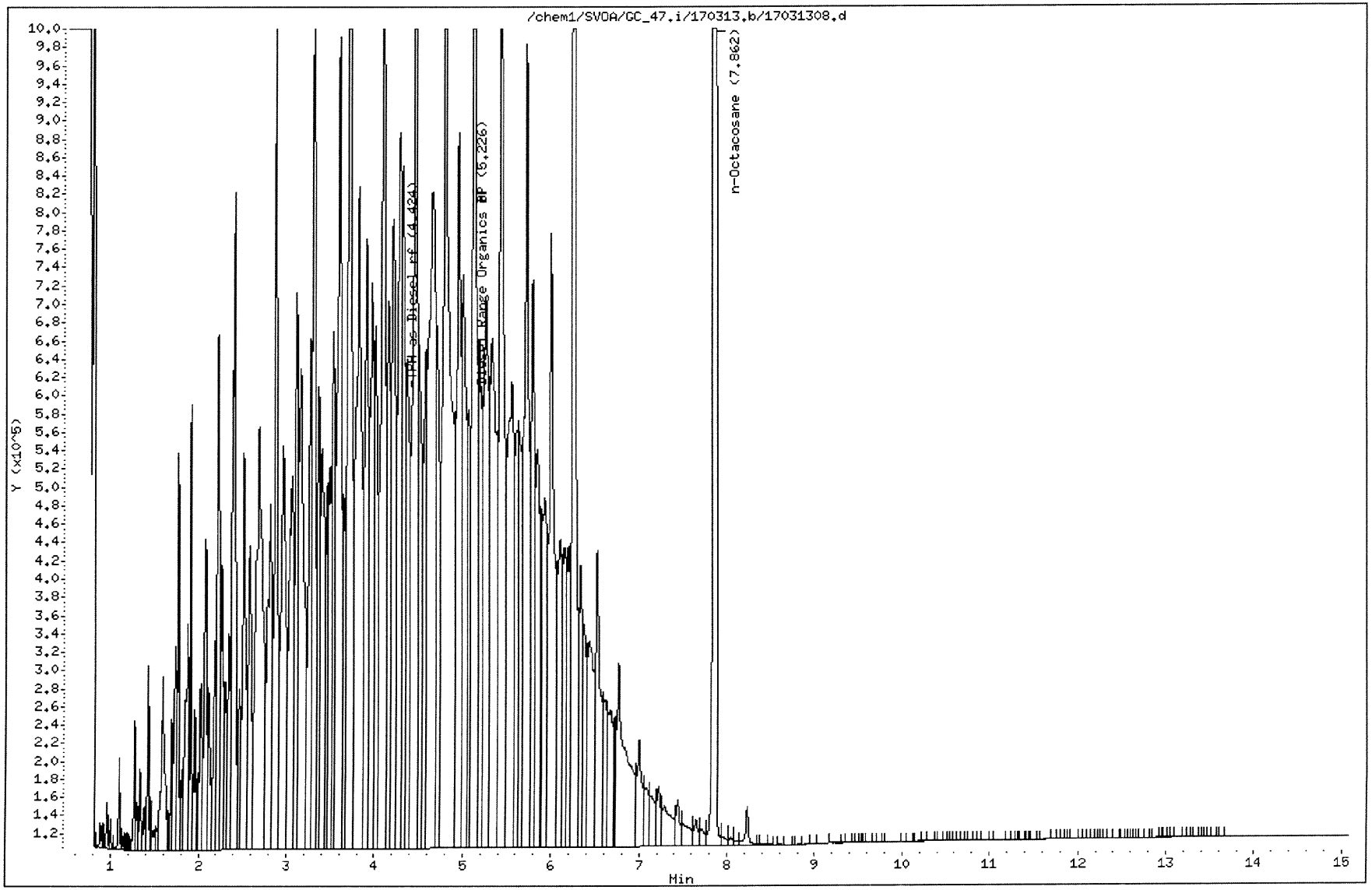
Data File: /chem1/SVOA/GC_47.i/170313.b/17031308.d
Date : 13-MAR-2017 14:25
Client ID:
Sample Info: ICAL D800 C28 100 L102516E

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:

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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031309.d
Lab Smp Id:
Inj Date : 13-MAR-2017 14:45
Operator : 972 Inst ID: GC_47.i
Smp Info : ICAL 1600 C28 200 L102516F
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 9 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: ICAL_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppm) | ( ppm) |
| $ 93 n-Octacosane | 7.873 | 7.873 | 0.000 | 167388758 | 200.000 | 196.599 |
| S 15 TPH as Diesel | 0.803-8.046 | | | 1388170291 | 1600.00 | 1579.210 |
| S 27 Diesel Range Organics | 2.406-8.046 | | | 1296480009 | 1600.00 | 1610.681(A) |
| S 276 Diesel Range Organics (C10-C28 | 2.406-8.046 | | | 1296480009 | 1600.00 | 1610.681(A) |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031309.d

Page 1

Date : 13-MAR-2017 14:45

Client ID:

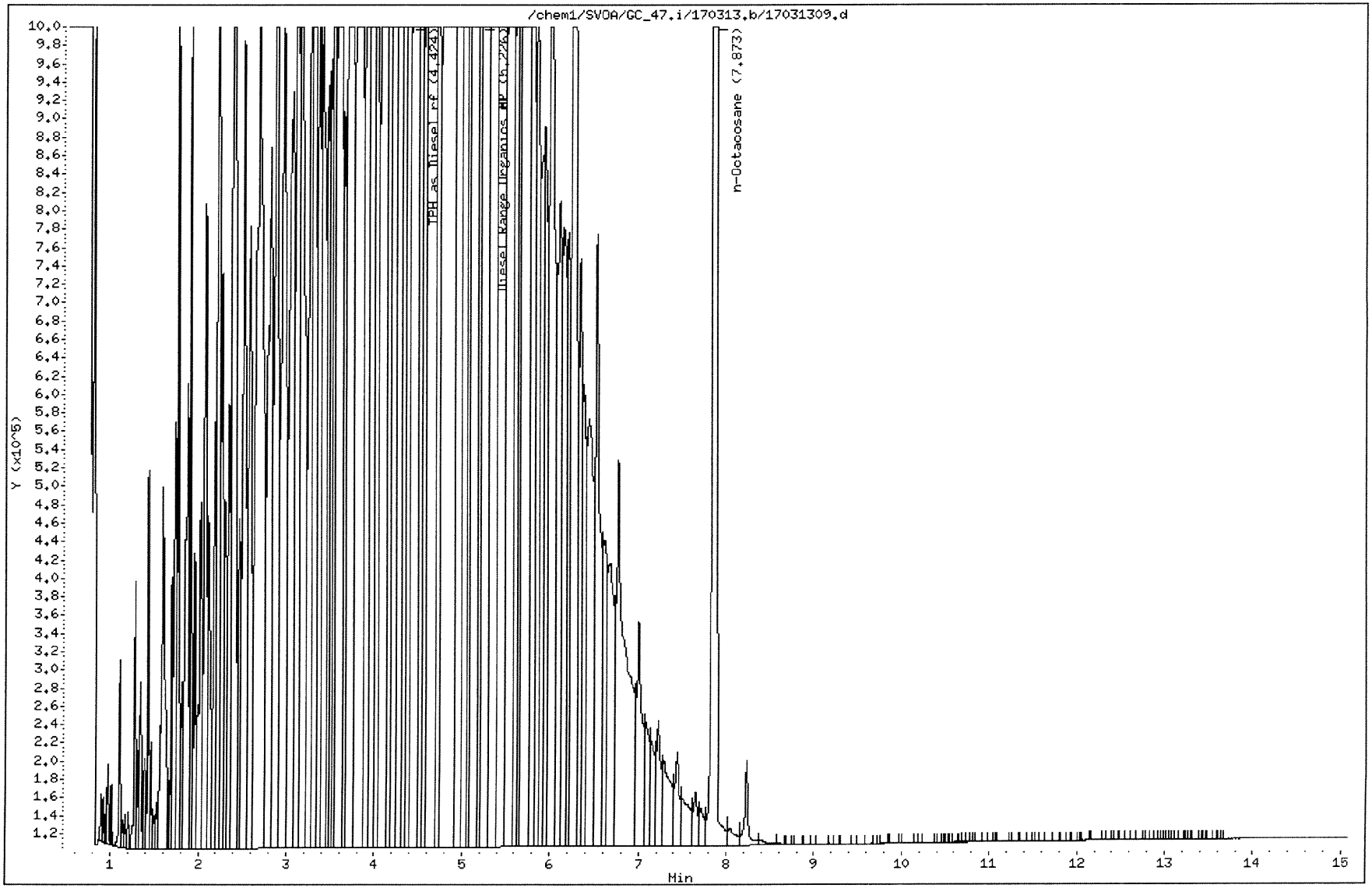
Instrument: GC_47.i

Sample Info: ICAL 1600 C28 200 L102516F

Operator: 972

Column phase:

Column diameter: 2.00



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Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170313.b/17031310.d
Lab Smp Id:
Inj Date : 13-MAR-2017 15:06
Operator : 972 Inst ID: GC_47.i
Smp Info : ICV D400 C28 50 L102516G
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170313.b/8015d.m
Meth Date : 13-Mar-2017 16:38 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 10 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( ppm) |
|---|---|---|---|---|---|---|
| S 15 TPH as Diesel | 0.803-8.046 | | | 339080918 | 400.000 | 385.745 |
| S 27 Diesel Range Organics | 2.406-8.046 | | | 322169487 | 400.000 | 400.247 |
| $ 93 n-Octacosane | 7.856 | 7.856 | 0.000 | 41594156 | 50.0000 | 48.852 |

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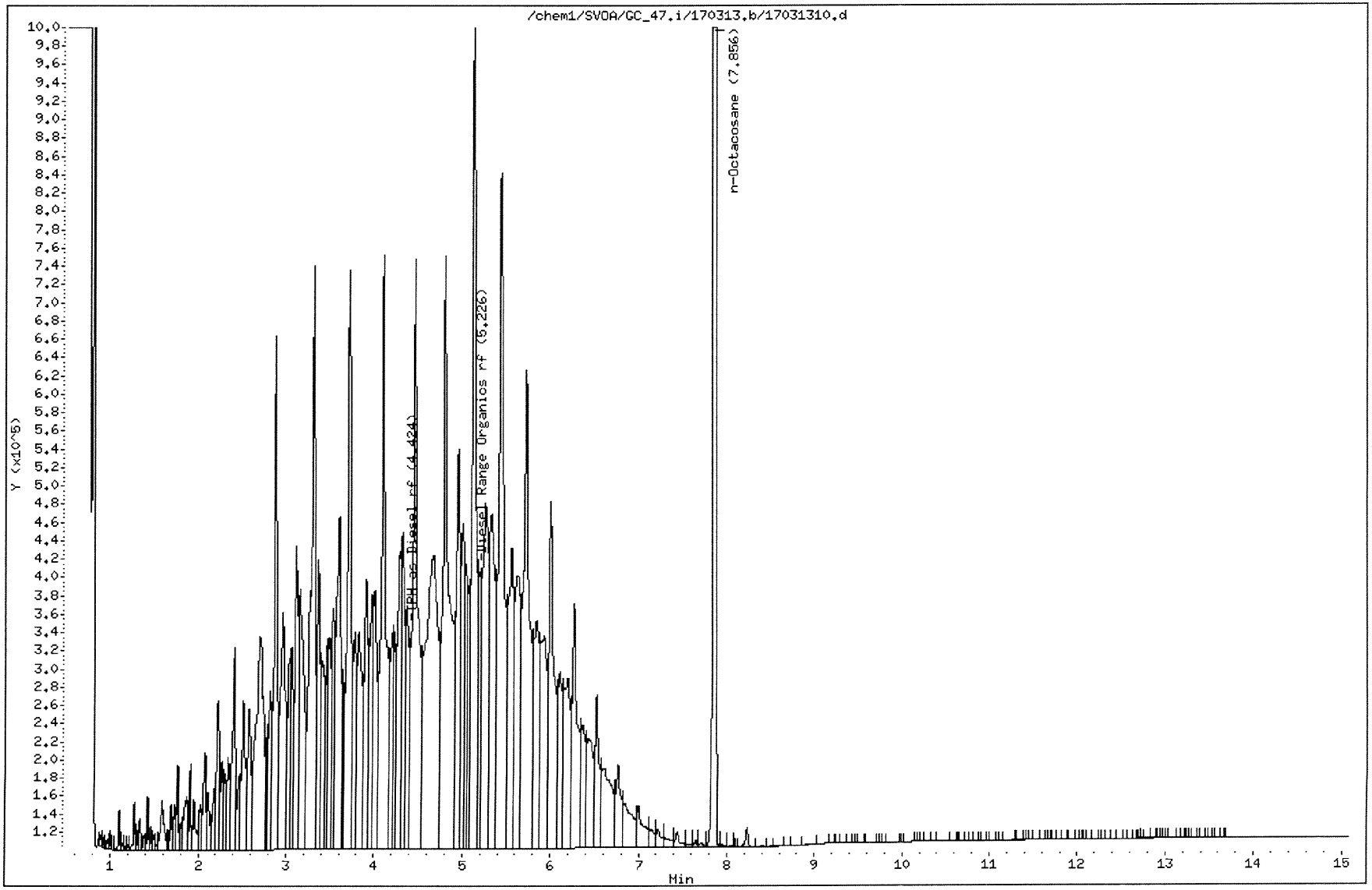
Data File: /chem1/SVOA/GC_47.i/170313.b/17031310.d
Date : 13-MAR-2017 15:06
Client ID:
Sample Info: ICV D400 C28 50 L102516G

Instrument: GC_47.i

Operator: 972
Column diameter: 2.00

Column phase:



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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170313/17031302.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : C6-C44 L110816A

Vial Number : Vial 2
Injection Number : 2
Sequence Line : 0
Instrument Method: 8015d.m

Acquired on : 13 MAR 17 11:58
Report Created on: 13-MAR-17 17:29
Software Revision: Target 3.50

Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170313.b/17031302.d

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 0.803 | 8.706 | 7.903 | 1934739.00 | 0.00 | C6-Hexane |
| 1.000 | 8.706 | 7.706 | 3927872.00 | 0.00 | C7-Heptane |
| 1.423 | 8.706 | 7.283 | 5334578.00 | 0.00 | C8-Octane |
| 1.908 | 8.706 | 6.798 | 5564091.00 | 0.00 | C9-Nonane |
| 2.406 | 8.706 | 6.300 | 5750675.00 | 0.00 | C10-Decane |
| 2.874 | 8.706 | 5.832 | 5858911.00 | 0.00 | C11-Undecane |
| 3.309 | 8.706 | 5.397 | 5838402.00 | 0.00 | C12-Dodecane |
| 3.716 | 8.706 | 4.990 | 6310691.00 | 0.00 | C13-Tridecane |
| 4.098 | 8.706 | 4.608 | 6621534.00 | 0.00 | C14-Tetradecane |
| 4.459 | 8.706 | 4.247 | 7834103.00 | 0.00 | C15-pentadecane |
| 4.800 | 8.706 | 3.906 | 8604251.00 | 0.00 | C16-Hexadecane |
| 5.123 | 8.706 | 3.583 | 9066279.00 | 0.00 | C17-Heptadecane |
| 5.430 | 8.706 | 3.276 | 9190150.00 | 0.00 | C18-Octadecane |
| 5.722 | 8.706 | 2.984 | 9333081.00 | 0.00 | C19-Nonadecane |
| 6.000 | 8.706 | 2.706 | 9606872.00 | 0.00 | C20-Eicosane |
| 6.266 | 8.706 | 2.440 | 9599689.00 | 0.00 | C21-Heneicosane |
| 6.521 | 8.706 | 2.185 | 9705243.00 | 0.00 | C22-Docosane |
| 6.766 | 8.706 | 1.940 | 9633143.00 | 0.00 | C23-Tricosane |
| 7.000 | 8.706 | 1.706 | 9554797.00 | 0.00 | C24-Tetracosane |
| 7.225 | 8.706 | 1.481 | 9492563.00 | 0.00 | C25-Pentacosane |
| 7.442 | 8.706 | 1.264 | 9792664.00 | 0.00 | C26-Hexacosane |
| 7.651 | 8.706 | 1.055 | 9214415.00 | 0.00 | C27-Heptacosane |
| 7.852 | 8.706 | 0.854 | 9308808.00 | 17.90 | n-Octacosane |
| 8.046 | 8.706 | 0.660 | 8650203.00 | 0.00 | C29-Nonacosane |
| 8.234 | 8.706 | 0.472 | 7987089.00 | 0.00 | C30-Triacontane |
| 8.416 | 8.706 | 0.290 | 6713349.00 | 0.00 | C31-Hentriacontane |
| 8.591 | 8.706 | 0.114 | 5305850.00 | 0.00 | C32-Dotricacontane |
| 8.762 | 8.706 | -0.056 | 3754718.00 | 0.00 | C33-Tritriacontane |
| 8.928 | 8.706 | -0.222 | 2306823.00 | 0.00 | C34-Tetratriacontane |
| 9.089 | 8.706 | -0.383 | 1269781.00 | 0.00 | C35-Pentatriacontane |
| 9.258 | 8.706 | -0.552 | 702175.00 | 0.00 | C36-Hexatriacontane |
| 9.454 | 8.706 | -0.748 | 359158.00 | 0.00 | C37-Heptatriacontane |
| 9.684 | 8.706 | -0.978 | 223358.00 | 0.00 | C38-Octatriacontane |
| 9.953 | 8.706 | -1.247 | 174894.00 | 0.00 | C39-Nonatriacontane |
| 10.268 | 8.706 | -1.562 | 109751.00 | 0.00 | C40-Tetracontane |
| 12.224 | 8.706 | -3.518 | 334869.00 | 0.00 | C44-Tetratetracontane |

End of File

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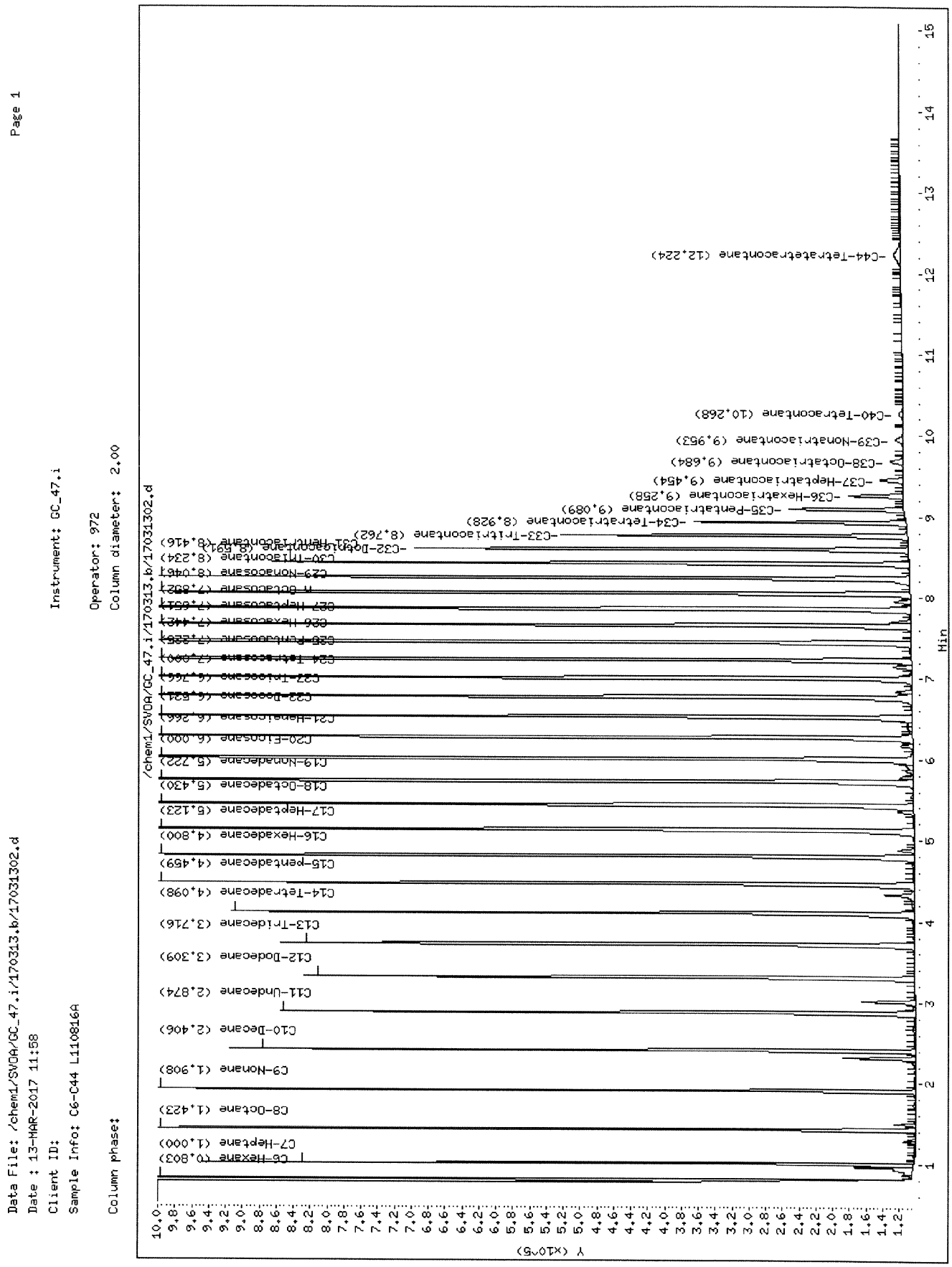


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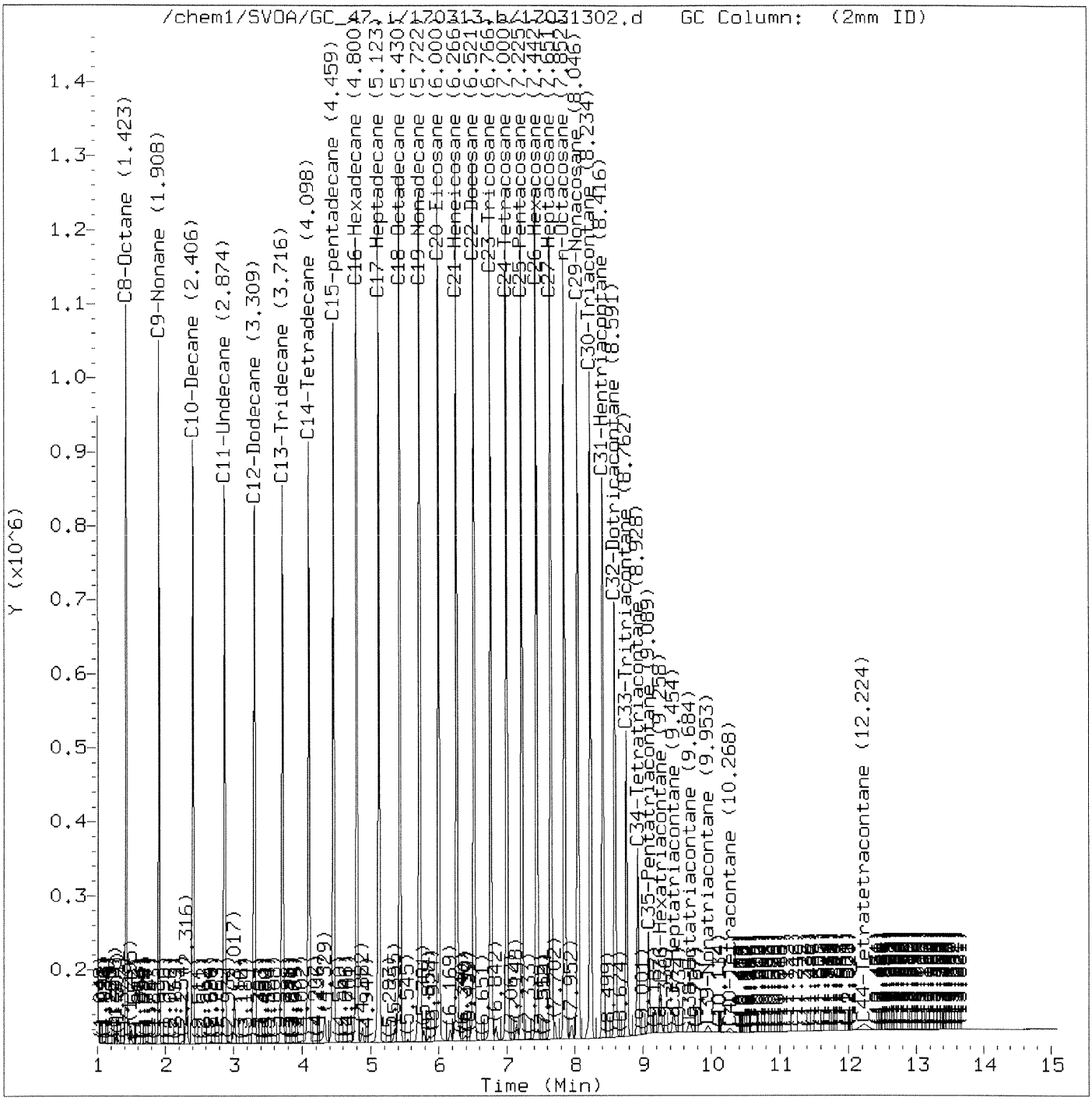
Manually Integrated Data File




Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Jennie Dinh
on 03/13/2017 at 17:29.
Target 3.5 esignature user ID: d2ef

Audit/management approval: _____

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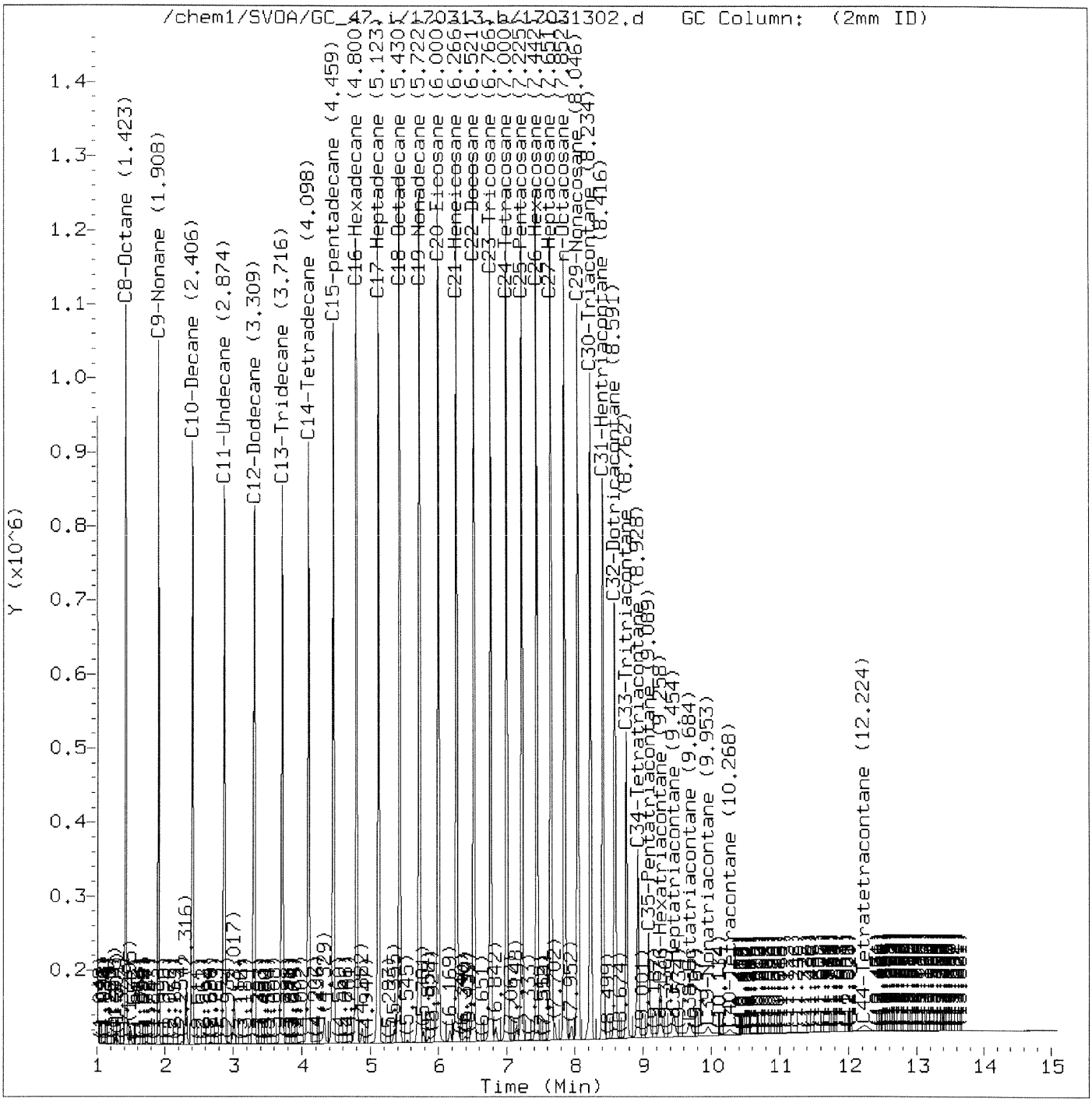
Original Data File

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# EPA 8015B (M)

# Diesel + Motor Oil

# SAMPLE DATA

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# RAW DATA SHEET
# FOR METHOD: EPA 8015B (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 1,027 |
| INSTRUMENT: | GC 47 | D/T ANALYZED: | 2017-03-16 04:45 |
| EXTRACTION : | EPA 3550B | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-15 00:00 | D/T REVIEWED: | |

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031524.d\Report.txt17031524

**# 25** **CLIENT SAMPLE NUMBER: D-DU2-ISM1-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170315B06A | SAMPLE VOLUME / WEIGHT: | DEFAULT: 10.00 g / ACTUAL: 10.20 g |
| MS/MSD BATCH: | 170315S06 | FINAL VOLUME / WEIGHT: | DEFAULT: 10.00 ml / ACTUAL: 10.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 0.98 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| TPH as Diesel | 1.66 | 1.00 | ND | 4.9 | |
| TPH as Motor Oil | 4.29 | 1.00 | ND | 4.9 | |

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```
================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_47/170315/17031524.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 24
Instrument        : GC 47                        Injection Number  : 24
Sample Name       : 17-03-0889-25                Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 16 MAR 17  04:45
Report Created on: 16-MAR-17  12:36              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031524.d
RT Range      Exp RT    DLT RT    Response            ppm               Compound
|-------------|---------|---------|-------------------|---------------|---------------------|
        7.853     8.706     0.853        42767035.00           50.23  n-Octacosane
 2.404- 8.045                             1459892.32            1.66  TPH as Diesel
 5.122-12.224                             3774190.50            4.29  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031524.d

Page 1

Date : 16-MAR-2017 04:45

Client ID:

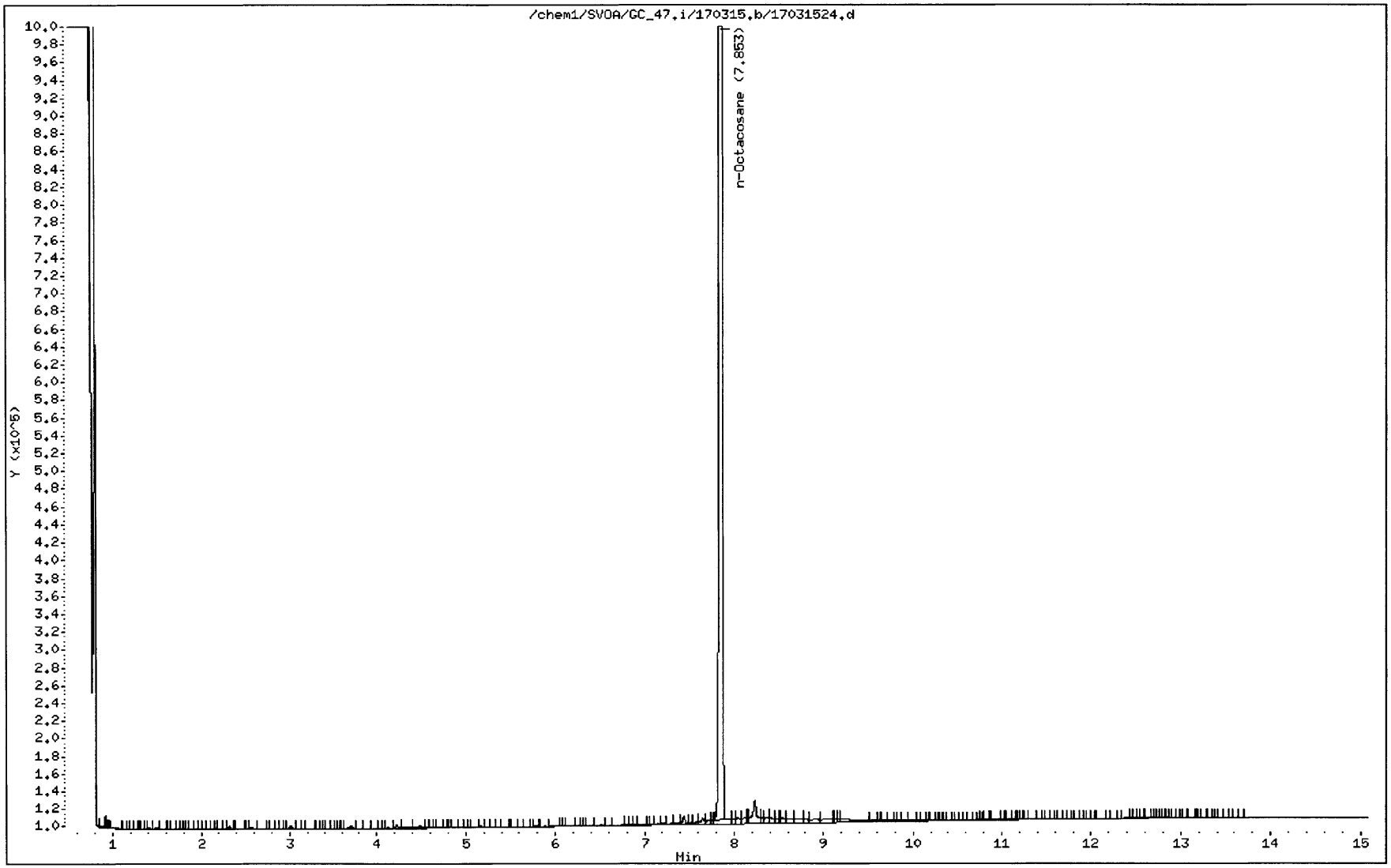
Instrument: GC_47.i

Sample Info: 17-03-0889-25

Operator: 972

Column phase:

Column diameter: 2.00



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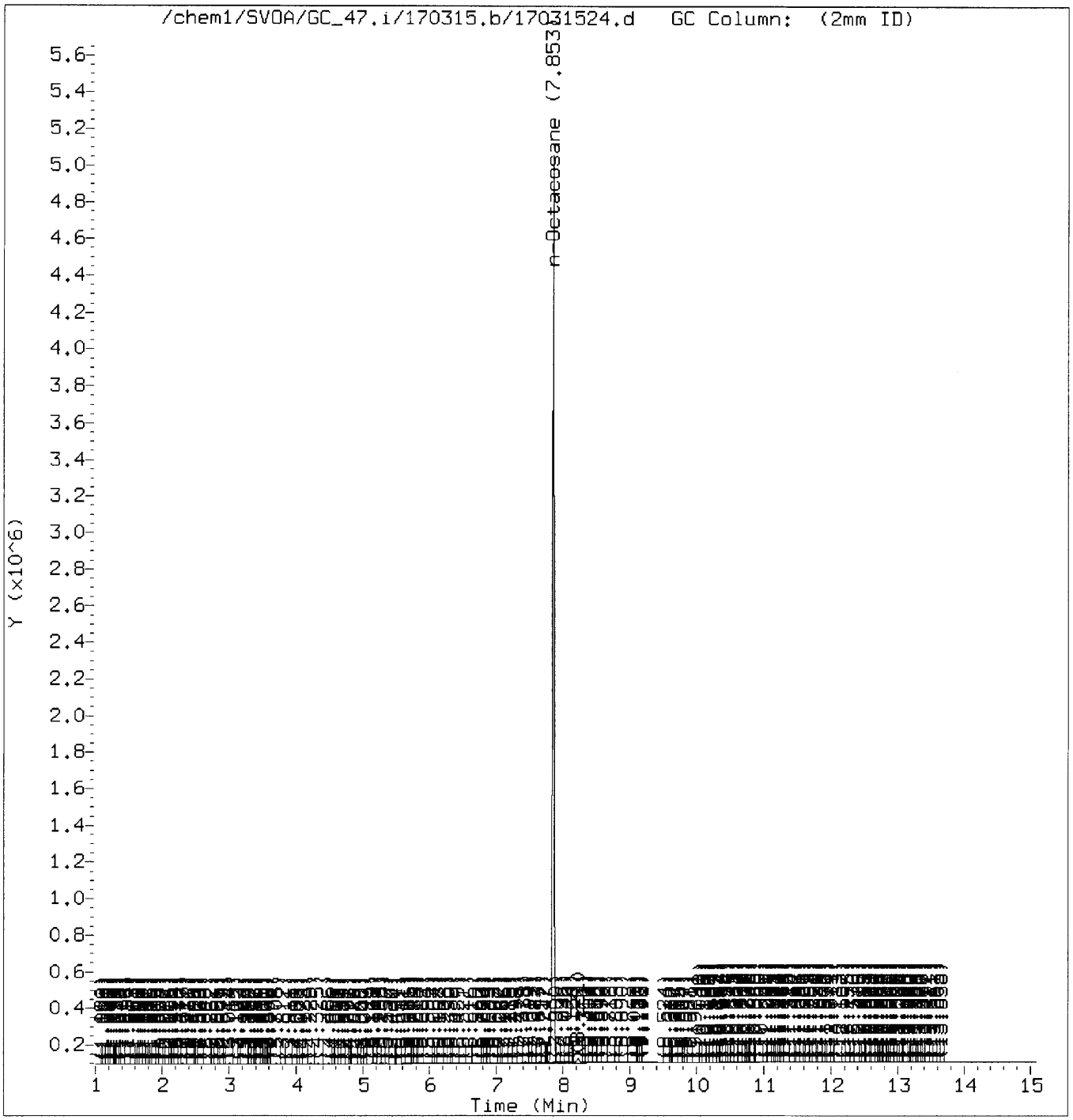
Manually Integrated Data File




Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Jennie Dinh
on 03/16/2017 at 12:36.
Target 3.5 esignature user ID: d2ef

Audit/management approval:_____

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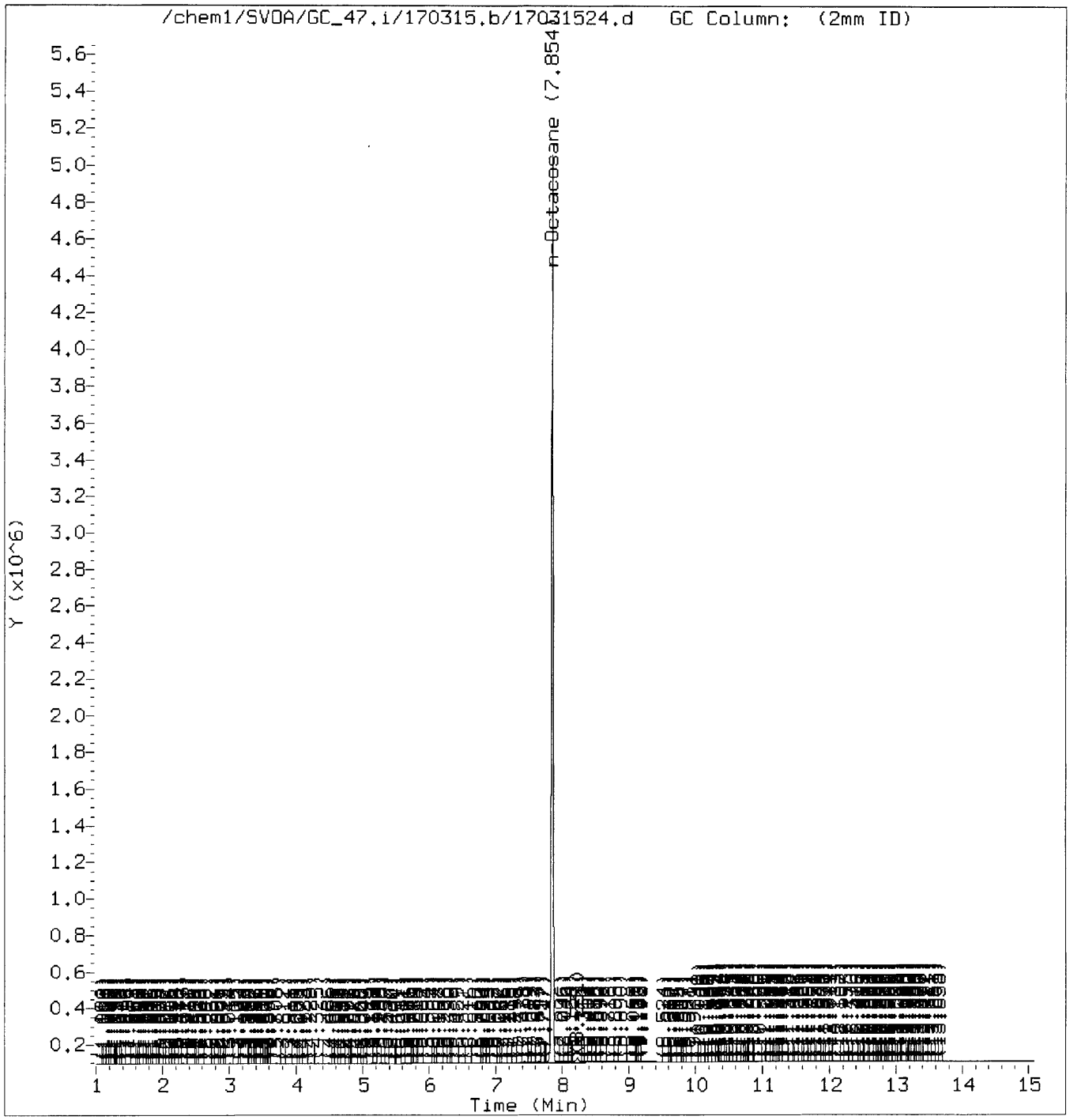
Original Data File

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# RAW DATA SHEET
# FOR METHOD: EPA 8015B (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 1,027 |
| INSTRUMENT: | GC 47 | D/T ANALYZED: | 2017-03-16 05:05 |
| EXTRACTION : | EPA 3550B | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-15 00:00 | D/T REVIEWED: | |

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031525.d\Report.txt17031525

**# 26** **CLIENT SAMPLE NUMBER: D-DU2-ISM2-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170315B06A | SAMPLE VOLUME / WEIGHT: | DEFAULT: 10.00 g / ACTUAL: 10.10 g |
| MS/MSD BATCH: | 170315S06 | FINAL VOLUME / WEIGHT: | DEFAULT: 10.00 ml / ACTUAL: 10.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 0.99 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| TPH as Diesel | 1.82 | 1.00 | ND | 5.0 | |
| TPH as Motor Oil | 4.35 | 1.00 | ND | 5.0 | |

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```
================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_47/170315/17031525.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 25
Instrument        : GC 47                        Injection Number  : 25
Sample Name       : 17-03-0889-26                Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 16 MAR 17  05:05
Report Created on: 16-MAR-17  12:36              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031525.d
RT Range      Exp RT    DLT RT    Response           ppm               Compound
|-------------|---------|---------|------------------|---------------|--------------------|
       7.853     8.706     0.853        40776076.00          47.89  n-Octacosane
 2.404- 8.045                           1601120.72           1.82  TPH as Diesel
 5.122-12.224                           3826806.76           4.35  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031525.d

Page 1

Date : 16-MAR-2017 05:05

Client ID:

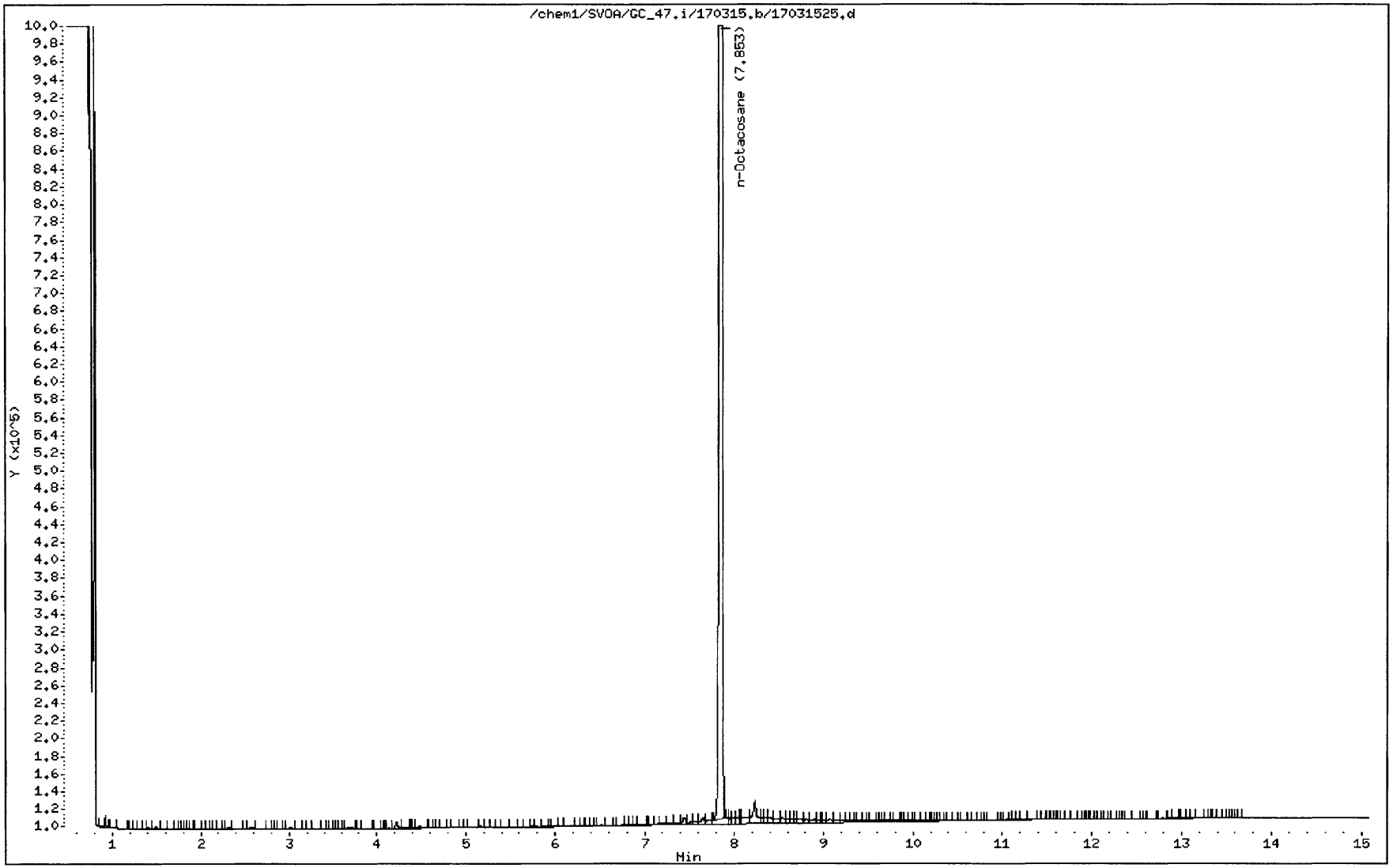
Instrument: GC_47.i

Sample Info: 17-03-0889-26

Operator: 972

Column phase:

Column diameter: 2.00



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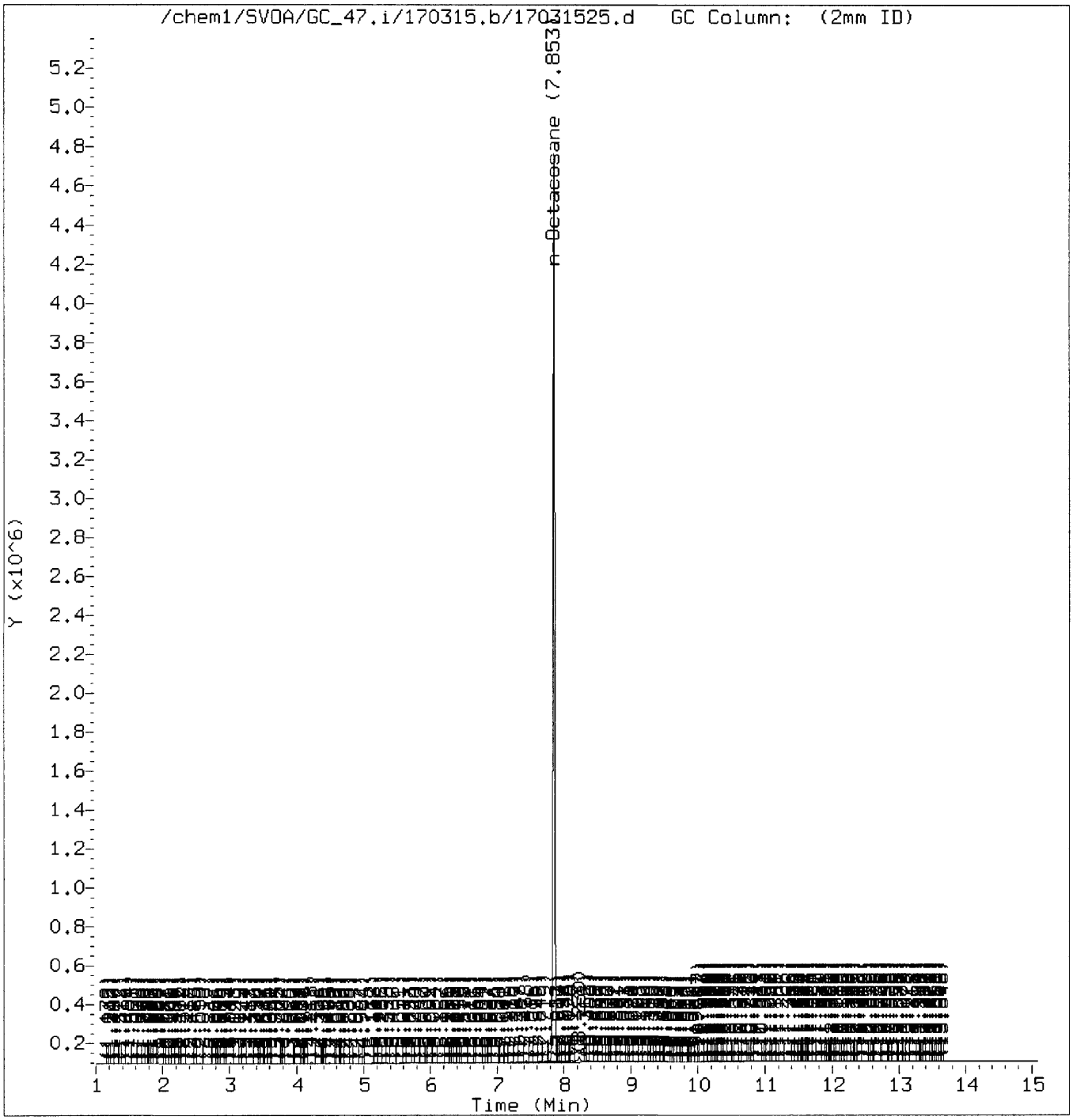
Manually Integrated Data File




Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Jennie Dinh
on 03/16/2017 at 12:36.
Target 3.5 esignature user ID: d2ef

Audit/management approval: _____

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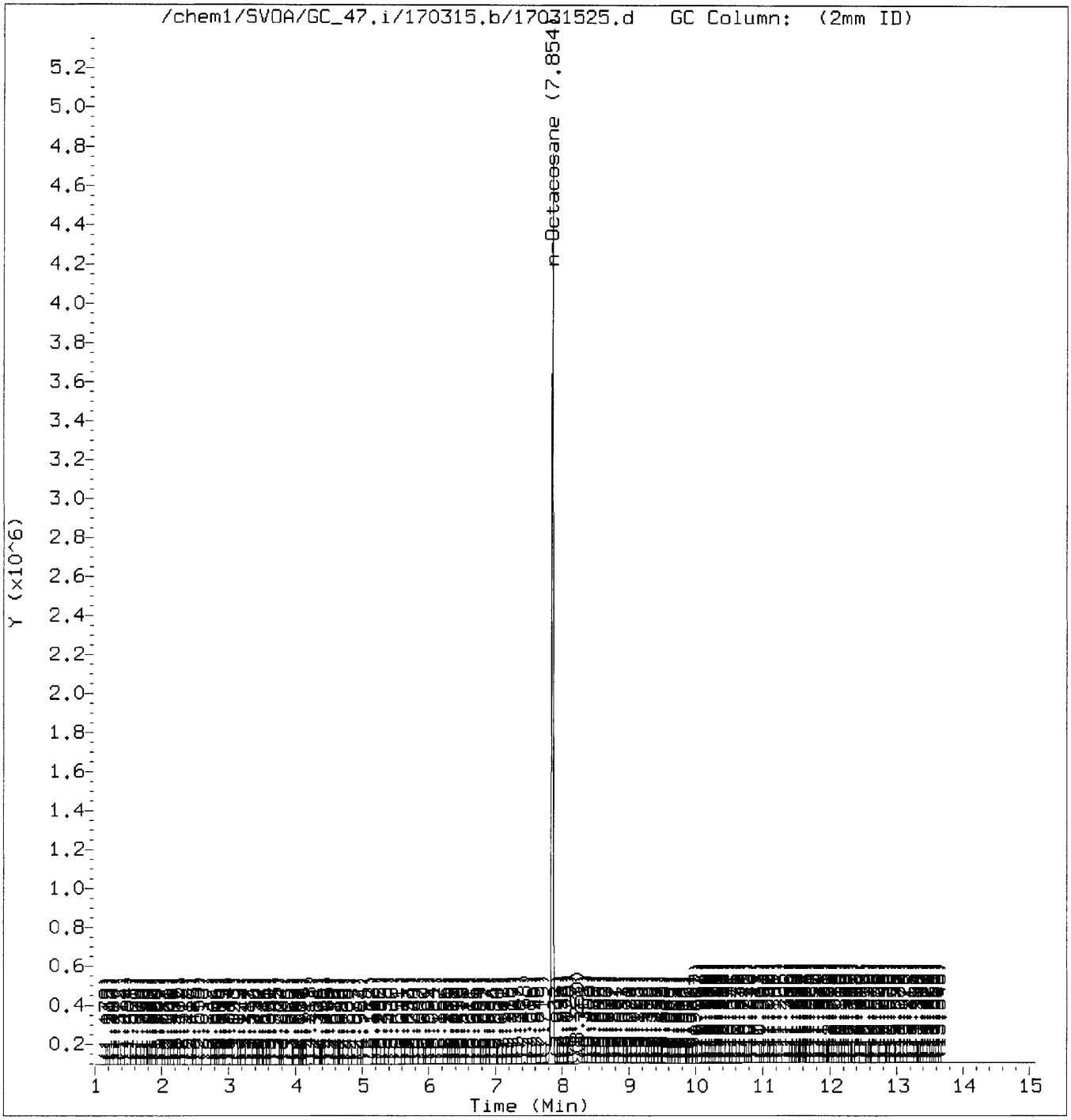
Original Data File

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# RAW DATA SHEET
# FOR METHOD: EPA 8015B (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 1,027 |
| INSTRUMENT: | GC 47 | D/T ANALYZED: | 2017-03-16 19:02 |
| EXTRACTION : | EPA 3550B | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-15 00:00 | D/T REVIEWED: | |

DATA FILE: T:\GC_47\GC_47_data\2017\170316\17031625.d\Report.txt17031625

**# 27** **CLIENT SAMPLE NUMBER: D-DU2-ISM3-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170315B06A | SAMPLE VOLUME / WEIGHT: | DEFAULT: 10.00 g / ACTUAL: 10.20 g |
| MS/MSD BATCH: | 170315S06 | FINAL VOLUME / WEIGHT: | DEFAULT: 10.00 ml / ACTUAL: 10.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 0.98 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| TPH as Diesel | 3.00 | 1.00 | ND | 4.9 | |
| TPH as Motor Oil | 5.74 | 1.00 | 5.63 | 4.9 | b |

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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170316/17031625.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : 17-03-0889-27 RB
Vial Number : Vial 25
Injection Number : 25
Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 16 MAR 17 19:02
Report Created on: 17-MAR-17 14:13
Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_47.i/170316.b/17031625.d

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 7.853 | 8.706 | 0.853 | 43046040.00 | 50.56 | n-Octacosane |
| 2.401- 8.045 | | | 2652059.42 | 3.02 | TPH as Diesel |
| 5.120-12.204 | | | 5044680.03 | 5.74 | TPH as Motor Oil |

End of File

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Data File: /chem1/SVOA/GC_47.i/170316.b/17031625.d

Page 1

Date : 16-MAR-2017 19:02

Client ID:

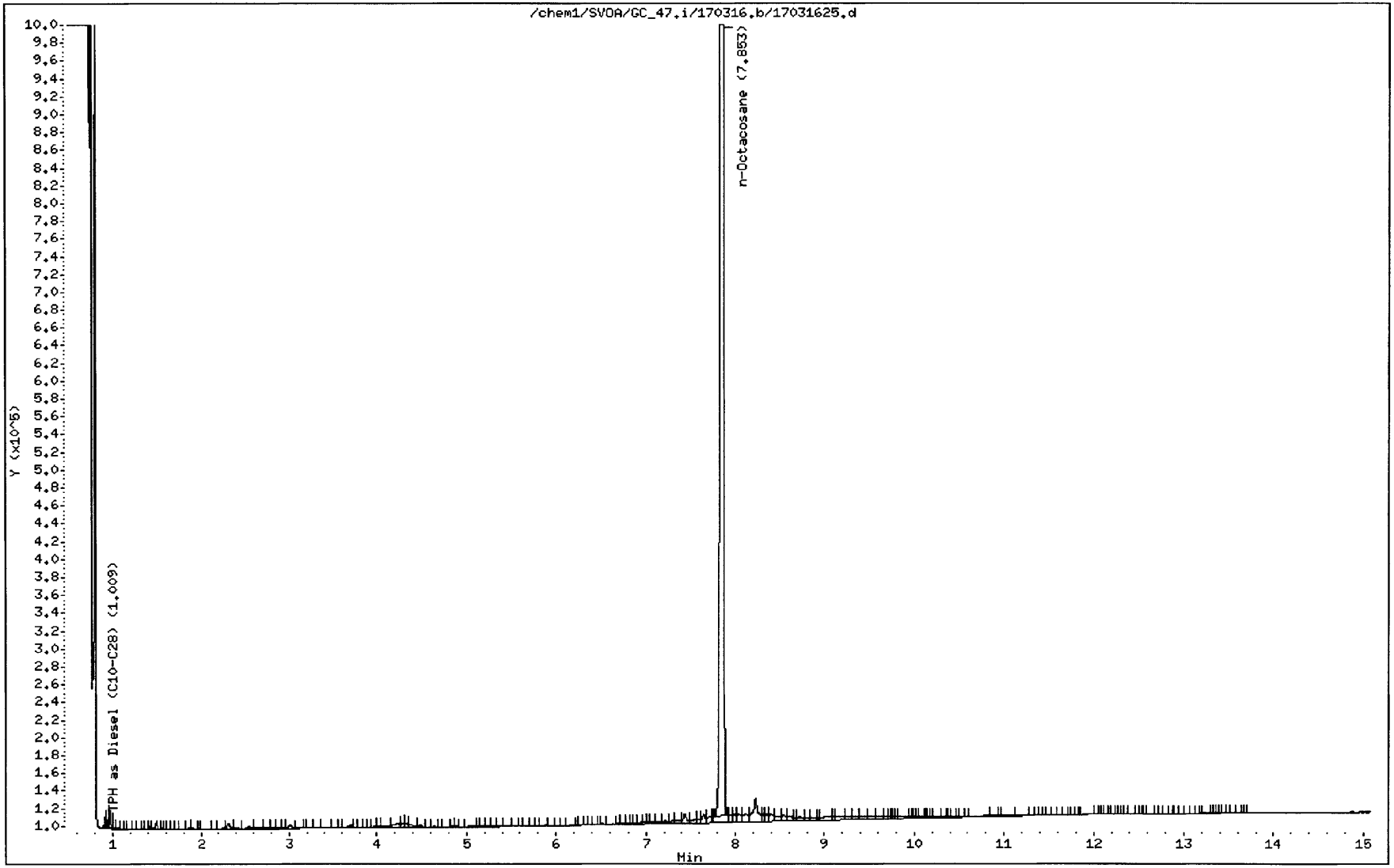
Instrument: GC_47.i

Sample Info: 17-03-0889-27 RB

Operator: 972

Column phase:

Column diameter: 2.00



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# EPA 8015B (M)

# Diesel + Motor Oil

# QUALITY CONTROL

# Method Blank
# LCS/LCSD
# MS/MSD

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 8015B (M)

| | | | |
|---|---|---|---|
| **MB SAMPLE ID:** | **099-14-353-9** | ANALYZED BY: | 1,027 |
| MB BATCH ID: | 170315B06A | D/T ANALYZED: | 2017-03-15 23:11 |
| INSTRUMENT: | GC 47 | REVIEWED BY: | 27 |
| EXTRACTION: | EPA 3550B | D/T REVIEWED: | 2017-03-16 14:45 |
| D/T EXTRACTED: | 2017-03-15 00:00 | MATRIX: | Soil |

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031508.d\Report_D+MO.txt17031508

**CLIENT WORK ORDER: 17-03-0889**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 25 | | D-DU2-ISM1-8 | 2017-03-16 04:45 | T:\GC_47\GC_47_data\2017\170315\17031524.d\Report.txt17031524 |
| 26 | | D-DU2-ISM2-8 | 2017-03-16 05:05 | T:\GC_47\GC_47_data\2017\170315\17031525.d\Report.txt17031525 |
| 27 | | D-DU2-ISM3-8 | 2017-03-16 19:02 | T:\GC_47\GC_47_data\2017\170316\17031625.d\Report.txt17031625 |

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# RAW DATA SHEET
# FOR METHOD: EPA 8015B (M)

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **099-14-353** | ANALYZED BY: | 1,027 |
| INSTRUMENT: | GC 47 | D/T ANALYZED: | 2017-03-15 23:11 |
| EXTRACTION : | EPA 3550B | REVIEWED BY: | 27 |
| D/T EXTRACTED: | 2017-03-15 00:00 | D/T REVIEWED: | 2017-03-16 14:45 |

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031508.d\Report_D+MO.txt17031508

**# MB** **CLIENT SAMPLE NUMBER: Method Blank**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170315B06A | SAMPLE VOLUME / WEIGHT: | DEFAULT: 10.00 g / ACTUAL: 10.00 g |
| MS/MSD BATCH: | | FINAL VOLUME / WEIGHT: | DEFAULT: 10.00 ml / ACTUAL: 10.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| TPH as Diesel | 0.450 | 1.00 | ND | 5.0 | |
| TPH as Motor Oil | 0.310 | 1.00 | ND | 5.0 | |

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 8015B (M)

| | | | | | |
|---|---|---|---|---|---|
| **LCS SAMPLE ID:** | **099-14-353- 9** | EXTRACTION : | EPA 3550B | ANALYZED BY: | 1,027 |
| LCS/MB BATCH ID: | 170315B06A | D/T EXTRACTED: | 2017-03-15 00:00 | D/T ANALYZED: | 2017-03-15 23:32 |
| INSTRUMENT: | GC 47 | | | REVIEWED BY: | 27 |
| | | | | D/T REVIEWED: | 2017-03-16 14:45 |

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031509.d\Report.txt17031509

| COMPOUND NAME | CONC ADDED | CONC REC | %RECOVERY | %REC CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| TPH as Diesel | 400.0 | 407.9 | 102 | 61-145 | PASS | |

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 8015B (M)

**SPIKED SAMPLE ID:** **17-03-1039-1**
MS/MSD BATCH: 170315S06
INSTRUMENTS:
SAMPLE: GC 47
MS: GC 47
MSD: GC 47

EXTRACTION: EPA 3550B
D/T EXTRACTED:
SAMPLE: 2017-03-15 00:00
MS: 2017-03-15 00:00
MSD: 2017-03-15 00:00

ANALYZED BY: 1,027
D/T ANALYZED:
SAMPLE: 2017-03-16 00:35
MS: 2017-03-15 23:53
MSD: 2017-03-16 00:14
REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 12:28

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | ND | 400.0 | 400.0 | 420.4 | 105 | 378.9 | 95 | 64-130 | 10 | 0-15 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17031510 | T:\GC_47\GC_47_data\2017\170315\17031510.d\Report.txt |
| MSD | 17031511 | T:\GC_47\GC_47_data\2017\170315\17031511.d\Report.txt |

# SURROGATE RECOVERIES
# FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-0889
BATCH ID:
**LCS/MB: 170315B06A**
**MS: 170315S06**
EXTRACTION : EPA 3550B

REVIEWED BY:
D/T REVIEWED:

**# 25 CLIENT SAMPLE NUMBER : D-DU2-ISM1-8**

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031524.d\Report.txt17031524
ANALYZED BY: 1,027
D/T ANALYZED 2017-03-16 04:45
COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 100 | 61-145 | PASS | |

**# 26 CLIENT SAMPLE NUMBER : D-DU2-ISM2-8**

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031525.d\Report.txt17031525
ANALYZED BY: 1,027
D/T ANALYZED 2017-03-16 05:05
COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 96 | 61-145 | PASS | |

**# 27 CLIENT SAMPLE NUMBER : D-DU2-ISM3-8**

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170316\17031625.d\Report.txt17031625
ANALYZED BY: 1,027
D/T ANALYZED 2017-03-16 19:02
COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 101 | 61-145 | PASS | |

**# MB CLIENT SAMPLE NUMBER : Method Blank**

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031508.d\Report_D+MO.txt17031508
ANALYZED BY: 1,027
D/T ANALYZED 2017-03-15 23:11
COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 84 | 61-145 | PASS | |

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# SURROGATE RECOVERIES
# FOR METHOD: EPA 8015B (M)

WORK ORDER: 17-03-0889
BATCH ID:
**LCS/MB: 170315B06A**
**MS:**
EXTRACTION : EPA 3550B

REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 14:45

**# LCS CLIENT SAMPLE NUMBER : Lab Control Sample**

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031509.d\Report.txt17031509

ANALYZED BY: 1,027
D/T ANALYZED 2017-03-15 23:32

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 86 | 61-145 | PASS | |

**# MS CLIENT SAMPLE NUMBER : Matrix Spike**

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031510.d\Report.txt17031510

ANALYZED BY: 1,027
D/T ANALYZED 2017-03-15 23:53

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 93 | 61-145 | PASS | |

**# MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate**

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031511.d\Report.txt17031511

ANALYZED BY: 1,027
D/T ANALYZED 2017-03-16 00:14

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 90 | 61-145 | PASS | |

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```
================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_47/170315/17031508.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 8
Instrument        : GC 47                        Injection Number  : 8
Sample Name       : MB 17031506 UTC              Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 15 MAR 17  23:11
Report Created on: 16-MAR-17  14:44              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031508.d
RT Range      Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|-------------------|----------------|--------------------|
        7.853     8.706     0.853        35627920.00           41.84  n-Octacosane
 2.404- 8.044                              399862.88            0.45  TPH as Diesel
 5.121-12.227                              274647.99            0.31  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031508.d

Page 1

Date : 15-MAR-2017 23:11

Client ID:

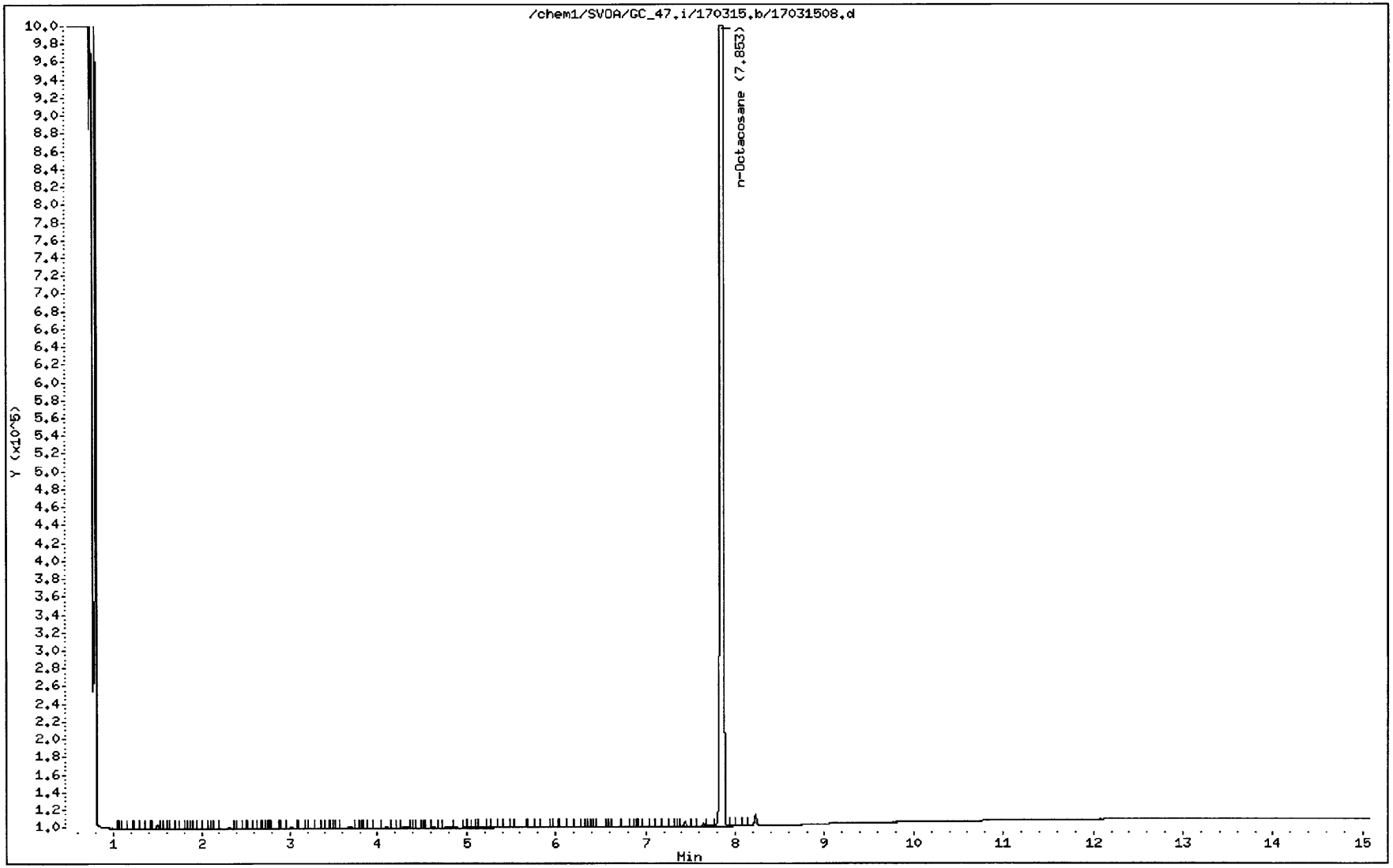
Instrument: GC_47.i

Sample Info: MB 17031506 UTC

Operator: 972

Column phase:

Column diameter: 2.00



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================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_47/170315/17031509.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 9
Instrument        : GC 47                        Injection Number  : 9
Sample Name       : LCS 17031506                 Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 15 MAR 17  23:32
Report Created on: 16-MAR-17  11:40              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031509.d
RT Range      Exp RT    DLT RT    Response           ppm               Compound
|-------------|---------|---------|------------------|---------------|--------------------|
       7.854     8.706     0.852       36496941.00          42.87  n-Octacosane
 0.800- 8.045                       358544450.66         407.89  TPH as Diesel
 2.404- 8.045                       340983462.63         423.62  Diesel Range Organics
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031509.d

Page 1

Date : 15-MAR-2017 23:32

Client ID:

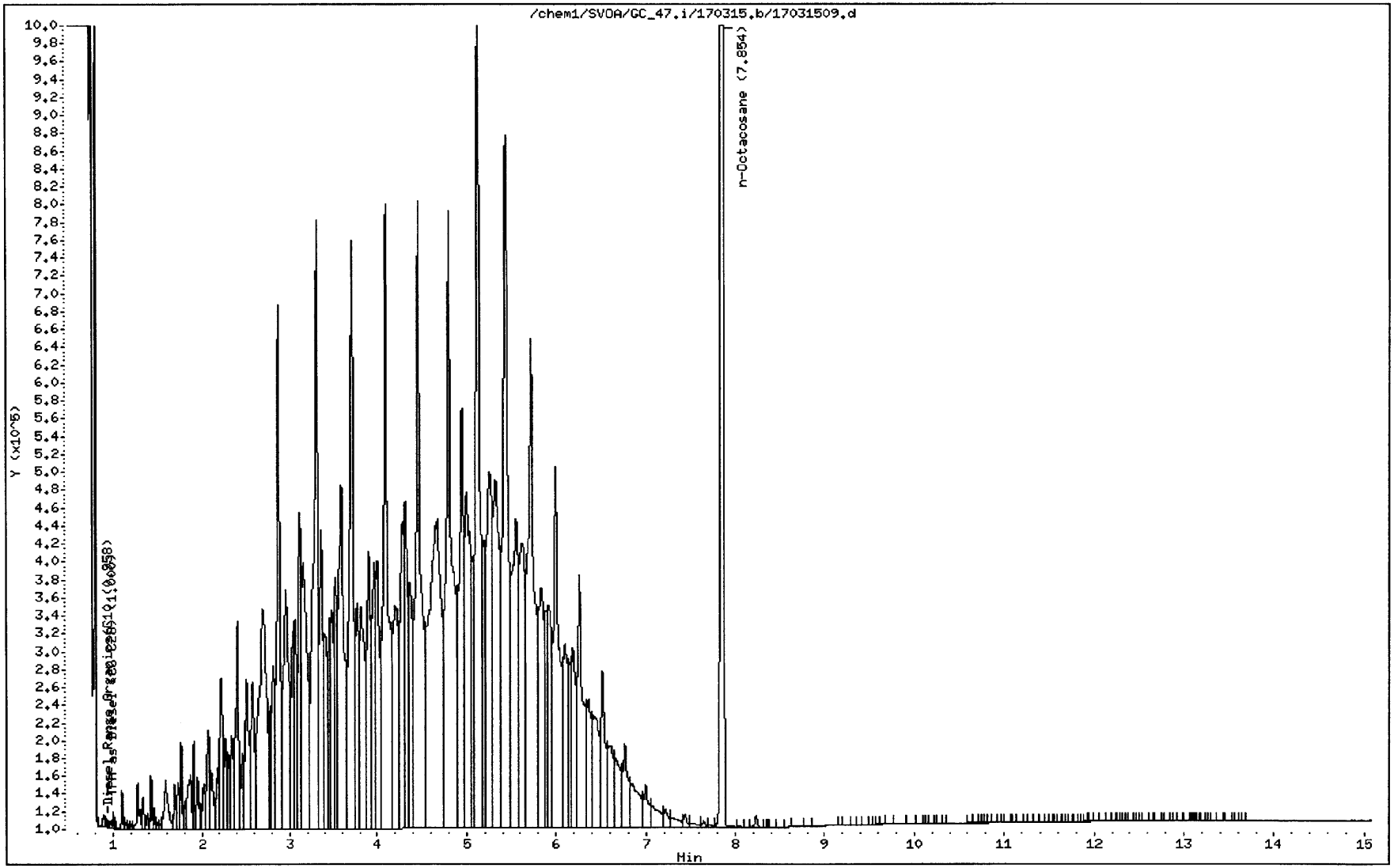
Instrument: GC_47.i

Sample Info: LCS 17031506

Operator: 972

Column phase:

Column diameter: 2.00



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================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_47/170315/17031510.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 10
Instrument        : GC 47                        Injection Number  : 10
Sample Name       : MS 17-03-1039-1              Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 15 MAR 17  23:53
Report Created on: 20-MAR-17  13:55              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031510.d
```

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 7.853 | 8.706 | 0.853 | 39715473.00 | 46.65 | n-Octacosane |
| 0.800- 0.995 | | | 313848.34 | 0.36 | C6 |
| 0.995- 1.420 | | | 1342251.95 | 1.53 | C7 |
| 1.420- 1.906 | | | 4232507.95 | 4.81 | C8 |
| 1.906- 2.872 | | | 29020132.08 | 33.01 | C9-C10 |
| 2.872- 3.713 | | | 73828241.65 | 83.99 | C11-C12 |
| 3.713- 4.457 | | | 53406857.68 | 60.76 | C13-C14 |
| 4.457- 5.122 | | | 67158572.87 | 76.40 | C15-C16 |
| 5.122- 5.720 | | | 80862042.11 | 91.99 | C17-C18 |
| 5.720- 6.265 | | | 35404396.65 | 40.28 | C19-C20 |
| 6.265- 6.764 | | | 15609038.33 | 17.76 | C21-C22 |
| 6.764- 7.224 | | | 3922710.51 | 4.46 | C23-C24 |
| 7.224- 8.045 | | | 1677826.88 | 1.91 | C25-C28 |
| 8.045- 8.760 | | | 710408.52 | 0.81 | C29-C32 |
| 8.760- 9.453 | | | 47617.90 | 0.05 | C33-C36 |
| 9.453-10.268 | | | 13145.18 | 0.01 | C37-C40 |
| 10.268-12.224 | | | 114680.98 | 0.13 | C41-C44 |
| 0.800-12.224 | | | 367664279.57 | 418.26 | TPH as Diesel |
| 0.800-12.224 | | | 367664279.57 | 418.26 | C6-C44 Total |

```
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031510.d

Page 1

Date : 15-MAR-2017 23:53

Client ID:

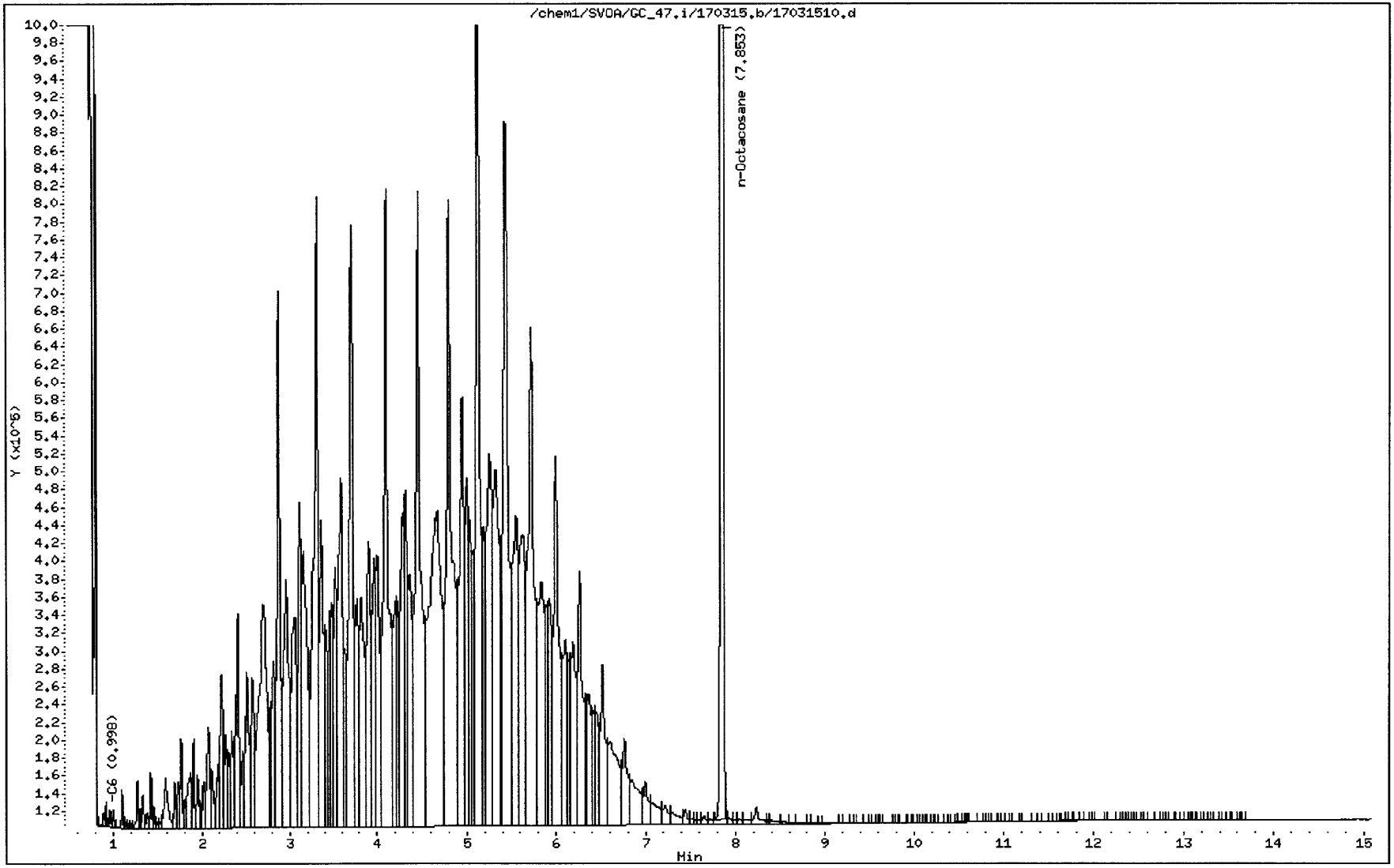
Instrument: GC_47.i

Sample Info: MS 17-03-1039-1

Operator: 972

Column phase:

Column diameter: 2.00



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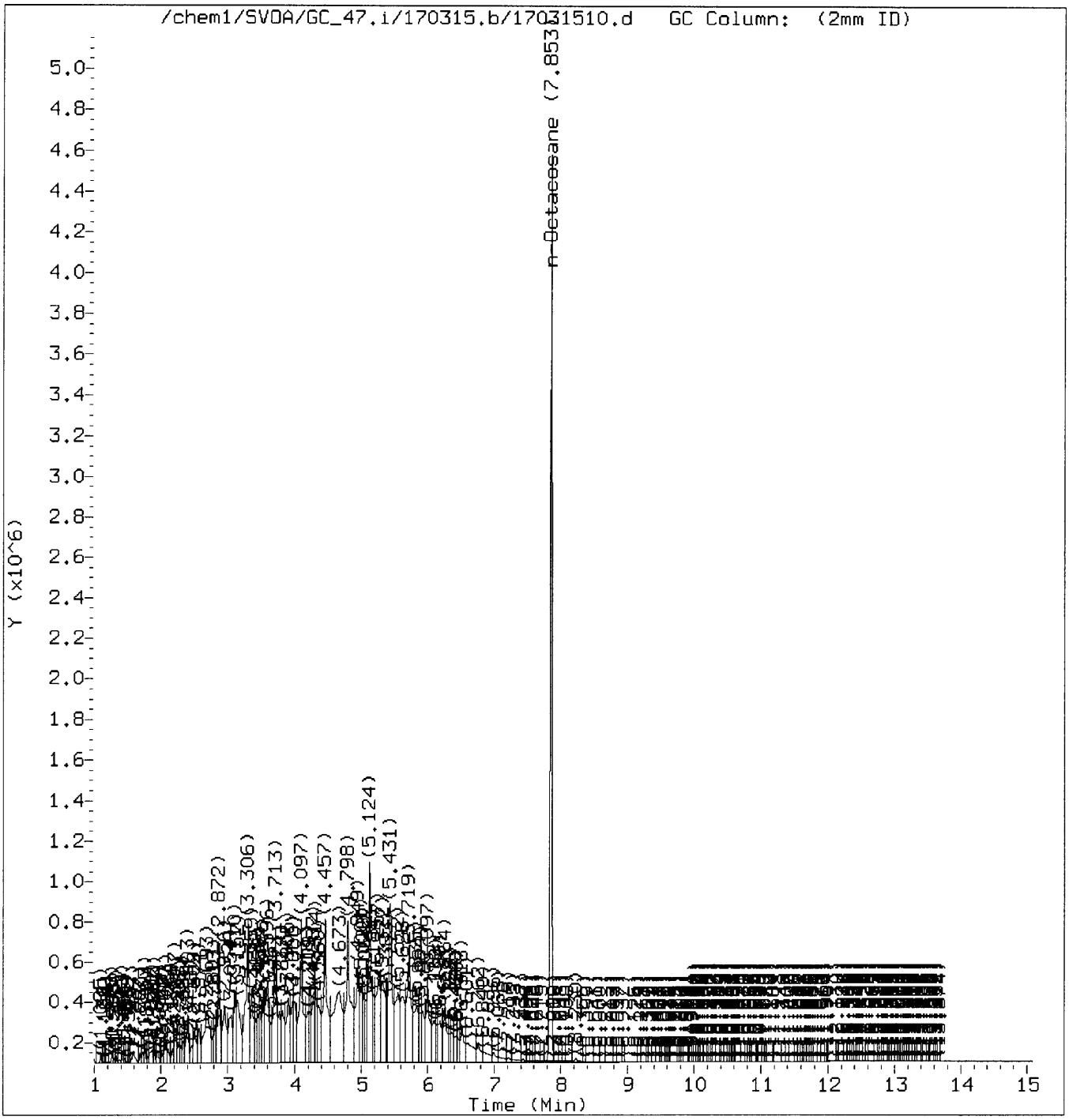
Manually Integrated Data File




Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Denny Cam on 03/20/2017 at 13:55. Target 3.5 esignature user ID: n5y3

Audit/management approval: JD

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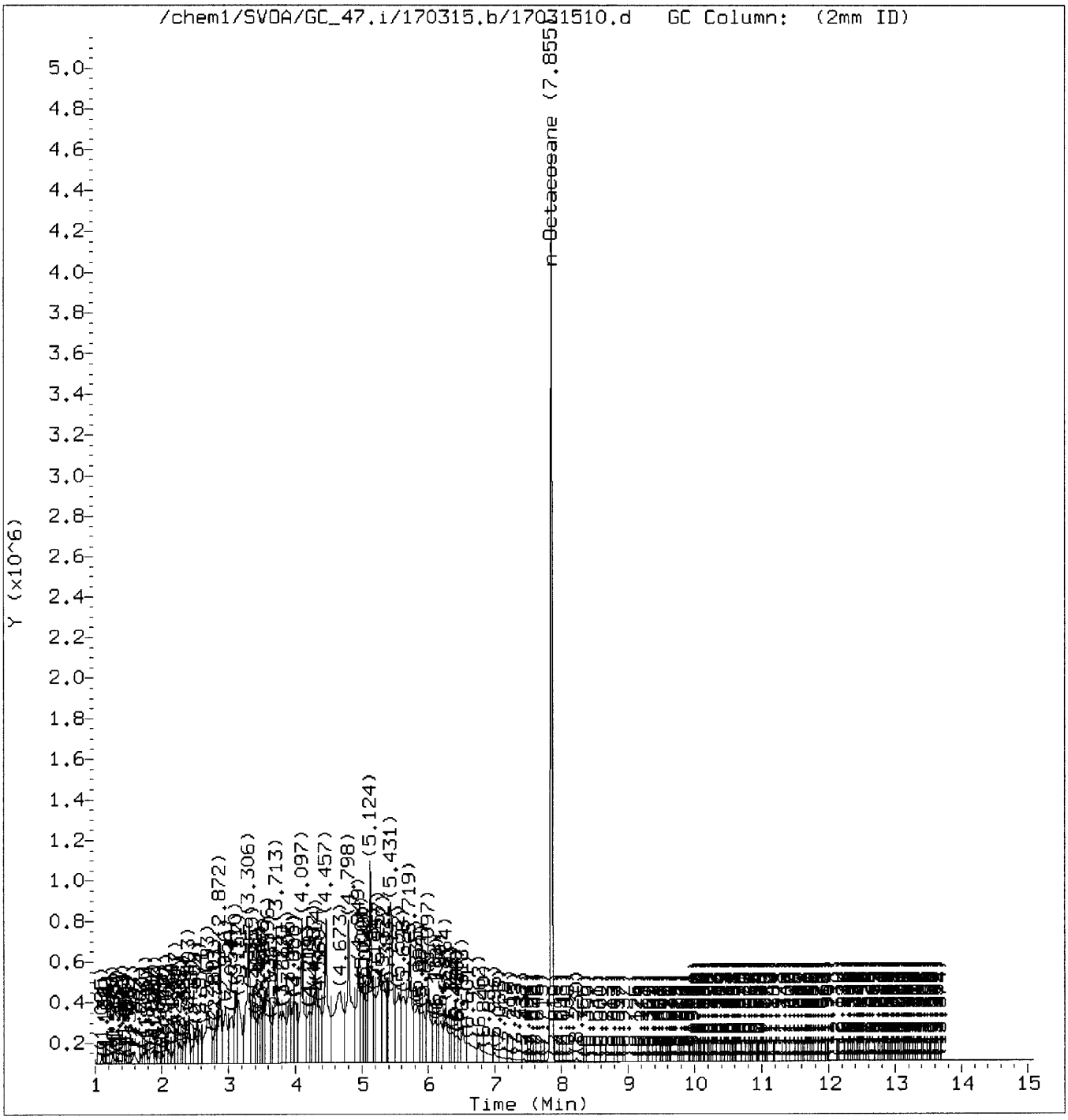
Original Data File

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================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_47/170315/17031511.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 11
Instrument        : GC 47                        Injection Number : 11
Sample Name       : MSD 17-03-1039-1             Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 16 MAR 17  00:14
Report Created on: 20-MAR-17  13:55              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031511.d
```

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 7.853 | 8.706 | 0.853 | 38104271.00 | 44.75 | n-Octacosane |
| 0.800- 0.995 | | | 297006.79 | 0.34 | C6 |
| 0.995- 1.420 | | | 1223972.33 | 1.39 | C7 |
| 1.420- 1.906 | | | 3839167.11 | 4.37 | C8 |
| 1.906- 2.872 | | | 26257411.93 | 29.87 | C9-C10 |
| 2.872- 3.713 | | | 66622559.47 | 75.79 | C11-C12 |
| 3.713- 4.457 | | | 60873181.13 | 69.25 | C13-C14 |
| 4.457- 5.122 | | | 47698154.59 | 54.26 | C15-C16 |
| 5.122- 5.720 | | | 73419788.22 | 83.52 | C17-C18 |
| 5.720- 6.265 | | | 31830115.75 | 36.21 | C19-C20 |
| 6.265- 6.764 | | | 13738382.66 | 15.63 | C21-C22 |
| 6.764- 7.224 | | | 3508977.98 | 3.99 | C23-C24 |
| 7.224- 8.045 | | | 1686478.78 | 1.92 | C25-C28 |
| 8.045- 8.760 | | | 1155381.61 | 1.31 | C29-C32 |
| 8.760- 9.453 | | | 133508.80 | 0.15 | C33-C36 |
| 9.453-10.268 | | | 15782.89 | 0.02 | C37-C40 |
| 10.268-12.224 | | | 115098.36 | 0.13 | C41-C44 |
| 0.800-12.224 | | | 332414968.42 | 378.16 | TPH as Diesel |
| 0.800-12.224 | | | 332414968.42 | 378.16 | C6-C44 Total |

```
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031511.d

Page 1

Date : 16-MAR-2017 00:14

Client ID:

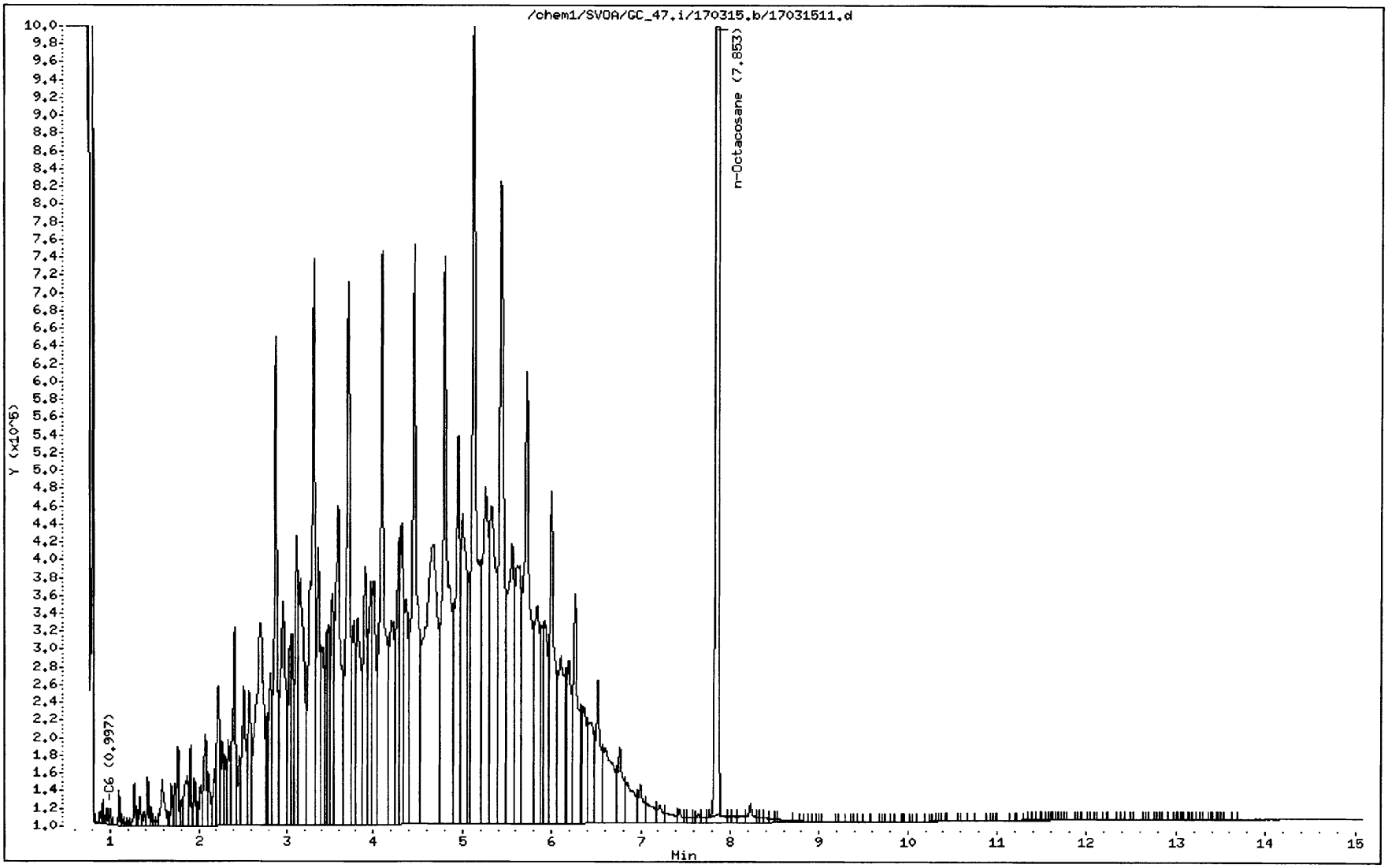
Instrument: GC_47.i

Sample Info: MSD 17-03-1039-1

Operator: 972

Column phase:

Column diameter: 2.00



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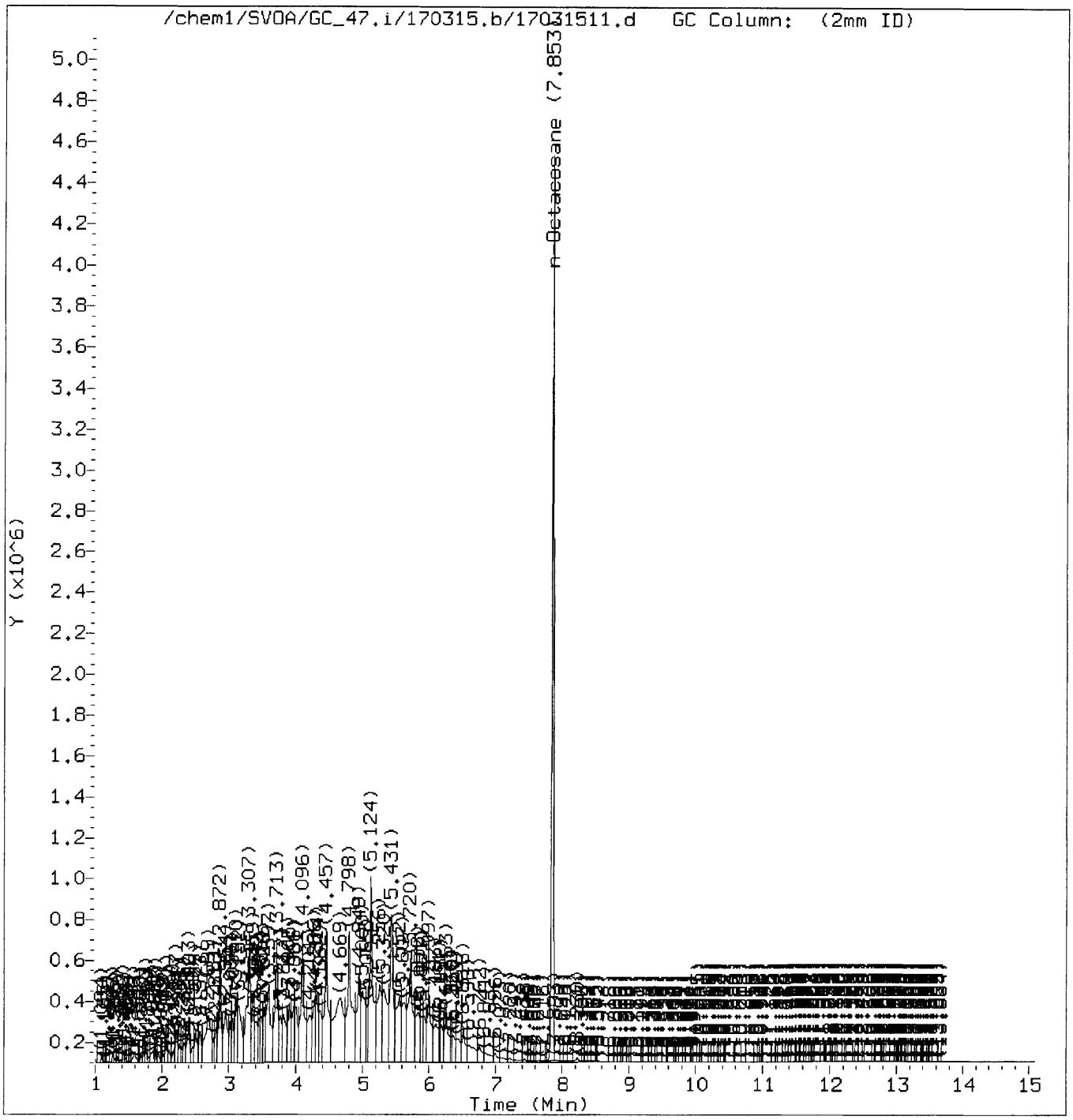
Manually Integrated Data File

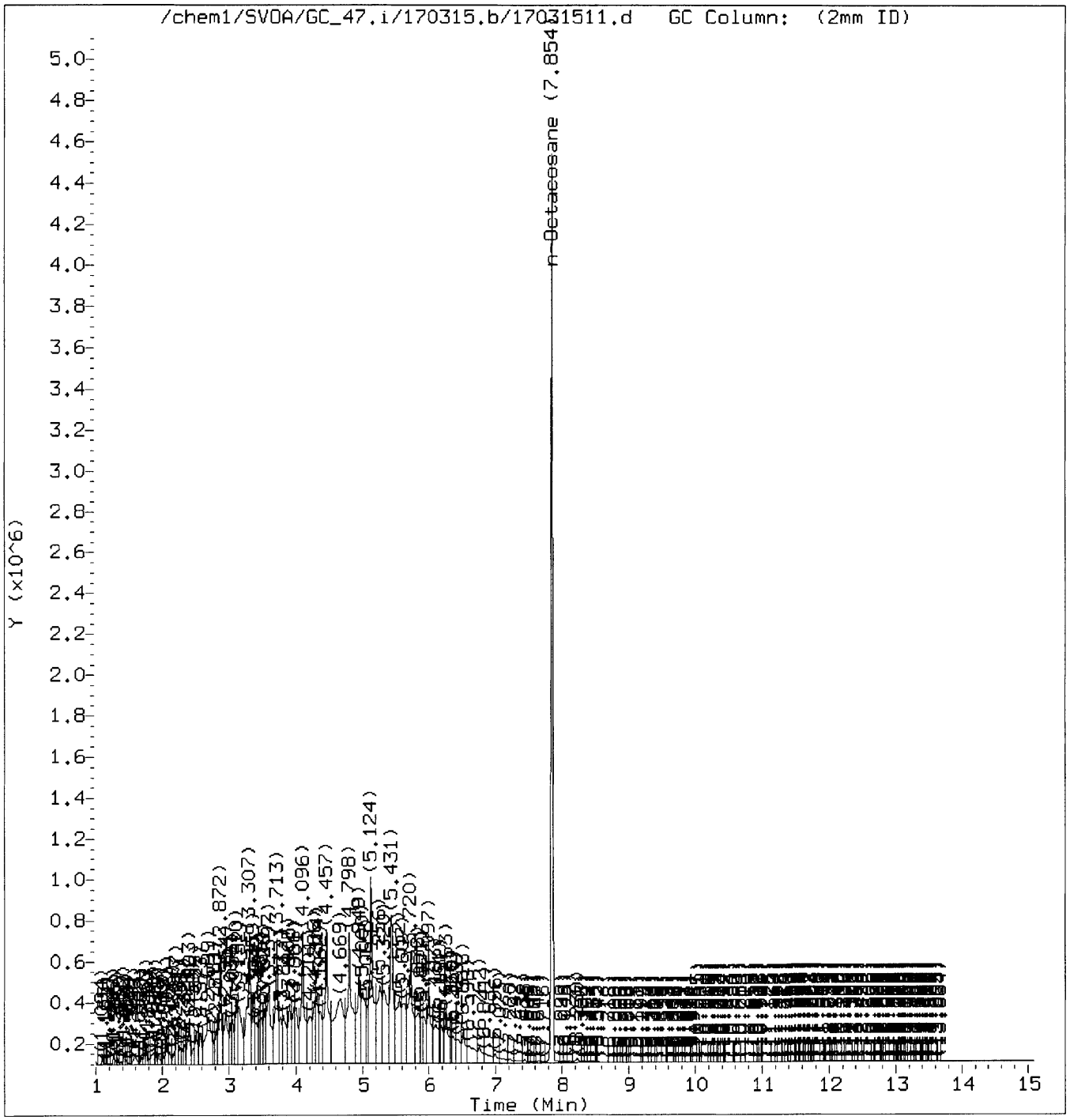



Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Denny Cam on 03/20/2017 at 13:55. Target 3.5 esignature user ID: n5y3

Audit/management approval: JD

Original Data File

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```
================================================================================
                          External Standard Report
================================================================================

Data File Name    : /chem1/SVOA/GC_47/170315/17031512.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 12
Instrument        : GC 47                        Injection Number  : 12
Sample Name       : 17-03-1039-1                 Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 16 MAR 17  00:35
Report Created on: 20-MAR-17  13:58              Compound Sublist  : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031512.d
```

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 7.853 | 8.706 | 0.853 | 36424782.00 | 42.78 | n-Octacosane |
| 0.800- 0.995 | | | 111748.25 | 0.13 | C6 |
| 0.995- 1.420 | | | 22496.00 | 0.03 | C7 |
| 1.420- 1.906 | | | 41057.63 | 0.05 | C8 |
| 1.906- 2.872 | | | 53138.29 | 0.06 | C9-C10 |
| 2.872- 3.713 | | | 78328.05 | 0.09 | C11-C12 |
| 3.713- 4.457 | | | 38957.73 | 0.04 | C13-C14 |
| 4.457- 5.122 | | | 41951.52 | 0.05 | C15-C16 |
| 5.122- 5.720 | | | 63396.46 | 0.07 | C17-C18 |
| 5.720- 6.265 | | | 36912.91 | 0.04 | C19-C20 |
| 6.265- 6.764 | | | 27722.83 | 0.03 | C21-C22 |
| 6.764- 7.224 | | | 68842.55 | 0.08 | C23-C24 |
| 7.224- 8.045 | | | 814736.83 | 0.93 | C25-C28 |
| 8.045- 8.760 | | | 837254.44 | 0.95 | C29-C32 |
| 8.760- 9.453 | | | 215126.23 | 0.24 | C33-C36 |
| 9.453-10.268 | | | 121527.35 | 0.14 | C37-C40 |
| 10.268-12.224 | | | 191871.93 | 0.22 | C41-C44 |
| 0.800-12.224 | | | 2765069.00 | 3.15 | TPH as Diesel |
| 0.800-12.224 | | | 2765069.00 | 3.15 | C6-C44 Total |

```
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031512.d

Page 1

Date : 16-MAR-2017 00:35

Client ID:

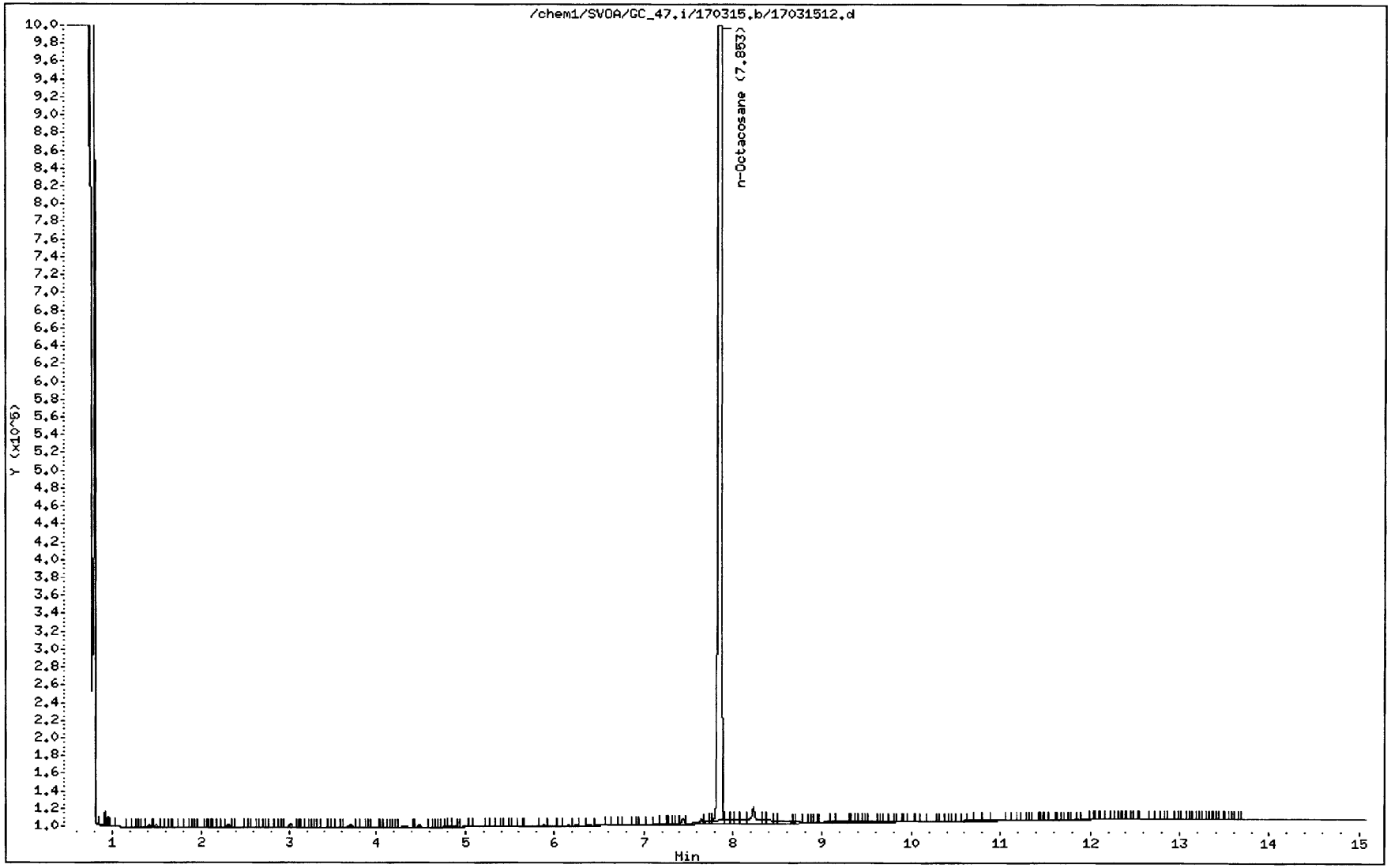
Instrument: GC_47.i

Sample Info: 17-03-1039-1

Operator: 972

Column phase:

Column diameter: 2.00



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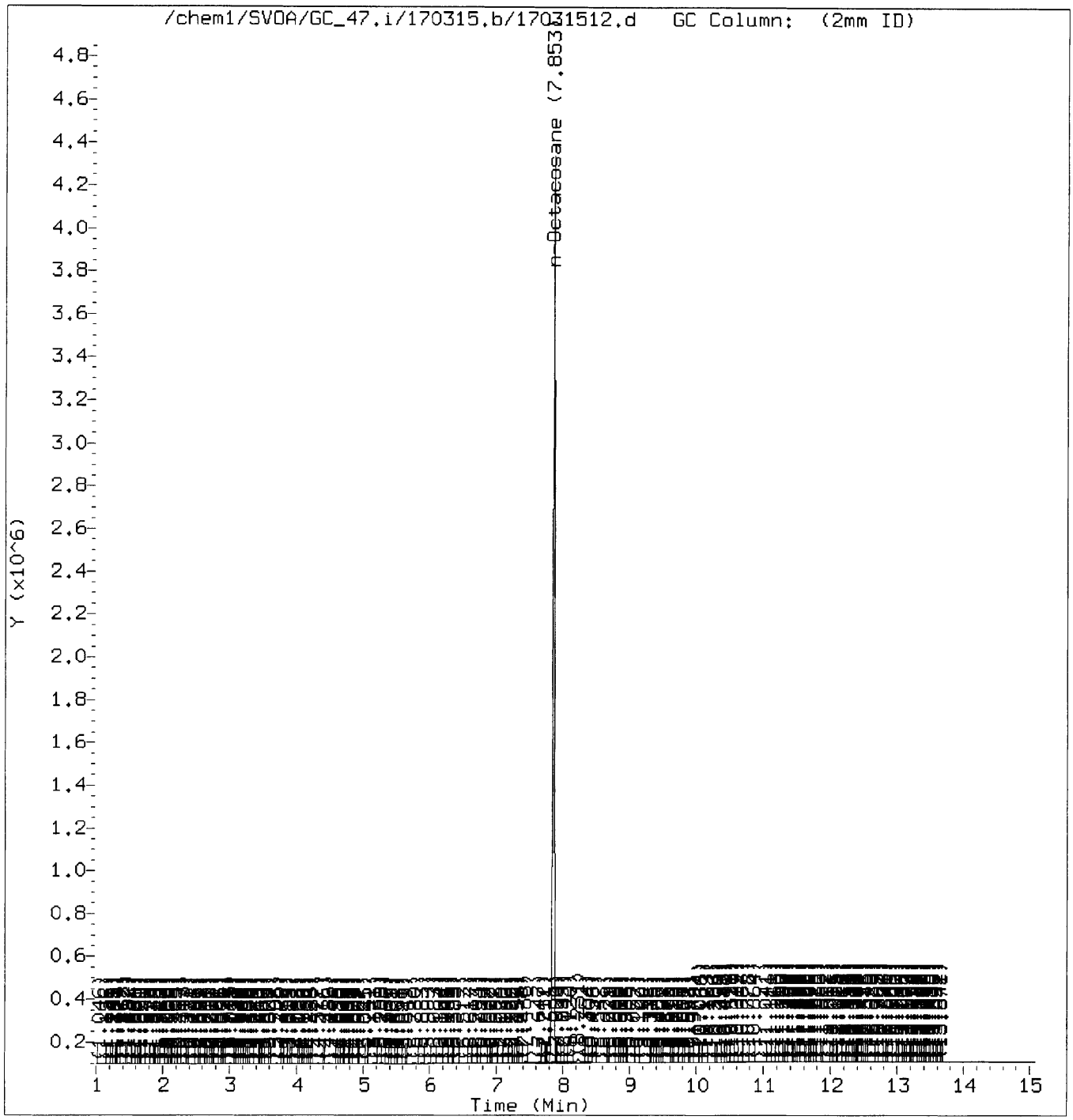
Manually Integrated Data File

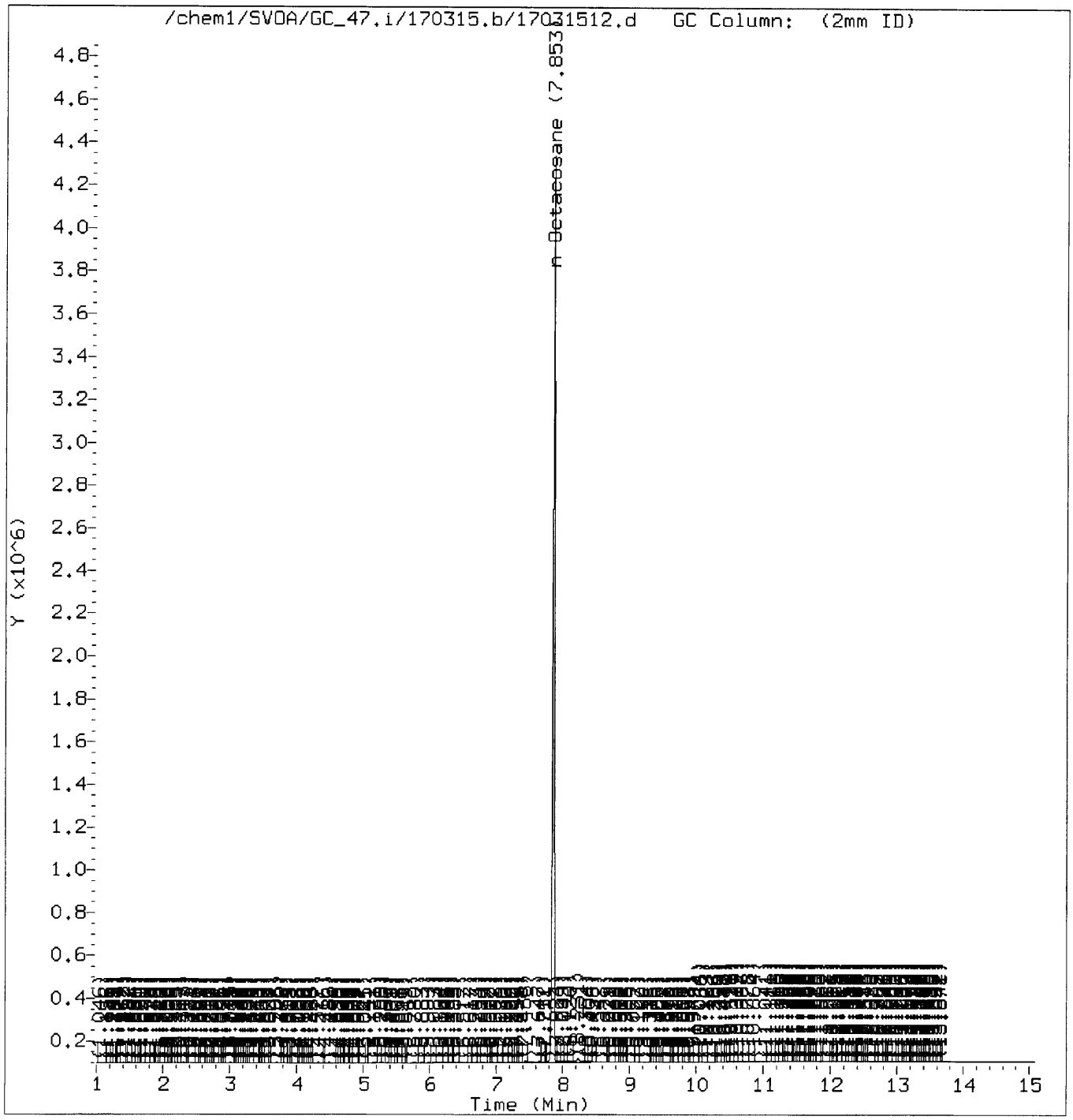



Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Denny Cam
on 03/20/2017 at 13:58.
Target 3.5 esignature user ID: n5y3

Audit/management approval: JD

Original Data File

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# EPA 8015B (M)

# Diesel + Motor Oil

# CONTINUING CALIBRATION

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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8015B (M)

**CCV WORK ORDER:** **099-15-295-7866-6169**
BATCH ID:
INITIAL: 170313I008
CCV: 170315A058
INSTRUMENT: GC 47

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031503.d\Report.txt17031503

ANALYZED BY: 1027
D/T ANALYZED:
INITIAL: 2017-03-13 13:22
CCV: 2017-03-15 21:27
REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 12:25

| COMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | C | Avg Resp | 0.00 | 879.028 | 857.278 | | | 2 | 0-15 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_47.i/170315.b/17031503.d
Report Date: 03/16/2017 11:35

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170315.b/8015d.m

Injection Date and Time: 15-MAR-2017 21:27
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| TPH as Diesel | 879028.259 | 857277.635 | 0.00 | 2 | 15 | Averaged |
| Diesel Range Organics | 804926.336 | 788530.783 | 0.00 | 2 | 15 | Averaged |
| **Surrogate Standards** | **ICAL RRF or Amount** | **ICV RRF** | **Min. RRF** | **%D / %Drift** | **Max%D /Drift** | **Curve Type** |
| n-Octacosane | 851421.884 | 786486.520 | 0.00 | 8 | 20 | Averaged |



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Data File: /chem1/SVOA/GC_47.i/170315.b/17031503.d Page 1
Report Date: 16-Mar-2017 11:25

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170315.b/17031503.d
Lab Smp Id:
Inj Date : 15-MAR-2017 21:27
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170315.b/8015d.m
Meth Date : 16-Mar-2017 11:25 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 3 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppm) | ( ppm) |
| S 15 TPH as Diesel | 0.800-8.045 | | | 342911054 | 400.000 | 390.102 |
| S 27 Diesel Range Organics | 2.404-8.045 | | | 315412313 | 400.000 | 391.852 |
| $ 93 n-Octacosane | 7.854 | 7.854 | 0.000 | 39324326 | 50.0000 | 46.186 |

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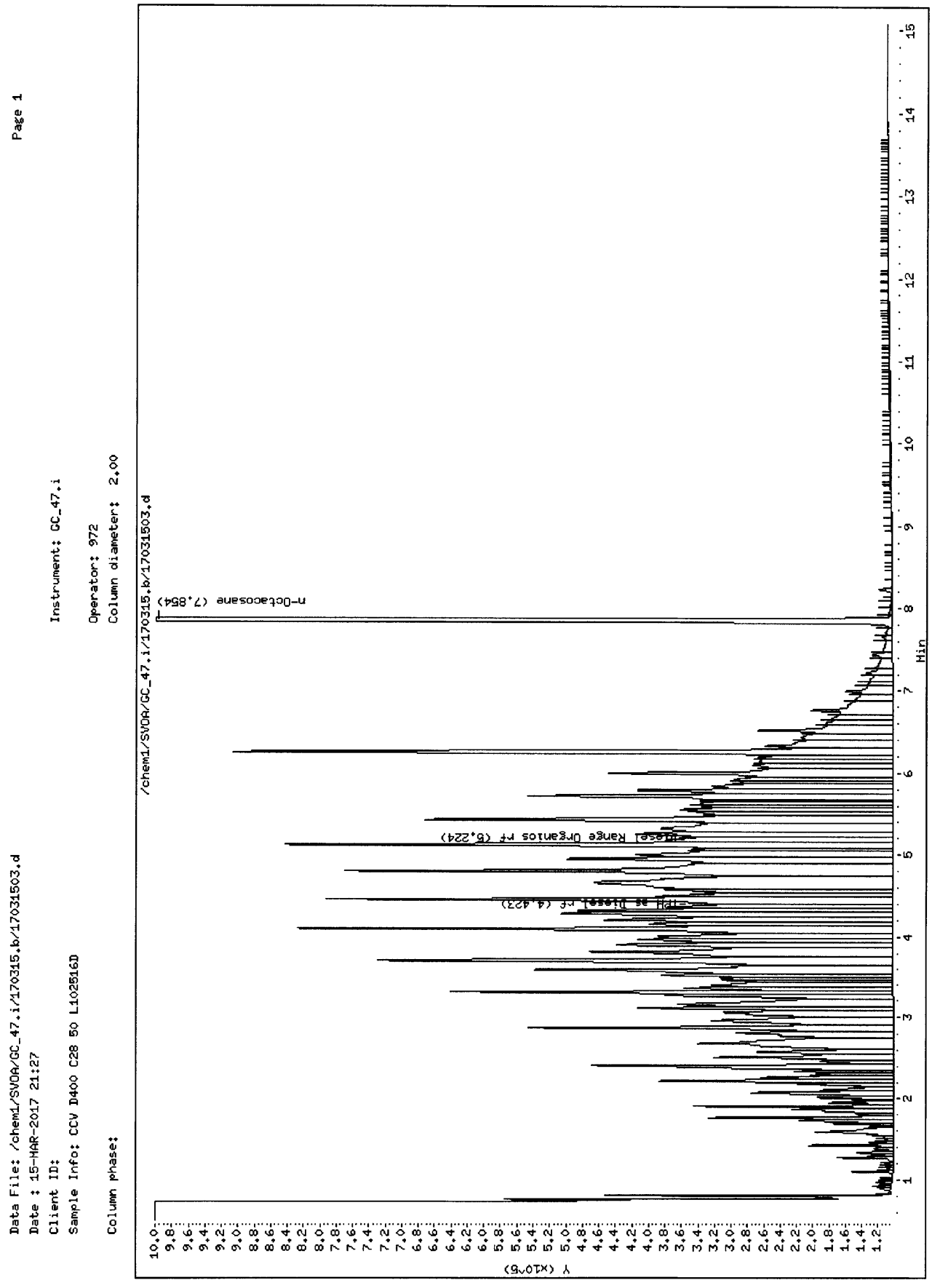


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# CCV ASSOCIATION SUMMARY
# FOR METHOD: EPA 8015B (M)

**BATCH ID:** **170315A059** ANALYZED BY: 1,027
INSTRUMENT: GC 47

**WORK ORDER:** **099-14-354** REVIEWED BY: 27
MATRIX: Water D/T REVIEWED: 2017-03-16 14:44

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 38 | Daily Calibration | 2017-03-16 01:38 | T:\GC_47\GC_47_data\2017\170315\17031515.d\Report.txt17031515 |

**WORK ORDER:** **17-03-0889** REVIEWED BY: 27
MATRIX: Soil D/T REVIEWED: 2017-03-17 14:39

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 25 | D-DU2-ISM1-8 | 2017-03-16 04:45 | T:\GC_47\GC_47_data\2017\170315\17031524.d\Report.txt17031524 |
| 26 | D-DU2-ISM2-8 | 2017-03-16 05:05 | T:\GC_47\GC_47_data\2017\170315\17031525.d\Report.txt17031525 |

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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8015B (M)

**CCV WORK ORDER: 099-14-354-38-5901**

BATCH ID:
INITIAL: 170313I008
CCV: 170315A059
INSTRUMENT: GC 47

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031515.d\Report.txt17031515

ANALYZED BY: 1027
D/T ANALYZED:
INITIAL: 2017-03-13 13:22
CCV: 2017-03-16 01:38
REVIEWED BY: 27
D/T REVIEWED: 2017-03-16 14:44

| COMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | C | Avg Resp | 0.00 | 879.028 | 865.504 | | | 2 | 0-20 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_47.i/170315.b/17031515.d
Report Date: 03/16/2017 11:35

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170315.b/8015d.m

Injection Date and Time: 16-MAR-2017 01:38
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| TPH as Diesel | 879028.259 | 865504.003 | 0.00 | 2 | 15 | Averaged |
| Diesel Range Organics | 804926.336 | 796274.528 | 0.00 | 1 | 15 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| n-Octacosane | 851421.884 | 818238.800 | 0.00 | 4 | 20 | Averaged |



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Data File: /chem1/SVOA/GC_47.i/170315.b/17031515.d Page 1
Report Date: 16-Mar-2017 11:25

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170315.b/17031515.d
Lab Smp Id:
Inj Date : 16-MAR-2017 01:38
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170315.b/8015d.m
Meth Date : 16-Mar-2017 11:25 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 15 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppm) | ( ppm) |
| S 15 TPH as Diesel | 0.800-8.045 | | | 346201601 | 400.000 | 393.845 |
| S 27 Diesel Range Organics | 2.404-8.045 | | | 318509811 | 400.000 | 395.700 |
| $ 93 n-Octacosane | 7.854 | 7.854 | 0.000 | 40911940 | 50.0000 | 48.051 |

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031515.d

Page 1

Date : 16-MAR-2017 01:38

Client ID:

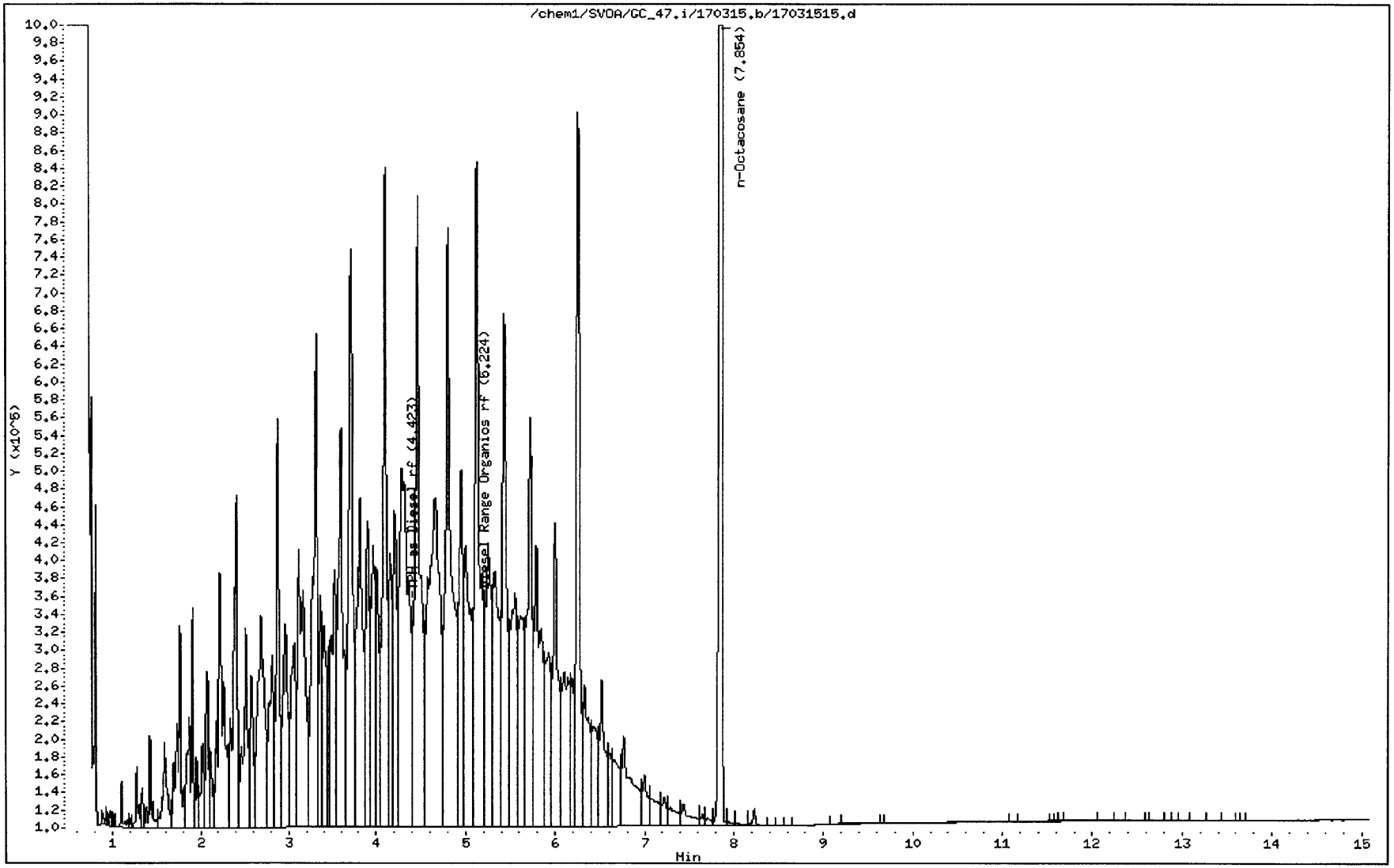
Instrument: GC_47.i

Sample Info: CCV D400 C28 50 L102516D

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170315.b/17031527.d
Report Date: 03/20/2017 13:37

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170315.b/8015d.m

Injection Date and Time: 16-MAR-2017 05:47
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| TPH as Diesel | 879028.259 | 860730.158 | 0.00 | 2 | 15 | Averaged |
| Diesel Range Organics | 804926.336 | 792001.148 | 0.00 | 2 | 15 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| n-Octacosane | 851421.884 | 823160.960 | 0.00 | 3 | 20 | Averaged |



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Data File: /chem1/SVOA/GC_47.i/170315.b/17031527.d Page 1
Report Date: 16-Mar-2017 11:28

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170315.b/17031527.d
Lab Smp Id:
Inj Date : 16-MAR-2017 05:47
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170315.b/8015d.m
Meth Date : 16-Mar-2017 11:28 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 27 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppm) | ( ppm) |
| S 15 TPH as Diesel | 0.800-8.045 | | | 344292063 | 400.000 | 391.673 |
| S 27 Diesel Range Organics | 2.404-8.045 | | | 316800459 | 400.000 | 393.576 |
| $ 93 n-Octacosane | 7.854 | 7.854 | 0.000 | 41158048 | 50.0000 | 48.340 |

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031527.d

Page 1

Date : 16-MAR-2017 05:47

Client ID:

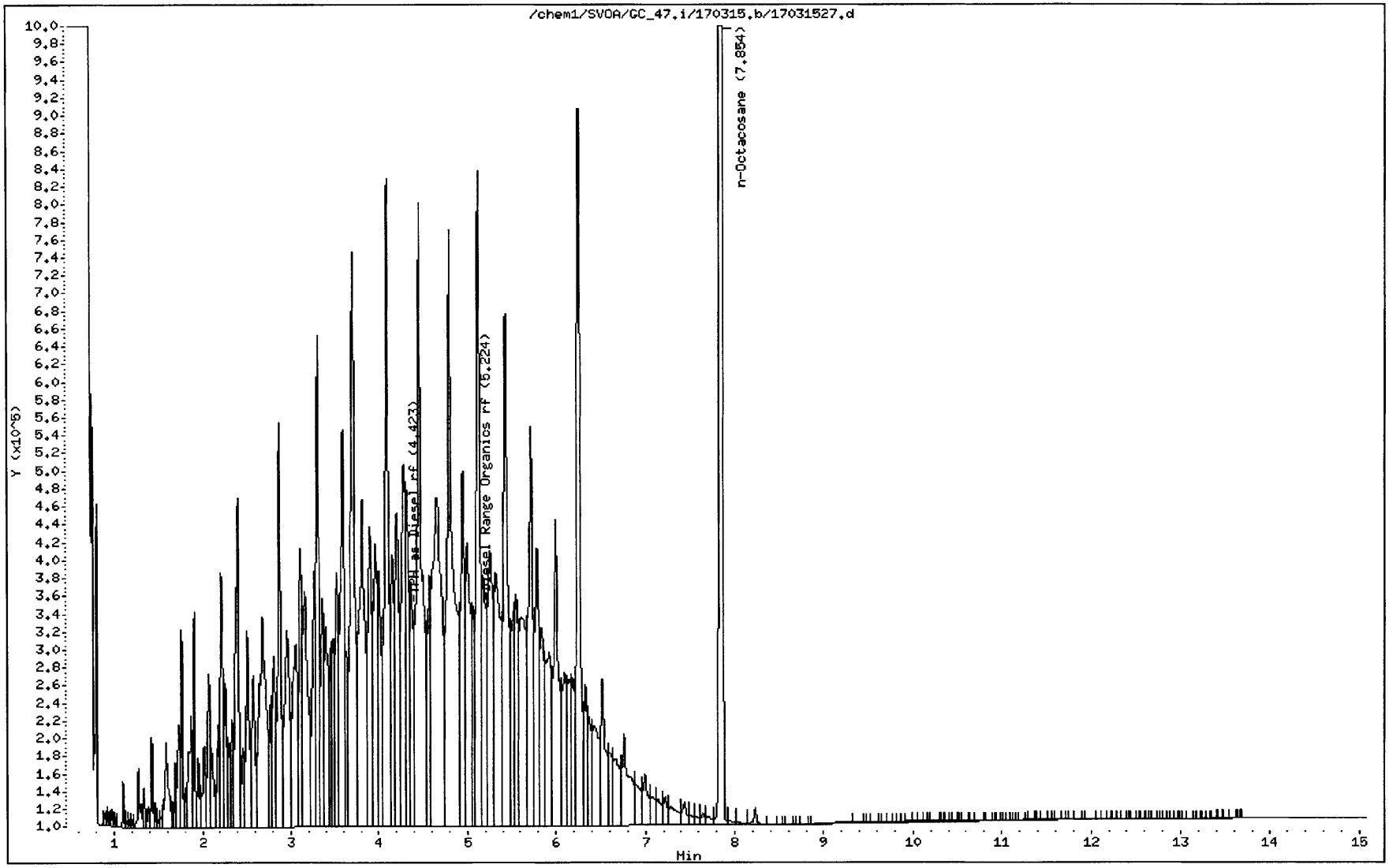
Instrument: GC_47.i

Sample Info: CCV D400 C28 50 L102516D

Operator: 972

Column phase:

Column diameter: 2.00



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# CCV ASSOCIATION SUMMARY
# FOR METHOD: EPA 8015B (M)

**BATCH ID:** **170316A053** ANALYZED BY: 1,027
INSTRUMENT: GC 47

**WORK ORDER:** **099-14-354** REVIEWED BY: 27
MATRIX: Water D/T REVIEWED: 2017-03-17 14:38

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 42 | Daily Calibration | 2017-03-16 18:41 | T:\GC_47\GC_47_data\2017\170316\17031624.d\Report.txt17031624 |

**WORK ORDER:** **17-03-0889** REVIEWED BY: 27
MATRIX: Soil D/T REVIEWED: 2017-03-17 14:39

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 27 | D-DU2-ISM3-8 | 2017-03-16 19:02 | T:\GC_47\GC_47_data\2017\170316\17031625.d\Report.txt17031625 |

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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8015B (M)

**CCV WORK ORDER: 099-14-354-42-5901**

BATCH ID:
INITIAL: 170313I008
CCV: 170316A053
INSTRUMENT: GC 47

DATA FILE: T:\GC_47\GC_47_data\2017\170316\17031624.d\Report.txt17031624

ANALYZED BY: 1027
D/T ANALYZED:
INITIAL: 2017-03-13 13:22
CCV: 2017-03-16 18:41
REVIEWED BY:
D/T REVIEWED:

| COMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | C | Avg Resp | 0.00 | 879.028 | 863.597 | | | 2 | 0-20 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_47.i/170316.b/17031624.d
Report Date: 03/17/2017 11:31

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170316.b/8015d.m

Injection Date and Time: 16-MAR-2017 18:41
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| TPH as Diesel | 879028.259 | 863597.023 | 0.00 | 2 | 15 | Averaged |
| Diesel Range Organics | 804926.336 | 792418.793 | 0.00 | 2 | 15 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| n-Octacosane | 851421.884 | 840414.880 | 0.00 | 1 | 20 | Averaged |



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Data File: /chem1/SVOA/GC_47.i/170316.b/17031624.d Page 1
Report Date: 16-Mar-2017 19:03

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170316.b/17031624.d
Lab Smp Id:
Inj Date : 16-MAR-2017 18:41
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170316.b/8015d.m
Meth Date : 16-Mar-2017 19:03 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 24 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( ppm) |
|---|---|---|---|---|---|---|
| S 15 TPH as Diesel | 0.800-8.044 | | | 345438809 | 400.000 | 392.978 |
| S 27 Diesel Range Organics | 2.403-8.044 | | | 316967517 | 400.000 | 393.784 |
| $ 93 n-Octacosane | 7.853 | 7.853 | 0.000 | 42020744 | 50.0000 | 49.353 |

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Data File: /chem1/SVOA/GC_47.i/170316.b/17031624.d

Page 1

Date : 16-MAR-2017 18:41

Client ID:

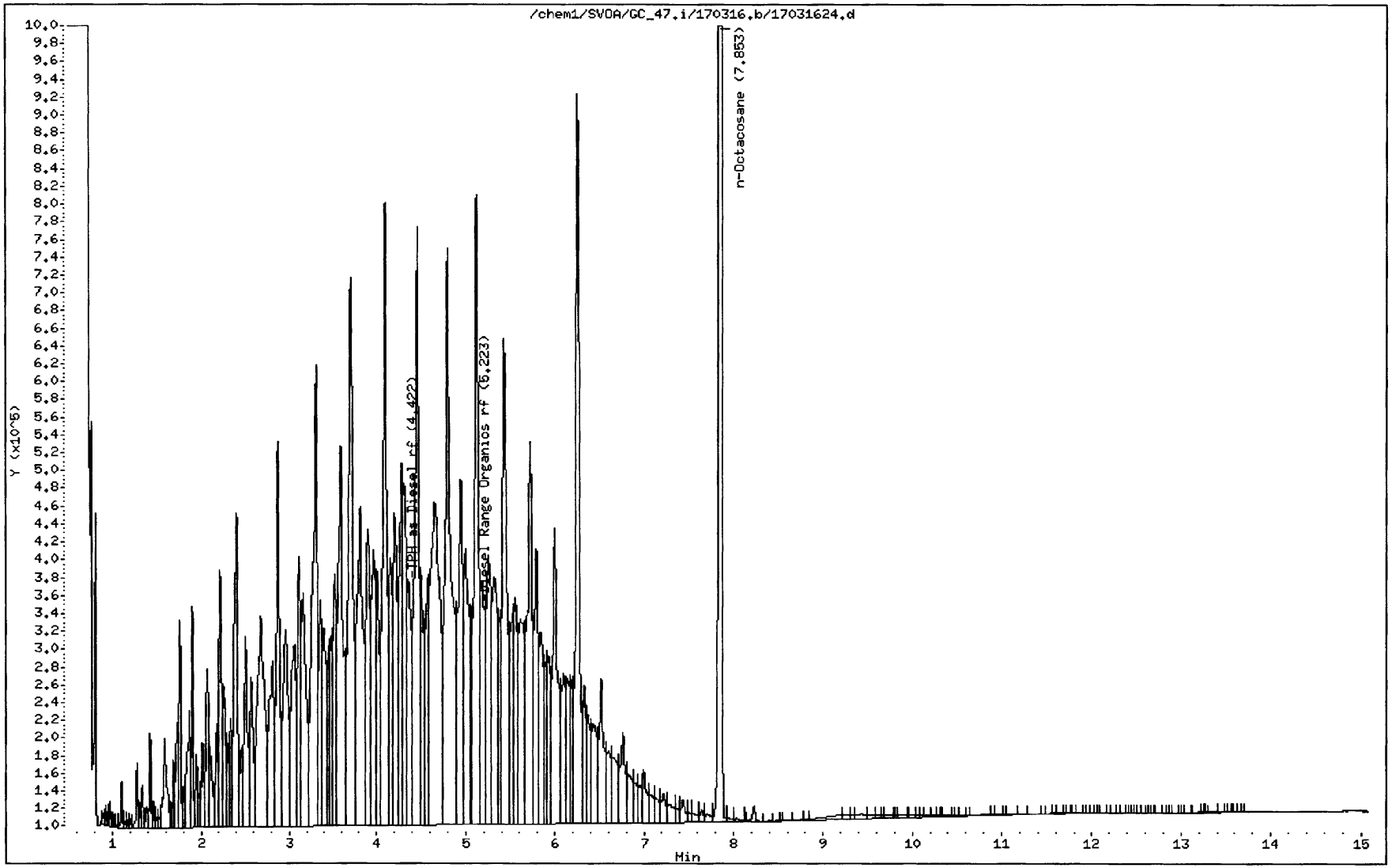
Instrument: GC_47.i

Sample Info: CCV D400 C28 50 L102516D

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170316.b/17031630.d
Report Date: 03/17/2017 12:15

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO.sub
Method used: /chem1/SVOA/GC_47.i/170316.b/8015d.m

Injection Date and Time: 16-MAR-2017 21:08
Initial Calibration Date(s): 06-DEC-2016 13-MAR-2017
Initial Calibration Time(s): 14:39 17:12

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| TPH as Diesel | 879028.259 | 871682.415 | 0.00 | 1 | 15 | Averaged |
| Diesel Range Organics | 804926.336 | 800456.893 | 0.00 | 1 | 15 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| n-Octacosane | 851421.884 | 870004.820 | 0.00 | -2 | 20 | Averaged |



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Data File: /chem1/SVOA/GC_47.i/170316.b/17031630.d Page 1
Report Date: 17-Mar-2017 12:13

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170316.b/17031630.d
Lab Smp Id:
Inj Date : 16-MAR-2017 21:08
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170316.b/8015d.m
Meth Date : 17-Mar-2017 12:13 d2ef Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 30 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppm) | ( ppm) |
| S 15 TPH as Diesel | 0.803-8.045 | | | 348672966 | 400.000 | 396.657 |
| S 27 Diesel Range Organics | 2.401-8.045 | | | 320182757 | 400.000 | 397.778 |
| $ 93 n-Octacosane | 7.852 | 7.852 | 0.000 | 43500241 | 50.0000 | 51.091 |

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Data File: /chem1/SVOA/GC_47.i/170316.b/17031630.d

Page 1

Date : 16-MAR-2017 21:08

Client ID:

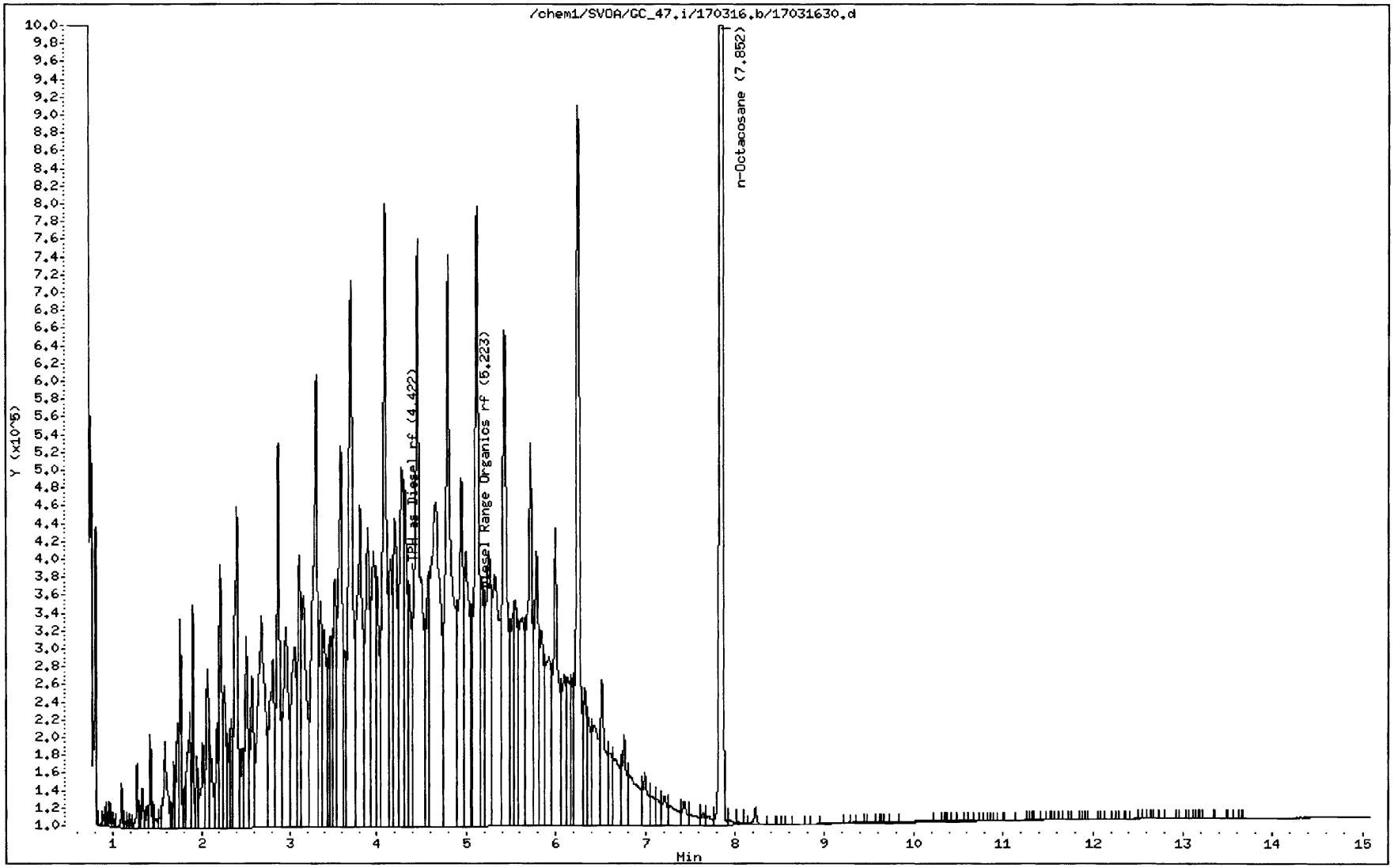
Instrument: GC_47.i

Sample Info: CCV D400 C28 50 L102516D

Operator: 972

Column phase:

Column diameter: 2.00



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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170315/17031502.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : C6-C44 L110816A
Acquired on : 15 MAR 17 21:06
Report Created on: 16-MAR-17 11:34
Software Revision: Target 3.50
Vial Number : Vial 2
Injection Number : 2
Sequence Line : 0
Instrument Method: 8015d.m
Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170315.b/17031502.d

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 0.800 | 8.706 | 7.906 | 1702770.00 | 0.00 | C6-Hexane |
| 0.995 | 8.706 | 7.711 | 4186191.00 | 0.00 | C7-Heptane |
| 1.420 | 8.706 | 7.286 | 6962857.00 | 0.00 | C8-Octane |
| 1.906 | 8.706 | 6.800 | 8360512.00 | 0.00 | C9-Nonane |
| 2.404 | 8.706 | 6.302 | 9308201.00 | 0.00 | C10-Decane |
| 2.872 | 8.706 | 5.834 | 9684594.00 | 0.00 | C11-Undecane |
| 3.307 | 8.706 | 5.399 | 9676849.00 | 0.00 | C12-Dodecane |
| 3.713 | 8.706 | 4.993 | 11025291.00 | 0.00 | C13-Tridecane |
| 4.097 | 8.706 | 4.609 | 10877369.00 | 0.00 | C14-Tetradecane |
| 4.457 | 8.706 | 4.249 | 12906162.00 | 0.00 | C15-pentadecane |
| 4.798 | 8.706 | 3.908 | 14246537.00 | 0.00 | C16-Hexadecane |
| 5.122 | 8.706 | 3.584 | 15009589.00 | 0.00 | C17-Heptadecane |
| 5.428 | 8.706 | 3.278 | 15188809.00 | 0.00 | C18-Octadecane |
| 5.720 | 8.706 | 2.986 | 15453233.00 | 0.00 | C19-Nonadecane |
| 5.999 | 8.706 | 2.707 | 15803243.00 | 0.00 | C20-Eicosane |
| 6.265 | 8.706 | 2.441 | 15705896.00 | 0.00 | C21-Heneicosane |
| 6.520 | 8.706 | 2.186 | 16095723.00 | 0.00 | C22-Docosane |
| 6.764 | 8.706 | 1.942 | 15920208.00 | 0.00 | C23-Tricosane |
| 6.999 | 8.706 | 1.707 | 15915347.00 | 0.00 | C24-Tetracosane |
| 7.224 | 8.706 | 1.482 | 15672811.00 | 0.00 | C25-Pentacosane |
| 7.441 | 8.706 | 1.265 | 16126321.00 | 0.00 | C26-Hexacosane |
| 7.649 | 8.706 | 1.057 | 15156753.00 | 0.00 | C27-Heptacosane |
| 7.851 | 8.706 | 0.855 | 14968450.00 | 17.58 | n-Octacosane |
| 8.045 | 8.706 | 0.661 | 13961612.00 | 0.00 | C29-Nonacosane |
| 8.233 | 8.706 | 0.473 | 12782744.00 | 0.00 | C30-Triacontane |
| 8.414 | 8.706 | 0.292 | 10674399.00 | 0.00 | C31-Hentriacontane |
| 8.590 | 8.706 | 0.116 | 8404355.00 | 0.00 | C32-Dotricacontane |
| 8.760 | 8.706 | -0.054 | 5935626.00 | 0.00 | C33-Tritriacontane |
| 8.926 | 8.706 | -0.220 | 3644623.00 | 0.00 | C34-Tetratriacontane |
| 9.088 | 8.706 | -0.382 | 2023534.00 | 0.00 | C35-Pentatriacontane |
| 9.257 | 8.706 | -0.551 | 1153247.00 | 0.00 | C36-Hexatriacontane |
| 9.453 | 8.706 | -0.747 | 665973.00 | 0.00 | C37-Heptatriacontane |
| 9.682 | 8.706 | -0.976 | 445454.00 | 0.00 | C38-Octatriacontane |
| 9.951 | 8.706 | -1.245 | 306382.00 | 0.00 | C39-Nonatriacontane |
| 10.268 | 8.706 | -1.562 | 265499.00 | 0.00 | C40-Tetracontane |
| 12.224 | 8.706 | -3.518 | 612168.00 | 0.00 | C44-Tetratetracontane |

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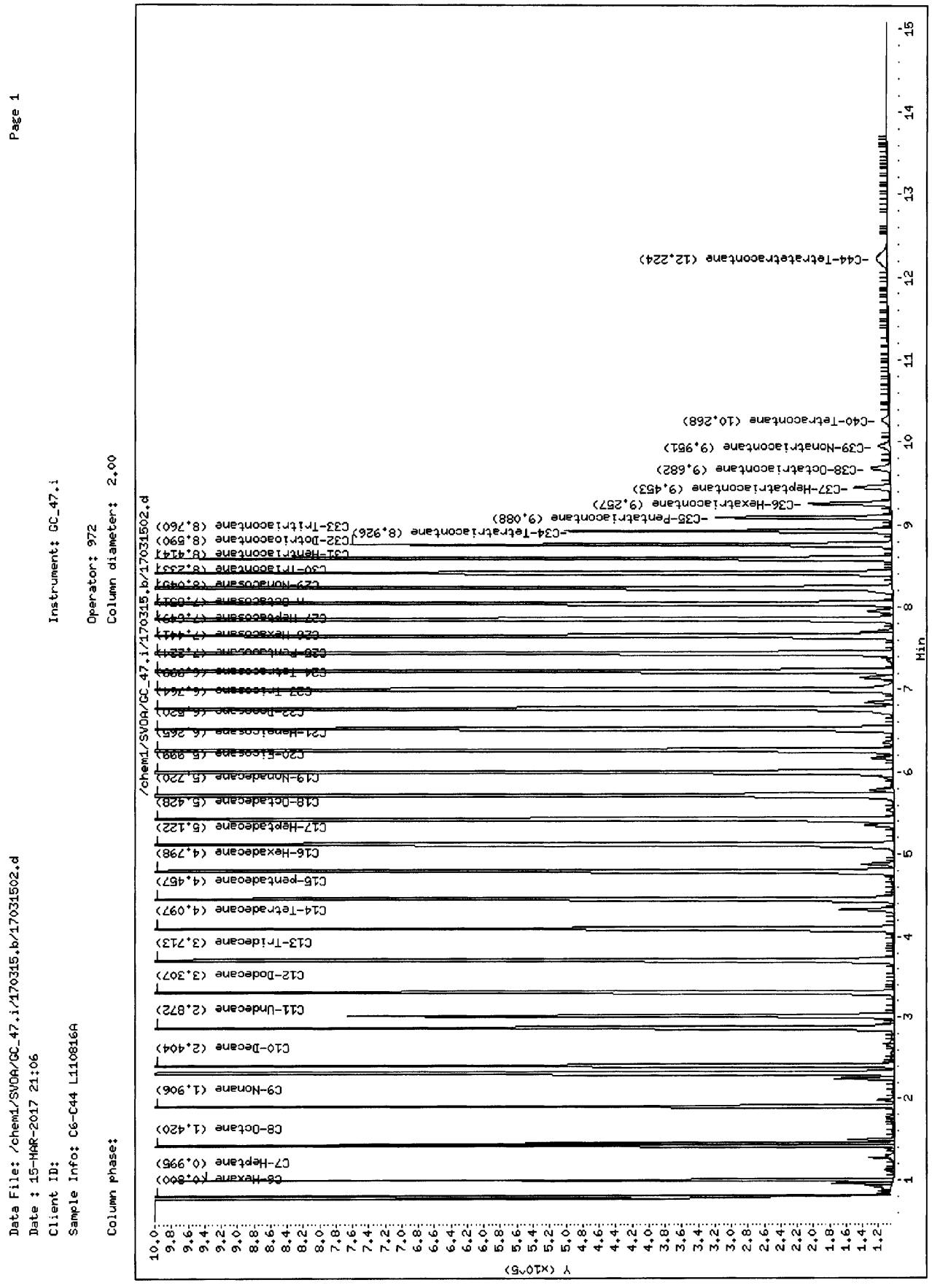


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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170316/17031602.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : C6-C44 L110816A
Vial Number : Vial 2
Injection Number : 2
Sequence Line : 0
Instrument Method: 8015d.m
Acquired on : 16 MAR 17 09:52
Report Created on: 17-MAR-17 12:13
Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in /chem1/SVOA/GC_47.i/170316.b/17031602.d

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 0.800 | 8.706 | 7.906 | 1648852.00 | 0.00 | C6-Hexane |
| 0.995 | 8.706 | 7.711 | 4411513.00 | 0.00 | C7-Heptane |
| 1.419 | 8.706 | 7.287 | 7842519.00 | 0.00 | C8-Octane |
| 1.905 | 8.706 | 6.801 | 9939919.00 | 0.00 | C9-Nonane |
| 2.403 | 8.706 | 6.303 | 11320575.00 | 0.00 | C10-Decane |
| 2.870 | 8.706 | 5.836 | 11864931.00 | 0.00 | C11-Undecane |
| 3.306 | 8.706 | 5.400 | 11848980.00 | 0.00 | C12-Dodecane |
| 3.712 | 8.706 | 4.994 | 13831983.00 | 0.00 | C13-Tridecane |
| 4.096 | 8.706 | 4.610 | 13322444.00 | 0.00 | C14-Tetradecane |
| 4.456 | 8.706 | 4.250 | 15808910.00 | 0.00 | C15-pentadecane |
| 4.797 | 8.706 | 3.909 | 17450193.00 | 0.00 | C16-Hexadecane |
| 5.120 | 8.706 | 3.586 | 18412165.00 | 0.00 | C17-Heptadecane |
| 5.427 | 8.706 | 3.279 | 18599812.00 | 0.00 | C18-Octadecane |
| 5.719 | 8.706 | 2.987 | 18931635.00 | 0.00 | C19-Nonadecane |
| 5.998 | 8.706 | 2.708 | 19424551.00 | 0.00 | C20-Eicosane |
| 6.265 | 8.706 | 2.441 | 19252234.00 | 0.00 | C21-Heneicosane |
| 6.519 | 8.706 | 2.187 | 19775420.00 | 0.00 | C22-Docosane |
| 6.763 | 8.706 | 1.943 | 19606203.00 | 0.00 | C23-Tricosane |
| 6.998 | 8.706 | 1.708 | 19627591.00 | 0.00 | C24-Tetracosane |
| 7.223 | 8.706 | 1.483 | 19257175.00 | 0.00 | C25-Pentacosane |
| 7.439 | 8.706 | 1.267 | 19915868.00 | 0.00 | C26-Hexacosane |
| 7.648 | 8.706 | 1.058 | 18800742.00 | 0.00 | C27-Heptacosane |
| 7.850 | 8.706 | 0.856 | 18582131.00 | 21.82 | n-Octacosane |
| 8.044 | 8.706 | 0.662 | 17514633.00 | 0.00 | C29-Nonacosane |
| 8.232 | 8.706 | 0.474 | 16456224.00 | 0.00 | C30-Triacontane |
| 8.413 | 8.706 | 0.293 | 14143914.00 | 0.00 | C31-Hentriacontane |
| 8.589 | 8.706 | 0.117 | 11609621.00 | 0.00 | C32-Dotricacontane |
| 8.759 | 8.706 | -0.053 | 8624439.00 | 0.00 | C33-Tritriacontane |
| 8.925 | 8.706 | -0.219 | 5574586.00 | 0.00 | C34-Tetratriacontane |
| 9.086 | 8.706 | -0.380 | 3200562.00 | 0.00 | C35-Pentatriacontane |
| 9.254 | 8.706 | -0.548 | 1824359.00 | 0.00 | C36-Hexatriacontane |
| 9.450 | 8.706 | -0.744 | 958157.00 | 0.00 | C37-Heptatriacontane |
| 9.680 | 8.706 | -0.974 | 594495.00 | 0.00 | C38-Octatriacontane |
| 9.946 | 8.706 | -1.240 | 407014.00 | 0.00 | C39-Nonatriacontane |
| 10.262 | 8.706 | -1.556 | 340038.00 | 0.00 | C40-Tetracontane |
| 12.223 | 8.706 | -3.517 | 620197.00 | 0.00 | C44-Tetratetracontane |

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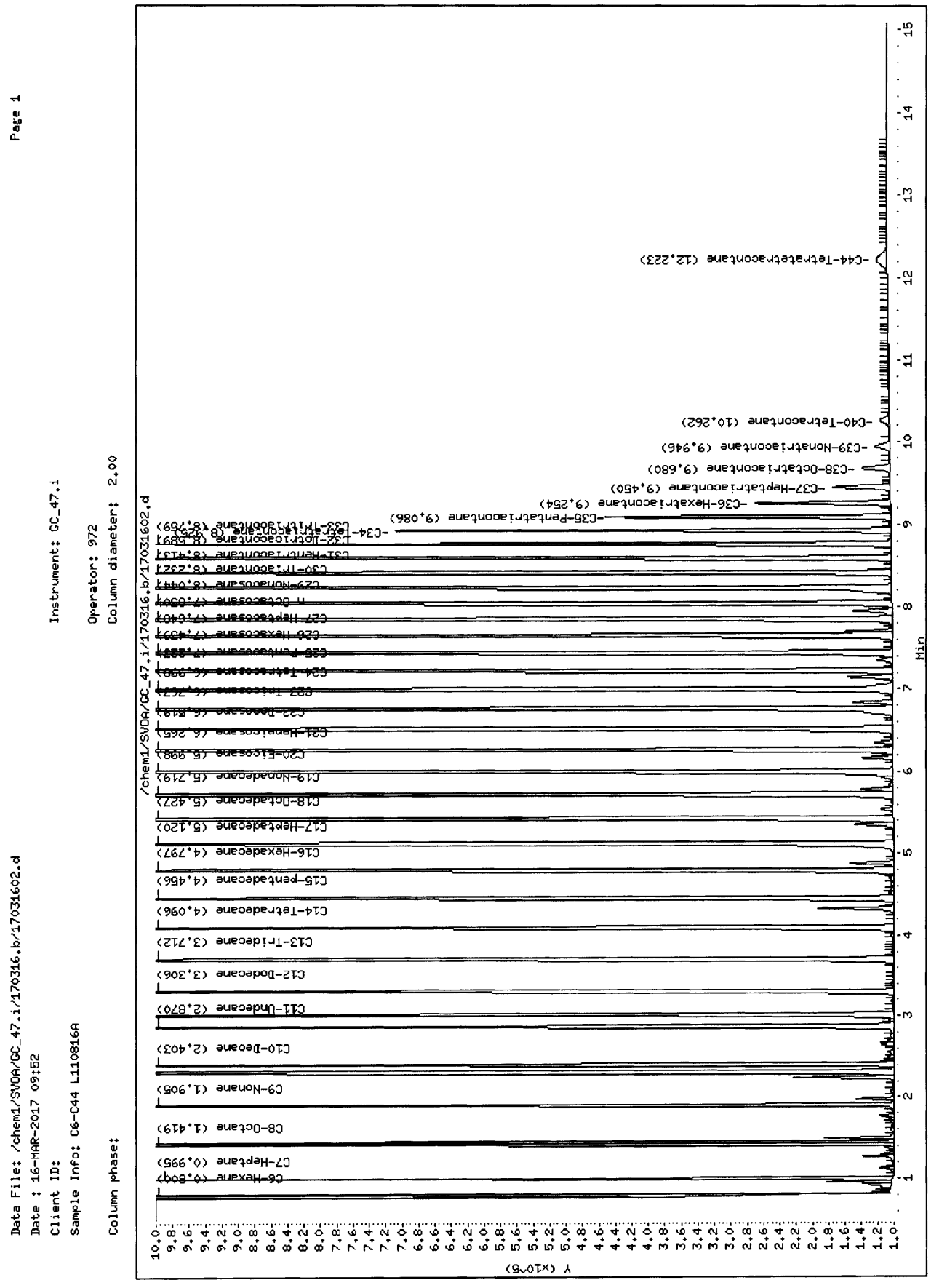


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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170316/1703160201.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : C6-C44 L110816A
Acquired on : 16 MAR 17 20:47
Report Created on: 17-MAR-17 12:05
Software Revision: Target 3.50
Vial Number : Vial 2
Injection Number : 2
Sequence Line : 0
Instrument Method: 8015d.m
Compound Sublist : all

Sig. 1 in /chem1/SVOA/GC_47.i/170316.b/1703160201.d

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 0.803 | 8.706 | 7.903 | 1615977.00 | 0.00 | C6-Hexane |
| 0.998 | 8.706 | 7.708 | 4432228.00 | 0.00 | C7-Heptane |
| 1.420 | 8.706 | 7.286 | 8711706.00 | 0.00 | C8-Octane |
| 1.903 | 8.706 | 6.803 | 11996692.00 | 0.00 | C9-Nonane |
| 2.401 | 8.706 | 6.305 | 14275180.00 | 0.00 | C10-Decane |
| 2.869 | 8.706 | 5.837 | 15304803.00 | 0.00 | C11-Undecane |
| 3.305 | 8.706 | 5.401 | 15429157.00 | 0.00 | C12-Dodecane |
| 3.712 | 8.706 | 4.994 | 18119884.00 | 0.00 | C13-Tridecane |
| 4.095 | 8.706 | 4.611 | 15437080.00 | 0.00 | C14-Tetradecane |
| 4.455 | 8.706 | 4.251 | 16986344.00 | 0.00 | C15-pentadecane |
| 4.797 | 8.706 | 3.909 | 20603764.00 | 0.00 | C16-Hexadecane |
| 5.120 | 8.706 | 3.586 | 23267627.00 | 0.00 | C17-Heptadecane |
| 5.427 | 8.706 | 3.279 | 23991258.00 | 0.00 | C18-Octadecane |
| 5.719 | 8.706 | 2.987 | 24566849.00 | 0.00 | C19-Nonadecane |
| 5.998 | 8.706 | 2.708 | 25544483.00 | 0.00 | C20-Eicosane |
| 6.264 | 8.706 | 2.442 | 25294333.00 | 0.00 | C21-Heneicosane |
| 6.519 | 8.706 | 2.187 | 26272796.00 | 0.00 | C22-Docosane |
| 6.764 | 8.706 | 1.942 | 26357330.00 | 0.00 | C23-Tricosane |
| 6.998 | 8.706 | 1.708 | 26638538.00 | 0.00 | C24-Tetracosane |
| 7.223 | 8.706 | 1.483 | 26109998.00 | 0.00 | C25-Pentacosane |
| 7.440 | 8.706 | 1.266 | 26930315.00 | 0.00 | C26-Hexacosane |
| 7.649 | 8.706 | 1.057 | 25120915.00 | 0.00 | C27-Heptacosane |
| 7.850 | 8.706 | 0.856 | 24151071.00 | 28.36 | n-Octacosane |
| 8.045 | 8.706 | 0.661 | 21484055.00 | 0.00 | C29-Nonacosane |
| 8.232 | 8.706 | 0.474 | 18415300.00 | 0.00 | C30-Triacontane |
| 8.413 | 8.706 | 0.293 | 14068490.00 | 0.00 | C31-Hentriacontane |
| 8.589 | 8.706 | 0.117 | 10055916.00 | 0.00 | C32-Dotricacontane |
| 8.759 | 8.706 | -0.053 | 6475815.00 | 0.00 | C33-Tritriacontane |
| 8.925 | 8.706 | -0.219 | 3703549.00 | 0.00 | C34-Tetratriacontane |
| 9.086 | 8.706 | -0.380 | 1972743.00 | 0.00 | C35-Pentatriacontane |
| 9.254 | 8.706 | -0.548 | 1127334.00 | 0.00 | C36-Hexatriacontane |
| 9.450 | 8.706 | -0.744 | 594907.00 | 0.00 | C37-Heptatriacontane |
| 9.679 | 8.706 | -0.973 | 387021.00 | 0.00 | C38-Octatriacontane |
| 9.947 | 8.706 | -1.241 | 284306.00 | 0.00 | C39-Nonatriacontane |
| 10.260 | 8.706 | -1.554 | 194303.00 | 0.00 | C40-Tetracontane |
| 12.204 | 8.706 | -3.498 | 227806.00 | 0.00 | C44-Tetratetracontane |

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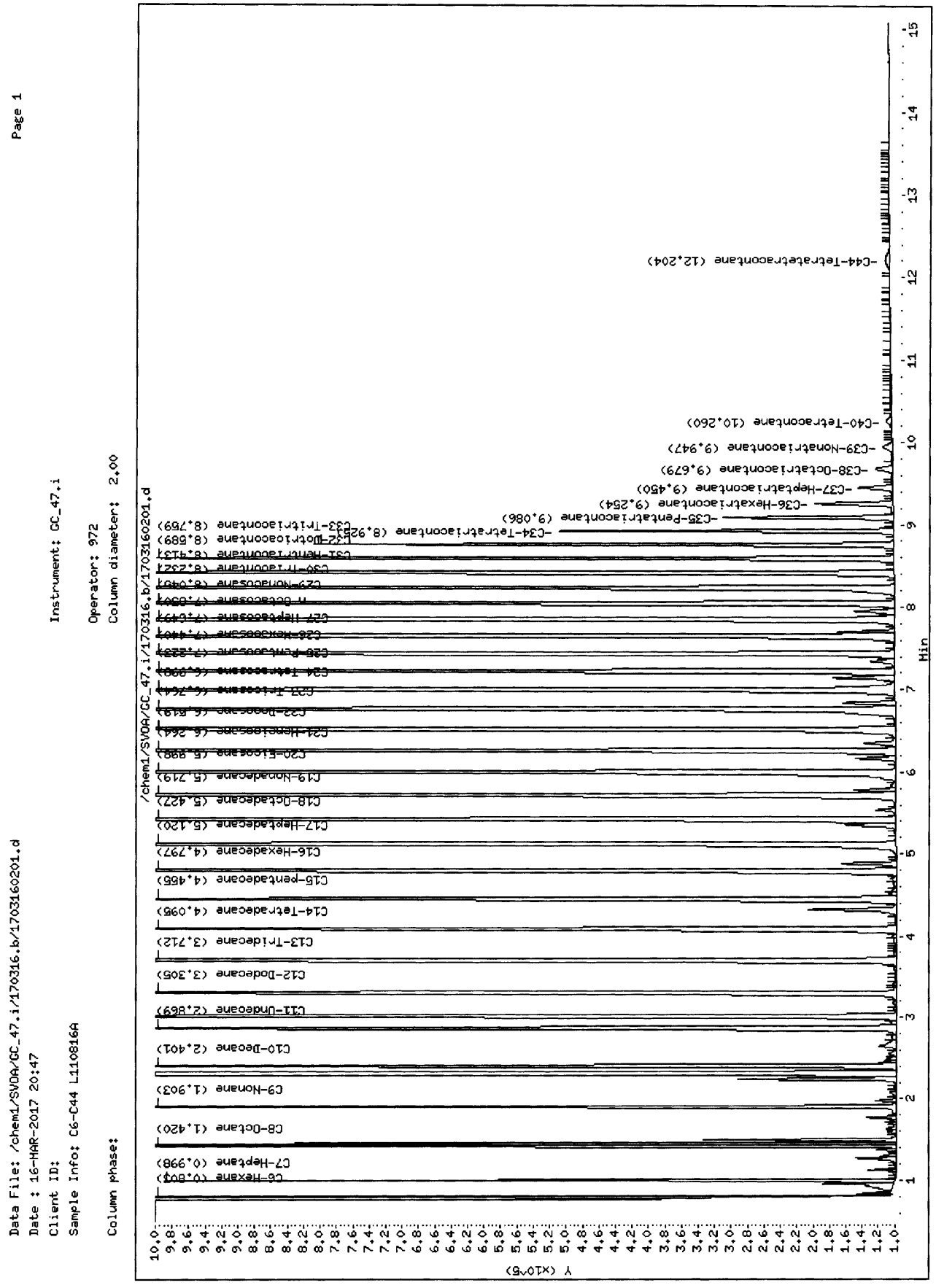


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# EPA 8015B (M)

# Diesel + Motor Oil

# RUN LOGS

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| Line | Vial | File | Name | Method | Acquired |
|---|---|---|---|---|---|
| 1 | 1 | 17031301 | BLANK | 8015D | 13-Mar-17, 11:37:22 |
| 2 | 2 | 17031302 | C6-C44 L110816A | 8015D | 13-Mar-17, 11:58:26 |
| 3 | 3 | 17031303 | CCV D400 C28 50 L102516D | 8015D | 13-Mar-17, 12:19:38 |
| 4 | 4 | 17031304 | CCV MO400 L030317D | 8015D | 13-Mar-17, 12:40:41 |
| 5 | 1 | 1703130101 | BLANK | 8015D | 13-Mar-17, 13:01:30 |
| 6 | 5 | 17031305 | ICAL D5 C28 0.625 L102516B | 8015D | 13-Mar-17, 13:22:11 |
| 7 | 6 | 17031306 | ICAL D200 C28 25 L102516C | 8015D | 13-Mar-17, 13:43:01 |
| 8 | 7 | 17031307 | ICAL D400 C28 50 L102516D | 8015D | 13-Mar-17, 14:04:12 |
| 9 | 8 | 17031308 | ICAL D800 C28 100 L102516E | 8015D | 13-Mar-17, 14:25:03 |
| 10 | 9 | 17031309 | ICAL 1600 C28 200 L102516F | 8015D | 13-Mar-17, 14:45:44 |
| 11 | 10 | 17031310 | ICV D400 C28 50 L102516G | 8015D | 13-Mar-17, 15:06:29 |
| 12 | 11 | 17031311 | CCV D400 C28 50 L102516D | 8015D | 13-Mar-17, 15:27:38 |
| 13 | 54 | 17031354 | ICAL MO25 L030317B | 8015D | 13-Mar-17, 15:48:28 |
| 14 | 55 | 17031355 | ICAL MO200 L030317C | 8015D | 13-Mar-17, 16:09:14 |
| 15 | 56 | 17031356 | ICAL MO400 L030317D | 8015D | 13-Mar-17, 16:30:23 |
| 16 | 57 | 17031357 | ICAL MO600 L030317E | 8015D | 13-Mar-17, 16:51:38 |
| 17 | 58 | 17031358 | ICAL MO800 L030317F | 8015D | 13-Mar-17, 17:12:21 |
| 18 | 59 | 17031359 | ICV MO400 L030317G@F | 8015D | 13-Mar-17, 17:33:05 |
| 19 | 60 | 17031360 | ICV MO400 L030317G | 8015D | 13-Mar-17, 17:54:19 |
| 20 | 61 | 17031361 | CCV MO400 L030317D | 8015D | 13-Mar-17, 18:15:12 |
| 21 | 12 | 17031312 | MB 17031008 BP RB | 8015D | 13-Mar-17, 18:35:57 |
| 22 | 13 | 17031313 | LCS 17031008 RB | 8015D | 13-Mar-17, 18:56:50 |
| 23 | 14 | 17031314 | LCSD 17031008 RB | 8015D | 13-Mar-17, 19:18:01 |
| 24 | 15 | 17031315 | 17-03-0677-1 RB | 8015D | 13-Mar-17, 19:38:43 |
| 25 | 16 | 17031316 | 17-03-0677-2 RB | 8015D | 13-Mar-17, 19:59:25 |
| 26 | 17 | 17031317 | 17-03-0677-3 RB | 8015D | 13-Mar-17, 20:20:19 |
| 27 | 18 | 17031318 | 17-03-0677-4 RB | 8015D | 13-Mar-17, 20:41:35 |
| 28 | 19 | 17031319 | 17-03-0677-5 2X RB | 8015D | 13-Mar-17, 21:02:15 |
| 29 | 20 | 17031320 | 17-03-0677-6 RB | 8015D | 13-Mar-17, 21:22:58 |
| 30 | 21 | 17031321 | 17-03-0677-7 RB | 8015D | 13-Mar-17, 21:44:02 |
| 31 | 22 | 17031322 | CCV D400 C28 50 L102516D | 8015D | 13-Mar-17, 22:05:15 |
| 32 | 23 | 17031323 | 17-03-0677-8 RB | 8015D | 13-Mar-17, 22:25:56 |
| 33 | 24 | 17031324 | 17-03-0677-9 RB | 8015D | 13-Mar-17, 22:46:25 |
| 34 | 25 | 17031325 | 17-03-0677-10 RB | 8015D | 13-Mar-17, 23:07:04 |
| 35 | 26 | 17031326 | 17-03-0677-11 RB | 8015D | 13-Mar-17, 23:27:50 |
| 36 | 27 | 17031327 | 17-03-0677-12 RB | 8015D | 13-Mar-17, 23:48:34 |
| 37 | 28 | 17031328 | 17-03-0677-13 RB | 8015D | 14-Mar-17, 00:09:33 |
| 38 | 29 | 17031329 | 17-03-0677-14 RB | 8015D | 14-Mar-17, 00:30:38 |
| 39 | 30 | 17031330 | 17-03-0677-15 RB | 8015D | 14-Mar-17, 00:51:20 |
| 40 | 31 | 17031331 | 17-03-0677-16 RB | 8015D | 14-Mar-17, 01:11:53 |
| 41 | 32 | 17031332 | 17-03-0677-17 RB | 8015D | 14-Mar-17, 01:32:29 |
| 42 | 33 | 17031333 | CCV D400 C28 50 L102516D | 8015D | 14-Mar-17, 01:53:11 |
| 43 | 34 | 17031334 | CCV MO400 L030317D | 8015D | 14-Mar-17, 02:14:08 |
| 44 | 35 | 17031335 | 17-03-0677-18 RB | 8015D | 14-Mar-17, 02:35:05 |
| 45 | 36 | 17031336 | 17-03-0677-19 RB | 8015D | 14-Mar-17, 02:56:05 |
| 46 | 37 | 17031337 | 17-03-0677-20 RB | 8015D | 14-Mar-17, 03:16:43 |
| 47 | 38 | 17031338 | 17-03-0756-15 RB | 8015D | 14-Mar-17, 03:37:16 |
| 48 | 39 | 17031339 | 17-03-0756-16 RB | 8015D | 14-Mar-17, 03:57:46 |
| 49 | 40 | 17031340 | 17-03-0756-17 RB | 8015D | 14-Mar-17, 04:18:19 |
| 50 | 41 | 17031341 | 17-03-0756-18 RB | 8015D | 14-Mar-17, 04:38:59 |
| 51 | 42 | 17031342 | 17-03-0756-19 RB | 8015D | 14-Mar-17, 04:59:40 |
| 52 | 43 | 17031343 | 17-03-0756-20 RB | 8015D | 14-Mar-17, 05:20:31 |
| 53 | 44 | 17031344 | 17-03-0756-21 RB | 8015D | 14-Mar-17, 05:41:23 |
| 54 | 45 | 17031345 | CCV D400 C28 50 L102516D | 8015D | 14-Mar-17, 06:02:19 |
| 55 | 46 | 17031346 | CCV MO400 L030317D | 8015D | 14-Mar-17, 06:23:12 |
| 56 | 47 | 17031347 | MB 17031009/10 | 8015D | 14-Mar-17, 06:44:05 |
| 57 | 48 | 17031348 | 17-03-0756-22 RB | 8015D | 14-Mar-17, 07:05:05 |
| 58 | 49 | 17031349 | 17-03-0756-23 RB | 8015D | 14-Mar-17, 07:26:02 |
| 59 | 50 | 17031350 | 17-03-0756-24 RB | 8015D | 14-Mar-17, 07:46:56 |
| 60 | 51 | 17031351 | 17-03-0756-11 RB | 8015D | 14-Mar-17, 08:08:09 |



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Table: Rear  DataPath: W:\GC_47\2017\170315\

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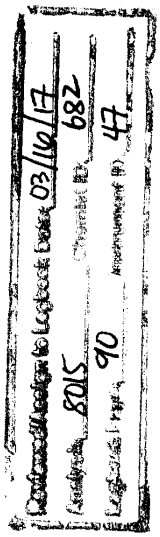
| 1 | 1 | 17031500 | BLANK | 8015D | 15-Mar-17, 20:24:27 |
| 2 | 1 | 17031501 | BLANK | 8015D | 15-Mar-17, 20:45:17 |
| 3 | 2 | 17031502 | C6-C44 L110816A | 8015D | 15-Mar-17, 21:06:23 |
| 4 | 3 | 17031503 | CCV D400 C28 50 L102516D A058 | 8015D | 15-Mar-17, 21:27:01 |
| 5 | 4 | 17031504 | CCV MO400 L030317D | 8015D | 15-Mar-17, 21:47:48 |
| 6 | 5 | 17031505 | 17-03-0755-16 | 8015D | 15-Mar-17, 22:08:49 |
| 7 | 6 | 17031506 | 17-03-0755-20 | 8015D | 15-Mar-17, 22:29:57 |
| 8 | 7 | 17031507 | 17-03-0856-10 | 8015D | 15-Mar-17, 22:50:50 |
| 9 | 8 | 17031508 | MB 17031506 UTC | 8015D | 15-Mar-17, 23:11:22 |
| 10 | 9 | 17031509 | LCS 17031506 | 8015D | 15-Mar-17, 23:32:11 |
| 11 | 10 | 17031510 | MS 17-03-1039-1 | 8015D | 15-Mar-17, 23:53:16 |
| 12 | 11 | 17031511 | MSD 17-03-1039-1 | 8015D | 16-Mar-17, 00:14:27 |
| 13 | 12 | 17031512 | 17-03-1039-1 | 8015D | 16-Mar-17, 00:35:32 |
| 14 | 13 | 17031513 | 17-03-1039-2 | 8015D | 16-Mar-17, 00:56:40 |
| 15 | 14 | 17031514 | 17-03-1039-3 | 8015D | 16-Mar-17, 01:17:14 |
| 16 | 15 | 17031515 | CCV D400 C28 50 L102516D A059 | 8015D | 16-Mar-17, 01:38:00 |
| 17 | 16 | 17031516 | 17-03-1039-4 | 8015D | 16-Mar-17, 01:58:39 |
| 18 | 17 | 17031517 | 17-03-1039-5 | 8015D | 16-Mar-17, 02:19:14 |
| 19 | 18 | 17031518 | 17-03-1039-6 | 8015D | 16-Mar-17, 02:40:04 |
| 20 | 19 | 17031519 | 17-03-1039-7 | 8015D | 16-Mar-17, 03:01:01 |
| 21 | 20 | 17031520 | 17-03-1039-8 | 8015D | 16-Mar-17, 03:22:06 |
| 22 | 21 | 17031521 | 17-03-0888-25 5X | 8015D | 16-Mar-17, 03:43:05 |
| 23 | 22 | 17031522 | 17-03-0888-26 | 8015D | 16-Mar-17, 04:03:52 |
| 24 | 23 | 17031523 | 17-03-0888-27 5X | 8015D | 16-Mar-17, 04:24:30 |
| 25 | 24 | 17031524 | 17-03-0889-25 | 8015D | 16-Mar-17, 04:45:03 |
| 26 | 25 | 17031525 | 17-03-0889-26 | 8015D | 16-Mar-17, 05:05:39 |
| 27 | 26 | 17031526 | 17-03-0889-27 (P) | 8015D | 16-Mar-17, 05:26:21 |
| 28 | 27 | 17031527 | CCV D400 C28 50 L102516D | 8015D | 16-Mar-17, 05:47:05 |
| 29 | 28 | 17031528 | 17-03-1007-1 50X | 8015D | 16-Mar-17, 06:07:59 |
| 30 | 29 | 17031529 | 17-03-1007-2 25X -10X (P) | 8015D | 16-Mar-17, 06:28:58 |
| 31 | 30 | 17031530 | 17-03-1007-3 50X | 8015D | 16-Mar-17, 06:49:59 |
| 32 | 31 | 17031531 | 17-03-1007-4 25X -5X | 8015D | 16-Mar-17, 07:11:04 |
| 33 | 32 | 17031532 | CCV D400 C28 50 L102516D | 8015D | 16-Mar-17, 07:32:13 |

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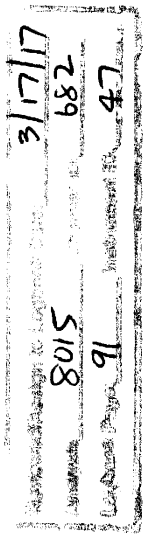
Sequence: C:\CHEM32\1\SEQUENCE\170316.S
Table: Rear  DataPath: W:\GC_47\2017\170316\

| Line | Vial | File | Name | Method | Acquired |
|---|---|---|---|---|---|
| 1 | 1 | 17031601 | BLANK | 8015D | 16-Mar-17, 09:31:48 |
| 2 | 2 | 17031602 | C6-C44 L110816A | 8015D | 16-Mar-17, 09:52:16 |
| 3 | 3 | 17031603 | CCV D400 C28 50 L102516D A051 | 8015D | 16-Mar-17, 10:12:49 |
| 4 | 4 | 17031604 | CCV MO400 L030317D | 8015D | 16-Mar-17, 10:33:29 |
| 5 | 5 | 17031605 | MB 17031605 UTC | 8015D | 16-Mar-17, 10:58:46 |
| 6 | 6 | 17031606 | LCS 17031605 | 8015D | 16-Mar-17, 11:19:47 |
| 7 | 7 | 17031607 | MS 17-03-1162-11 | 8015D | 16-Mar-17, 11:40:57 |
| 8 | 8 | 17031608 | MSD 17-03-1162-11 | 8015D | 16-Mar-17, 12:02:22 |
| 9 | 9 | 17031609 | 17-03-1162-1 | 8015D | 16-Mar-17, 12:23:07 |
| 10 | 10 | 17031610 | 17-03-1162-2 | 8015D | 16-Mar-17, 12:43:48 |
| 11 | 11 | 17031611 | 17-03-1162-3 | 8015D | 16-Mar-17, 13:04:37 |
| 12 | 12 | 17031612 | 17-03-1162-4 | 8015D | 16-Mar-17, 13:25:39 |
| 13 | 13 | 17031613 | 17-03-1162-5 | 8015D | 16-Mar-17, 13:46:52 |
| 14 | 14 | 17031614 | 17-03-1162-6 | 8015D | 16-Mar-17, 14:07:50 |
| 15 | 15 | 17031615 | CCV D400 C28 50 L102516D A052 | 8015D | 16-Mar-17, 14:28:41 |
| 16 | 16 | 17031616 | 17-03-1162-7 | 8015D | 16-Mar-17, 14:49:34 |
| 17 | 17 | 17031617 | 17-03-1162-8 | 8015D | 16-Mar-17, 15:10:48 |
| 18 | 18 | 17031618 | 17-03-1162-9 | 8015D | 16-Mar-17, 15:32:05 |
| 19 | 19 | 17031619 | 17-03-1162-10 | 8015D | 16-Mar-17, 15:53:01 |
| 20 | 20 | 17031620 | 17-03-1162-11 | 8015D | 16-Mar-17, 16:13:46 |
| 21 | 21 | 17031621 | 17-03-1162-12 | 8015D | 16-Mar-17, 16:34:30 |
| 22 | 22 | 17031622 | 17-03-1162-13 | 8015D | 16-Mar-17, 16:55:32 |
| 23 | 23 | 17031623 | 17-03-1162-14 | 8015D | 16-Mar-17, 17:16:50 |
| 24 | 24 | 17031624 | CCV D400 C28 50 L102516D A053 | 8015D | 16-Mar-17, 18:41:08 |
| 25 | 25 | 17031625 | 17-03-0829-27 RB | 8015D | 16-Mar-17, 19:02:18 |
| 26 | 26 | 17031626 | 17-03-1007-1 50X RB | 8015D | 16-Mar-17, 19:23:06 |
| 27 | 27 | 17031627 | 17-03-1007-2 10X RB | 8015D | 16-Mar-17, 19:43:39 |
| 28 | 28 | 17031628 | 17-03-1007-3 50X RB | 8015D | 16-Mar-17, 20:05:40 |
| 29 | 29 | 17031629 | 17-03-1007-4 5X RB | 8015D | 16-Mar-17, 20:26:46 |
| 30 | 2 | 1703160201 | C6-C44 L110816A | 8015D | 16-Mar-17, 20:47:33 |
| 31 | 30 | 17031630 | CCV D400 C28 50 L102516D A054 | 8015D | 16-Mar-17, 21:08:07 |
| 32 | 31 | 17031631 | CCV MO400 L030317D | 8015D | 16-Mar-17, 21:29:05 |
| 33 | 32 | 17031632 | MB 17031611/12 | 8015D | 16-Mar-17, 21:50:04 |
| 34 | 33 | 17031633 | LCS 17031611 | 8015D | 16-Mar-17, 22:11:05 |
| 35 | 34 | 17031634 | MOLCS 17031612 | 8015D | 16-Mar-17, 22:31:43 |
| 36 | 35 | 17031635 | MS 17-03-1107-4 | 8015D | 16-Mar-17, 22:52:40 |
| 37 | 36 | 17031636 | MSD 17-03-1107-4 | 8015D | 16-Mar-17, 23:13:31 |
| 38 | 37 | 17031637 | MOMS 17-03-1107-4 | 8015D | 16-Mar-17, 23:34:06 |
| 39 | 38 | 17031638 | MOMSD 17-03-1107-4 | 8015D | 16-Mar-17, 23:54:45 |
| 40 | 39 | 17031639 | 17-03-1107-4 | 8015D | 17-Mar-17, 00:15:35 |
| 41 | 40 | 17031640 | 17-03-1107-1 10X | 8015D | 17-Mar-17, 00:36:38 |
| 42 | 41 | 17031641 | 17-03-1107-2 10X ⓟ 20X | 8015D | 17-Mar-17, 00:57:38 |
| 43 | 42 | 17031642 | 17-03-1107-3 5X | 8015D | 17-Mar-17, 01:18:41 |
| 44 | 43 | 17031643 | 17-03-1107-5 5X | 8015D | 17-Mar-17, 01:39:46 |
| 45 | 44 | 17031644 | CCV D400 C28 50 L102516D | 8015D | 17-Mar-17, 02:00:53 |
| 46 | 45 | 17031645 | CCV MO400 L030317D | 8015D | 17-Mar-17, 02:21:58 |

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# EPA 8015B (M)

# Diesel + Motor Oil

# PREPARATION LOGS

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| | | | | | |
|---|---|---|---|---|---|
| **Analysis Method (EPA Method):** ☑ TPH 8015 ☐ NWTPH 8015 | | | | | |
| Extraction Method (EPA Method): ☐ 3510 ☐ 3511 ☑ 3550 | | | | | |
| Analyst ID#: Measuring Sample- 972 | Start Extraction- 972 | Blow Down- | Clean Up- | | |
| Matrix: ☑ Solid ☐ Aqueous ☐ Oil ☐ Wipe / Filter | Balance ID#: 15 | Sand or Filter ID#: L6-19-20 | | | |
| Extraction Start Date & Time: 3/15/17 13:40 | Extractions End Date & Time: 3/15/17 2000 | | | | |
| Drying Agent & ID#: ☑ $Na_2SO_4$ L6-23-20 | Spike Added to: ☑ LCS ☐ LCSD ☑ MS ☑ MSD | | | | |
| Surrogate Std ID# & Volume Added (mL): L011717A 0.5 | | | | | |
| Spike Std ID# & Volume Added (mL): | ☑ D: L1024163 0.2 | ☐ MO: | | | |
| | ☐ | ☐ | ☐ | | |
| Extraction Solvent & ID#: ☑ $MeCl_2$ 507-55-01 | Elution Solvent ID# & Volume (mL): 10.0 | | | | |
| Reverse Surrogate ID#: & Volume Added (mL): | | | | | |
| Clean Up Start Date & Time: | Clean Up End Date & Time: | | | | |
| SGC Clean Up: ☐ 1. CEL 0.5g ☐ 2. 3630 - 2g ☐ 3. 3630 – 10g | SPE Cartridge ID#: | | | | |
| Clean Up Solvent ID#: | Silica Gel ID#: | | | | |

| QC Batch #: 17031506 / Cel ID#: | Test Analyte | Sample W (g) / V (mL) Initial | Final | SCG Clean Up | Comments |
|---|---|---|---|---|---|
| MB | CC | 10.0 | 10.0 | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| LCS | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| MS 17-03-1039-1AA | | 9.95 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| MSD | | 9.98 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-1039-1 AA | | 10.1 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 2 | | 10.1 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 3 | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 4 | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 5 | | 9.99 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 6 | | 9.93 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 7 | | 9.82 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 8 | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-0888-25 A | | 10.1 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| -26 | | 9.80 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| -27 | | 9.86 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-0899-25 | | 10.2 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| -26 | | 10.1 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| -27 | | 16.2 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-1001-1 B | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| -2 | | 9.80 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| -3 | | 10.2 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| -4 | | 10.2 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| | | | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |

Peer Reviewed by: 605 Peer Reviewed Date: 3-15-17 Revision Date: 10/24/16

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# EPA 6010B ICP Metals

# (Solid)

# RAW DATA

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# EPA 6010B ICP Metals

# (Solid)

# Initial Calibration

# ICV/ICB
# CCV/CCB
# ICSA/B

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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Initial Calibration Verification

ACCREDITED IN ACCORDANCE WITH nelac

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte Name | Initial Calibration Verification | | | | |
|---|---|---|---|---|---|
| | True | ICV-1 | | Control Limit | Comment |
| | | Observed | %D | | |
| Silver | 0.500000 | 0.498016 | 0 | +/-10 | |
| Arsenic | 5.000000 | 4.874380 | 3 | +/-10 | |
| Barium | 1.000000 | 0.984346 | 2 | +/-10 | |
| Beryllium | 0.500000 | 0.481339 | 4 | +/-10 | |
| Cadmium | 1.500000 | 1.486995 | 1 | +/-10 | |
| Cobalt | 1.000000 | 1.037681 | -4 | +/-10 | |
| Chromium | 0.400000 | 0.401148 | 0 | +/-10 | |
| Copper | 1.000000 | 1.012015 | -1 | +/-10 | |
| Molybdenum | 2.500000 | 2.422781 | 3 | +/-10 | |
| Nickel | 0.400000 | 0.410818 | -3 | +/-10 | |
| Lead | 5.000000 | 5.058667 | -1 | +/-10 | |
| Antimony | 2.000000 | 1.937779 | 3 | +/-10 | |
| Selenium | 2.000000 | 1.941849 | 3 | +/-10 | |
| Thallium | 2.000000 | 1.967677 | 2 | +/-10 | |
| Vanadium | 1.000000 | 0.988629 | 1 | +/-10 | |
| Zinc | 1.500000 | 1.514589 | -1 | +/-10 | |

Report Time: 3/30/2017 5:13:13 PM

ICV-1 File: ICV-M072816C Analysis Time: 3/24/2017 9:34:27 AM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Initial Calibration Blank

ACCREDITED IN ACCORDANCE WITH ilac

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Initial Calibration Blank | | |
|---|---|---|---|
| Analyte | ICB-1 | RL | Comment |
| Silver | -0.002463 | 0.005000 | |
| Arsenic | -0.004953 | 0.010000 | |
| Barium | -0.000009 | 0.010000 | |
| Beryllium | -0.000048 | 0.010000 | |
| Cadmium | 0.000272 | 0.010000 | |
| Cobalt | -0.000212 | 0.010000 | |
| Chromium | 0.000655 | 0.010000 | |
| Copper | -0.000043 | 0.010000 | |
| Molybdenum | 0.000002 | 0.010000 | |
| Nickel | -0.000153 | 0.010000 | |
| Lead | 0.000460 | 0.010000 | |
| Antimony | 0.003973 | 0.015000 | |
| Selenium | -0.001115 | 0.015000 | |
| Thallium | 0.005147 | 0.015000 | |
| Vanadium | 0.001278 | 0.010000 | |
| Zinc | 0.000642 | 0.010000 | |

Report Time: 3/30/2017 5:13:13 PM

ICB-1 File: ICB-R12091601 Analysis Time: 3/24/2017 9:36:10 AM

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Interference Check

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Interference Check | | | | | | |
|---|---|---|---|---|---|---|---|
| | ICS-A-1 | | ICS-AB-1 | | | | |
| | Observed | Control Limit | True | Observed | %D | Control Limit | Comment |
| Silver | -0.000694 | 0.005000 | 0.300000 | 0.312659 | -4 | +/-20 | |
| Arsenic | 0.008582 | 0.010000 | 1.000000 | 1.022808 | -2 | +/-20 | |
| Barium | 0.002247 | 0.010000 | 0.300000 | 0.304031 | -1 | +/-20 | |
| Beryllium | -0.000074 | 0.010000 | 0.100000 | 0.102869 | -3 | +/-20 | |
| Cadmium | 0.002400 | 0.010000 | 0.300000 | 0.300968 | 0 | +/-20 | |
| Cobalt | 0.000794 | 0.010000 | 0.300000 | 0.308937 | -3 | +/-20 | |
| Chromium | -0.000947 | 0.010000 | 0.300000 | 0.310971 | -4 | +/-20 | |
| Copper | -0.001036 | 0.010000 | 0.300000 | 0.317918 | -6 | +/-20 | |
| Molybdenum | 0.001039 | 0.010000 | 0.300000 | 0.302546 | -1 | +/-20 | |
| Nickel | 0.000389 | 0.010000 | 0.300000 | 0.310546 | -4 | +/-20 | |
| Lead | -0.007555 | 0.010000 | 1.000000 | 1.007653 | -1 | +/-20 | |
| Antimony | -0.004167 | 0.015000 | 1.000000 | 0.973472 | 3 | +/-20 | |
| Selenium | -0.014175 | 0.015000 | 0.500000 | 0.515167 | -3 | +/-20 | |
| Thallium | 0.000689 | 0.015000 | 1.000000 | 1.015384 | -2 | +/-20 | |
| Vanadium | 0.001356 | 0.010000 | 0.300000 | 0.309074 | -3 | +/-20 | |
| Zinc | 0.001811 | 0.010000 | 0.300000 | 0.310427 | -3 | +/-20 | |

Report Time: 3/30/2017 5:13:13 PM

ICS-A-1 File: ICS_A - M110116B Analysis Time: 3/24/2017 9:37:13 AM

ICS-AB-1 File: ICS_AB - M110116A Analysis Time: 3/24/2017 9:38:04 AM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Continuing Calibration Verification

ACCREDITED IN ACCORDANCE WITH ilac

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Continuing Calibration Verification | | | | | | |
|---|---|---|---|---|---|---|---|
| | True | CCV-1 | | CCV-2 | | Control Limit | Comment |
| | | Observed | %D | Observed | %D | | |
| Silver | 0.375000 | 0.374704 | 0 | 0.377507 | -1 | +/-10 | |
| Arsenic | 3.750000 | 3.835489 | -2 | 3.818460 | -2 | +/-10 | |
| Barium | 7.500000 | 7.599310 | -1 | 7.615353 | -2 | +/-10 | |
| Beryllium | 0.562500 | 0.560154 | 0 | 0.564045 | 0 | +/-10 | |
| Cadmium | 0.750000 | 0.777030 | -4 | 0.785268 | -5 | +/-10 | |
| Cobalt | 1.875000 | 1.957722 | -4 | 1.976246 | -5 | +/-10 | |
| Chromium | 0.600000 | 0.618867 | -3 | 0.620040 | -3 | +/-10 | |
| Copper | 0.937500 | 0.953144 | -2 | 0.952918 | -2 | +/-10 | |
| Molybdenum | 0.600000 | 0.613379 | -2 | 0.612234 | -2 | +/-10 | |
| Nickel | 0.600000 | 0.623776 | -4 | 0.623448 | -4 | +/-10 | |
| Lead | 3.750000 | 3.933570 | -5 | 3.965507 | -6 | +/-10 | |
| Antimony | 4.500000 | 4.580070 | -2 | 4.571934 | -2 | +/-10 | |
| Selenium | 1.500000 | 1.542554 | -3 | 1.545073 | -3 | +/-10 | |
| Thallium | 1.500000 | 1.563042 | -4 | 1.545354 | -3 | +/-10 | |
| Vanadium | 1.875000 | 1.924197 | -3 | 1.930062 | -3 | +/-10 | |
| Zinc | 2.500000 | 2.611345 | -4 | 2.632972 | -5 | +/-10 | |

Report Time: 3/30/2017 5:13:13 PM

CCV-1 File: CCV= STD3x0.5 Analysis Time: 3/24/2017 5:13:54 PM

CCV-2 File: CCV= STD3x0.5 Analysis Time: 3/24/2017 5:24:23 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Continuing Calibration Blank

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-1 | CCB-2 | RL | Qualifier |
| Silver | -0.000834 | -0.001220 | 0.005000 | |
| Arsenic | 0.004542 | 0.006736 | 0.010000 | |
| Barium | 0.006322 | 0.006920 | 0.010000 | |
| Beryllium | 0.000431 | 0.000460 | 0.010000 | |
| Cadmium | 0.000890 | 0.000901 | 0.010000 | |
| Cobalt | 0.002029 | 0.002230 | 0.010000 | |
| Chromium | 0.001629 | 0.000984 | 0.010000 | |
| Copper | 0.001115 | 0.001363 | 0.010000 | |
| Molybdenum | 0.000923 | 0.000370 | 0.010000 | |
| Nickel | 0.000955 | 0.000740 | 0.010000 | |
| Lead | 0.004274 | 0.005818 | 0.010000 | |
| Antimony | 0.006042 | 0.012372 | 0.015000 | |
| Selenium | 0.001453 | 0.000477 | 0.015000 | |
| Thallium | 0.007128 | 0.006004 | 0.015000 | |
| Vanadium | 0.002835 | 0.003032 | 0.010000 | |
| Zinc | 0.003365 | 0.004078 | 0.010000 | |

Report Time: 3/30/2017 5:13:13 PM

CCB-1 File: CCB-R12091601 Analysis Time: 3/24/2017 5:14:47 PM

CCB-2 File: CCB-R12091601 Analysis Time: 3/24/2017 5:25:16 PM

01/22/2014 Revision



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Sequence No.: 1
Sample ID: Cal blankR12091601_935
Analyst:
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 3/24/2017 9:32:25 AM
Data Type: Reprocessed on 3/24/2017 11:49:51 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: Cal blankR12091601_935

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Tb 384 | 73676.3 | 862.14 | 1.17% | 100.0 | % |
| Tb 350 | 118748.8 | 2087.60 | 1.76% | 100.0 | % |
| Ag 328.068*† | -733.4 | 167.73 | 22.87% | [0.00] | mg/L |
| Al 308.215*† | -2508.1 | 19.83 | 0.79% | [0.00] | mg/L |
| As 188.979† | 5.6 | 2.85 | 51.33% | [0.00] | mg/L |
| As 193.696*† | 1.4 | 11.73 | 861.48% | [0.00] | mg/L |
| B 249.677*† | -1088.5 | 32.57 | 2.99% | [0.00] | mg/L |
| Ba 233.527*† | -307.3 | 0.39 | 0.13% | [0.00] | mg/L |
| Be 313.042*† | -916.4 | 52.73 | 5.75% | [0.00] | mg/L |
| Ca 317.933*† | 3.1 | 2.15 | 69.51% | [0.00] | mg/L |
| Cd 226.502*† | 0.6 | 5.65 | 941.06% | [0.00] | mg/L |
| Cd 228.802† | 7.1 | 4.23 | 59.86% | [0.00] | mg/L |
| Co 228.616*† | -83.9 | 0.75 | 0.89% | [0.00] | mg/L |
| Cr 267.716*† | 430.7 | 2.86 | 0.67% | [0.00] | mg/L |
| Cu 324.752*† | 1796.9 | 11.74 | 0.65% | [0.00] | mg/L |
| Fe 273.955*† | -179.9 | 46.32 | 25.74% | [0.00] | mg/L |
| K 766.490*† | 1098.0 | 312.58 | 28.47% | [0.00] | mg/L |
| Mg 279.077*† | -7354.1 | 67.62 | 0.92% | [0.00] | mg/L |
| Mn 257.610*† | -207.8 | 43.90 | 21.12% | [0.00] | mg/L |
| Mo 202.031*† | -43.2 | 3.26 | 7.55% | [0.00] | mg/L |
| Na 589.592*† | 558.6 | 234.06 | 41.90% | [0.00] | mg/L |
| Ni 231.604*† | -60.3 | 2.03 | 3.37% | [0.00] | mg/L |
| P 213.617*† | -143.4 | 0.03 | 0.02% | [0.00] | mg/L |
| P 214.914† | -27.5 | 5.34 | 19.40% | [0.00] | mg/L |
| Pb 220.353*† | -44.1 | 2.98 | 6.77% | [0.00] | mg/L |
| Sb 206.836† | 26.3 | 1.50 | 5.73% | [0.00] | mg/L |
| Sb 217.582*† | -12.5 | 1.62 | 12.92% | [0.00] | mg/L |
| Se 196.026*† | 4.7 | 15.48 | 329.07% | [0.00] | mg/L |
| Si 251.611*† | 1209.3 | 55.92 | 4.62% | [0.00] | mg/L |
| Sn 189.927*† | -105.9 | 2.45 | 2.31% | [0.00] | mg/L |
| Sn 242.170† | -383.8 | 32.68 | 8.51% | [0.00] | mg/L |
| Sr 407.771*† | 83.4 | 0.30 | 0.36% | [0.00] | mg/L |
| Ti 334.940† | 26843.3 | 319.66 | 1.19% | [0.00] | mg/L |
| Ti 336.121*† | -1122.4 | 306.15 | 27.28% | [0.00] | mg/L |
| Tl 190.801*† | -13.2 | 4.99 | 37.67% | [0.00] | mg/L |
| V 292.402*† | 100.2 | 185.61 | 185.16% | [0.00] | mg/L |
| Zn 206.200*† | -159.1 | 15.26 | 9.59% | [0.00] | mg/L |
| Zn 213.857*† | 76.2 | 18.92 | 24.82% | [0.00] | mg/L |

Return to Contents

Sequence No.: 2
Sample ID: STD3-M111116A_935_ICP7300
Analyst:
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 2
Date Collected: 3/24/2017 9:33:31 AM
Data Type: Reprocessed on 3/24/2017 11:49:52 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD3-M111116A_935_ICP7300

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Tb 384 | 64637.2 | 54.56 | 0.08% | 87.73 | % |
| Tb 350 | 107271.1 | 744.54 | 0.69% | 90.33 | % |
| Ag 328.068*† | 126006.6 | 580.89 | 0.46% | [0.75] | mg/L |
| Al 308.215*† | 416644.1 | 788.72 | 0.19% | [27.0] | mg/L |
| As 188.979† | 13238.6 | 2.62 | 0.02% | [7.50] | mg/L |
| As 193.696*† | 9232.5 | 6.60 | 0.07% | [7.50] | mg/L |
| B 249.677*† | 317023.0 | 4466.30 | 1.41% | [7.50] | mg/L |
| Ba 233.527*† | 2027055.8 | 10816.26 | 0.53% | [15.0] | mg/L |
| Be 313.042*† | 3748311.9 | 25806.67 | 0.69% | [1.125] | mg/L |
| Ca 317.933*† | 99557.2 | 1605.02 | 1.61% | [60.0] | mg/L |
| Cd 226.502*† | 99814.3 | 233.27 | 0.23% | [1.50] | mg/L |
| Cd 228.802† | 51567.3 | 138.88 | 0.27% | [1.50] | mg/L |
| Co 228.616*† | 91612.8 | 76.48 | 0.08% | [3.75] | mg/L |
| Cr 267.716*† | 119582.8 | 612.12 | 0.51% | [1.20] | mg/L |
| Cu 324.752*† | 413756.7 | 187.20 | 0.05% | [1.875] | mg/L |
| Fe 273.955*† | 152547.7 | 240.08 | 0.16% | [7.50] | mg/L |
| K 766.490*† | 143372.2 | 1658.63 | 1.16% | [54.0] | mg/L |
| Mg 279.077*† | 244468.1 | 171.80 | 0.07% | [15.0] | mg/L |
| Mn 257.610*† | 856025.0 | 3952.73 | 0.46% | [1.50] | mg/L |
| Mo 202.031*† | 9774.0 | 30.73 | 0.31% | [1.20] | mg/L |
| Na 589.592*† | 285052.7 | 4138.41 | 1.45% | [72.0] | mg/L |
| Ni 231.604*† | 24353.5 | 74.65 | 0.31% | [1.20] | mg/L |
| P 213.617*† | 19045.4 | 38.83 | 0.20% | [12.0] | mg/L |
| P 214.914† | 12636.6 | 37.40 | 0.30% | [12.0] | mg/L |
| Pb 220.353*† | 50737.4 | 61.93 | 0.12% | [7.50] | mg/L |
| Sb 206.836† | 14649.1 | 107.61 | 0.73% | [9.0] | mg/L |
| Sb 217.582*† | 14698.5 | 56.55 | 0.38% | [9.0] | mg/L |
| Se 196.026*† | 5543.5 | 58.50 | 1.06% | [3.0] | mg/L |
| Si 251.611*† | 405831.7 | 4512.91 | 1.11% | [12.0] | mg/L |
| Sn 189.927*† | 30759.1 | 21.69 | 0.07% | [6.0] | mg/L |
| Sn 242.170† | 9178.5 | 83.32 | 0.91% | [6.0] | mg/L |
| Sr 407.771*† | 178193.7 | 2628.48 | 1.48% | [0.60] | mg/L |
| Ti 334.940† | 896605.6 | 5866.23 | 0.65% | [1.20] | mg/L |
| Ti 336.121*† | 625515.8 | 1361.70 | 0.22% | [1.20] | mg/L |
| Tl 190.801*† | 4827.3 | 63.65 | 1.32% | [3.0] | mg/L |
| V 292.402*† | 451429.1 | 2921.01 | 0.65% | [3.75] | mg/L |
| Zn 206.200*† | 168773.9 | 150.41 | 0.09% | [5.0] | mg/L |
| Zn 213.857*† | 307537.8 | 246.19 | 0.08% | [5.0] | mg/L |

Return to Contents

Sequence No.: 3
Sample ID: ICV-M072816C
Analyst: 935 icp 7300
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 10
Date Collected: 3/24/2017 9:34:27 AM
Data Type: Reprocessed on 3/24/2017 11:49:53 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV-M072816C

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 67732.9 | 91.93 | % | 0.438 | | | | 0.48% |
| Tb 350 | 112402.7 | 94.66 | % | 0.307 | | | | 0.32% |
| Ag 328.068*† | 83671.1 | 0.4980 | mg/L | 0.00013 | 0.4980 | mg/L | 0.00013 | 0.03% |
| QC value within limits for Ag 328.068* Recovery = 99.60% | | | | | | | | |
| Al 308.215*† | 64417.8 | 4.174 | mg/L | 0.0087 | 4.174 | mg/L | 0.0087 | 0.21% |
| QC value within limits for Al 308.215* Recovery = 104.36% | | | | | | | | |
| As 188.979† | 8624.3 | 4.886 | mg/L | 0.1152 | 4.886 | mg/L | 0.1152 | 2.36% |
| QC value within limits for As 188.979 Recovery = 97.72% | | | | | | | | |
| As 193.696*† | 6000.4 | 4.874 | mg/L | 0.1270 | 4.874 | mg/L | 0.1270 | 2.61% |
| QC value within limits for As 193.696* Recovery = 97.49% | | | | | | | | |
| B 249.677*† | 106978.8 | 2.531 | mg/L | 0.0200 | 2.531 | mg/L | 0.0200 | 0.79% |
| QC value within limits for B 249.677* Recovery = 101.23% | | | | | | | | |
| Ba 233.527*† | 133021.7 | 0.9843 | mg/L | 0.00126 | 0.9843 | mg/L | 0.00126 | 0.13% |
| QC value within limits for Ba 233.527* Recovery = 98.43% | | | | | | | | |
| Be 313.042*† | 1603740.8 | 0.4813 | mg/L | 0.00783 | 0.4813 | mg/L | 0.00783 | 1.63% |
| QC value within limits for Be 313.042* Recovery = 96.27% | | | | | | | | |
| Ca 317.933*† | 32940.3 | 19.85 | mg/L | 0.923 | 19.85 | mg/L | 0.923 | 4.65% |
| QC value within limits for Ca 317.933* Recovery = 99.26% | | | | | | | | |
| Cd 226.502*† | 98948.9 | 1.487 | mg/L | 0.0022 | 1.487 | mg/L | 0.0022 | 0.15% |
| QC value within limits for Cd 226.502* Recovery = 99.13% | | | | | | | | |
| Cd 228.802† | 51365.9 | 1.494 | mg/L | 0.0083 | 1.494 | mg/L | 0.0083 | 0.55% |
| Co 228.616*† | 25350.6 | 1.038 | mg/L | 0.0001 | 1.038 | mg/L | 0.0001 | 0.01% |
| QC value within limits for Co 228.616* Recovery = 103.77% | | | | | | | | |
| Cr 267.716*† | 39975.3 | 0.4011 | mg/L | 0.00119 | 0.4011 | mg/L | 0.00119 | 0.30% |
| QC value within limits for Cr 267.716* Recovery = 100.29% | | | | | | | | |
| Cu 324.752*† | 223321.6 | 1.012 | mg/L | 0.0021 | 1.012 | mg/L | 0.0021 | 0.20% |
| QC value within limits for Cu 324.752* Recovery = 101.20% | | | | | | | | |
| Fe 273.955*† | 2068346.3 | 101.7 | mg/L | 2.61 | 101.7 | mg/L | 2.61 | 2.57% |
| QC value within limits for Fe 273.955* Recovery = 101.69% | | | | | | | | |
| K 766.490*† | 21242.7 | 8.001 | mg/L | 0.2954 | 8.001 | mg/L | 0.2954 | 3.69% |
| QC value within limits for K 766.490* Recovery = 100.01% | | | | | | | | |
| Mg 279.077*† | 162725.4 | 9.984 | mg/L | 0.0254 | 9.984 | mg/L | 0.0254 | 0.25% |
| QC value within limits for Mg 279.077* Recovery = 99.84% | | | | | | | | |
| Mn 257.610*† | 559004.2 | 0.9795 | mg/L | 0.00033 | 0.9795 | mg/L | 0.00033 | 0.03% |
| QC value within limits for Mn 257.610* Recovery = 97.95% | | | | | | | | |
| Mo 202.031*† | 19733.6 | 2.423 | mg/L | 0.0514 | 2.423 | mg/L | 0.0514 | 2.12% |
| QC value within limits for Mo 202.031* Recovery = 96.91% | | | | | | | | |
| Na 589.592*† | 216943.9 | 54.80 | mg/L | 1.811 | 54.80 | mg/L | 1.811 | 3.30% |
| QC value within limits for Na 589.592* Recovery = 101.48% | | | | | | | | |
| Ni 231.604*† | 8337.4 | 0.4108 | mg/L | 0.00850 | 0.4108 | mg/L | 0.00850 | 2.07% |
| QC value within limits for Ni 231.604* Recovery = 102.70% | | | | | | | | |
| P 213.617*† | 7613.8 | 4.797 | mg/L | 0.0848 | 4.797 | mg/L | 0.0848 | 1.77% |
| QC value within limits for P 213.617* Recovery = 95.95% | | | | | | | | |
| P 214.914† | 5218.3 | 4.955 | mg/L | 0.1094 | 4.955 | mg/L | 0.1094 | 2.21% |
| Pb 220.353*† | 34221.8 | 5.059 | mg/L | 0.0043 | 5.059 | mg/L | 0.0043 | 0.09% |
| QC value within limits for Pb 220.353* Recovery = 101.17% | | | | | | | | |
| Sb 206.836† | 3151.9 | 1.936 | mg/L | 0.0341 | 1.936 | mg/L | 0.0341 | 1.76% |
| QC value within limits for Sb 206.836 Recovery = 96.82% | | | | | | | | |
| Sb 217.582*† | 3164.7 | 1.938 | mg/L | 0.0367 | 1.938 | mg/L | 0.0367 | 1.89% |
| QC value within limits for Sb 217.582* Recovery = 96.89% | | | | | | | | |
| Se 196.026*† | 3588.2 | 1.942 | mg/L | 0.0275 | 1.942 | mg/L | 0.0275 | 1.41% |
| QC value within limits for Se 196.026* Recovery = 97.09% | | | | | | | | |
| Si 251.611*† | 322256.8 | 9.529 | mg/L | 0.0197 | 9.529 | mg/L | 0.0197 | 0.21% |
| QC value within limits for Si 251.611* Recovery = 95.29% | | | | | | | | |
| Sn 189.927*† | 12815.5 | 2.500 | mg/L | 0.0572 | 2.500 | mg/L | 0.0572 | 2.29% |
| QC value within limits for Sn 189.927* Recovery = 99.99% | | | | | | | | |
| Sn 242.170† | 4273.3 | 2.793 | mg/L | 0.0402 | 2.793 | mg/L | 0.0402 | 1.44% |
| Sr 407.771*† | 58925.5 | 0.1984 | mg/L | 0.00792 | 0.1984 | mg/L | 0.00792 | 3.99% |

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| | | | | | | |
|---|---|---|---|---|---|---|
| QC value within limits for Sr 407.771* Recovery = 99.20% | | | | | | |
| Ti 334.940† | 3517663.5 | 4.708 | mg/L | 0.0964 | 4.708 mg/L | 0.0964 2.05% |
| Ti 336.121*† | 2518253.7 | 4.831 | mg/L | 0.0991 | 4.831 mg/L | 0.0991 2.05% |
| QC value within limits for Ti 336.121* Recovery = 96.62% | | | | | | |
| Tl 190.801*† | 3166.2 | 1.968 | mg/L | 0.0456 | 1.968 mg/L | 0.0456 2.32% |
| QC value within limits for Tl 190.801* Recovery = 98.38% | | | | | | |
| V 292.402*† | 119213.0 | 0.9886 | mg/L | 0.00044 | 0.9886 mg/L | 0.00044 0.04% |
| QC value within limits for V 292.402* Recovery = 98.86% | | | | | | |
| Zn 206.200*† | 51124.6 | 1.515 | mg/L | 0.0041 | 1.515 mg/L | 0.0041 0.27% |
| QC value within limits for Zn 206.200* Recovery = 100.97% | | | | | | |
| Zn 213.857*† | 93645.3 | 1.514 | mg/L | 0.0005 | 1.514 mg/L | 0.0005 0.04% |
| QC value within limits for Zn 213.857* Recovery = 100.94% | | | | | | |

All analyte(s) passed QC.

Return to Contents

Sequence No.: 4
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 3/24/2017 9:36:10 AM
Data Type: Reprocessed on 3/24/2017 11:49:55 AM
Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB-R12091601

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 70869.9 | 96.19 | % | 0.953 | | | | 0.99% |
| Tb 350 | 114074.5 | 96.06 | % | 0.177 | | | | 0.18% |
| Ag 328.068*† | -413.8 | -0.0025 | mg/L | 0.00033 | -0.0025 | mg/L | 0.00033 | 13.38% |
| Al 308.215*† | 14.6 | 0.0009 | mg/L | 0.00012 | 0.0009 | mg/L | 0.00012 | 12.34% |
| As 188.979† | 1.6 | 0.0009 | mg/L | 0.00174 | 0.0009 | mg/L | 0.00174 | 189.39% |
| As 193.696*† | -6.1 | -0.0050 | mg/L | 0.00674 | -0.0050 | mg/L | 0.00674 | 136.11% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1535.6 | 0.0363 | mg/L | 0.00092 | 0.0363 | mg/L | 0.00092 | 2.54% |
| QC value within limits for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | -1.3 | -0.0000 | mg/L | 0.00005 | -0.0000 | mg/L | 0.00005 | 579.35% |
| Be 313.042*† | -159.6 | -0.0000 | mg/L | 0.00004 | -0.0000 | mg/L | 0.00004 | 83.33% |
| Ca 317.933*† | 4.2 | 0.0025 | mg/L | 0.00014 | 0.0025 | mg/L | 0.00014 | 5.59% |
| Cd 226.502*† | 18.1 | 0.0003 | mg/L | 0.00010 | 0.0003 | mg/L | 0.00010 | 36.26% |
| Cd 228.802† | -1.2 | -0.0000 | mg/L | 0.00016 | -0.0000 | mg/L | 0.00016 | 430.87% |
| Co 228.616*† | -5.2 | -0.0002 | mg/L | 0.00043 | -0.0002 | mg/L | 0.00043 | 203.65% |
| Cr 267.716*† | 65.2 | 0.0007 | mg/L | 0.00022 | 0.0007 | mg/L | 0.00022 | 33.57% |
| Cu 324.752*† | -9.4 | -0.0000 | mg/L | 0.00011 | -0.0000 | mg/L | 0.00011 | 254.91% |
| Fe 273.955*† | 21.2 | 0.0010 | mg/L | 0.00013 | 0.0010 | mg/L | 0.00013 | 12.95% |
| K 766.490*† | 147.5 | 0.0555 | mg/L | 0.18214 | 0.0555 | mg/L | 0.18214 | 327.93% |
| Mg 279.077*† | -351.9 | -0.0216 | mg/L | 0.00395 | -0.0216 | mg/L | 0.00395 | 18.31% |
| Mn 257.610*† | 35.1 | 0.0001 | mg/L | 0.00004 | 0.0001 | mg/L | 0.00004 | 72.14% |
| Mo 202.031*† | 0.0 | 0.0000 | mg/L | 0.00048 | 0.0000 | mg/L | 0.00048 | >999.9% |
| Na 589.592*† | -41.7 | -0.0105 | mg/L | 0.01186 | -0.0105 | mg/L | 0.01186 | 112.49% |
| Ni 231.604*† | -3.1 | -0.0002 | mg/L | 0.00084 | -0.0002 | mg/L | 0.00084 | 548.23% |
| P 213.617*† | 3.4 | 0.0021 | mg/L | 0.00504 | 0.0021 | mg/L | 0.00504 | 238.05% |
| P 214.914† | -11.1 | -0.0106 | mg/L | 0.02139 | -0.0106 | mg/L | 0.02139 | 202.23% |
| Pb 220.353*† | 3.1 | 0.0005 | mg/L | 0.00116 | 0.0005 | mg/L | 0.00116 | 252.41% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | | |
| Sb 206.836† | 0.2 | 0.0001 | mg/L | 0.00185 | 0.0001 | mg/L | 0.00185 | >999.9% |
| Sb 217.582*† | 6.5 | 0.0040 | mg/L | 0.00254 | 0.0040 | mg/L | 0.00254 | 63.94% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | -2.1 | -0.0011 | mg/L | 0.00461 | -0.0011 | mg/L | 0.00461 | 413.51% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 125.6 | 0.0037 | mg/L | 0.00132 | 0.0037 | mg/L | 0.00132 | 35.62% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | | |
| Sn 189.927*† | 21.9 | 0.0043 | mg/L | 0.00101 | 0.0043 | mg/L | 0.00101 | 23.65% |
| Sn 242.170† | 0.7 | 0.0004 | mg/L | 0.02107 | 0.0004 | mg/L | 0.02107 | >999.9% |
| Sr 407.771*† | -30.0 | -0.0001 | mg/L | 0.00000 | -0.0001 | mg/L | 0.00000 | 0.55% |
| Ti 334.940† | 640.4 | 0.0009 | mg/L | 0.00006 | 0.0009 | mg/L | 0.00006 | 6.86% |
| Ti 336.121*† | 174.5 | 0.0003 | mg/L | 0.00034 | 0.0003 | mg/L | 0.00034 | 100.82% |
| Tl 190.801*† | 8.3 | 0.0051 | mg/L | 0.00080 | 0.0051 | mg/L | 0.00080 | 15.54% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 153.8 | 0.0013 | mg/L | 0.00266 | 0.0013 | mg/L | 0.00266 | 207.93% |
| Zn 206.200*† | 21.7 | 0.0006 | mg/L | 0.00006 | 0.0006 | mg/L | 0.00006 | 9.70% |
| Zn 213.857*† | 75.1 | 0.0012 | mg/L | 0.00032 | 0.0012 | mg/L | 0.00032 | 25.92% |

All analyte(s) passed QC.

Return to Contents

Sequence No.: 1
Sample ID: ICS_A - M110116B
Analyst: 935 icp 7300
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 8
Date Collected: 3/24/2017 9:37:13 AM
Data Type: Reprocessed on 3/24/2017 11:50:23 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS_A - M110116B

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 62036.7 | 84.20 | % | 0.506 | | | | 0.60% |
| Tb 350 | 104064.9 | 87.63 | % | 1.081 | | | | 1.23% |
| Ag 328.068*† | -116.5 | -0.0007 | mg/L | 0.00104 | -0.0007 | mg/L | 0.00104 | 149.74% |
| Al 308.215*† | 385481.4 | 24.98 | mg/L | 0.075 | 24.98 | mg/L | 0.075 | 0.30% |
| As 188.979† | 16.3 | 0.0093 | mg/L | 0.00016 | 0.0093 | mg/L | 0.00016 | 1.70% |
| As 193.696*† | 10.6 | 0.0086 | mg/L | 0.00601 | 0.0086 | mg/L | 0.00601 | 69.98% |
| B 249.677*† | 1142.6 | 0.0270 | mg/L | 0.00282 | 0.0270 | mg/L | 0.00282 | 10.44% |
| Ba 233.527*† | 303.7 | 0.0022 | mg/L | 0.00034 | 0.0022 | mg/L | 0.00034 | 15.34% |
| Be 313.042*† | -248.3 | -0.0001 | mg/L | 0.00003 | -0.0001 | mg/L | 0.00003 | 40.74% |
| Ca 317.933*† | 205359.5 | 123.8 | mg/L | 3.71 | 123.8 | mg/L | 3.71 | 3.00% |
| Cd 226.502*† | 159.7 | 0.0024 | mg/L | 0.00009 | 0.0024 | mg/L | 0.00009 | 3.59% |
| Cd 228.802† | -4.8 | -0.0001 | mg/L | 0.00006 | -0.0001 | mg/L | 0.00006 | 43.73% |
| Co 228.616*† | 19.4 | 0.0008 | mg/L | 0.00013 | 0.0008 | mg/L | 0.00013 | 16.48% |
| Cr 267.716*† | -94.4 | -0.0009 | mg/L | 0.00012 | -0.0009 | mg/L | 0.00012 | 12.17% |
| Cu 324.752*† | -228.7 | -0.0010 | mg/L | 0.00181 | -0.0010 | mg/L | 0.00181 | 175.05% |
| Fe 273.955*† | 1968912.4 | 96.80 | mg/L | 0.177 | 96.80 | mg/L | 0.177 | 0.18% |
| K 766.490*† | 421.3 | 0.1587 | mg/L | 0.00286 | 0.1587 | mg/L | 0.00286 | 1.81% |
| Mg 279.077*† | 976214.9 | 59.90 | mg/L | 0.261 | 59.90 | mg/L | 0.261 | 0.43% |
| Mn 257.610*† | 70.4 | 0.0001 | mg/L | 0.00053 | 0.0001 | mg/L | 0.00053 | 426.72% |
| Mo 202.031*† | 8.5 | 0.0010 | mg/L | 0.00184 | 0.0010 | mg/L | 0.00184 | 176.69% |
| Na 589.592*† | 87015.9 | 21.98 | mg/L | 0.590 | 21.98 | mg/L | 0.590 | 2.68% |
| Ni 231.604*† | 7.9 | 0.0004 | mg/L | 0.00008 | 0.0004 | mg/L | 0.00008 | 20.63% |
| P 213.617*† | -296.8 | -0.1870 | mg/L | 0.00935 | -0.1870 | mg/L | 0.00935 | 5.00% |
| P 214.914† | 44.2 | 0.0419 | mg/L | 0.00688 | 0.0419 | mg/L | 0.00688 | 16.41% |
| Pb 220.353*† | -51.1 | -0.0076 | mg/L | 0.00150 | -0.0076 | mg/L | 0.00150 | 19.83% |
| Sb 206.836† | 11.4 | 0.0070 | mg/L | 0.00119 | 0.0070 | mg/L | 0.00119 | 16.92% |
| Sb 217.582*† | -6.8 | -0.0042 | mg/L | 0.00723 | -0.0042 | mg/L | 0.00723 | 173.45% |
| Se 196.026*† | -26.8 | -0.0142 | mg/L | 0.01471 | -0.0142 | mg/L | 0.01471 | 103.76% |
| Si 251.611*† | 182.4 | 0.0054 | mg/L | 0.00069 | 0.0054 | mg/L | 0.00069 | 12.71% |
| Sn 189.927*† | -7.5 | -0.0015 | mg/L | 0.00154 | -0.0015 | mg/L | 0.00154 | 104.61% |
| Sn 242.170† | 395.5 | 0.2586 | mg/L | 0.02485 | 0.2586 | mg/L | 0.02485 | 9.61% |
| Sr 407.771*† | 1028.8 | 0.0035 | mg/L | 0.00010 | 0.0035 | mg/L | 0.00010 | 2.84% |
| Ti 334.940† | -1502.2 | -0.0020 | mg/L | 0.00006 | -0.0020 | mg/L | 0.00006 | 3.01% |
| Ti 336.121*† | -502.2 | -0.0010 | mg/L | 0.00009 | -0.0010 | mg/L | 0.00009 | 9.48% |
| Tl 190.801*† | 1.1 | 0.0007 | mg/L | 0.00455 | 0.0007 | mg/L | 0.00455 | 660.86% |
| V 292.402*† | 354.4 | 0.0014 | mg/L | 0.00012 | 0.0014 | mg/L | 0.00012 | 9.15% |
| Zn 206.200*† | 61.1 | 0.0018 | mg/L | 0.00029 | 0.0018 | mg/L | 0.00029 | 16.28% |
| Zn 213.857*† | 525.0 | 0.0005 | mg/L | 0.00039 | 0.0005 | mg/L | 0.00039 | 79.32% |

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Sequence No.: 1
Sample ID: ICS_AB - M110116A
Analyst: 935 icp 7300
Logged In Analyst (Original) : Oscar Gomez 935
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 9
Date Collected: 3/24/2017 9:38:04 AM
Data Type: Reprocessed on 3/24/2017 11:50:49 AM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS_AB - M110116A

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 62996.5 | 85.50 | % | 1.182 | | | | 1.38% |
| Tb 350 | 105005.6 | 88.43 | % | 1.205 | | | | 1.36% |
| Ag 328.068*† | 52529.5 | 0.3127 | mg/L | 0.00039 | 0.3127 | mg/L | 0.00039 | 0.13% |
| Al 308.215*† | 385406.3 | 24.98 | mg/L | 0.065 | 24.98 | mg/L | 0.065 | 0.26% |
| As 188.979† | 1819.5 | 1.031 | mg/L | 0.0270 | 1.031 | mg/L | 0.0270 | 2.62% |
| As 193.696*† | 1259.1 | 1.023 | mg/L | 0.0188 | 1.023 | mg/L | 0.0188 | 1.84% |
| B 249.677*† | 21385.4 | 0.5059 | mg/L | 0.00988 | 0.5059 | mg/L | 0.00988 | 1.95% |
| Ba 233.527*† | 41085.8 | 0.3040 | mg/L | 0.00212 | 0.3040 | mg/L | 0.00212 | 0.70% |
| Be 313.042*† | 342742.1 | 0.1029 | mg/L | 0.00066 | 0.1029 | mg/L | 0.00066 | 0.65% |
| Ca 317.933*† | 200324.4 | 120.7 | mg/L | 2.38 | 120.7 | mg/L | 2.38 | 1.97% |
| Cd 226.502*† | 20027.3 | 0.3010 | mg/L | 0.00460 | 0.3010 | mg/L | 0.00460 | 1.53% |
| Cd 228.802† | 10432.4 | 0.3035 | mg/L | 0.00550 | 0.3035 | mg/L | 0.00550 | 1.81% |
| Co 228.616*† | 7547.4 | 0.3089 | mg/L | 0.00579 | 0.3089 | mg/L | 0.00579 | 1.88% |
| Cr 267.716*† | 30989.0 | 0.3110 | mg/L | 0.00252 | 0.3110 | mg/L | 0.00252 | 0.81% |
| Cu 324.752*† | 70155.0 | 0.3179 | mg/L | 0.00019 | 0.3179 | mg/L | 0.00019 | 0.06% |
| Fe 273.955*† | 1975152.8 | 97.11 | mg/L | 0.613 | 97.11 | mg/L | 0.613 | 0.63% |
| K 766.490*† | 57334.5 | 21.59 | mg/L | 0.151 | 21.59 | mg/L | 0.151 | 0.70% |
| Mg 279.077*† | 975081.4 | 59.83 | mg/L | 0.679 | 59.83 | mg/L | 0.679 | 1.14% |
| Mn 257.610*† | 114217.7 | 0.2001 | mg/L | 0.00173 | 0.2001 | mg/L | 0.00173 | 0.87% |
| Mo 202.031*† | 2464.2 | 0.3025 | mg/L | 0.00616 | 0.3025 | mg/L | 0.00616 | 2.04% |
| Na 589.592*† | 83891.1 | 21.19 | mg/L | 0.279 | 21.19 | mg/L | 0.279 | 1.32% |
| Ni 231.604*† | 6302.4 | 0.3105 | mg/L | 0.00472 | 0.3105 | mg/L | 0.00472 | 1.52% |
| P 213.617*† | -235.1 | -0.1481 | mg/L | 0.01513 | -0.1481 | mg/L | 0.01513 | 10.21% |
| P 214.914† | 31.3 | 0.0297 | mg/L | 0.00991 | 0.0297 | mg/L | 0.00991 | 33.35% |
| Pb 220.353*† | 6816.8 | 1.008 | mg/L | 0.0210 | 1.008 | mg/L | 0.0210 | 2.08% |
| Sb 206.836† | 1602.9 | 0.9848 | mg/L | 0.02346 | 0.9848 | mg/L | 0.02346 | 2.38% |
| Sb 217.582*† | 1589.8 | 0.9735 | mg/L | 0.02022 | 0.9735 | mg/L | 0.02022 | 2.08% |
| Se 196.026*† | 951.9 | 0.5152 | mg/L | 0.01377 | 0.5152 | mg/L | 0.01377 | 2.67% |
| Si 251.611*† | 7086.3 | 0.2095 | mg/L | 0.00111 | 0.2095 | mg/L | 0.00111 | 0.53% |
| Sn 189.927*† | -27.2 | -0.0053 | mg/L | 0.00122 | -0.0053 | mg/L | 0.00122 | 23.06% |
| Sn 242.170† | 380.4 | 0.2487 | mg/L | 0.00429 | 0.2487 | mg/L | 0.00429 | 1.73% |
| Sr 407.771*† | 768.5 | 0.0026 | mg/L | 0.00005 | 0.0026 | mg/L | 0.00005 | 2.02% |
| Ti 334.940† | 740047.7 | 0.9905 | mg/L | 0.00365 | 0.9905 | mg/L | 0.00365 | 0.37% |
| Ti 336.121*† | 528834.9 | 1.015 | mg/L | 0.0047 | 1.015 | mg/L | 0.0047 | 0.46% |
| Tl 190.801*† | 1633.9 | 1.015 | mg/L | 0.0160 | 1.015 | mg/L | 0.0160 | 1.57% |
| V 292.402*† | 37398.4 | 0.3091 | mg/L | 0.00001 | 0.3091 | mg/L | 0.00001 | 0.00% |
| Zn 206.200*† | 10478.4 | 0.3104 | mg/L | 0.00558 | 0.3104 | mg/L | 0.00558 | 1.80% |
| Zn 213.857*† | 19400.3 | 0.3073 | mg/L | 0.00518 | 0.3073 | mg/L | 0.00518 | 1.68% |

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Sequence No.: 60
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/24/2017 5:13:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 69615.5 | 94.49 | % | 0.289 | | | | 0.31% |
| Tb 350 | 116511.8 | 98.12 | % | 0.996 | | | | 1.02% |
| Ag 328.068*† | 62953.5 | 0.3747 | mg/L | 0.00009 | 0.3747 | mg/L | 0.00009 | 0.02% |
| QC value within limits for Ag 328.068* Recovery = 99.92% | | | | | | | | |
| Al 308.215*† | 213753.7 | 13.85 | mg/L | 0.047 | 13.85 | mg/L | 0.047 | 0.34% |
| QC value within limits for Al 308.215* Recovery = 102.61% | | | | | | | | |
| As 188.979† | 6797.0 | 3.851 | mg/L | 0.0325 | 3.851 | mg/L | 0.0325 | 0.84% |
| QC value within limits for As 188.979 Recovery = 102.68% | | | | | | | | |
| As 193.696*† | 4721.5 | 3.835 | mg/L | 0.0165 | 3.835 | mg/L | 0.0165 | 0.43% |
| QC value within limits for As 193.696* Recovery = 102.28% | | | | | | | | |
| B 249.677*† | 163680.9 | 3.872 | mg/L | 0.0733 | 3.872 | mg/L | 0.0733 | 1.89% |
| QC value within limits for B 249.677* Recovery = 103.26% | | | | | | | | |
| Ba 233.527*† | 1026948.4 | 7.599 | mg/L | 0.0404 | 7.599 | mg/L | 0.0404 | 0.53% |
| QC value within limits for Ba 233.527* Recovery = 101.32% | | | | | | | | |
| Be 313.042*† | 1866339.3 | 0.5602 | mg/L | 0.00389 | 0.5602 | mg/L | 0.00389 | 0.69% |
| QC value within limits for Be 313.042* Recovery = 99.58% | | | | | | | | |
| Ca 317.933*† | 50864.4 | 30.65 | mg/L | 0.791 | 30.65 | mg/L | 0.791 | 2.58% |
| QC value within limits for Ca 317.933* Recovery = 102.18% | | | | | | | | |
| Cd 226.502*† | 51705.8 | 0.7770 | mg/L | 0.00834 | 0.7770 | mg/L | 0.00834 | 1.07% |
| QC value within limits for Cd 226.502* Recovery = 103.60% | | | | | | | | |
| Cd 228.802† | 26666.7 | 0.7757 | mg/L | 0.00276 | 0.7757 | mg/L | 0.00276 | 0.36% |
| Co 228.616*† | 47827.3 | 1.958 | mg/L | 0.0051 | 1.958 | mg/L | 0.0051 | 0.26% |
| QC value within limits for Co 228.616* Recovery = 104.41% | | | | | | | | |
| Cr 267.716*† | 61671.5 | 0.6189 | mg/L | 0.00448 | 0.6189 | mg/L | 0.00448 | 0.72% |
| QC value within limits for Cr 267.716* Recovery = 103.14% | | | | | | | | |
| Cu 324.752*† | 210330.5 | 0.9531 | mg/L | 0.00627 | 0.9531 | mg/L | 0.00627 | 0.66% |
| QC value within limits for Cu 324.752* Recovery = 101.67% | | | | | | | | |
| Fe 273.955*† | 80574.7 | 3.961 | mg/L | 0.0092 | 3.961 | mg/L | 0.0092 | 0.23% |
| QC value within limits for Fe 273.955* Recovery = 105.64% | | | | | | | | |
| K 766.490*† | 71802.5 | 27.04 | mg/L | 0.514 | 27.04 | mg/L | 0.514 | 1.90% |
| QC value within limits for K 766.490* Recovery = 100.16% | | | | | | | | |
| Mg 279.077*† | 128450.0 | 7.881 | mg/L | 0.0522 | 7.881 | mg/L | 0.0522 | 0.66% |
| QC value within limits for Mg 279.077* Recovery = 105.09% | | | | | | | | |
| Mn 257.610*† | 431447.7 | 0.7560 | mg/L | 0.00384 | 0.7560 | mg/L | 0.00384 | 0.51% |
| QC value within limits for Mn 257.610* Recovery = 100.80% | | | | | | | | |
| Mo 202.031*† | 4996.0 | 0.6134 | mg/L | 0.00129 | 0.6134 | mg/L | 0.00129 | 0.21% |
| QC value within limits for Mo 202.031* Recovery = 102.23% | | | | | | | | |
| Na 589.592*† | 145286.2 | 36.70 | mg/L | 0.449 | 36.70 | mg/L | 0.449 | 1.22% |
| QC value within limits for Na 589.592* Recovery = 101.94% | | | | | | | | |
| Ni 231.604*† | 12659.3 | 0.6238 | mg/L | 0.00496 | 0.6238 | mg/L | 0.00496 | 0.79% |
| QC value within limits for Ni 231.604* Recovery = 103.96% | | | | | | | | |
| P 213.617*† | 9579.3 | 6.036 | mg/L | 0.0684 | 6.036 | mg/L | 0.0684 | 1.13% |
| QC value within limits for P 213.617* Recovery = 100.59% | | | | | | | | |
| P 214.914† | 6500.8 | 6.173 | mg/L | 0.0609 | 6.173 | mg/L | 0.0609 | 0.99% |
| Pb 220.353*† | 26610.5 | 3.934 | mg/L | 0.0031 | 3.934 | mg/L | 0.0031 | 0.08% |
| QC value within limits for Pb 220.353* Recovery = 104.90% | | | | | | | | |
| Sb 206.836† | 7471.4 | 4.590 | mg/L | 0.0351 | 4.590 | mg/L | 0.0351 | 0.77% |
| QC value within limits for Sb 206.836 Recovery = 102.01% | | | | | | | | |
| Sb 217.582*† | 7480.0 | 4.580 | mg/L | 0.0324 | 4.580 | mg/L | 0.0324 | 0.71% |
| QC value within limits for Sb 217.582* Recovery = 101.78% | | | | | | | | |
| Se 196.026*† | 2850.4 | 1.543 | mg/L | 0.0211 | 1.543 | mg/L | 0.0211 | 1.37% |
| QC value within limits for Se 196.026* Recovery = 102.84% | | | | | | | | |
| Si 251.611*† | 205824.5 | 6.086 | mg/L | 0.0578 | 6.086 | mg/L | 0.0578 | 0.95% |
| QC value within limits for Si 251.611* Recovery = 101.43% | | | | | | | | |
| Sn 189.927*† | 16044.5 | 3.130 | mg/L | 0.0218 | 3.130 | mg/L | 0.0218 | 0.70% |
| QC value within limits for Sn 189.927* Recovery = 104.32% | | | | | | | | |
| Sn 242.170† | 4708.3 | 3.078 | mg/L | 0.0354 | 3.078 | mg/L | 0.0354 | 1.15% |
| Sr 407.771*† | 88497.5 | 0.2980 | mg/L | 0.00397 | 0.2980 | mg/L | 0.00397 | 1.33% |
| QC value within limits for Sr 407.771* Recovery = 99.33% | | | | | | | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ti 334.940† | 450993.6 | 0.6036 | mg/L | 0.00371 | 0.6036 | mg/L | 0.00371 | 0.61% |
| Ti 336.121*† | 322595.8 | 0.6189 | mg/L | 0.00307 | 0.6189 | mg/L | 0.00307 | 0.50% |
| QC value within limits for Ti 336.121* Recovery = 103.15% | | | | | | | | |
| Tl 190.801*† | 2515.1 | 1.563 | mg/L | 0.0023 | 1.563 | mg/L | 0.0023 | 0.15% |
| QC value within limits for Tl 190.801* Recovery = 104.20% | | | | | | | | |
| V 292.402*† | 231644.8 | 1.924 | mg/L | 0.0183 | 1.924 | mg/L | 0.0183 | 0.95% |
| QC value within limits for V 292.402* Recovery = 102.62% | | | | | | | | |
| Zn 206.200*† | 88145.4 | 2.611 | mg/L | 0.0177 | 2.611 | mg/L | 0.0177 | 0.68% |
| QC value within limits for Zn 206.200* Recovery = 104.45% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 61
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/24/2017 5:14:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 77254.5 | 104.9 | % | 2.47 | | | | 2.36% |
| Tb 350 | 124919.4 | 105.2 | % | 2.61 | | | | 2.48% |
| Ag 328.068*† | -140.2 | -0.0008 | mg/L | 0.00125 | -0.0008 | mg/L | 0.00125 | 150.17% |
| Al 308.215*† | 100.7 | 0.0065 | mg/L | 0.00573 | 0.0065 | mg/L | 0.00573 | 87.86% |
| As 188.979† | 1.2 | 0.0007 | mg/L | 0.00281 | 0.0007 | mg/L | 0.00281 | 400.43% |
| As 193.696*† | 5.6 | 0.0045 | mg/L | 0.01017 | 0.0045 | mg/L | 0.01017 | 223.85% |
| QC value within limits for As 193.696* | | Recovery = | | Not calculated | | | | |
| B 249.677*† | 1888.8 | 0.0447 | mg/L | 0.00379 | 0.0447 | mg/L | 0.00379 | 8.48% |
| Ba 233.527*† | 854.4 | 0.0063 | mg/L | 0.00014 | 0.0063 | mg/L | 0.00014 | 2.23% |
| Be 313.042*† | 1434.7 | 0.0004 | mg/L | 0.00001 | 0.0004 | mg/L | 0.00001 | 1.87% |
| Ca 317.933*† | 44.5 | 0.0268 | mg/L | 0.00261 | 0.0268 | mg/L | 0.00261 | 9.73% |
| Cd 226.502*† | 59.2 | 0.0009 | mg/L | 0.00011 | 0.0009 | mg/L | 0.00011 | 12.18% |
| Cd 228.802† | 17.2 | 0.0005 | mg/L | 0.00028 | 0.0005 | mg/L | 0.00028 | 55.49% |
| Co 228.616*† | 49.6 | 0.0020 | mg/L | 0.00022 | 0.0020 | mg/L | 0.00022 | 11.05% |
| Cr 267.716*† | 162.4 | 0.0016 | mg/L | 0.00113 | 0.0016 | mg/L | 0.00113 | 69.63% |
| Cu 324.752*† | 246.1 | 0.0011 | mg/L | 0.00052 | 0.0011 | mg/L | 0.00052 | 46.66% |
| Fe 273.955*† | 446.7 | 0.0220 | mg/L | 0.00256 | 0.0220 | mg/L | 0.00256 | 11.63% |
| K 766.490*† | 133.7 | 0.0503 | mg/L | 0.11856 | 0.0503 | mg/L | 0.11856 | 235.47% |
| Mg 279.077*† | 57.0 | 0.0035 | mg/L | 0.00890 | 0.0035 | mg/L | 0.00890 | 254.62% |
| Mn 257.610*† | 569.1 | 0.0010 | mg/L | 0.00006 | 0.0010 | mg/L | 0.00006 | 5.64% |
| Mo 202.031*† | 7.5 | 0.0009 | mg/L | 0.00039 | 0.0009 | mg/L | 0.00039 | 42.25% |
| Na 589.592*† | 117.9 | 0.0298 | mg/L | 0.02811 | 0.0298 | mg/L | 0.02811 | 94.39% |
| Ni 231.604*† | 19.4 | 0.0010 | mg/L | 0.00047 | 0.0010 | mg/L | 0.00047 | 49.56% |
| P 213.617*† | 50.0 | 0.0315 | mg/L | 0.00389 | 0.0315 | mg/L | 0.00389 | 12.37% |
| P 214.914† | 0.5 | 0.0005 | mg/L | 0.01326 | 0.0005 | mg/L | 0.01326 | >999.9% |
| Pb 220.353*† | 28.9 | 0.0043 | mg/L | 0.00094 | 0.0043 | mg/L | 0.00094 | 21.95% |
| Sb 206.836† | 5.4 | 0.0033 | mg/L | 0.00219 | 0.0033 | mg/L | 0.00219 | 66.15% |
| Sb 217.582*† | 9.9 | 0.0060 | mg/L | 0.00634 | 0.0060 | mg/L | 0.00634 | 105.00% |
| QC value within limits for Sb 217.582* | | Recovery = | | Not calculated | | | | |
| Se 196.026*† | 2.7 | 0.0015 | mg/L | 0.00290 | 0.0015 | mg/L | 0.00290 | 199.38% |
| QC value within limits for Se 196.026* | | Recovery = | | Not calculated | | | | |
| Si 251.611*† | 710.2 | 0.0210 | mg/L | 0.00155 | 0.0210 | mg/L | 0.00155 | 7.37% |
| Sn 189.927*† | 53.5 | 0.0104 | mg/L | 0.00172 | 0.0104 | mg/L | 0.00172 | 16.52% |
| Sn 242.170† | 19.1 | 0.0125 | mg/L | 0.00922 | 0.0125 | mg/L | 0.00922 | 73.81% |
| Sr 407.771*† | 70.6 | 0.0002 | mg/L | 0.00004 | 0.0002 | mg/L | 0.00004 | 18.88% |
| Ti 334.940† | 1266.3 | 0.0017 | mg/L | 0.00051 | 0.0017 | mg/L | 0.00051 | 30.37% |
| Ti 336.121*† | 808.7 | 0.0016 | mg/L | 0.00055 | 0.0016 | mg/L | 0.00055 | 35.13% |
| Tl 190.801*† | 11.5 | 0.0071 | mg/L | 0.00252 | 0.0071 | mg/L | 0.00252 | 35.30% |
| QC value within limits for Tl 190.801* | | Recovery = | | Not calculated | | | | |
| V 292.402*† | 341.4 | 0.0028 | mg/L | 0.00156 | 0.0028 | mg/L | 0.00156 | 55.08% |
| Zn 206.200*† | 113.6 | 0.0034 | mg/L | 0.00008 | 0.0034 | mg/L | 0.00008 | 2.41% |
| QC value within limits for Zn 206.200* | | Recovery = | | Not calculated | | | | |

All analyte(s) passed QC.

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Sequence No.: 72
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/24/2017 5:24:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 70681.0 | 95.93 | % | 0.124 | | | | 0.13% |
| Tb 350 | 118119.0 | 99.47 | % | 0.381 | | | | 0.38% |
| Ag 328.068*† | 63424.5 | 0.3775 | mg/L | 0.00043 | 0.3775 | mg/L | 0.00043 | 0.12% |
| QC value within limits for Ag 328.068* Recovery = 100.67% | | | | | | | | |
| Al 308.215*† | 214796.8 | 13.92 | mg/L | 0.029 | 13.92 | mg/L | 0.029 | 0.21% |
| QC value within limits for Al 308.215* Recovery = 103.11% | | | | | | | | |
| As 188.979† | 6802.8 | 3.854 | mg/L | 0.0142 | 3.854 | mg/L | 0.0142 | 0.37% |
| QC value within limits for As 188.979 Recovery = 102.77% | | | | | | | | |
| As 193.696*† | 4700.5 | 3.818 | mg/L | 0.0133 | 3.818 | mg/L | 0.0133 | 0.35% |
| QC value within limits for As 193.696* Recovery = 101.83% | | | | | | | | |
| B 249.677*† | 164656.2 | 3.895 | mg/L | 0.0312 | 3.895 | mg/L | 0.0312 | 0.80% |
| QC value within limits for B 249.677* Recovery = 103.88% | | | | | | | | |
| Ba 233.527*† | 1029116.3 | 7.615 | mg/L | 0.0122 | 7.615 | mg/L | 0.0122 | 0.16% |
| QC value within limits for Ba 233.527* Recovery = 101.54% | | | | | | | | |
| Be 313.042*† | 1879302.3 | 0.5640 | mg/L | 0.00292 | 0.5640 | mg/L | 0.00292 | 0.52% |
| QC value within limits for Be 313.042* Recovery = 100.27% | | | | | | | | |
| Ca 317.933*† | 51813.6 | 31.23 | mg/L | 0.004 | 31.23 | mg/L | 0.004 | 0.01% |
| QC value within limits for Ca 317.933* Recovery = 104.09% | | | | | | | | |
| Cd 226.502*† | 52254.0 | 0.7853 | mg/L | 0.00226 | 0.7853 | mg/L | 0.00226 | 0.29% |
| QC value within limits for Cd 226.502* Recovery = 104.70% | | | | | | | | |
| Cd 228.802† | 26761.5 | 0.7784 | mg/L | 0.00213 | 0.7784 | mg/L | 0.00213 | 0.27% |
| Co 228.616*† | 48279.8 | 1.976 | mg/L | 0.0010 | 1.976 | mg/L | 0.0010 | 0.05% |
| QC value within limits for Co 228.616* Recovery = 105.40% | | | | | | | | |
| Cr 267.716*† | 61788.4 | 0.6200 | mg/L | 0.00138 | 0.6200 | mg/L | 0.00138 | 0.22% |
| QC value within limits for Cr 267.716* Recovery = 103.34% | | | | | | | | |
| Cu 324.752*† | 210280.6 | 0.9529 | mg/L | 0.00186 | 0.9529 | mg/L | 0.00186 | 0.19% |
| QC value within limits for Cu 324.752* Recovery = 101.64% | | | | | | | | |
| Fe 273.955*† | 81461.9 | 4.005 | mg/L | 0.0048 | 4.005 | mg/L | 0.0048 | 0.12% |
| QC value within limits for Fe 273.955* Recovery = 106.80% | | | | | | | | |
| K 766.490*† | 73200.5 | 27.57 | mg/L | 0.046 | 27.57 | mg/L | 0.046 | 0.17% |
| QC value within limits for K 766.490* Recovery = 102.11% | | | | | | | | |
| Mg 279.077*† | 129315.2 | 7.934 | mg/L | 0.0274 | 7.934 | mg/L | 0.0274 | 0.35% |
| QC value within limits for Mg 279.077* Recovery = 105.79% | | | | | | | | |
| Mn 257.610*† | 433843.2 | 0.7602 | mg/L | 0.00116 | 0.7602 | mg/L | 0.00116 | 0.15% |
| QC value within limits for Mn 257.610* Recovery = 101.36% | | | | | | | | |
| Mo 202.031*† | 4986.6 | 0.6122 | mg/L | 0.00040 | 0.6122 | mg/L | 0.00040 | 0.07% |
| QC value within limits for Mo 202.031* Recovery = 102.04% | | | | | | | | |
| Na 589.592*† | 148189.7 | 37.43 | mg/L | 0.026 | 37.43 | mg/L | 0.026 | 0.07% |
| QC value within limits for Na 589.592* Recovery = 103.97% | | | | | | | | |
| Ni 231.604*† | 12652.6 | 0.6234 | mg/L | 0.00338 | 0.6234 | mg/L | 0.00338 | 0.54% |
| QC value within limits for Ni 231.604* Recovery = 103.91% | | | | | | | | |
| P 213.617*† | 9557.3 | 6.022 | mg/L | 0.0178 | 6.022 | mg/L | 0.0178 | 0.30% |
| QC value within limits for P 213.617* Recovery = 100.36% | | | | | | | | |
| P 214.914† | 6474.8 | 6.149 | mg/L | 0.0244 | 6.149 | mg/L | 0.0244 | 0.40% |
| Pb 220.353*† | 26826.6 | 3.966 | mg/L | 0.0064 | 3.966 | mg/L | 0.0064 | 0.16% |
| QC value within limits for Pb 220.353* Recovery = 105.75% | | | | | | | | |
| Sb 206.836† | 7433.5 | 4.567 | mg/L | 0.0059 | 4.567 | mg/L | 0.0059 | 0.13% |
| QC value within limits for Sb 206.836 Recovery = 101.49% | | | | | | | | |
| Sb 217.582*† | 7466.8 | 4.572 | mg/L | 0.0187 | 4.572 | mg/L | 0.0187 | 0.41% |
| QC value within limits for Sb 217.582* Recovery = 101.60% | | | | | | | | |
| Se 196.026*† | 2855.0 | 1.545 | mg/L | 0.0052 | 1.545 | mg/L | 0.0052 | 0.34% |
| QC value within limits for Se 196.026* Recovery = 103.00% | | | | | | | | |
| Si 251.611*† | 207048.6 | 6.122 | mg/L | 0.0335 | 6.122 | mg/L | 0.0335 | 0.55% |
| QC value within limits for Si 251.611* Recovery = 102.04% | | | | | | | | |
| Sn 189.927*† | 16046.9 | 3.130 | mg/L | 0.0182 | 3.130 | mg/L | 0.0182 | 0.58% |
| QC value within limits for Sn 189.927* Recovery = 104.34% | | | | | | | | |
| Sn 242.170† | 4720.8 | 3.086 | mg/L | 0.0295 | 3.086 | mg/L | 0.0295 | 0.96% |
| Sr 407.771*† | 90239.4 | 0.3038 | mg/L | 0.00053 | 0.3038 | mg/L | 0.00053 | 0.17% |
| QC value within limits for Sr 407.771* Recovery = 101.28% | | | | | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Ti 334.940† | 450620.4 | 0.6031 mg/L | 0.00111 | 0.6031 mg/L | 0.00111 | 0.18% |
| Ti 336.121*† | 321491.4 | 0.6168 mg/L | 0.00178 | 0.6168 mg/L | 0.00178 | 0.29% |
| QC value within limits for Ti 336.121* Recovery = 102.79% | | | | | | |
| Tl 190.801*† | 2486.6 | 1.545 mg/L | 0.0115 | 1.545 mg/L | 0.0115 | 0.74% |
| QC value within limits for Tl 190.801* Recovery = 103.02% | | | | | | |
| V 292.402*† | 232350.9 | 1.930 mg/L | 0.0029 | 1.930 mg/L | 0.0029 | 0.15% |
| QC value within limits for V 292.402* Recovery = 102.94% | | | | | | |
| Zn 206.200*† | 88875.4 | 2.633 mg/L | 0.0009 | 2.633 mg/L | 0.0009 | 0.03% |
| QC value within limits for Zn 206.200* Recovery = 105.32% | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 73
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/24/2017 5:25:16 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 76967.9 | 104.5 | % | 2.97 | | | | 2.84% |
| Tb 350 | 126389.6 | 106.4 | % | 2.59 | | | | 2.43% |
| Ag 328.068*† | -205.1 | -0.0012 | mg/L | 0.00082 | -0.0012 | mg/L | 0.00082 | 67.59% |
| Al 308.215*† | 172.8 | 0.0112 | mg/L | 0.00184 | 0.0112 | mg/L | 0.00184 | 16.39% |
| As 188.979† | 1.8 | 0.0010 | mg/L | 0.00888 | 0.0010 | mg/L | 0.00888 | 851.96% |
| As 193.696*† | 8.3 | 0.0067 | mg/L | 0.00168 | 0.0067 | mg/L | 0.00168 | 24.95% |
| QC value within limits for As 193.696* | | Recovery = | | Not calculated | | | | |
| B 249.677*† | 1922.2 | 0.0455 | mg/L | 0.00519 | 0.0455 | mg/L | 0.00519 | 11.41% |
| Ba 233.527*† | 935.1 | 0.0069 | mg/L | 0.00016 | 0.0069 | mg/L | 0.00016 | 2.33% |
| Be 313.042*† | 1532.6 | 0.0005 | mg/L | 0.00001 | 0.0005 | mg/L | 0.00001 | 2.04% |
| Ca 317.933*† | 50.2 | 0.0303 | mg/L | 0.00406 | 0.0303 | mg/L | 0.00406 | 13.41% |
| Cd 226.502*† | 60.0 | 0.0009 | mg/L | 0.00007 | 0.0009 | mg/L | 0.00007 | 7.82% |
| Cd 228.802† | 21.9 | 0.0006 | mg/L | 0.00008 | 0.0006 | mg/L | 0.00008 | 12.47% |
| Co 228.616*† | 54.5 | 0.0022 | mg/L | 0.00016 | 0.0022 | mg/L | 0.00016 | 7.21% |
| Cr 267.716*† | 98.0 | 0.0010 | mg/L | 0.00149 | 0.0010 | mg/L | 0.00149 | 151.08% |
| Cu 324.752*† | 300.8 | 0.0014 | mg/L | 0.00058 | 0.0014 | mg/L | 0.00058 | 42.22% |
| Fe 273.955*† | 449.1 | 0.0221 | mg/L | 0.00362 | 0.0221 | mg/L | 0.00362 | 16.41% |
| K 766.490*† | 3.4 | 0.0013 | mg/L | 0.00453 | 0.0013 | mg/L | 0.00453 | 349.32% |
| Mg 279.077*† | 141.1 | 0.0087 | mg/L | 0.00251 | 0.0087 | mg/L | 0.00251 | 28.94% |
| Mn 257.610*† | 614.0 | 0.0011 | mg/L | 0.00004 | 0.0011 | mg/L | 0.00004 | 3.98% |
| Mo 202.031*† | 3.0 | 0.0004 | mg/L | 0.00047 | 0.0004 | mg/L | 0.00047 | 127.89% |
| Na 589.592*† | 127.6 | 0.0322 | mg/L | 0.00886 | 0.0322 | mg/L | 0.00886 | 27.48% |
| Ni 231.604*† | 15.0 | 0.0007 | mg/L | 0.00137 | 0.0007 | mg/L | 0.00137 | 185.56% |
| P 213.617*† | 17.4 | 0.0110 | mg/L | 0.01595 | 0.0110 | mg/L | 0.01595 | 145.36% |
| P 214.914† | -12.0 | -0.0114 | mg/L | 0.00605 | -0.0114 | mg/L | 0.00605 | 52.92% |
| Pb 220.353*† | 39.4 | 0.0058 | mg/L | 0.00091 | 0.0058 | mg/L | 0.00091 | 15.63% |
| Sb 206.836† | 3.7 | 0.0023 | mg/L | 0.00336 | 0.0023 | mg/L | 0.00336 | 146.27% |
| Sb 217.582*† | 20.2 | 0.0124 | mg/L | 0.00056 | 0.0124 | mg/L | 0.00056 | 4.56% |
| QC value within limits for Sb 217.582* | | Recovery = | | Not calculated | | | | |
| Se 196.026*† | 0.9 | 0.0005 | mg/L | 0.00018 | 0.0005 | mg/L | 0.00018 | 37.92% |
| QC value within limits for Se 196.026* | | Recovery = | | Not calculated | | | | |
| Si 251.611*† | 879.3 | 0.0260 | mg/L | 0.00235 | 0.0260 | mg/L | 0.00235 | 9.05% |
| Sn 189.927*† | 35.9 | 0.0070 | mg/L | 0.00222 | 0.0070 | mg/L | 0.00222 | 31.60% |
| Sn 242.170† | -24.5 | -0.0160 | mg/L | 0.01851 | -0.0160 | mg/L | 0.01851 | 115.73% |
| Sr 407.771*† | 60.3 | 0.0002 | mg/L | 0.00002 | 0.0002 | mg/L | 0.00002 | 11.69% |
| Ti 334.940† | 1381.0 | 0.0018 | mg/L | 0.00011 | 0.0018 | mg/L | 0.00011 | 5.82% |
| Ti 336.121*† | 772.0 | 0.0015 | mg/L | 0.00053 | 0.0015 | mg/L | 0.00053 | 35.67% |
| Tl 190.801*† | 9.7 | 0.0060 | mg/L | 0.00262 | 0.0060 | mg/L | 0.00262 | 43.65% |
| QC value within limits for Tl 190.801* | | Recovery = | | Not calculated | | | | |
| V 292.402*† | 365.1 | 0.0030 | mg/L | 0.00076 | 0.0030 | mg/L | 0.00076 | 25.16% |
| Zn 206.200*† | 137.7 | 0.0041 | mg/L | 0.00019 | 0.0041 | mg/L | 0.00019 | 4.63% |
| QC value within limits for Zn 206.200* | | Recovery = | | Not calculated | | | | |

All analyte(s) passed QC.

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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Initial Calibration Verification

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte Name | Initial Calibration Verification | | | | |
|---|---|---|---|---|---|
| | True | ICV-1 | | Control Limit | Comment |
| | | Observed | %D | | |
| Silver | 0.500000 | 0.500357 | 0 | +/-10 | |
| Arsenic | 5.000000 | 4.834695 | 3 | +/-10 | |
| Barium | 1.000000 | 1.005901 | -1 | +/-10 | |
| Beryllium | 0.500000 | 0.490830 | 2 | +/-10 | |
| Cadmium | 1.500000 | 1.494008 | 0 | +/-10 | |
| Cobalt | 1.000000 | 1.033697 | -3 | +/-10 | |
| Chromium | 0.400000 | 0.399803 | 0 | +/-10 | |
| Copper | 1.000000 | 1.002841 | 0 | +/-10 | |
| Molybdenum | 2.500000 | 2.416513 | 3 | +/-10 | |
| Nickel | 0.400000 | 0.400544 | 0 | +/-10 | |
| Phosphorus | 5.000000 | 4.780581 | 4 | +/-10 | |
| Lead | 5.000000 | 5.026459 | -1 | +/-10 | |
| Antimony | 2.000000 | 1.911162 | 4 | +/-10 | |
| Selenium | 2.000000 | 1.935959 | 3 | +/-10 | |
| Thallium | 2.000000 | 1.964579 | 2 | +/-10 | |
| Vanadium | 1.000000 | 0.991621 | 1 | +/-10 | |
| Zinc | 1.500000 | 1.519846 | -1 | +/-10 | |

Report Time: 3/30/2017 5:37:57 PM

ICV-1 File: ICV-M072816C Analysis Time: 3/27/2017 10:28:54 AM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Initial Calibration Blank

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Initial Calibration Blank | | |
|---|---|---|---|
| Analyte | ICB-1 | RL | Comment |
| Silver | -0.000044 | 0.005000 | |
| Arsenic | 0.004998 | 0.010000 | |
| Barium | 0.000400 | 0.010000 | |
| Beryllium | 0.000083 | 0.010000 | |
| Cadmium | 0.000778 | 0.010000 | |
| Cobalt | 0.000304 | 0.010000 | |
| Chromium | -0.001059 | 0.010000 | |
| Copper | 0.000816 | 0.010000 | |
| Molybdenum | 0.002511 | 0.010000 | |
| Nickel | 0.000718 | 0.010000 | |
| Phosphorus | 0.012509 | 0.050000 | |
| Lead | 0.002367 | 0.010000 | |
| Antimony | -0.004058 | 0.015000 | |
| Selenium | 0.002176 | 0.015000 | |
| Thallium | 0.008088 | 0.015000 | |
| Vanadium | 0.000317 | 0.010000 | |
| Zinc | 0.000888 | 0.010000 | |

Report Time: 3/30/2017 5:37:57 PM

ICB-1 File: ICB-R12091601 Analysis Time: 3/27/2017 10:29:52 AM

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Interference Check

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Interference Check | | | | | | |
|---|---|---|---|---|---|---|---|
| | ICS-A-1 | | ICS-AB-1 | | | | |
| | Observed | Control Limit | True | Observed | %D | Control Limit | Comment |
| Silver | -0.000318 | 0.005000 | 0.300000 | 0.313916 | -5 | +/-20 | |
| Arsenic | 0.006482 | 0.010000 | 1.000000 | 1.039814 | -4 | +/-20 | |
| Barium | 0.002535 | 0.010000 | 0.300000 | 0.312295 | -4 | +/-20 | |
| Beryllium | -0.000066 | 0.010000 | 0.100000 | 0.104752 | -5 | +/-20 | |
| Cadmium | 0.001642 | 0.010000 | 0.300000 | 0.302166 | -1 | +/-20 | |
| Cobalt | 0.000204 | 0.010000 | 0.300000 | 0.309391 | -3 | +/-20 | |
| Chromium | -0.001434 | 0.010000 | 0.300000 | 0.307472 | -2 | +/-20 | |
| Copper | -0.000989 | 0.010000 | 0.300000 | 0.316121 | -5 | +/-20 | |
| Molybdenum | 0.000784 | 0.010000 | 0.300000 | 0.306430 | -2 | +/-20 | |
| Nickel | 0.000938 | 0.010000 | 0.300000 | 0.310928 | -4 | +/-20 | |
| Phosphorus | **-0.132174** | 0.100000 | | | | | |
| Lead | -0.006614 | 0.010000 | 1.000000 | 1.001134 | 0 | +/-20 | |
| Antimony | -0.006608 | 0.015000 | 1.000000 | 0.974164 | 3 | +/-20 | |
| Selenium | -0.012261 | 0.015000 | 0.500000 | 0.524749 | -5 | +/-20 | |
| Thallium | -0.011331 | 0.015000 | 1.000000 | 1.022944 | -2 | +/-20 | |
| Vanadium | 0.000617 | 0.010000 | 0.300000 | 0.302776 | -1 | +/-20 | |
| Zinc | 0.001299 | 0.010000 | 0.300000 | 0.309852 | -3 | +/-20 | |

Report Time: 3/30/2017 5:37:57 PM

ICS-A-1 File: ICS_A - M110116B Analysis Time: 3/27/2017 10:30:53 AM

ICS-AB-1 File: ICS_AB - M110116A Analysis Time: 3/27/2017 10:31:44 AM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Continuing Calibration Verification

ACCREDITED IN ACCORDANCE WITH ilac

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Continuing Calibration Verification | | | | | | |
|---|---|---|---|---|---|---|---|
| | True | CCV-1 | | CCV-2 | | Control Limit | Comment |
| | | Observed | %D | Observed | %D | | |
| Silver | 0.375000 | 0.378746 | -1 | 0.369442 | 1 | +/-10 | |
| Arsenic | 3.750000 | 3.837600 | -2 | 3.651269 | 3 | +/-10 | |
| Barium | 7.500000 | 7.686169 | -2 | 7.607164 | -1 | +/-10 | |
| Beryllium | 0.562500 | 0.569376 | -1 | 0.557382 | 1 | +/-10 | |
| Cadmium | 0.750000 | 0.769982 | -3 | 0.748034 | 0 | +/-10 | |
| Cobalt | 1.875000 | 1.921737 | -2 | 1.887604 | -1 | +/-10 | |
| Chromium | 0.600000 | 0.608785 | -1 | 0.601534 | 0 | +/-10 | |
| Copper | 0.937500 | 0.957341 | -2 | 0.936765 | 0 | +/-10 | |
| Molybdenum | 0.600000 | 0.611606 | -2 | 0.599268 | 0 | +/-10 | |
| Nickel | 0.600000 | 0.620296 | -3 | 0.596049 | 1 | +/-10 | |
| Phosphorus | 6.000000 | 6.145161 | -2 | 5.816390 | 3 | +/-10 | |
| Lead | 3.750000 | 3.858464 | -3 | 3.718024 | 1 | +/-10 | |
| Antimony | 4.500000 | 4.531815 | -1 | 4.394253 | 2 | +/-10 | |
| Selenium | 1.500000 | 1.556780 | -4 | 1.469055 | 2 | +/-10 | |
| Thallium | 1.500000 | 1.556722 | -4 | 1.501005 | 0 | +/-10 | |
| Vanadium | 1.875000 | 1.882374 | 0 | 1.867288 | 0 | +/-10 | |
| Zinc | 2.500000 | 2.598175 | -4 | 2.489129 | 0 | +/-10 | |

Report Time: 3/30/2017 5:37:57 PM

CCV-1 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 3:36:17 PM

CCV-2 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 3:44:47 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Continuing Calibration Blank

ACCREDITED IN ACCORDANCE WITH nelac

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-1 | CCB-2 | RL | Qualifier |
| Silver | -0.000093 | 0.001586 | 0.005000 | |
| Arsenic | 0.000534 | 0.000997 | 0.010000 | |
| Barium | 0.003563 | 0.004120 | 0.010000 | |
| Beryllium | 0.000244 | 0.000242 | 0.010000 | |
| Cadmium | 0.000412 | 0.000945 | 0.010000 | |
| Cobalt | 0.000572 | 0.000630 | 0.010000 | |
| Chromium | 0.000106 | 0.000535 | 0.010000 | |
| Copper | 0.001554 | 0.002681 | 0.010000 | |
| Molybdenum | 0.000271 | 0.000898 | 0.010000 | |
| Nickel | 0.000915 | 0.000509 | 0.010000 | |
| Phosphorus | 0.013339 | 0.000903 | 0.050000 | |
| Lead | 0.000964 | 0.002375 | 0.010000 | |
| Antimony | 0.005729 | 0.001470 | 0.015000 | |
| Selenium | 0.003863 | 0.011215 | 0.015000 | |
| Thallium | 0.000204 | 0.003472 | 0.015000 | |
| Vanadium | 0.001241 | 0.001166 | 0.010000 | |
| Zinc | 0.001244 | 0.004866 | 0.010000 | |

Report Time: 3/30/2017 5:37:57 PM

CCB-1 File: CCB-R12091601 Analysis Time: 3/27/2017 3:37:11 PM

CCB-2 File: CCB-R12091601 Analysis Time: 3/27/2017 3:45:40 PM

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Continuing Calibration Verification

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Continuing Calibration Verification | | | | | | |
|---|---|---|---|---|---|---|---|
| | True | CCV-3 | | CCV-4 | | Control Limit | Comment |
| | | Observed | %D | Observed | %D | | |
| Silver | 0.375000 | 0.371098 | 1 | 0.368792 | 2 | +/-10 | |
| Arsenic | 3.750000 | 3.708559 | 1 | 3.733823 | 0 | +/-10 | |
| Barium | 7.500000 | 7.593279 | -1 | 7.528397 | 0 | +/-10 | |
| Beryllium | 0.562500 | 0.561924 | 0 | 0.552157 | 2 | +/-10 | |
| Cadmium | 0.750000 | 0.747580 | 0 | 0.739682 | 1 | +/-10 | |
| Cobalt | 1.875000 | 1.886852 | -1 | 1.868736 | 0 | +/-10 | |
| Chromium | 0.600000 | 0.602448 | 0 | 0.595071 | 1 | +/-10 | |
| Copper | 0.937500 | 0.937698 | 0 | 0.929534 | 1 | +/-10 | |
| Molybdenum | 0.600000 | 0.601472 | 0 | 0.608261 | -1 | +/-10 | |
| Nickel | 0.600000 | 0.604726 | -1 | 0.608864 | -1 | +/-10 | |
| Phosphorus | 6.000000 | 5.939858 | 1 | 5.958956 | 1 | +/-10 | |
| Lead | 3.750000 | 3.759496 | 0 | 3.707683 | 1 | +/-10 | |
| Antimony | 4.500000 | 4.433536 | 1 | 4.481463 | 0 | +/-10 | |
| Selenium | 1.500000 | 1.500983 | 0 | 1.516536 | -1 | +/-10 | |
| Thallium | 1.500000 | 1.515717 | -1 | 1.525690 | -2 | +/-10 | |
| Vanadium | 1.875000 | 1.869454 | 0 | 1.860211 | 1 | +/-10 | |
| Zinc | 2.500000 | 2.498312 | 0 | 2.464671 | 1 | +/-10 | |

Report Time: 3/30/2017 5:37:57 PM

CCV-3 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 3:55:17 PM

CCV-4 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 3:58:56 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision

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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Continuing Calibration Blank

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-3 | CCB-4 | RL | Qualifier |
| Silver | 0.000575 | 0.000135 | 0.005000 | |
| Arsenic | 0.001117 | 0.001028 | 0.010000 | |
| Barium | 0.004017 | 0.005032 | 0.010000 | |
| Beryllium | 0.000238 | 0.000330 | 0.010000 | |
| Cadmium | 0.000764 | 0.000598 | 0.010000 | |
| Cobalt | 0.000856 | 0.001348 | 0.010000 | |
| Chromium | 0.000616 | 0.000849 | 0.010000 | |
| Copper | 0.001310 | 0.000986 | 0.010000 | |
| Molybdenum | -0.000014 | 0.000086 | 0.010000 | |
| Nickel | 0.000298 | 0.000829 | 0.010000 | |
| Phosphorus | 0.017970 | 0.020252 | 0.050000 | |
| Lead | 0.001451 | 0.003523 | 0.010000 | |
| Antimony | 0.000690 | 0.004697 | 0.015000 | |
| Selenium | 0.007320 | 0.003877 | 0.015000 | |
| Thallium | 0.000548 | 0.004288 | 0.015000 | |
| Vanadium | 0.000071 | 0.001774 | 0.010000 | |
| Zinc | 0.003621 | 0.003039 | 0.010000 | |

Report Time: 3/30/2017 5:37:57 PM

CCB-3 File: CCB-R12091601 Analysis Time: 3/27/2017 3:56:11 PM

CCB-4 File: CCB-R12091601 Analysis Time: 3/27/2017 3:59:49 PM

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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Continuing Calibration Verification

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Continuing Calibration Verification | | | | | | |
|---|---|---|---|---|---|---|---|
| | True | CCV-5 | | | | Control Limit | Comment |
| | | Observed | %D | Observed | %D | | |
| Silver | 0.375000 | 0.371821 | 1 | | | +/-10 | |
| Arsenic | 3.750000 | 3.721119 | 1 | | | +/-10 | |
| Barium | 7.500000 | 7.592464 | -1 | | | +/-10 | |
| Beryllium | 0.562500 | 0.555066 | 1 | | | +/-10 | |
| Cadmium | 0.750000 | 0.747987 | 0 | | | +/-10 | |
| Cobalt | 1.875000 | 1.883311 | 0 | | | +/-10 | |
| Chromium | 0.600000 | 0.601589 | 0 | | | +/-10 | |
| Copper | 0.937500 | 0.938661 | 0 | | | +/-10 | |
| Molybdenum | 0.600000 | 0.611041 | -2 | | | +/-10 | |
| Nickel | 0.600000 | 0.605861 | -1 | | | +/-10 | |
| Phosphorus | 6.000000 | 5.846656 | 3 | | | +/-10 | |
| Lead | 3.750000 | 3.731833 | 0 | | | +/-10 | |
| Antimony | 4.500000 | 4.469288 | 1 | | | +/-10 | |
| Selenium | 1.500000 | 1.513946 | -1 | | | +/-10 | |
| Thallium | 1.500000 | 1.537085 | -2 | | | +/-10 | |
| Vanadium | 1.875000 | 1.882445 | 0 | | | +/-10 | |
| Zinc | 2.500000 | 2.459149 | 2 | | | +/-10 | |

Report Time: 3/30/2017 5:37:57 PM

CCV-5 File: CCV= STD3x0.5 Analysis Time: 3/27/2017 4:18:08 PM

Note: Note: %D= (True-Observed) / True x 100%

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

## EPA Method 6010B

## Continuing Calibration Blank

ACCREDITED IN ACCORDANCE WITH nelac

Work Order No: 17-03-0889

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-5 | | RL | Qualifier |
| Silver | 0.000246 | | 0.005000 | |
| Arsenic | 0.004050 | | 0.010000 | |
| Barium | 0.006904 | | 0.010000 | |
| Beryllium | 0.000505 | | 0.010000 | |
| Cadmium | 0.000749 | | 0.010000 | |
| Cobalt | 0.001501 | | 0.010000 | |
| Chromium | 0.001063 | | 0.010000 | |
| Copper | 0.002052 | | 0.010000 | |
| Molybdenum | 0.000568 | | 0.010000 | |
| Nickel | 0.000934 | | 0.010000 | |
| Phosphorus | 0.012368 | | 0.050000 | |
| Lead | 0.003167 | | 0.010000 | |
| Antimony | -0.000301 | | 0.015000 | |
| Selenium | 0.004286 | | 0.015000 | |
| Thallium | 0.003196 | | 0.015000 | |
| Vanadium | 0.001811 | | 0.010000 | |
| Zinc | 0.003355 | | 0.010000 | |

Report Time: 3/30/2017 5:37:57 PM

CCB-5 File: CCB-R12091601 Analysis Time: 3/27/2017 4:19:02 PM

01/22/2014 Revision



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Analysis Begun

Start Time: 3/27/2017 10:26:48 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/27/2017 10:23:22 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032701.sif
Batch ID:
Results Data Set: 170327C 1
Results Library: W:\pe\7300\Results\results.mdb

Sequence No.: 1
Sample ID: Cal blankR12091601_935
Analyst:
Initial Sample Wt:
Dilution:
Wash Time:

Autosampler Location: 1
Date Collected: 3/27/2017 10:27:02 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: Cal blankR12091601_935

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Tb 384 | 81813.0 | 1234.30 | 1.51% | 100.0 | % |
| Tb 350 | 132490.7 | 2416.94 | 1.82% | 100.0 | % |
| Ag 328.068*† | -1204.5 | 95.00 | 7.89% | [0.00] | mg/L |
| Al 308.215*† | -2124.7 | 17.57 | 0.83% | [0.00] | mg/L |
| As 188.979† | 4.3 | 3.02 | 69.57% | [0.00] | mg/L |
| As 193.696*† | 1.8 | 4.62 | 262.03% | [0.00] | mg/L |
| B 249.677*† | -1109.7 | 19.70 | 1.77% | [0.00] | mg/L |
| Ba 233.527*† | -374.8 | 0.19 | 0.05% | [0.00] | mg/L |
| Be 313.042*† | -1124.4 | 225.51 | 20.06% | [0.00] | mg/L |
| Ca 317.933*† | 112.9 | 9.46 | 8.38% | [0.00] | mg/L |
| Cd 226.502*† | 2.8 | 8.71 | 306.51% | [0.00] | mg/L |
| Cd 228.802† | -1.0 | 16.86 | >999.9% | [0.00] | mg/L |
| Co 228.616*† | -94.4 | 11.85 | 12.55% | [0.00] | mg/L |
| Cr 267.716*† | 549.9 | 292.14 | 53.12% | [0.00] | mg/L |
| Cu 324.752*† | 1900.6 | 42.57 | 2.24% | [0.00] | mg/L |
| Fe 273.955*† | -411.4 | 13.28 | 3.23% | [0.00] | mg/L |
| K 766.490*† | 1063.2 | 301.90 | 28.39% | [0.00] | mg/L |
| Mg 279.077*† | -8390.3 | 98.50 | 1.17% | [0.00] | mg/L |
| Mn 257.610*† | -333.9 | 49.30 | 14.77% | [0.00] | mg/L |
| Mo 202.031*† | -53.6 | 2.56 | 4.78% | [0.00] | mg/L |
| Na 589.592*† | 430.3 | 18.71 | 4.35% | [0.00] | mg/L |
| Ni 231.604*† | -84.6 | 0.86 | 1.02% | [0.00] | mg/L |
| P 213.617*† | -183.9 | 11.95 | 6.50% | [0.00] | mg/L |
| P 214.914† | -41.8 | 7.73 | 18.52% | [0.00] | mg/L |
| Pb 220.353*† | -59.1 | 1.53 | 2.59% | [0.00] | mg/L |
| Sb 206.836† | 27.0 | 4.94 | 18.33% | [0.00] | mg/L |
| Sb 217.582*† | -4.9 | 5.78 | 117.10% | [0.00] | mg/L |
| Se 196.026*† | -3.1 | 7.46 | 237.28% | [0.00] | mg/L |
| Si 251.611*† | 1367.3 | 30.73 | 2.25% | [0.00] | mg/L |
| Sn 189.927*† | -127.0 | 10.64 | 8.37% | [0.00] | mg/L |
| Sn 242.170† | -435.8 | 24.78 | 5.69% | [0.00] | mg/L |
| Sr 407.771*† | 341.9 | 24.93 | 7.29% | [0.00] | mg/L |
| Ti 334.940† | 30324.3 | 45.17 | 0.15% | [0.00] | mg/L |
| Ti 336.121*† | -1461.3 | 263.87 | 18.06% | [0.00] | mg/L |
| Tl 190.801*† | -0.8 | 1.23 | 154.78% | [0.00] | mg/L |
| V 292.402*† | 214.4 | 132.02 | 61.58% | [0.00] | mg/L |
| Zn 206.200*† | -310.4 | 12.13 | 3.91% | [0.00] | mg/L |
| Zn 213.857*† | -169.0 | 0.81 | 0.48% | [0.00] | mg/L |

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Sequence No.: 2
Sample ID: STD3-M111116A_935_ICP7300
Analyst:
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 2
Date Collected: 3/27/2017 10:28:08 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: STD3-M111116A_935_ICP7300

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Tb 384 | 71544.9 | 1069.11 | 1.49% | 87.45 | % |
| Tb 350 | 118783.4 | 1768.57 | 1.49% | 89.65 | % |
| Ag 328.068*† | 149764.9 | 158.69 | 0.11% | [0.75] | mg/L |
| Al 308.215*† | 484848.9 | 2652.57 | 0.55% | [27.0] | mg/L |
| As 188.979† | 17497.8 | 25.21 | 0.14% | [7.50] | mg/L |
| As 193.696*† | 12071.3 | 45.40 | 0.38% | [7.50] | mg/L |
| B 249.677*† | 404078.6 | 1434.93 | 0.36% | [7.50] | mg/L |
| Ba 233.527*† | 2403539.6 | 9865.89 | 0.41% | [15.0] | mg/L |
| Be 313.042*† | 4601823.8 | 6557.74 | 0.14% | [1.125] | mg/L |
| Ca 317.933*† | 131233.9 | 3632.03 | 2.77% | [60.0] | mg/L |
| Cd 226.502*† | 126272.6 | 295.33 | 0.23% | [1.50] | mg/L |
| Cd 228.802† | 62069.2 | 71.83 | 0.12% | [1.50] | mg/L |
| Co 228.616*† | 112236.4 | 10.27 | 0.01% | [3.75] | mg/L |
| Cr 267.716*† | 144813.4 | 715.31 | 0.49% | [1.20] | mg/L |
| Cu 324.752*† | 494167.2 | 605.56 | 0.12% | [1.875] | mg/L |
| Fe 273.955*† | 187223.3 | 193.64 | 0.10% | [7.50] | mg/L |
| K 766.490*† | 173880.8 | 4074.80 | 2.34% | [54.0] | mg/L |
| Mg 279.077*† | 311224.0 | 890.09 | 0.29% | [15.0] | mg/L |
| Mn 257.610*† | 1033577.5 | 2913.66 | 0.28% | [1.50] | mg/L |
| Mo 202.031*† | 11648.3 | 39.74 | 0.34% | [1.20] | mg/L |
| Na 589.592*† | 335556.7 | 8368.81 | 2.49% | [72.0] | mg/L |
| Ni 231.604*† | 31720.4 | 407.34 | 1.28% | [1.20] | mg/L |
| P 213.617*† | 26475.4 | 247.85 | 0.94% | [12.0] | mg/L |
| P 214.914† | 16566.4 | 18.69 | 0.11% | [12.0] | mg/L |
| Pb 220.353*† | 65005.8 | 324.59 | 0.50% | [7.50] | mg/L |
| Sb 206.836† | 18354.1 | 102.18 | 0.56% | [9.0] | mg/L |
| Sb 217.582*† | 18244.4 | 76.32 | 0.42% | [9.0] | mg/L |
| Se 196.026*† | 7245.6 | 17.47 | 0.24% | [3.0] | mg/L |
| Si 251.611*† | 507080.3 | 1921.09 | 0.38% | [12.0] | mg/L |
| Sn 189.927*† | 39695.4 | 122.46 | 0.31% | [6.0] | mg/L |
| Sn 242.170† | 11293.9 | 99.32 | 0.88% | [6.0] | mg/L |
| Sr 407.771*† | 205542.3 | 5502.00 | 2.68% | [0.60] | mg/L |
| Ti 334.940† | 1053293.2 | 1598.17 | 0.15% | [1.20] | mg/L |
| Ti 336.121*† | 739330.1 | 1972.93 | 0.27% | [1.20] | mg/L |
| Tl 190.801*† | 5867.0 | 47.61 | 0.81% | [3.0] | mg/L |
| V 292.402*† | 537361.0 | 2115.10 | 0.39% | [3.75] | mg/L |
| Zn 206.200*† | 227052.8 | 61.98 | 0.03% | [5.0] | mg/L |
| Zn 213.857*† | 381553.9 | 1041.11 | 0.27% | [5.0] | mg/L |

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Sequence No.: 3
Sample ID: ICV-M072816C
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 10
Date Collected: 3/27/2017 10:28:54 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICV-M072816C

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 76783.0 | 93.85 | % | 0.519 | | | | 0.55% |
| Tb 350 | 126785.6 | 95.69 | % | 0.136 | | | | 0.14% |
| Ag 328.068*† | 99914.5 | 0.5004 | mg/L | 0.00157 | 0.5004 | mg/L | 0.00157 | 0.31% |
| QC value within limits for Ag 328.068* Recovery = 100.07% | | | | | | | | |
| Al 308.215*† | 74751.5 | 4.163 | mg/L | 0.0088 | 4.163 | mg/L | 0.0088 | 0.21% |
| QC value within limits for Al 308.215* Recovery = 104.07% | | | | | | | | |
| As 188.979† | 11259.4 | 4.826 | mg/L | 0.0430 | 4.826 | mg/L | 0.0430 | 0.89% |
| QC value within limits for As 188.979 Recovery = 96.52% | | | | | | | | |
| As 193.696*† | 7781.5 | 4.835 | mg/L | 0.0582 | 4.835 | mg/L | 0.0582 | 1.20% |
| QC value within limits for As 193.696* Recovery = 96.69% | | | | | | | | |
| B 249.677*† | 135971.2 | 2.524 | mg/L | 0.0196 | 2.524 | mg/L | 0.0196 | 0.78% |
| QC value within limits for B 249.677* Recovery = 100.95% | | | | | | | | |
| Ba 233.527*† | 161181.6 | 1.006 | mg/L | 0.0024 | 1.006 | mg/L | 0.0024 | 0.24% |
| QC value within limits for Ba 233.527* Recovery = 100.59% | | | | | | | | |
| Be 313.042*† | 2007745.3 | 0.4908 | mg/L | 0.00326 | 0.4908 | mg/L | 0.00326 | 0.66% |
| QC value within limits for Be 313.042* Recovery = 98.17% | | | | | | | | |
| Ca 317.933*† | 41715.2 | 19.07 | mg/L | 0.244 | 19.07 | mg/L | 0.244 | 1.28% |
| QC value within limits for Ca 317.933* Recovery = 95.36% | | | | | | | | |
| Cd 226.502*† | 125768.2 | 1.494 | mg/L | 0.0036 | 1.494 | mg/L | 0.0036 | 0.24% |
| QC value within limits for Cd 226.502* Recovery = 99.60% | | | | | | | | |
| Cd 228.802† | 61138.0 | 1.477 | mg/L | 0.0022 | 1.477 | mg/L | 0.0022 | 0.15% |
| Co 228.616*† | 30938.3 | 1.034 | mg/L | 0.0028 | 1.034 | mg/L | 0.0028 | 0.27% |
| QC value within limits for Co 228.616* Recovery = 103.37% | | | | | | | | |
| Cr 267.716*† | 48247.4 | 0.3998 | mg/L | 0.00126 | 0.3998 | mg/L | 0.00126 | 0.32% |
| QC value within limits for Cr 267.716* Recovery = 99.95% | | | | | | | | |
| Cu 324.752*† | 264304.6 | 1.003 | mg/L | 0.0008 | 1.003 | mg/L | 0.0008 | 0.08% |
| QC value within limits for Cu 324.752* Recovery = 100.28% | | | | | | | | |
| Fe 273.955*† | 2540048.1 | 101.8 | mg/L | 0.20 | 101.8 | mg/L | 0.20 | 0.19% |
| QC value within limits for Fe 273.955* Recovery = 101.75% | | | | | | | | |
| K 766.490*† | 25623.0 | 7.957 | mg/L | 0.1168 | 7.957 | mg/L | 0.1168 | 1.47% |
| QC value within limits for K 766.490* Recovery = 99.47% | | | | | | | | |
| Mg 279.077*† | 208280.1 | 10.04 | mg/L | 0.005 | 10.04 | mg/L | 0.005 | 0.05% |
| QC value within limits for Mg 279.077* Recovery = 100.38% | | | | | | | | |
| Mn 257.610*† | 686099.2 | 0.9957 | mg/L | 0.00033 | 0.9957 | mg/L | 0.00033 | 0.03% |
| QC value within limits for Mn 257.610* Recovery = 99.57% | | | | | | | | |
| Mo 202.031*† | 23456.9 | 2.417 | mg/L | 0.0201 | 2.417 | mg/L | 0.0201 | 0.83% |
| QC value within limits for Mo 202.031* Recovery = 96.66% | | | | | | | | |
| Na 589.592*† | 248124.0 | 53.24 | mg/L | 0.135 | 53.24 | mg/L | 0.135 | 0.25% |
| QC value within limits for Na 589.592* Recovery = 98.59% | | | | | | | | |
| Ni 231.604*† | 10587.8 | 0.4005 | mg/L | 0.00310 | 0.4005 | mg/L | 0.00310 | 0.77% |
| QC value within limits for Ni 231.604* Recovery = 100.14% | | | | | | | | |
| P 213.617*† | 10547.3 | 4.781 | mg/L | 0.0452 | 4.781 | mg/L | 0.0452 | 0.94% |
| QC value within limits for P 213.617* Recovery = 95.61% | | | | | | | | |
| P 214.914† | 6808.9 | 4.932 | mg/L | 0.0453 | 4.932 | mg/L | 0.0453 | 0.92% |
| Pb 220.353*† | 43566.5 | 5.026 | mg/L | 0.0090 | 5.026 | mg/L | 0.0090 | 0.18% |
| QC value within limits for Pb 220.353* Recovery = 100.53% | | | | | | | | |
| Sb 206.836† | 3888.8 | 1.907 | mg/L | 0.0066 | 1.907 | mg/L | 0.0066 | 0.35% |
| QC value within limits for Sb 206.836 Recovery = 95.34% | | | | | | | | |
| Sb 217.582*† | 3874.2 | 1.911 | mg/L | 0.0201 | 1.911 | mg/L | 0.0201 | 1.05% |
| QC value within limits for Sb 217.582* Recovery = 95.56% | | | | | | | | |
| Se 196.026*† | 4675.7 | 1.936 | mg/L | 0.0258 | 1.936 | mg/L | 0.0258 | 1.33% |
| QC value within limits for Se 196.026* Recovery = 96.80% | | | | | | | | |
| Si 251.611*† | 404350.0 | 9.569 | mg/L | 0.0483 | 9.569 | mg/L | 0.0483 | 0.51% |
| QC value within limits for Si 251.611* Recovery = 95.69% | | | | | | | | |
| Sn 189.927*† | 16319.9 | 2.467 | mg/L | 0.0304 | 2.467 | mg/L | 0.0304 | 1.23% |
| QC value within limits for Sn 189.927* Recovery = 98.67% | | | | | | | | |
| Sn 242.170† | 5136.4 | 2.729 | mg/L | 0.0007 | 2.729 | mg/L | 0.0007 | 0.02% |
| Sr 407.771*† | 67450.0 | 0.1969 | mg/L | 0.00207 | 0.1969 | mg/L | 0.00207 | 1.05% |
| QC value within limits for Sr 407.771* Recovery = 98.45% | | | | | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Ti 334.940† | 4186048.0 | 4.769 mg/L | 0.0080 | 4.769 mg/L | 0.0080 | 0.17% |
| Ti 336.121*† | 2964423.7 | 4.812 mg/L | 0.0080 | 4.812 mg/L | 0.0080 | 0.17% |
| QC value within limits for Ti 336.121* Recovery = 96.23% | | | | | | |
| Tl 190.801*† | 3842.1 | 1.965 mg/L | 0.0126 | 1.965 mg/L | 0.0126 | 0.64% |
| QC value within limits for Tl 190.801* Recovery = 98.23% | | | | | | |
| V 292.402*† | 142334.7 | 0.9916 mg/L | 0.00750 | 0.9916 mg/L | 0.00750 | 0.76% |
| QC value within limits for V 292.402* Recovery = 99.16% | | | | | | |
| Zn 206.200*† | 69017.1 | 1.520 mg/L | 0.0082 | 1.520 mg/L | 0.0082 | 0.54% |
| QC value within limits for Zn 206.200* Recovery = 101.32% | | | | | | |
| Zn 213.857*† | 115634.5 | 1.507 mg/L | 0.0047 | 1.507 mg/L | 0.0047 | 0.31% |
| QC value within limits for Zn 213.857* Recovery = 100.46% | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 4
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 1
Date Collected: 3/27/2017 10:29:52 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICB-R12091601

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 85719.5 | 104.8 | % | 2.98 | | | | 2.85% |
| Tb 350 | 138269.7 | 104.4 | % | 2.51 | | | | 2.41% |
| Ag 328.068*† | -8.7 | -0.0000 | mg/L | 0.00057 | -0.0000 | mg/L | 0.00057 | >999.9% |
| Al 308.215*† | -56.0 | -0.0031 | mg/L | 0.00052 | -0.0031 | mg/L | 0.00052 | 16.66% |
| As 188.979† | 12.8 | 0.0055 | mg/L | 0.00200 | 0.0055 | mg/L | 0.00200 | 36.54% |
| As 193.696*† | 8.0 | 0.0050 | mg/L | 0.00297 | 0.0050 | mg/L | 0.00297 | 59.48% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 2027.6 | 0.0376 | mg/L | 0.00177 | 0.0376 | mg/L | 0.00177 | 4.71% |
| QC value within limits for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | 64.0 | 0.0004 | mg/L | 0.00007 | 0.0004 | mg/L | 0.00007 | 17.33% |
| Be 313.042*† | 341.2 | 0.0001 | mg/L | 0.00000 | 0.0001 | mg/L | 0.00000 | 2.85% |
| Ca 317.933*† | 12.7 | 0.0058 | mg/L | 0.00059 | 0.0058 | mg/L | 0.00059 | 10.21% |
| Cd 226.502*† | 65.5 | 0.0008 | mg/L | 0.00015 | 0.0008 | mg/L | 0.00015 | 18.72% |
| Cd 228.802† | 33.2 | 0.0008 | mg/L | 0.00003 | 0.0008 | mg/L | 0.00003 | 3.58% |
| Co 228.616*† | 9.1 | 0.0003 | mg/L | 0.00002 | 0.0003 | mg/L | 0.00002 | 5.77% |
| Cr 267.716*† | -127.7 | -0.0011 | mg/L | 0.00143 | -0.0011 | mg/L | 0.00143 | 135.50% |
| Cu 324.752*† | 214.9 | 0.0008 | mg/L | 0.00001 | 0.0008 | mg/L | 0.00001 | 0.87% |
| Fe 273.955*† | 853.7 | 0.0342 | mg/L | 0.00427 | 0.0342 | mg/L | 0.00427 | 12.49% |
| K 766.490*† | -88.0 | -0.0273 | mg/L | 0.02079 | -0.0273 | mg/L | 0.02079 | 76.11% |
| Mg 279.077*† | 241.7 | 0.0116 | mg/L | 0.00670 | 0.0116 | mg/L | 0.00670 | 57.53% |
| Mn 257.610*† | 191.7 | 0.0003 | mg/L | 0.00002 | 0.0003 | mg/L | 0.00002 | 8.15% |
| Mo 202.031*† | 24.4 | 0.0025 | mg/L | 0.00109 | 0.0025 | mg/L | 0.00109 | 43.57% |
| Na 589.592*† | 135.6 | 0.0291 | mg/L | 0.00247 | 0.0291 | mg/L | 0.00247 | 8.48% |
| Ni 231.604*† | 19.0 | 0.0007 | mg/L | 0.00002 | 0.0007 | mg/L | 0.00002 | 2.66% |
| P 213.617*† | 27.6 | 0.0125 | mg/L | 0.01026 | 0.0125 | mg/L | 0.01026 | 82.03% |
| P 214.914† | 4.0 | 0.0029 | mg/L | 0.01077 | 0.0029 | mg/L | 0.01077 | 367.93% |
| Pb 220.353*† | 20.5 | 0.0024 | mg/L | 0.00115 | 0.0024 | mg/L | 0.00115 | 48.50% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | | |
| Sb 206.836† | 0.3 | 0.0001 | mg/L | 0.00064 | 0.0001 | mg/L | 0.00064 | 439.16% |
| Sb 217.582*† | -8.2 | -0.0041 | mg/L | 0.00154 | -0.0041 | mg/L | 0.00154 | 37.92% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 5.3 | 0.0022 | mg/L | 0.00130 | 0.0022 | mg/L | 0.00130 | 59.68% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 288.1 | 0.0068 | mg/L | 0.00274 | 0.0068 | mg/L | 0.00274 | 40.22% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | | |
| Sn 189.927*† | 50.4 | 0.0076 | mg/L | 0.00072 | 0.0076 | mg/L | 0.00072 | 9.50% |
| Sn 242.170† | 28.6 | 0.0152 | mg/L | 0.00319 | 0.0152 | mg/L | 0.00319 | 21.03% |
| Sr 407.771*† | -23.1 | -0.0001 | mg/L | 0.00002 | -0.0001 | mg/L | 0.00002 | 29.35% |
| Ti 334.940† | 2590.0 | 0.0030 | mg/L | 0.00015 | 0.0030 | mg/L | 0.00015 | 5.04% |
| Ti 336.121*† | 1752.5 | 0.0028 | mg/L | 0.00048 | 0.0028 | mg/L | 0.00048 | 16.85% |
| Tl 190.801*† | 15.8 | 0.0081 | mg/L | 0.00139 | 0.0081 | mg/L | 0.00139 | 17.16% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 45.5 | 0.0003 | mg/L | 0.00122 | 0.0003 | mg/L | 0.00122 | 383.74% |
| Zn 206.200*† | 40.3 | 0.0009 | mg/L | 0.00027 | 0.0009 | mg/L | 0.00027 | 29.97% |
| Zn 213.857*† | 91.1 | 0.0012 | mg/L | 0.00012 | 0.0012 | mg/L | 0.00012 | 9.83% |

All analyte(s) passed QC.

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Sequence No.: 5
Sample ID: ICS_A - M110116B
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 8
Date Collected: 3/27/2017 10:30:53 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICS_A - M110116B

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 72361.8 | 88.45 | % | 1.494 | | | | 1.69% |
| Tb 350 | 120832.4 | 91.20 | % | 1.751 | | | | 1.92% |
| Ag 328.068*† | -63.6 | -0.0003 | mg/L | 0.00032 | -0.0003 | mg/L | 0.00032 | 101.60% |
| Al 308.215*† | 449893.7 | 25.05 | mg/L | 0.200 | 25.05 | mg/L | 0.200 | 0.80% |
| As 188.979† | 7.4 | 0.0032 | mg/L | 0.00262 | 0.0032 | mg/L | 0.00262 | 82.48% |
| As 193.696*† | 10.4 | 0.0065 | mg/L | 0.00118 | 0.0065 | mg/L | 0.00118 | 18.20% |
| B 249.677*† | 950.9 | 0.0176 | mg/L | 0.00109 | 0.0176 | mg/L | 0.00109 | 6.17% |
| Ba 233.527*† | 406.2 | 0.0025 | mg/L | 0.00002 | 0.0025 | mg/L | 0.00002 | 0.89% |
| Be 313.042*† | -271.8 | -0.0001 | mg/L | 0.00000 | -0.0001 | mg/L | 0.00000 | 6.80% |
| Ca 317.933*† | 268255.7 | 122.6 | mg/L | 3.52 | 122.6 | mg/L | 3.52 | 2.87% |
| Cd 226.502*† | 138.2 | 0.0016 | mg/L | 0.00007 | 0.0016 | mg/L | 0.00007 | 4.05% |
| Cd 228.802† | -1.8 | -0.0000 | mg/L | 0.00033 | -0.0000 | mg/L | 0.00033 | 734.55% |
| Co 228.616*† | 6.1 | 0.0002 | mg/L | 0.00008 | 0.0002 | mg/L | 0.00008 | 39.44% |
| Cr 267.716*† | -173.0 | -0.0014 | mg/L | 0.00054 | -0.0014 | mg/L | 0.00054 | 37.72% |
| Cu 324.752*† | -260.7 | -0.0010 | mg/L | 0.00056 | -0.0010 | mg/L | 0.00056 | 56.45% |
| Fe 273.955*† | 2434532.5 | 97.53 | mg/L | 2.130 | 97.53 | mg/L | 2.130 | 2.18% |
| K 766.490*† | 447.2 | 0.1389 | mg/L | 0.06435 | 0.1389 | mg/L | 0.06435 | 46.33% |
| Mg 279.077*† | 1259738.1 | 60.72 | mg/L | 1.612 | 60.72 | mg/L | 1.612 | 2.66% |
| Mn 257.610*† | -62.8 | -0.0001 | mg/L | 0.00033 | -0.0001 | mg/L | 0.00033 | 359.64% |
| Mo 202.031*† | 7.6 | 0.0008 | mg/L | 0.00034 | 0.0008 | mg/L | 0.00034 | 43.82% |
| Na 589.592*† | 104875.8 | 22.50 | mg/L | 0.547 | 22.50 | mg/L | 0.547 | 2.43% |
| Ni 231.604*† | 24.8 | 0.0009 | mg/L | 0.00111 | 0.0009 | mg/L | 0.00111 | 117.76% |
| P 213.617*† | -291.6 | -0.1322 | mg/L | 0.00554 | -0.1322 | mg/L | 0.00554 | 4.19% |
| P 214.914† | 50.7 | 0.0367 | mg/L | 0.00083 | 0.0367 | mg/L | 0.00083 | 2.25% |
| Pb 220.353*† | -57.3 | -0.0066 | mg/L | 0.00036 | -0.0066 | mg/L | 0.00036 | 5.40% |
| Sb 206.836† | 24.5 | 0.0120 | mg/L | 0.00443 | 0.0120 | mg/L | 0.00443 | 36.86% |
| Sb 217.582*† | -13.4 | -0.0066 | mg/L | 0.00297 | -0.0066 | mg/L | 0.00297 | 44.93% |
| Se 196.026*† | -29.6 | -0.0123 | mg/L | 0.00865 | -0.0123 | mg/L | 0.00865 | 70.53% |
| Si 251.611*† | 204.5 | 0.0048 | mg/L | 0.00254 | 0.0048 | mg/L | 0.00254 | 52.48% |
| Sn 189.927*† | -3.0 | -0.0005 | mg/L | 0.00339 | -0.0005 | mg/L | 0.00339 | 747.19% |
| Sn 242.170† | 482.6 | 0.2564 | mg/L | 0.00437 | 0.2564 | mg/L | 0.00437 | 1.70% |
| Sr 407.771*† | 936.3 | 0.0027 | mg/L | 0.00027 | 0.0027 | mg/L | 0.00027 | 9.76% |
| Ti 334.940† | -1679.2 | -0.0019 | mg/L | 0.00063 | -0.0019 | mg/L | 0.00063 | 32.92% |
| Ti 336.121*† | -688.9 | -0.0011 | mg/L | 0.00039 | -0.0011 | mg/L | 0.00039 | 35.16% |
| Tl 190.801*† | -22.2 | -0.0113 | mg/L | 0.00085 | -0.0113 | mg/L | 0.00085 | 7.53% |
| V 292.402*† | 317.7 | 0.0006 | mg/L | 0.00024 | 0.0006 | mg/L | 0.00024 | 38.88% |
| Zn 206.200*† | 59.0 | 0.0013 | mg/L | 0.00018 | 0.0013 | mg/L | 0.00018 | 13.84% |
| Zn 213.857*† | 585.6 | -0.0004 | mg/L | 0.00001 | -0.0004 | mg/L | 0.00001 | 3.29% |

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Sequence No.: 6
Sample ID: ICS_AB - M110116A
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 9
Date Collected: 3/27/2017 10:31:44 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICS_AB - M110116A

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 72219.9 | 88.27 | % | 1.082 | | | | 1.23% |
| Tb 350 | 120904.4 | 91.26 | % | 1.486 | | | | 1.63% |
| Ag 328.068*† | 62684.9 | 0.3139 | mg/L | 0.00089 | 0.3139 | mg/L | 0.00089 | 0.28% |
| Al 308.215*† | 448504.0 | 24.98 | mg/L | 0.039 | 24.98 | mg/L | 0.039 | 0.16% |
| As 188.979† | 2428.8 | 1.041 | mg/L | 0.0141 | 1.041 | mg/L | 0.0141 | 1.35% |
| As 193.696*† | 1673.6 | 1.040 | mg/L | 0.0002 | 1.040 | mg/L | 0.0002 | 0.02% |
| B 249.677*† | 27298.2 | 0.5067 | mg/L | 0.01056 | 0.5067 | mg/L | 0.01056 | 2.08% |
| Ba 233.527*† | 50040.9 | 0.3123 | mg/L | 0.00084 | 0.3123 | mg/L | 0.00084 | 0.27% |
| Be 313.042*† | 428489.0 | 0.1048 | mg/L | 0.00039 | 0.1048 | mg/L | 0.00039 | 0.37% |
| Ca 317.933*† | 254311.2 | 116.3 | mg/L | 7.41 | 116.3 | mg/L | 7.41 | 6.38% |
| Cd 226.502*† | 25436.9 | 0.3022 | mg/L | 0.00210 | 0.3022 | mg/L | 0.00210 | 0.69% |
| Cd 228.802† | 12512.0 | 0.3024 | mg/L | 0.00258 | 0.3024 | mg/L | 0.00258 | 0.85% |
| Co 228.616*† | 9260.0 | 0.3094 | mg/L | 0.00291 | 0.3094 | mg/L | 0.00291 | 0.94% |
| Cr 267.716*† | 37105.1 | 0.3075 | mg/L | 0.00014 | 0.3075 | mg/L | 0.00014 | 0.05% |
| Cu 324.752*† | 83315.5 | 0.3161 | mg/L | 0.00028 | 0.3161 | mg/L | 0.00028 | 0.09% |
| Fe 273.955*† | 2426198.3 | 97.19 | mg/L | 0.397 | 97.19 | mg/L | 0.397 | 0.41% |
| K 766.490*† | 69042.9 | 21.44 | mg/L | 1.089 | 21.44 | mg/L | 1.089 | 5.08% |
| Mg 279.077*† | 1248264.2 | 60.16 | mg/L | 0.420 | 60.16 | mg/L | 0.420 | 0.70% |
| Mn 257.610*† | 140717.3 | 0.2042 | mg/L | 0.00075 | 0.2042 | mg/L | 0.00075 | 0.37% |
| Mo 202.031*† | 2974.5 | 0.3064 | mg/L | 0.00194 | 0.3064 | mg/L | 0.00194 | 0.63% |
| Na 589.592*† | 98835.5 | 21.21 | mg/L | 1.079 | 21.21 | mg/L | 1.079 | 5.09% |
| Ni 231.604*† | 8219.0 | 0.3109 | mg/L | 0.00221 | 0.3109 | mg/L | 0.00221 | 0.71% |
| P 213.617*† | -217.3 | -0.0985 | mg/L | 0.00665 | -0.0985 | mg/L | 0.00665 | 6.75% |
| P 214.914† | 45.5 | 0.0329 | mg/L | 0.00685 | 0.0329 | mg/L | 0.00685 | 20.79% |
| Pb 220.353*† | 8677.3 | 1.001 | mg/L | 0.0069 | 1.001 | mg/L | 0.0069 | 0.69% |
| Sb 206.836† | 2061.4 | 1.011 | mg/L | 0.0088 | 1.011 | mg/L | 0.0088 | 0.87% |
| Sb 217.582*† | 1974.8 | 0.9742 | mg/L | 0.01375 | 0.9742 | mg/L | 0.01375 | 1.41% |
| Se 196.026*† | 1267.4 | 0.5247 | mg/L | 0.00488 | 0.5247 | mg/L | 0.00488 | 0.93% |
| Si 251.611*† | 8745.3 | 0.2070 | mg/L | 0.00042 | 0.2070 | mg/L | 0.00042 | 0.20% |
| Sn 189.927*† | -44.9 | -0.0068 | mg/L | 0.00168 | -0.0068 | mg/L | 0.00168 | 24.80% |
| Sn 242.170† | 508.5 | 0.2702 | mg/L | 0.00850 | 0.2702 | mg/L | 0.00850 | 3.14% |
| Sr 407.771*† | 709.8 | 0.0021 | mg/L | 0.00028 | 0.0021 | mg/L | 0.00028 | 13.70% |
| Ti 334.940† | 881994.6 | 1.005 | mg/L | 0.0011 | 1.005 | mg/L | 0.0011 | 0.11% |
| Ti 336.121*† | 622374.8 | 1.010 | mg/L | 0.0009 | 1.010 | mg/L | 0.0009 | 0.09% |
| Tl 190.801*† | 2000.5 | 1.023 | mg/L | 0.0050 | 1.023 | mg/L | 0.0050 | 0.49% |
| V 292.402*† | 43615.1 | 0.3028 | mg/L | 0.00126 | 0.3028 | mg/L | 0.00126 | 0.42% |
| Zn 206.200*† | 14070.6 | 0.3099 | mg/L | 0.00356 | 0.3099 | mg/L | 0.00356 | 1.15% |
| Zn 213.857*† | 24062.2 | 0.3072 | mg/L | 0.00333 | 0.3072 | mg/L | 0.00333 | 1.08% |

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Sequence No.: 2
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 3
Date Collected: 3/27/2017 3:36:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 69635.2 | 85.12 | % | 0.111 | | | | 0.13% |
| Tb 350 | 115272.9 | 87.00 | % | 0.127 | | | | 0.15% |
| Ag 328.068*† | 75630.4 | 0.3787 | mg/L | 0.00064 | 0.3787 | mg/L | 0.00064 | 0.17% |
| QC value within limits for Ag 328.068* Recovery = 101.00% | | | | | | | | |
| Al 308.215*† | 252166.1 | 14.04 | mg/L | 0.014 | 14.04 | mg/L | 0.014 | 0.10% |
| QC value within limits for Al 308.215* Recovery = 104.02% | | | | | | | | |
| As 188.979† | 8940.0 | 3.832 | mg/L | 0.0247 | 3.832 | mg/L | 0.0247 | 0.64% |
| QC value within limits for As 188.979 Recovery = 102.18% | | | | | | | | |
| As 193.696*† | 6176.7 | 3.838 | mg/L | 0.0299 | 3.838 | mg/L | 0.0299 | 0.78% |
| QC value within limits for As 193.696* Recovery = 102.34% | | | | | | | | |
| B 249.677*† | 211026.6 | 3.917 | mg/L | 0.0220 | 3.917 | mg/L | 0.0220 | 0.56% |
| QC value within limits for B 249.677* Recovery = 104.45% | | | | | | | | |
| Ba 233.527*† | 1231600.8 | 7.686 | mg/L | 0.0046 | 7.686 | mg/L | 0.0046 | 0.06% |
| QC value within limits for Ba 233.527* Recovery = 102.48% | | | | | | | | |
| Be 313.042*† | 2329040.0 | 0.5694 | mg/L | 0.00021 | 0.5694 | mg/L | 0.00021 | 0.04% |
| QC value within limits for Be 313.042* Recovery = 101.22% | | | | | | | | |
| Ca 317.933*† | 65116.3 | 29.77 | mg/L | 0.079 | 29.77 | mg/L | 0.079 | 0.27% |
| QC value within limits for Ca 317.933* Recovery = 99.24% | | | | | | | | |
| Cd 226.502*† | 64818.4 | 0.7700 | mg/L | 0.00130 | 0.7700 | mg/L | 0.00130 | 0.17% |
| QC value within limits for Cd 226.502* Recovery = 102.66% | | | | | | | | |
| Cd 228.802† | 31482.2 | 0.7608 | mg/L | 0.00043 | 0.7608 | mg/L | 0.00043 | 0.06% |
| Co 228.616*† | 57517.0 | 1.922 | mg/L | 0.0044 | 1.922 | mg/L | 0.0044 | 0.23% |
| QC value within limits for Co 228.616* Recovery = 102.49% | | | | | | | | |
| Cr 267.716*† | 73466.9 | 0.6088 | mg/L | 0.00003 | 0.6088 | mg/L | 0.00003 | 0.01% |
| QC value within limits for Cr 267.716* Recovery = 101.46% | | | | | | | | |
| Cu 324.752*† | 252312.8 | 0.9573 | mg/L | 0.00221 | 0.9573 | mg/L | 0.00221 | 0.23% |
| QC value within limits for Cu 324.752* Recovery = 102.12% | | | | | | | | |
| Fe 273.955*† | 96569.0 | 3.868 | mg/L | 0.0052 | 3.868 | mg/L | 0.0052 | 0.13% |
| QC value within limits for Fe 273.955* Recovery = 103.16% | | | | | | | | |
| K 766.490*† | 87755.5 | 27.25 | mg/L | 0.037 | 27.25 | mg/L | 0.037 | 0.14% |
| QC value within limits for K 766.490* Recovery = 100.94% | | | | | | | | |
| Mg 279.077*† | 162833.4 | 7.848 | mg/L | 0.0428 | 7.848 | mg/L | 0.0428 | 0.55% |
| QC value within limits for Mg 279.077* Recovery = 104.64% | | | | | | | | |
| Mn 257.610*† | 528531.3 | 0.7670 | mg/L | 0.00233 | 0.7670 | mg/L | 0.00233 | 0.30% |
| QC value within limits for Mn 257.610* Recovery = 102.27% | | | | | | | | |
| Mo 202.031*† | 5936.8 | 0.6116 | mg/L | 0.00529 | 0.6116 | mg/L | 0.00529 | 0.86% |
| QC value within limits for Mo 202.031* Recovery = 101.93% | | | | | | | | |
| Na 589.592*† | 181014.1 | 38.84 | mg/L | 0.038 | 38.84 | mg/L | 0.038 | 0.10% |
| QC value within limits for Na 589.592* Recovery = 107.89% | | | | | | | | |
| Ni 231.604*† | 16396.7 | 0.6203 | mg/L | 0.00377 | 0.6203 | mg/L | 0.00377 | 0.61% |
| QC value within limits for Ni 231.604* Recovery = 103.38% | | | | | | | | |
| P 213.617*† | 13558.0 | 6.145 | mg/L | 0.0484 | 6.145 | mg/L | 0.0484 | 0.79% |
| QC value within limits for P 213.617* Recovery = 102.42% | | | | | | | | |
| P 214.914† | 8521.2 | 6.172 | mg/L | 0.0445 | 6.172 | mg/L | 0.0445 | 0.72% |
| Pb 220.353*† | 33443.0 | 3.858 | mg/L | 0.0401 | 3.858 | mg/L | 0.0401 | 1.04% |
| QC value within limits for Pb 220.353* Recovery = 102.89% | | | | | | | | |
| Sb 206.836† | 9382.2 | 4.601 | mg/L | 0.0274 | 4.601 | mg/L | 0.0274 | 0.60% |
| QC value within limits for Sb 206.836 Recovery = 102.24% | | | | | | | | |
| Sb 217.582*† | 9186.7 | 4.532 | mg/L | 0.0427 | 4.532 | mg/L | 0.0427 | 0.94% |
| QC value within limits for Sb 217.582* Recovery = 100.71% | | | | | | | | |
| Se 196.026*† | 3759.9 | 1.557 | mg/L | 0.0074 | 1.557 | mg/L | 0.0074 | 0.47% |
| QC value within limits for Se 196.026* Recovery = 103.79% | | | | | | | | |
| Si 251.611*† | 256625.4 | 6.073 | mg/L | 0.0232 | 6.073 | mg/L | 0.0232 | 0.38% |
| QC value within limits for Si 251.611* Recovery = 101.22% | | | | | | | | |
| Sn 189.927*† | 20697.9 | 3.129 | mg/L | 0.0264 | 3.129 | mg/L | 0.0264 | 0.84% |
| QC value within limits for Sn 189.927* Recovery = 104.28% | | | | | | | | |
| Sn 242.170† | 5733.8 | 3.046 | mg/L | 0.0221 | 3.046 | mg/L | 0.0221 | 0.72% |
| Sr 407.771*† | 101189.5 | 0.2954 | mg/L | 0.00056 | 0.2954 | mg/L | 0.00056 | 0.19% |
| QC value within limits for Sr 407.771* Recovery = 98.46% | | | | | | | | |

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| | | | | | | |
|---|---|---|---|---|---|---|
| Ti 334.940† | 532030.8 | 0.6061 mg/L | 0.00079 | 0.6061 mg/L | 0.00079 | 0.13% |
| Ti 336.121*† | 372831.5 | 0.6051 mg/L | 0.00077 | 0.6051 mg/L | 0.00077 | 0.13% |
| QC value within limits for Ti 336.121* Recovery = 100.86% | | | | | | |
| Tl 190.801*† | 3044.4 | 1.557 mg/L | 0.0013 | 1.557 mg/L | 0.0013 | 0.09% |
| QC value within limits for Tl 190.801* Recovery = 103.78% | | | | | | |
| V 292.402*† | 269746.2 | 1.882 mg/L | 0.0123 | 1.882 mg/L | 0.0123 | 0.65% |
| QC value within limits for V 292.402* Recovery = 100.39% | | | | | | |
| Zn 206.200*† | 117984.6 | 2.598 mg/L | 0.0178 | 2.598 mg/L | 0.0178 | 0.69% |
| QC value within limits for Zn 206.200* Recovery = 103.93% | | | | | | |
| Zn 213.857*† | 194402.3 | 2.547 mg/L | 0.0106 | 2.547 mg/L | 0.0106 | 0.42% |
| QC value within limits for Zn 213.857* Recovery = 101.89% | | | | | | |

All analyte(s) passed QC.

Return to Contents

Sequence No.: 3
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/27/2017 3:37:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 79546.0 | 97.23 | % | 0.780 | | | | 0.80% |
| Tb 350 | 128224.0 | 96.78 | % | 0.292 | | | | 0.30% |
| Ag 328.068*† | -18.6 | -0.0001 | mg/L | 0.00043 | -0.0001 | mg/L | 0.00043 | 462.19% |
| QC value within limits for Ag 328.068* | | Recovery = Not calculated | | | | | | |
| Al 308.215*† | 134.2 | 0.0075 | mg/L | 0.00046 | 0.0075 | mg/L | 0.00046 | 6.18% |
| As 188.979† | 2.9 | 0.0012 | mg/L | 0.00109 | 0.0012 | mg/L | 0.00109 | 87.45% |
| As 193.696*† | 0.9 | 0.0005 | mg/L | 0.00012 | 0.0005 | mg/L | 0.00012 | 22.43% |
| QC value within limits for As 193.696* | | Recovery = Not calculated | | | | | | |
| B 249.677*† | 2842.0 | 0.0528 | mg/L | 0.00206 | 0.0528 | mg/L | 0.00206 | 3.91% |
| Ba 233.527*† | 570.9 | 0.0036 | mg/L | 0.00011 | 0.0036 | mg/L | 0.00011 | 3.22% |
| Be 313.042*† | 1000.3 | 0.0002 | mg/L | 0.00000 | 0.0002 | mg/L | 0.00000 | 1.58% |
| Ca 317.933*† | 126.5 | 0.0578 | mg/L | 0.00064 | 0.0578 | mg/L | 0.00064 | 1.11% |
| Cd 226.502*† | 34.6 | 0.0004 | mg/L | 0.00004 | 0.0004 | mg/L | 0.00004 | 10.30% |
| Cd 228.802† | 26.7 | 0.0006 | mg/L | 0.00000 | 0.0006 | mg/L | 0.00000 | 0.47% |
| Co 228.616*† | 17.1 | 0.0006 | mg/L | 0.00005 | 0.0006 | mg/L | 0.00005 | 9.58% |
| Cr 267.716*† | 12.7 | 0.0001 | mg/L | 0.00012 | 0.0001 | mg/L | 0.00012 | 110.76% |
| Cu 324.752*† | 409.7 | 0.0016 | mg/L | 0.00024 | 0.0016 | mg/L | 0.00024 | 15.13% |
| Fe 273.955*† | 91.1 | 0.0036 | mg/L | 0.00065 | 0.0036 | mg/L | 0.00065 | 17.95% |
| K 766.490*† | 1191.5 | 0.3700 | mg/L | 0.02803 | 0.3700 | mg/L | 0.02803 | 7.57% |
| Mg 279.077*† | -373.0 | -0.0180 | mg/L | 0.00787 | -0.0180 | mg/L | 0.00787 | 43.75% |
| Mn 257.610*† | 393.5 | 0.0006 | mg/L | 0.00007 | 0.0006 | mg/L | 0.00007 | 13.05% |
| Mo 202.031*† | 2.6 | 0.0003 | mg/L | 0.00094 | 0.0003 | mg/L | 0.00094 | 348.44% |
| Na 589.592*† | 3664.3 | 0.7863 | mg/L | 0.02820 | 0.7863 | mg/L | 0.02820 | 3.59% |
| Ni 231.604*† | 24.2 | 0.0009 | mg/L | 0.00023 | 0.0009 | mg/L | 0.00023 | 25.33% |
| P 213.617*† | 29.4 | 0.0133 | mg/L | 0.01224 | 0.0133 | mg/L | 0.01224 | 91.74% |
| P 214.914† | -4.6 | -0.0033 | mg/L | 0.01178 | -0.0033 | mg/L | 0.01178 | 353.66% |
| Pb 220.353*† | 8.4 | 0.0010 | mg/L | 0.00037 | 0.0010 | mg/L | 0.00037 | 38.50% |
| Sb 206.836† | 11.8 | 0.0058 | mg/L | 0.00260 | 0.0058 | mg/L | 0.00260 | 44.91% |
| Sb 217.582*† | 11.6 | 0.0057 | mg/L | 0.00217 | 0.0057 | mg/L | 0.00217 | 37.80% |
| QC value within limits for Sb 217.582* | | Recovery = Not calculated | | | | | | |
| Se 196.026*† | 9.3 | 0.0039 | mg/L | 0.00258 | 0.0039 | mg/L | 0.00258 | 66.77% |
| QC value within limits for Se 196.026* | | Recovery = Not calculated | | | | | | |
| Si 251.611*† | 376.0 | 0.0089 | mg/L | 0.00000 | 0.0089 | mg/L | 0.00000 | 0.02% |
| Sn 189.927*† | 31.3 | 0.0047 | mg/L | 0.00068 | 0.0047 | mg/L | 0.00068 | 14.32% |
| Sn 242.170† | -19.3 | -0.0102 | mg/L | 0.02168 | -0.0102 | mg/L | 0.02168 | 211.91% |
| Sr 407.771*† | 96.3 | 0.0003 | mg/L | 0.00011 | 0.0003 | mg/L | 0.00011 | 37.85% |
| Ti 334.940† | 691.4 | 0.0008 | mg/L | 0.00054 | 0.0008 | mg/L | 0.00054 | 69.08% |
| Ti 336.121*† | 488.5 | 0.0008 | mg/L | 0.00037 | 0.0008 | mg/L | 0.00037 | 46.73% |
| Tl 190.801*† | 0.4 | 0.0002 | mg/L | 0.00134 | 0.0002 | mg/L | 0.00134 | 656.38% |
| V 292.402*† | 177.8 | 0.0012 | mg/L | 0.00086 | 0.0012 | mg/L | 0.00086 | 69.11% |
| Zn 206.200*† | 56.5 | 0.0012 | mg/L | 0.00015 | 0.0012 | mg/L | 0.00015 | 12.12% |
| QC value within limits for Zn 206.200* | | Recovery = Not calculated | | | | | | |
| Zn 213.857*† | 158.9 | 0.0021 | mg/L | 0.00024 | 0.0021 | mg/L | 0.00024 | 11.74% |
| QC value within limits for Zn 213.857* | | Recovery = Not calculated | | | | | | |

All analyte(s) passed QC.

Return to Contents

Sequence No.: 7
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/27/2017 3:44:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 73217.5 | 89.49 | % | 0.846 | | | | 0.94% |
| Tb 350 | 121010.8 | 91.34 | % | 0.507 | | | | 0.56% |
| Ag 328.068*† | 73772.7 | 0.3694 | mg/L | 0.00323 | 0.3694 | mg/L | 0.00323 | 0.87% |
| QC value within limits for Ag 328.068* Recovery = 98.52% | | | | | | | | |
| Al 308.215*† | 248734.0 | 13.85 | mg/L | 0.044 | 13.85 | mg/L | 0.044 | 0.32% |
| QC value within limits for Al 308.215* Recovery = 102.60% | | | | | | | | |
| As 188.979† | 8507.7 | 3.647 | mg/L | 0.0022 | 3.647 | mg/L | 0.0022 | 0.06% |
| QC value within limits for As 188.979 Recovery = 97.24% | | | | | | | | |
| As 193.696*† | 5876.8 | 3.651 | mg/L | 0.0038 | 3.651 | mg/L | 0.0038 | 0.10% |
| QC value within limits for As 193.696* Recovery = 97.37% | | | | | | | | |
| B 249.677*† | 200810.2 | 3.727 | mg/L | 0.0009 | 3.727 | mg/L | 0.0009 | 0.02% |
| QC value within limits for B 249.677* Recovery = 99.39% | | | | | | | | |
| Ba 233.527*† | 1218941.3 | 7.607 | mg/L | 0.0328 | 7.607 | mg/L | 0.0328 | 0.43% |
| QC value within limits for Ba 233.527* Recovery = 101.43% | | | | | | | | |
| Be 313.042*† | 2279977.3 | 0.5574 | mg/L | 0.00438 | 0.5574 | mg/L | 0.00438 | 0.79% |
| QC value within limits for Be 313.042* Recovery = 99.09% | | | | | | | | |
| Ca 317.933*† | 63565.7 | 29.06 | mg/L | 0.157 | 29.06 | mg/L | 0.157 | 0.54% |
| QC value within limits for Ca 317.933* Recovery = 96.87% | | | | | | | | |
| Cd 226.502*† | 62970.8 | 0.7480 | mg/L | 0.00653 | 0.7480 | mg/L | 0.00653 | 0.87% |
| QC value within limits for Cd 226.502* Recovery = 99.74% | | | | | | | | |
| Cd 228.802† | 30784.0 | 0.7439 | mg/L | 0.00503 | 0.7439 | mg/L | 0.00503 | 0.68% |
| Co 228.616*† | 56495.5 | 1.888 | mg/L | 0.0078 | 1.888 | mg/L | 0.0078 | 0.41% |
| QC value within limits for Co 228.616* Recovery = 100.67% | | | | | | | | |
| Cr 267.716*† | 72591.8 | 0.6015 | mg/L | 0.00341 | 0.6015 | mg/L | 0.00341 | 0.57% |
| QC value within limits for Cr 267.716* Recovery = 100.26% | | | | | | | | |
| Cu 324.752*† | 246889.9 | 0.9368 | mg/L | 0.00683 | 0.9368 | mg/L | 0.00683 | 0.73% |
| QC value within limits for Cu 324.752* Recovery = 99.92% | | | | | | | | |
| Fe 273.955*† | 94875.3 | 3.801 | mg/L | 0.0083 | 3.801 | mg/L | 0.0083 | 0.22% |
| QC value within limits for Fe 273.955* Recovery = 101.35% | | | | | | | | |
| K 766.490*† | 84967.7 | 26.39 | mg/L | 0.044 | 26.39 | mg/L | 0.044 | 0.16% |
| QC value within limits for K 766.490* Recovery = 97.73% | | | | | | | | |
| Mg 279.077*† | 159045.9 | 7.666 | mg/L | 0.0588 | 7.666 | mg/L | 0.0588 | 0.77% |
| QC value within limits for Mg 279.077* Recovery = 102.21% | | | | | | | | |
| Mn 257.610*† | 519401.2 | 0.7538 | mg/L | 0.00450 | 0.7538 | mg/L | 0.00450 | 0.60% |
| QC value within limits for Mn 257.610* Recovery = 100.51% | | | | | | | | |
| Mo 202.031*† | 5817.0 | 0.5993 | mg/L | 0.00180 | 0.5993 | mg/L | 0.00180 | 0.30% |
| QC value within limits for Mo 202.031* Recovery = 99.88% | | | | | | | | |
| Na 589.592*† | 175608.6 | 37.68 | mg/L | 0.299 | 37.68 | mg/L | 0.299 | 0.79% |
| QC value within limits for Na 589.592* Recovery = 104.67% | | | | | | | | |
| Ni 231.604*† | 15755.7 | 0.5960 | mg/L | 0.00057 | 0.5960 | mg/L | 0.00057 | 0.10% |
| QC value within limits for Ni 231.604* Recovery = 99.34% | | | | | | | | |
| P 213.617*† | 12832.6 | 5.816 | mg/L | 0.0102 | 5.816 | mg/L | 0.0102 | 0.18% |
| QC value within limits for P 213.617* Recovery = 96.94% | | | | | | | | |
| P 214.914† | 8065.6 | 5.842 | mg/L | 0.0022 | 5.842 | mg/L | 0.0022 | 0.04% |
| Pb 220.353*† | 32225.7 | 3.718 | mg/L | 0.0029 | 3.718 | mg/L | 0.0029 | 0.08% |
| QC value within limits for Pb 220.353* Recovery = 99.15% | | | | | | | | |
| Sb 206.836† | 9022.6 | 4.424 | mg/L | 0.0028 | 4.424 | mg/L | 0.0028 | 0.06% |
| QC value within limits for Sb 206.836 Recovery = 98.32% | | | | | | | | |
| Sb 217.582*† | 8907.8 | 4.394 | mg/L | 0.0177 | 4.394 | mg/L | 0.0177 | 0.40% |
| QC value within limits for Sb 217.582* Recovery = 97.65% | | | | | | | | |
| Se 196.026*† | 3548.1 | 1.469 | mg/L | 0.0005 | 1.469 | mg/L | 0.0005 | 0.03% |
| QC value within limits for Se 196.026* Recovery = 97.94% | | | | | | | | |
| Si 251.611*† | 260351.1 | 6.161 | mg/L | 0.0074 | 6.161 | mg/L | 0.0074 | 0.12% |
| QC value within limits for Si 251.611* Recovery = 102.69% | | | | | | | | |
| Sn 189.927*† | 19747.8 | 2.985 | mg/L | 0.0027 | 2.985 | mg/L | 0.0027 | 0.09% |
| QC value within limits for Sn 189.927* Recovery = 99.50% | | | | | | | | |
| Sn 242.170† | 5541.6 | 2.944 | mg/L | 0.0061 | 2.944 | mg/L | 0.0061 | 0.21% |
| Sr 407.771*† | 101571.8 | 0.2965 | mg/L | 0.00255 | 0.2965 | mg/L | 0.00255 | 0.86% |
| QC value within limits for Sr 407.771* Recovery = 98.83% | | | | | | | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ti 334.940† | 528586.0 | 0.6022 | mg/L | 0.00231 | 0.6022 | mg/L | 0.00231 | 0.38% |
| Ti 336.121*† | 372577.9 | 0.6047 | mg/L | 0.00175 | 0.6047 | mg/L | 0.00175 | 0.29% |
| QC value within limits for Ti 336.121* Recovery = 100.79% | | | | | | | | |
| Tl 190.801*† | 2935.5 | 1.501 | mg/L | 0.0129 | 1.501 | mg/L | 0.0129 | 0.86% |
| QC value within limits for Tl 190.801* Recovery = 100.07% | | | | | | | | |
| V 292.402*† | 267584.3 | 1.867 | mg/L | 0.0076 | 1.867 | mg/L | 0.0076 | 0.41% |
| QC value within limits for V 292.402* Recovery = 99.59% | | | | | | | | |
| Zn 206.200*† | 113032.8 | 2.489 | mg/L | 0.0239 | 2.489 | mg/L | 0.0239 | 0.96% |
| QC value within limits for Zn 206.200* Recovery = 99.57% | | | | | | | | |

All analyte(s) passed QC.

Return to Contents

Sequence No.: 8
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/27/2017 3:45:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 81197.1 | 99.25 | % | 1.038 | | | | 1.05% |
| Tb 350 | 130963.1 | 98.85 | % | 1.722 | | | | 1.74% |
| Ag 328.068*† | 316.7 | 0.0016 | mg/L | 0.00007 | 0.0016 | mg/L | 0.00007 | 4.66% |
| Al 308.215*† | 204.8 | 0.0114 | mg/L | 0.00312 | 0.0114 | mg/L | 0.00312 | 27.35% |
| As 188.979† | 9.6 | 0.0041 | mg/L | 0.00142 | 0.0041 | mg/L | 0.00142 | 34.71% |
| As 193.696*† | 1.6 | 0.0010 | mg/L | 0.00089 | 0.0010 | mg/L | 0.00089 | 89.38% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 2566.1 | 0.0476 | mg/L | 0.00557 | 0.0476 | mg/L | 0.00557 | 11.70% |
| Ba 233.527*† | 660.2 | 0.0041 | mg/L | 0.00020 | 0.0041 | mg/L | 0.00020 | 4.76% |
| Be 313.042*† | 991.7 | 0.0002 | mg/L | 0.00003 | 0.0002 | mg/L | 0.00003 | 10.85% |
| Ca 317.933*† | 131.3 | 0.0600 | mg/L | 0.00253 | 0.0600 | mg/L | 0.00253 | 4.21% |
| Cd 226.502*† | 79.5 | 0.0009 | mg/L | 0.00010 | 0.0009 | mg/L | 0.00010 | 10.68% |
| Cd 228.802† | 39.9 | 0.0010 | mg/L | 0.00021 | 0.0010 | mg/L | 0.00021 | 22.12% |
| Co 228.616*† | 18.9 | 0.0006 | mg/L | 0.00001 | 0.0006 | mg/L | 0.00001 | 2.01% |
| Cr 267.716*† | 64.5 | 0.0005 | mg/L | 0.00013 | 0.0005 | mg/L | 0.00013 | 24.26% |
| Cu 324.752*† | 706.5 | 0.0027 | mg/L | 0.00057 | 0.0027 | mg/L | 0.00057 | 21.39% |
| Fe 273.955*† | 445.6 | 0.0179 | mg/L | 0.00126 | 0.0179 | mg/L | 0.00126 | 7.08% |
| K 766.490*† | 240.0 | 0.0745 | mg/L | 0.08133 | 0.0745 | mg/L | 0.08133 | 109.11% |
| Mg 279.077*† | 216.2 | 0.0104 | mg/L | 0.00887 | 0.0104 | mg/L | 0.00887 | 85.11% |
| Mn 257.610*† | 673.7 | 0.0010 | mg/L | 0.00009 | 0.0010 | mg/L | 0.00009 | 9.16% |
| Mo 202.031*† | 8.7 | 0.0009 | mg/L | 0.00019 | 0.0009 | mg/L | 0.00019 | 20.92% |
| Na 589.592*† | 1134.8 | 0.2435 | mg/L | 0.04141 | 0.2435 | mg/L | 0.04141 | 17.01% |
| Ni 231.604*† | 13.4 | 0.0005 | mg/L | 0.00071 | 0.0005 | mg/L | 0.00071 | 138.98% |
| P 213.617*† | 2.0 | 0.0009 | mg/L | 0.00060 | 0.0009 | mg/L | 0.00060 | 66.40% |
| P 214.914† | 4.3 | 0.0031 | mg/L | 0.00586 | 0.0031 | mg/L | 0.00586 | 188.39% |
| Pb 220.353*† | 20.6 | 0.0024 | mg/L | 0.00166 | 0.0024 | mg/L | 0.00166 | 69.99% |
| Sb 206.836† | 5.4 | 0.0026 | mg/L | 0.00136 | 0.0026 | mg/L | 0.00136 | 51.72% |
| Sb 217.582*† | 3.0 | 0.0015 | mg/L | 0.00739 | 0.0015 | mg/L | 0.00739 | 502.93% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 27.1 | 0.0112 | mg/L | 0.00565 | 0.0112 | mg/L | 0.00565 | 50.40% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 1107.2 | 0.0262 | mg/L | 0.00259 | 0.0262 | mg/L | 0.00259 | 9.89% |
| Sn 189.927*† | 26.8 | 0.0041 | mg/L | 0.00323 | 0.0041 | mg/L | 0.00323 | 79.52% |
| Sn 242.170† | 21.8 | 0.0116 | mg/L | 0.00128 | 0.0116 | mg/L | 0.00128 | 11.07% |
| Sr 407.771*† | 110.2 | 0.0003 | mg/L | 0.00004 | 0.0003 | mg/L | 0.00004 | 12.23% |
| Ti 334.940† | 667.8 | 0.0008 | mg/L | 0.00004 | 0.0008 | mg/L | 0.00004 | 5.41% |
| Ti 336.121*† | 646.5 | 0.0010 | mg/L | 0.00033 | 0.0010 | mg/L | 0.00033 | 31.06% |
| Tl 190.801*† | 6.8 | 0.0035 | mg/L | 0.00033 | 0.0035 | mg/L | 0.00033 | 9.54% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 167.1 | 0.0012 | mg/L | 0.00057 | 0.0012 | mg/L | 0.00057 | 48.49% |
| Zn 206.200*† | 221.0 | 0.0049 | mg/L | 0.00033 | 0.0049 | mg/L | 0.00033 | 6.73% |
| QC value within limits for Zn 206.200* Recovery = Not calculated | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 6
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 3
Date Collected: 3/27/2017 3:55:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 72898.1 | 89.10 | % | 1.934 | | | | 2.17% |
| Tb 350 | 120282.7 | 90.79 | % | 1.854 | | | | 2.04% |
| Ag 328.068*† | 74103.2 | 0.3711 | mg/L | 0.00226 | 0.3711 | mg/L | 0.00226 | 0.61% |
| QC value within limits for Ag 328.068* Recovery = 98.96% | | | | | | | | |
| Al 308.215*† | 248438.5 | 13.83 | mg/L | 0.042 | 13.83 | mg/L | 0.042 | 0.31% |
| QC value within limits for Al 308.215* Recovery = 102.48% | | | | | | | | |
| As 188.979† | 8645.1 | 3.706 | mg/L | 0.0949 | 3.706 | mg/L | 0.0949 | 2.56% |
| QC value within limits for As 188.979 Recovery = 98.81% | | | | | | | | |
| As 193.696*† | 5969.0 | 3.709 | mg/L | 0.1029 | 3.709 | mg/L | 0.1029 | 2.78% |
| QC value within limits for As 193.696* Recovery = 98.89% | | | | | | | | |
| B 249.677*† | 201903.1 | 3.747 | mg/L | 0.0271 | 3.747 | mg/L | 0.0271 | 0.72% |
| QC value within limits for B 249.677* Recovery = 99.93% | | | | | | | | |
| Ba 233.527*† | 1216716.4 | 7.593 | mg/L | 0.0399 | 7.593 | mg/L | 0.0399 | 0.53% |
| QC value within limits for Ba 233.527* Recovery = 101.24% | | | | | | | | |
| Be 313.042*† | 2298555.4 | 0.5619 | mg/L | 0.00631 | 0.5619 | mg/L | 0.00631 | 1.12% |
| QC value within limits for Be 313.042* Recovery = 99.90% | | | | | | | | |
| Ca 317.933*† | 61668.8 | 28.19 | mg/L | 0.334 | 28.19 | mg/L | 0.334 | 1.19% |
| QC value within limits for Ca 317.933* Recovery = 93.98% | | | | | | | | |
| Cd 226.502*† | 62932.6 | 0.7476 | mg/L | 0.00649 | 0.7476 | mg/L | 0.00649 | 0.87% |
| QC value within limits for Cd 226.502* Recovery = 99.68% | | | | | | | | |
| Cd 228.802† | 30906.9 | 0.7469 | mg/L | 0.00946 | 0.7469 | mg/L | 0.00946 | 1.27% |
| Co 228.616*† | 56473.0 | 1.887 | mg/L | 0.0156 | 1.887 | mg/L | 0.0156 | 0.82% |
| QC value within limits for Co 228.616* Recovery = 100.63% | | | | | | | | |
| Cr 267.716*† | 72702.1 | 0.6024 | mg/L | 0.00714 | 0.6024 | mg/L | 0.00714 | 1.19% |
| QC value within limits for Cr 267.716* Recovery = 100.41% | | | | | | | | |
| Cu 324.752*† | 247135.8 | 0.9377 | mg/L | 0.00556 | 0.9377 | mg/L | 0.00556 | 0.59% |
| QC value within limits for Cu 324.752* Recovery = 100.02% | | | | | | | | |
| Fe 273.955*† | 95328.8 | 3.819 | mg/L | 0.0484 | 3.819 | mg/L | 0.0484 | 1.27% |
| QC value within limits for Fe 273.955* Recovery = 101.83% | | | | | | | | |
| K 766.490*† | 84021.3 | 26.09 | mg/L | 0.148 | 26.09 | mg/L | 0.148 | 0.57% |
| QC value within limits for K 766.490* Recovery = 96.64% | | | | | | | | |
| Mg 279.077*† | 159527.3 | 7.689 | mg/L | 0.0829 | 7.689 | mg/L | 0.0829 | 1.08% |
| QC value within limits for Mg 279.077* Recovery = 102.52% | | | | | | | | |
| Mn 257.610*† | 519331.2 | 0.7537 | mg/L | 0.00614 | 0.7537 | mg/L | 0.00614 | 0.81% |
| QC value within limits for Mn 257.610* Recovery = 100.49% | | | | | | | | |
| Mo 202.031*† | 5838.4 | 0.6015 | mg/L | 0.01412 | 0.6015 | mg/L | 0.01412 | 2.35% |
| QC value within limits for Mo 202.031* Recovery = 100.25% | | | | | | | | |
| Na 589.592*† | 173296.4 | 37.18 | mg/L | 0.225 | 37.18 | mg/L | 0.225 | 0.60% |
| QC value within limits for Na 589.592* Recovery = 103.29% | | | | | | | | |
| Ni 231.604*† | 15985.1 | 0.6047 | mg/L | 0.01470 | 0.6047 | mg/L | 0.01470 | 2.43% |
| QC value within limits for Ni 231.604* Recovery = 100.79% | | | | | | | | |
| P 213.617*† | 13105.0 | 5.940 | mg/L | 0.1523 | 5.940 | mg/L | 0.1523 | 2.56% |
| QC value within limits for P 213.617* Recovery = 99.00% | | | | | | | | |
| P 214.914† | 8225.2 | 5.958 | mg/L | 0.1193 | 5.958 | mg/L | 0.1193 | 2.00% |
| Pb 220.353*† | 32585.2 | 3.759 | mg/L | 0.0347 | 3.759 | mg/L | 0.0347 | 0.92% |
| QC value within limits for Pb 220.353* Recovery = 100.25% | | | | | | | | |
| Sb 206.836† | 9140.9 | 4.482 | mg/L | 0.1112 | 4.482 | mg/L | 0.1112 | 2.48% |
| QC value within limits for Sb 206.836 Recovery = 99.61% | | | | | | | | |
| Sb 217.582*† | 8987.5 | 4.434 | mg/L | 0.0892 | 4.434 | mg/L | 0.0892 | 2.01% |
| QC value within limits for Sb 217.582* Recovery = 98.52% | | | | | | | | |
| Se 196.026*† | 3625.2 | 1.501 | mg/L | 0.0237 | 1.501 | mg/L | 0.0237 | 1.58% |
| QC value within limits for Se 196.026* Recovery = 100.07% | | | | | | | | |
| Si 251.611*† | 248332.0 | 5.877 | mg/L | 0.0515 | 5.877 | mg/L | 0.0515 | 0.88% |
| QC value within limits for Si 251.611* Recovery = 97.95% | | | | | | | | |
| Sn 189.927*† | 20038.6 | 3.029 | mg/L | 0.0628 | 3.029 | mg/L | 0.0628 | 2.07% |
| QC value within limits for Sn 189.927* Recovery = 100.96% | | | | | | | | |
| Sn 242.170† | 5634.4 | 2.993 | mg/L | 0.0475 | 2.993 | mg/L | 0.0475 | 1.59% |
| Sr 407.771*† | 99149.2 | 0.2894 | mg/L | 0.00169 | 0.2894 | mg/L | 0.00169 | 0.58% |
| QC value within limits for Sr 407.771* Recovery = 96.48% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 526680.3 | 0.6000 | mg/L | 0.00168 | 0.6000 | mg/L | 0.00168 | 0.28% |
| Ti 336.121*† | 370402.1 | 0.6012 | mg/L | 0.00165 | 0.6012 | mg/L | 0.00165 | 0.28% |
| QC value within limits for Ti 336.121* Recovery = 100.20% | | | | | | | | |
| Tl 190.801*† | 2964.2 | 1.516 | mg/L | 0.0296 | 1.516 | mg/L | 0.0296 | 1.95% |
| QC value within limits for Tl 190.801* Recovery = 101.05% | | | | | | | | |
| V 292.402*† | 267894.7 | 1.869 | mg/L | 0.0153 | 1.869 | mg/L | 0.0153 | 0.82% |
| QC value within limits for V 292.402* Recovery = 99.70% | | | | | | | | |
| Zn 206.200*† | 113449.8 | 2.498 | mg/L | 0.0394 | 2.498 | mg/L | 0.0394 | 1.58% |
| QC value within limits for Zn 206.200* Recovery = 99.93% | | | | | | | | |
| Zn 213.857*† | 189401.5 | 2.482 | mg/L | 0.0375 | 2.482 | mg/L | 0.0375 | 1.51% |
| QC value within limits for Zn 213.857* Recovery = 99.27% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 7
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/27/2017 3:56:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 80437.3 | 98.32 | % | 0.729 | | | | 0.74% |
| Tb 350 | 129072.5 | 97.42 | % | 0.957 | | | | 0.98% |
| Ag 328.068*† | 114.9 | 0.0006 | mg/L | 0.00124 | 0.0006 | mg/L | 0.00124 | 215.26% |
| QC value within limits for Ag 328.068* | | | Recovery = Not calculated | | | | | |
| Al 308.215*† | 269.0 | 0.0150 | mg/L | 0.00114 | 0.0150 | mg/L | 0.00114 | 7.58% |
| As 188.979† | 9.2 | 0.0039 | mg/L | 0.00061 | 0.0039 | mg/L | 0.00061 | 15.38% |
| As 193.696*† | 1.8 | 0.0011 | mg/L | 0.00147 | 0.0011 | mg/L | 0.00147 | 131.70% |
| QC value within limits for As 193.696* | | | Recovery = Not calculated | | | | | |
| B 249.677*† | 2708.9 | 0.0503 | mg/L | 0.00288 | 0.0503 | mg/L | 0.00288 | 5.73% |
| Ba 233.527*† | 643.6 | 0.0040 | mg/L | 0.00036 | 0.0040 | mg/L | 0.00036 | 8.92% |
| Be 313.042*† | 972.1 | 0.0002 | mg/L | 0.00001 | 0.0002 | mg/L | 0.00001 | 2.76% |
| Ca 317.933*† | 142.5 | 0.0651 | mg/L | 0.00520 | 0.0651 | mg/L | 0.00520 | 7.98% |
| Cd 226.502*† | 64.3 | 0.0008 | mg/L | 0.00000 | 0.0008 | mg/L | 0.00000 | 0.31% |
| Cd 228.802† | 23.7 | 0.0006 | mg/L | 0.00024 | 0.0006 | mg/L | 0.00024 | 41.93% |
| Co 228.616*† | 25.6 | 0.0009 | mg/L | 0.00008 | 0.0009 | mg/L | 0.00008 | 8.78% |
| Cr 267.716*† | 74.3 | 0.0006 | mg/L | 0.00022 | 0.0006 | mg/L | 0.00022 | 34.99% |
| Cu 324.752*† | 345.3 | 0.0013 | mg/L | 0.00090 | 0.0013 | mg/L | 0.00090 | 68.53% |
| Fe 273.955*† | 666.3 | 0.0267 | mg/L | 0.01559 | 0.0267 | mg/L | 0.01559 | 58.42% |
| K 766.490*† | 326.0 | 0.1012 | mg/L | 0.07546 | 0.1012 | mg/L | 0.07546 | 74.54% |
| Mg 279.077*† | -37.1 | -0.0018 | mg/L | 0.00653 | -0.0018 | mg/L | 0.00653 | 365.20% |
| Mn 257.610*† | 806.8 | 0.0012 | mg/L | 0.00022 | 0.0012 | mg/L | 0.00022 | 18.95% |
| Mo 202.031*† | -0.1 | -0.0000 | mg/L | 0.00087 | -0.0000 | mg/L | 0.00087 | >999.9% |
| Na 589.592*† | 1854.2 | 0.3978 | mg/L | 0.02443 | 0.3978 | mg/L | 0.02443 | 6.14% |
| Ni 231.604*† | 7.9 | 0.0003 | mg/L | 0.00031 | 0.0003 | mg/L | 0.00031 | 103.29% |
| P 213.617*† | 39.6 | 0.0180 | mg/L | 0.01011 | 0.0180 | mg/L | 0.01011 | 56.28% |
| P 214.914† | 6.9 | 0.0050 | mg/L | 0.00080 | 0.0050 | mg/L | 0.00080 | 16.13% |
| Pb 220.353*† | 12.6 | 0.0015 | mg/L | 0.00090 | 0.0015 | mg/L | 0.00090 | 62.30% |
| Sb 206.836† | 10.1 | 0.0050 | mg/L | 0.00423 | 0.0050 | mg/L | 0.00423 | 85.31% |
| Sb 217.582*† | 1.4 | 0.0007 | mg/L | 0.00219 | 0.0007 | mg/L | 0.00219 | 317.55% |
| QC value within limits for Sb 217.582* | | | Recovery = Not calculated | | | | | |
| Se 196.026*† | 17.7 | 0.0073 | mg/L | 0.00150 | 0.0073 | mg/L | 0.00150 | 20.43% |
| QC value within limits for Se 196.026* | | | Recovery = Not calculated | | | | | |
| Si 251.611*† | 419.9 | 0.0099 | mg/L | 0.00146 | 0.0099 | mg/L | 0.00146 | 14.69% |
| Sn 189.927*† | 36.9 | 0.0056 | mg/L | 0.00093 | 0.0056 | mg/L | 0.00093 | 16.72% |
| Sn 242.170† | 39.2 | 0.0208 | mg/L | 0.01371 | 0.0208 | mg/L | 0.01371 | 65.80% |
| Sr 407.771*† | 133.2 | 0.0004 | mg/L | 0.00006 | 0.0004 | mg/L | 0.00006 | 16.12% |
| Ti 334.940† | 739.5 | 0.0008 | mg/L | 0.00028 | 0.0008 | mg/L | 0.00028 | 32.90% |
| Ti 336.121*† | 930.9 | 0.0015 | mg/L | 0.00026 | 0.0015 | mg/L | 0.00026 | 16.88% |
| Tl 190.801*† | 1.1 | 0.0005 | mg/L | 0.00578 | 0.0005 | mg/L | 0.00578 | >999.9% |
| V 292.402*† | 10.2 | 0.0001 | mg/L | 0.00059 | 0.0001 | mg/L | 0.00059 | 835.05% |
| Zn 206.200*† | 164.4 | 0.0036 | mg/L | 0.00025 | 0.0036 | mg/L | 0.00025 | 6.77% |
| QC value within limits for Zn 206.200* | | | Recovery = Not calculated | | | | | |
| Zn 213.857*† | 283.5 | 0.0037 | mg/L | 0.00010 | 0.0037 | mg/L | 0.00010 | 2.70% |
| QC value within limits for Zn 213.857* | | | Recovery = Not calculated | | | | | |

All analyte(s) passed QC.

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Sequence No.: 2
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/27/2017 3:58:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 73482.8 | 89.82 | % | 1.397 | | | | 1.56% |
| Tb 350 | 120930.2 | 91.27 | % | 1.578 | | | | 1.73% |
| Ag 328.068*† | 73642.7 | 0.3688 | mg/L | 0.00069 | 0.3688 | mg/L | 0.00069 | 0.19% |
| QC value within limits for Ag 328.068* Recovery = 98.34% | | | | | | | | |
| Al 308.215*† | 247327.5 | 13.77 | mg/L | 0.015 | 13.77 | mg/L | 0.015 | 0.11% |
| QC value within limits for Al 308.215* Recovery = 102.02% | | | | | | | | |
| As 188.979† | 8734.5 | 3.744 | mg/L | 0.0308 | 3.744 | mg/L | 0.0308 | 0.82% |
| QC value within limits for As 188.979 Recovery = 99.84% | | | | | | | | |
| As 193.696*† | 6009.6 | 3.734 | mg/L | 0.0131 | 3.734 | mg/L | 0.0131 | 0.35% |
| QC value within limits for As 193.696* Recovery = 99.57% | | | | | | | | |
| B 249.677*† | 199069.4 | 3.695 | mg/L | 0.0699 | 3.695 | mg/L | 0.0699 | 1.89% |
| QC value within limits for B 249.677* Recovery = 98.53% | | | | | | | | |
| Ba 233.527*† | 1206320.1 | 7.528 | mg/L | 0.0159 | 7.528 | mg/L | 0.0159 | 0.21% |
| QC value within limits for Ba 233.527* Recovery = 100.38% | | | | | | | | |
| Be 313.042*† | 2258603.2 | 0.5522 | mg/L | 0.00400 | 0.5522 | mg/L | 0.00400 | 0.73% |
| QC value within limits for Be 313.042* Recovery = 98.16% | | | | | | | | |
| Ca 317.933*† | 62005.7 | 28.35 | mg/L | 0.594 | 28.35 | mg/L | 0.594 | 2.10% |
| QC value within limits for Ca 317.933* Recovery = 94.50% | | | | | | | | |
| Cd 226.502*† | 62267.7 | 0.7397 | mg/L | 0.00685 | 0.7397 | mg/L | 0.00685 | 0.93% |
| QC value within limits for Cd 226.502* Recovery = 98.62% | | | | | | | | |
| Cd 228.802† | 30603.3 | 0.7396 | mg/L | 0.00684 | 0.7396 | mg/L | 0.00684 | 0.92% |
| Co 228.616*† | 55930.7 | 1.869 | mg/L | 0.0149 | 1.869 | mg/L | 0.0149 | 0.80% |
| QC value within limits for Co 228.616* Recovery = 99.67% | | | | | | | | |
| Cr 267.716*† | 71811.9 | 0.5951 | mg/L | 0.00004 | 0.5951 | mg/L | 0.00004 | 0.01% |
| QC value within limits for Cr 267.716* Recovery = 99.18% | | | | | | | | |
| Cu 324.752*† | 244984.2 | 0.9295 | mg/L | 0.00126 | 0.9295 | mg/L | 0.00126 | 0.14% |
| QC value within limits for Cu 324.752* Recovery = 99.15% | | | | | | | | |
| Fe 273.955*† | 94338.6 | 3.779 | mg/L | 0.0275 | 3.779 | mg/L | 0.0275 | 0.73% |
| QC value within limits for Fe 273.955* Recovery = 100.78% | | | | | | | | |
| K 766.490*† | 84518.1 | 26.25 | mg/L | 0.425 | 26.25 | mg/L | 0.425 | 1.62% |
| QC value within limits for K 766.490* Recovery = 97.21% | | | | | | | | |
| Mg 279.077*† | 157649.2 | 7.598 | mg/L | 0.0961 | 7.598 | mg/L | 0.0961 | 1.27% |
| QC value within limits for Mg 279.077* Recovery = 101.31% | | | | | | | | |
| Mn 257.610*† | 514467.5 | 0.7466 | mg/L | 0.00267 | 0.7466 | mg/L | 0.00267 | 0.36% |
| QC value within limits for Mn 257.610* Recovery = 99.55% | | | | | | | | |
| Mo 202.031*† | 5904.3 | 0.6083 | mg/L | 0.00684 | 0.6083 | mg/L | 0.00684 | 1.12% |
| QC value within limits for Mo 202.031* Recovery = 101.38% | | | | | | | | |
| Na 589.592*† | 174287.7 | 37.40 | mg/L | 0.812 | 37.40 | mg/L | 0.812 | 2.17% |
| QC value within limits for Na 589.592* Recovery = 103.88% | | | | | | | | |
| Ni 231.604*† | 16094.5 | 0.6089 | mg/L | 0.00672 | 0.6089 | mg/L | 0.00672 | 1.10% |
| QC value within limits for Ni 231.604* Recovery = 101.48% | | | | | | | | |
| P 213.617*† | 13147.1 | 5.959 | mg/L | 0.0147 | 5.959 | mg/L | 0.0147 | 0.25% |
| QC value within limits for P 213.617* Recovery = 99.32% | | | | | | | | |
| P 214.914† | 8284.5 | 6.001 | mg/L | 0.0399 | 6.001 | mg/L | 0.0399 | 0.67% |
| Pb 220.353*† | 32136.1 | 3.708 | mg/L | 0.0459 | 3.708 | mg/L | 0.0459 | 1.24% |
| QC value within limits for Pb 220.353* Recovery = 98.87% | | | | | | | | |
| Sb 206.836† | 9207.4 | 4.515 | mg/L | 0.0434 | 4.515 | mg/L | 0.0434 | 0.96% |
| QC value within limits for Sb 206.836 Recovery = 100.33% | | | | | | | | |
| Sb 217.582*† | 9084.6 | 4.481 | mg/L | 0.0513 | 4.481 | mg/L | 0.0513 | 1.14% |
| QC value within limits for Sb 217.582* Recovery = 99.59% | | | | | | | | |
| Se 196.026*† | 3662.7 | 1.517 | mg/L | 0.0143 | 1.517 | mg/L | 0.0143 | 0.94% |
| QC value within limits for Se 196.026* Recovery = 101.10% | | | | | | | | |
| Si 251.611*† | 245550.7 | 5.811 | mg/L | 0.0439 | 5.811 | mg/L | 0.0439 | 0.76% |
| QC value within limits for Si 251.611* Recovery = 96.85% | | | | | | | | |
| Sn 189.927*† | 20246.7 | 3.060 | mg/L | 0.0083 | 3.060 | mg/L | 0.0083 | 0.27% |
| QC value within limits for Sn 189.927* Recovery = 102.01% | | | | | | | | |
| Sn 242.170† | 5664.4 | 3.009 | mg/L | 0.0107 | 3.009 | mg/L | 0.0107 | 0.36% |
| Sr 407.771*† | 99860.4 | 0.2915 | mg/L | 0.00534 | 0.2915 | mg/L | 0.00534 | 1.83% |
| QC value within limits for Sr 407.771* Recovery = 97.17% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 522286.1 | 0.5950 | mg/L | 0.00122 | 0.5950 | mg/L | 0.00122 | 0.21% |
| Ti 336.121*† | 367262.8 | 0.5961 | mg/L | 0.00011 | 0.5961 | mg/L | 0.00011 | 0.02% |
| QC value within limits for Ti 336.121* Recovery = 99.35% | | | | | | | | |
| Tl 190.801*† | 2983.7 | 1.526 | mg/L | 0.0065 | 1.526 | mg/L | 0.0065 | 0.42% |
| QC value within limits for Tl 190.801* Recovery = 101.71% | | | | | | | | |
| V 292.402*† | 266570.1 | 1.860 | mg/L | 0.0040 | 1.860 | mg/L | 0.0040 | 0.22% |
| QC value within limits for V 292.402* Recovery = 99.21% | | | | | | | | |
| Zn 206.200*† | 111922.1 | 2.465 | mg/L | 0.0242 | 2.465 | mg/L | 0.0242 | 0.98% |
| QC value within limits for Zn 206.200* Recovery = 98.59% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 3
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/27/2017 3:59:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 81212.7 | 99.27 | % | 0.701 | | | | 0.71% |
| Tb 350 | 131114.2 | 98.96 | % | 0.666 | | | | 0.67% |
| Ag 328.068*† | 27.0 | 0.0001 | mg/L | 0.00012 | 0.0001 | mg/L | 0.00012 | 85.40% |
| Al 308.215*† | 237.8 | 0.0132 | mg/L | 0.00102 | 0.0132 | mg/L | 0.00102 | 7.70% |
| As 188.979† | 5.0 | 0.0021 | mg/L | 0.00347 | 0.0021 | mg/L | 0.00347 | 163.56% |
| As 193.696*† | 1.7 | 0.0010 | mg/L | 0.00159 | 0.0010 | mg/L | 0.00159 | 154.23% |
| QC value within limits for As 193.696* | | Recovery = Not calculated | | | | | | |
| B 249.677*† | 2419.3 | 0.0449 | mg/L | 0.00291 | 0.0449 | mg/L | 0.00291 | 6.47% |
| Ba 233.527*† | 806.2 | 0.0050 | mg/L | 0.00031 | 0.0050 | mg/L | 0.00031 | 6.19% |
| Be 313.042*† | 1348.1 | 0.0003 | mg/L | 0.00001 | 0.0003 | mg/L | 0.00001 | 2.82% |
| Ca 317.933*† | 144.5 | 0.0660 | mg/L | 0.00219 | 0.0660 | mg/L | 0.00219 | 3.31% |
| Cd 226.502*† | 50.3 | 0.0006 | mg/L | 0.00005 | 0.0006 | mg/L | 0.00005 | 8.63% |
| Cd 228.802† | 39.8 | 0.0010 | mg/L | 0.00080 | 0.0010 | mg/L | 0.00080 | 82.68% |
| Co 228.616*† | 40.3 | 0.0013 | mg/L | 0.00095 | 0.0013 | mg/L | 0.00095 | 70.41% |
| Cr 267.716*† | 102.4 | 0.0008 | mg/L | 0.00034 | 0.0008 | mg/L | 0.00034 | 40.01% |
| Cu 324.752*† | 259.9 | 0.0010 | mg/L | 0.00004 | 0.0010 | mg/L | 0.00004 | 3.89% |
| Fe 273.955*† | 269.3 | 0.0108 | mg/L | 0.00082 | 0.0108 | mg/L | 0.00082 | 7.57% |
| K 766.490*† | 466.4 | 0.1449 | mg/L | 0.05320 | 0.1449 | mg/L | 0.05320 | 36.73% |
| Mg 279.077*† | -12.4 | -0.0006 | mg/L | 0.00314 | -0.0006 | mg/L | 0.00314 | 523.07% |
| Mn 257.610*† | 675.2 | 0.0010 | mg/L | 0.00007 | 0.0010 | mg/L | 0.00007 | 6.81% |
| Mo 202.031*† | 0.8 | 0.0001 | mg/L | 0.00023 | 0.0001 | mg/L | 0.00023 | 271.92% |
| Na 589.592*† | 1495.4 | 0.3209 | mg/L | 0.01256 | 0.3209 | mg/L | 0.01256 | 3.91% |
| Ni 231.604*† | 21.9 | 0.0008 | mg/L | 0.00049 | 0.0008 | mg/L | 0.00049 | 58.93% |
| P 213.617*† | 44.7 | 0.0203 | mg/L | 0.01161 | 0.0203 | mg/L | 0.01161 | 57.33% |
| P 214.914† | 18.0 | 0.0130 | mg/L | 0.00295 | 0.0130 | mg/L | 0.00295 | 22.64% |
| Pb 220.353*† | 30.5 | 0.0035 | mg/L | 0.00018 | 0.0035 | mg/L | 0.00018 | 5.05% |
| Sb 206.836† | 5.8 | 0.0029 | mg/L | 0.00123 | 0.0029 | mg/L | 0.00123 | 43.09% |
| Sb 217.582*† | 9.5 | 0.0047 | mg/L | 0.00204 | 0.0047 | mg/L | 0.00204 | 43.46% |
| QC value within limits for Sb 217.582* | | Recovery = Not calculated | | | | | | |
| Se 196.026*† | 9.4 | 0.0039 | mg/L | 0.01218 | 0.0039 | mg/L | 0.01218 | 314.20% |
| QC value within limits for Se 196.026* | | Recovery = Not calculated | | | | | | |
| Si 251.611*† | 410.2 | 0.0097 | mg/L | 0.00037 | 0.0097 | mg/L | 0.00037 | 3.80% |
| Sn 189.927*† | 67.5 | 0.0102 | mg/L | 0.00103 | 0.0102 | mg/L | 0.00103 | 10.11% |
| Sn 242.170† | 27.9 | 0.0148 | mg/L | 0.00730 | 0.0148 | mg/L | 0.00730 | 49.17% |
| Sr 407.771*† | 132.6 | 0.0004 | mg/L | 0.00002 | 0.0004 | mg/L | 0.00002 | 4.91% |
| Ti 334.940† | 446.6 | 0.0005 | mg/L | 0.00018 | 0.0005 | mg/L | 0.00018 | 35.17% |
| Ti 336.121*† | 811.5 | 0.0013 | mg/L | 0.00031 | 0.0013 | mg/L | 0.00031 | 23.42% |
| Tl 190.801*† | 8.4 | 0.0043 | mg/L | 0.00038 | 0.0043 | mg/L | 0.00038 | 8.97% |
| QC value within limits for Tl 190.801* | | Recovery = Not calculated | | | | | | |
| V 292.402*† | 254.2 | 0.0018 | mg/L | 0.00037 | 0.0018 | mg/L | 0.00037 | 21.04% |
| Zn 206.200*† | 138.0 | 0.0030 | mg/L | 0.00008 | 0.0030 | mg/L | 0.00008 | 2.72% |
| QC value within limits for Zn 206.200* | | Recovery = Not calculated | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 2
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/27/2017 4:18:08 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 71810.3 | 87.77 | % | 1.689 | | | | 1.92% |
| Tb 350 | 118779.5 | 89.65 | % | 0.333 | | | | 0.37% |
| Ag 328.068*† | 74247.6 | 0.3718 | mg/L | 0.00243 | 0.3718 | mg/L | 0.00243 | 0.65% |
| QC value within limits for Ag 328.068* Recovery = 99.15% | | | | | | | | |
| Al 308.215*† | 249494.6 | 13.89 | mg/L | 0.004 | 13.89 | mg/L | 0.004 | 0.03% |
| QC value within limits for Al 308.215* Recovery = 102.92% | | | | | | | | |
| As 188.979† | 8683.8 | 3.722 | mg/L | 0.0223 | 3.722 | mg/L | 0.0223 | 0.60% |
| QC value within limits for As 188.979 Recovery = 99.26% | | | | | | | | |
| As 193.696*† | 5989.2 | 3.721 | mg/L | 0.0088 | 3.721 | mg/L | 0.0088 | 0.24% |
| QC value within limits for As 193.696* Recovery = 99.23% | | | | | | | | |
| B 249.677*† | 198850.4 | 3.691 | mg/L | 0.0684 | 3.691 | mg/L | 0.0684 | 1.85% |
| QC value within limits for B 249.677* Recovery = 98.42% | | | | | | | | |
| Ba 233.527*† | 1216585.8 | 7.592 | mg/L | 0.0112 | 7.592 | mg/L | 0.0112 | 0.15% |
| QC value within limits for Ba 233.527* Recovery = 101.23% | | | | | | | | |
| Be 313.042*† | 2270501.3 | 0.5551 | mg/L | 0.00612 | 0.5551 | mg/L | 0.00612 | 1.10% |
| QC value within limits for Be 313.042* Recovery = 98.68% | | | | | | | | |
| Ca 317.933*† | 62950.0 | 28.78 | mg/L | 0.218 | 28.78 | mg/L | 0.218 | 0.76% |
| QC value within limits for Ca 317.933* Recovery = 95.94% | | | | | | | | |
| Cd 226.502*† | 62966.9 | 0.7480 | mg/L | 0.00086 | 0.7480 | mg/L | 0.00086 | 0.11% |
| QC value within limits for Cd 226.502* Recovery = 99.73% | | | | | | | | |
| Cd 228.802† | 30973.4 | 0.7485 | mg/L | 0.00605 | 0.7485 | mg/L | 0.00605 | 0.81% |
| Co 228.616*† | 56367.0 | 1.883 | mg/L | 0.0062 | 1.883 | mg/L | 0.0062 | 0.33% |
| QC value within limits for Co 228.616* Recovery = 100.44% | | | | | | | | |
| Cr 267.716*† | 72598.5 | 0.6016 | mg/L | 0.00641 | 0.6016 | mg/L | 0.00641 | 1.06% |
| QC value within limits for Cr 267.716* Recovery = 100.26% | | | | | | | | |
| Cu 324.752*† | 247389.6 | 0.9387 | mg/L | 0.00487 | 0.9387 | mg/L | 0.00487 | 0.52% |
| QC value within limits for Cu 324.752* Recovery = 100.12% | | | | | | | | |
| Fe 273.955*† | 95138.4 | 3.811 | mg/L | 0.0112 | 3.811 | mg/L | 0.0112 | 0.29% |
| QC value within limits for Fe 273.955* Recovery = 101.63% | | | | | | | | |
| K 766.490*† | 85303.6 | 26.49 | mg/L | 0.111 | 26.49 | mg/L | 0.111 | 0.42% |
| QC value within limits for K 766.490* Recovery = 98.12% | | | | | | | | |
| Mg 279.077*† | 158601.5 | 7.644 | mg/L | 0.0190 | 7.644 | mg/L | 0.0190 | 0.25% |
| QC value within limits for Mg 279.077* Recovery = 101.92% | | | | | | | | |
| Mn 257.610*† | 517059.7 | 0.7504 | mg/L | 0.00094 | 0.7504 | mg/L | 0.00094 | 0.12% |
| QC value within limits for Mn 257.610* Recovery = 100.05% | | | | | | | | |
| Mo 202.031*† | 5931.3 | 0.6110 | mg/L | 0.00230 | 0.6110 | mg/L | 0.00230 | 0.38% |
| QC value within limits for Mo 202.031* Recovery = 101.84% | | | | | | | | |
| Na 589.592*† | 176153.2 | 37.80 | mg/L | 0.076 | 37.80 | mg/L | 0.076 | 0.20% |
| QC value within limits for Na 589.592* Recovery = 104.99% | | | | | | | | |
| Ni 231.604*† | 16015.1 | 0.6059 | mg/L | 0.00175 | 0.6059 | mg/L | 0.00175 | 0.29% |
| QC value within limits for Ni 231.604* Recovery = 100.98% | | | | | | | | |
| P 213.617*† | 12899.4 | 5.847 | mg/L | 0.0301 | 5.847 | mg/L | 0.0301 | 0.51% |
| QC value within limits for P 213.617* Recovery = 97.44% | | | | | | | | |
| P 214.914† | 8259.0 | 5.982 | mg/L | 0.0428 | 5.982 | mg/L | 0.0428 | 0.72% |
| Pb 220.353*† | 32345.4 | 3.732 | mg/L | 0.0058 | 3.732 | mg/L | 0.0058 | 0.16% |
| QC value within limits for Pb 220.353* Recovery = 99.52% | | | | | | | | |
| Sb 206.836† | 9219.8 | 4.521 | mg/L | 0.0175 | 4.521 | mg/L | 0.0175 | 0.39% |
| QC value within limits for Sb 206.836 Recovery = 100.47% | | | | | | | | |
| Sb 217.582*† | 9059.9 | 4.469 | mg/L | 0.0448 | 4.469 | mg/L | 0.0448 | 1.00% |
| QC value within limits for Sb 217.582* Recovery = 99.32% | | | | | | | | |
| Se 196.026*† | 3656.5 | 1.514 | mg/L | 0.0134 | 1.514 | mg/L | 0.0134 | 0.88% |
| QC value within limits for Se 196.026* Recovery = 100.93% | | | | | | | | |
| Si 251.611*† | 247194.0 | 5.850 | mg/L | 0.0329 | 5.850 | mg/L | 0.0329 | 0.56% |
| QC value within limits for Si 251.611* Recovery = 97.50% | | | | | | | | |
| Sn 189.927*† | 20140.8 | 3.044 | mg/L | 0.0224 | 3.044 | mg/L | 0.0224 | 0.74% |
| QC value within limits for Sn 189.927* Recovery = 101.48% | | | | | | | | |
| Sn 242.170† | 5658.7 | 3.006 | mg/L | 0.0005 | 3.006 | mg/L | 0.0005 | 0.02% |
| Sr 407.771*† | 101102.2 | 0.2951 | mg/L | 0.00018 | 0.2951 | mg/L | 0.00018 | 0.06% |
| QC value within limits for Sr 407.771* Recovery = 98.38% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 527222.6 | 0.6007 | mg/L | 0.00197 | 0.6007 | mg/L | 0.00197 | 0.33% |
| Ti 336.121*† | 371350.5 | 0.6027 | mg/L | 0.00108 | 0.6027 | mg/L | 0.00108 | 0.18% |
| QC value within limits for Ti 336.121* Recovery = 100.46% | | | | | | | | |
| Tl 190.801*† | 3006.0 | 1.537 | mg/L | 0.0054 | 1.537 | mg/L | 0.0054 | 0.35% |
| QC value within limits for Tl 190.801* Recovery = 102.47% | | | | | | | | |
| V 292.402*† | 269756.3 | 1.882 | mg/L | 0.0137 | 1.882 | mg/L | 0.0137 | 0.73% |
| QC value within limits for V 292.402* Recovery = 100.40% | | | | | | | | |
| Zn 206.200*† | 111671.4 | 2.459 | mg/L | 0.0112 | 2.459 | mg/L | 0.0112 | 0.45% |
| QC value within limits for Zn 206.200* Recovery = 98.37% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 3
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/27/2017 4:19:02 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCB-R12091601

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 79369.7 | 97.01 | % | 0.928 | | | | 0.96% |
| Tb 350 | 128494.8 | 96.98 | % | 1.093 | | | | 1.13% |
| Ag 328.068*† | 49.1 | 0.0002 | mg/L | 0.00013 | 0.0002 | mg/L | 0.00013 | 53.93% |
| Al 308.215*† | 273.7 | 0.0152 | mg/L | 0.00019 | 0.0152 | mg/L | 0.00019 | 1.22% |
| As 188.979† | 2.7 | 0.0011 | mg/L | 0.00200 | 0.0011 | mg/L | 0.00200 | 176.09% |
| As 193.696*† | 6.5 | 0.0040 | mg/L | 0.00308 | 0.0040 | mg/L | 0.00308 | 76.11% |
| QC value within limits for As 193.696* | | Recovery = | | Not calculated | | | | |
| B 249.677*† | 2057.8 | 0.0382 | mg/L | 0.00353 | 0.0382 | mg/L | 0.00353 | 9.25% |
| Ba 233.527*† | 1106.3 | 0.0069 | mg/L | 0.00030 | 0.0069 | mg/L | 0.00030 | 4.32% |
| Be 313.042*† | 2064.7 | 0.0005 | mg/L | 0.00000 | 0.0005 | mg/L | 0.00000 | 0.72% |
| Ca 317.933*† | 164.6 | 0.0753 | mg/L | 0.00524 | 0.0753 | mg/L | 0.00524 | 6.97% |
| Cd 226.502*† | 63.0 | 0.0007 | mg/L | 0.00002 | 0.0007 | mg/L | 0.00002 | 2.16% |
| Cd 228.802† | 38.3 | 0.0009 | mg/L | 0.00029 | 0.0009 | mg/L | 0.00029 | 31.67% |
| Co 228.616*† | 44.9 | 0.0015 | mg/L | 0.00053 | 0.0015 | mg/L | 0.00053 | 35.41% |
| Cr 267.716*† | 128.3 | 0.0011 | mg/L | 0.00019 | 0.0011 | mg/L | 0.00019 | 17.56% |
| Cu 324.752*† | 540.7 | 0.0021 | mg/L | 0.00150 | 0.0021 | mg/L | 0.00150 | 73.27% |
| Fe 273.955*† | 298.0 | 0.0119 | mg/L | 0.00048 | 0.0119 | mg/L | 0.00048 | 4.02% |
| K 766.490*† | 183.0 | 0.0568 | mg/L | 0.01351 | 0.0568 | mg/L | 0.01351 | 23.78% |
| Mg 279.077*† | -170.9 | -0.0082 | mg/L | 0.00366 | -0.0082 | mg/L | 0.00366 | 44.39% |
| Mn 257.610*† | 736.0 | 0.0011 | mg/L | 0.00000 | 0.0011 | mg/L | 0.00000 | 0.17% |
| Mo 202.031*† | 5.5 | 0.0006 | mg/L | 0.00021 | 0.0006 | mg/L | 0.00021 | 36.14% |
| Na 589.592*† | 1168.7 | 0.2508 | mg/L | 0.00609 | 0.2508 | mg/L | 0.00609 | 2.43% |
| Ni 231.604*† | 24.7 | 0.0009 | mg/L | 0.00054 | 0.0009 | mg/L | 0.00054 | 57.53% |
| P 213.617*† | 27.3 | 0.0124 | mg/L | 0.01093 | 0.0124 | mg/L | 0.01093 | 88.39% |
| P 214.914† | 9.0 | 0.0065 | mg/L | 0.00572 | 0.0065 | mg/L | 0.00572 | 87.95% |
| Pb 220.353*† | 27.4 | 0.0032 | mg/L | 0.00128 | 0.0032 | mg/L | 0.00128 | 40.56% |
| Sb 206.836† | 7.0 | 0.0034 | mg/L | 0.00109 | 0.0034 | mg/L | 0.00109 | 31.66% |
| Sb 217.582*† | -0.6 | -0.0003 | mg/L | 0.00358 | -0.0003 | mg/L | 0.00358 | >999.9% |
| QC value within limits for Sb 217.582* | | Recovery = | | Not calculated | | | | |
| Se 196.026*† | 10.4 | 0.0043 | mg/L | 0.00935 | 0.0043 | mg/L | 0.00935 | 218.22% |
| QC value within limits for Se 196.026* | | Recovery = | | Not calculated | | | | |
| Si 251.611*† | 454.7 | 0.0108 | mg/L | 0.00083 | 0.0108 | mg/L | 0.00083 | 7.72% |
| Sn 189.927*† | 47.5 | 0.0072 | mg/L | 0.00155 | 0.0072 | mg/L | 0.00155 | 21.63% |
| Sn 242.170† | 26.1 | 0.0139 | mg/L | 0.00486 | 0.0139 | mg/L | 0.00486 | 35.07% |
| Sr 407.771*† | 158.4 | 0.0005 | mg/L | 0.00000 | 0.0005 | mg/L | 0.00000 | 0.50% |
| Ti 334.940† | 891.8 | 0.0010 | mg/L | 0.00005 | 0.0010 | mg/L | 0.00005 | 4.92% |
| Ti 336.121*† | 694.6 | 0.0011 | mg/L | 0.00004 | 0.0011 | mg/L | 0.00004 | 3.93% |
| Tl 190.801*† | 6.3 | 0.0032 | mg/L | 0.00136 | 0.0032 | mg/L | 0.00136 | 42.69% |
| QC value within limits for Tl 190.801* | | Recovery = | | Not calculated | | | | |
| V 292.402*† | 259.5 | 0.0018 | mg/L | 0.00056 | 0.0018 | mg/L | 0.00056 | 30.78% |
| Zn 206.200*† | 152.4 | 0.0034 | mg/L | 0.00015 | 0.0034 | mg/L | 0.00015 | 4.62% |
| QC value within limits for Zn 206.200* | | Recovery = | | Not calculated | | | | |

All analyte(s) passed QC.

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# EPA 6010B ICP Metals

# (Solid)

# Sample Data

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# RAW DATA SHEET
# FOR METHOD: EPA 6010B

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 935 |
| INSTRUMENT: | ICP 7300 | D/T ANALYZED: | 2017-03-24 17:20 |
| EXTRACTION : | EPA 3050B | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-24 00:00 | D/T REVIEWED: | |

DATA FILE: W:\ICP-DATA\170324C 1\17-03-0889-28 MIS.icp

**# 28** **CLIENT SAMPLE NUMBER: D-DU2-ISM1-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170324L01 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 2.00 g / ACTUAL: 2.00 g |
| MS/MSD BATCH: | 170324S01 | FINAL VOLUME / WEIGHT: | DEFAULT: 100.00 ml / ACTUAL: 100.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Antimony | 0.00409 | 0.990 | ND | 0.743 | |
| Arsenic | 0.0285 | 0.990 | 1.41 | 0.743 | |
| Barium | 1.13 | 0.990 | 55.9 | 0.495 | |
| Beryllium | 0.00246 | 0.990 | ND | 0.248 | |
| Cadmium | 0.00444 | 0.990 | ND | 0.495 | |
| Chromium | 0.0841 | 0.990 | 4.16 | 0.248 | |
| Cobalt | 0.0890 | 0.990 | 4.41 | 0.248 | |
| Copper | 0.121 | 0.990 | 6.01 | 0.495 | |
| Lead | 0.0329 | 0.990 | 1.63 | 0.495 | |
| Molybdenum | 0.00124 | 0.990 | ND | 0.248 | |
| Nickel | 0.0745 | 0.990 | 3.69 | 0.248 | |
| Selenium | -0.000489 | 0.990 | ND | 0.743 | |
| Silver | -0.00461 | 0.990 | ND | 0.248 | |
| Thallium | -0.00581 | 0.990 | ND | 0.743 | |
| Vanadium | 0.285 | 0.990 | 14.1 | 0.248 | |
| Zinc | 0.742 | 0.990 | 36.7 | 0.990 | |

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Sequence No.: 68
Sample ID: 17-03-0889-28 MIS
Analyst: 935 icp 7300
Initial Sample Wt: 2.02 g
Dilution:
Wash Time: 15

Autosampler Location: 442
Date Collected: 3/24/2017 5:20:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0889-28 MIS

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 61212.7 | 83.08 | % | 2.604 | | | | 3.13% |
| Tb 350 | 112986.0 | 95.15 | % | 2.747 | | | | 2.89% |
| Ag 328.068*† | -773.9 | -0.0046 | mg/L | 0.00098 | -0.2280 | mg/kg | 0.04864 | 21.33% |
| Al 308.215*† | 1612340.4 | 104.5 | mg/L | 0.34 | 5173 | mg/kg | 16.68 | 0.32% |
| As 188.979† | 64.4 | 0.0365 | mg/L | 0.00093 | 1.805 | mg/kg | 0.0463 | 2.56% |
| As 193.696*† | 35.1 | 0.0285 | mg/L | 0.00006 | 1.411 | mg/kg | 0.0028 | 0.20% |
| B 249.677*† | 15.5 | 0.0004 | mg/L | 0.00330 | 0.0181 | mg/kg | 0.16360 | 901.99% |
| Ba 233.527*† | 152531.2 | 1.129 | mg/L | 0.0081 | 55.88 | mg/kg | 0.402 | 0.72% |
| Be 313.042*† | 8185.7 | 0.0025 | mg/L | 0.00005 | 0.1216 | mg/kg | 0.00231 | 1.90% |
| Ca 317.933*† | 92626.0 | 55.82 | mg/L | 1.983 | 2764 | mg/kg | 98.18 | 3.55% |
| Cd 226.502*† | 295.1 | 0.0044 | mg/L | 0.00029 | 0.2196 | mg/kg | 0.01417 | 6.45% |
| Cd 228.802† | -16.3 | -0.0005 | mg/L | 0.00000 | -0.0234 | mg/kg | 0.00006 | 0.24% |
| Co 228.616*† | 2175.0 | 0.0890 | mg/L | 0.00264 | 4.407 | mg/kg | 0.1307 | 2.97% |
| Cr 267.716*† | 8381.3 | 0.0841 | mg/L | 0.00256 | 4.164 | mg/kg | 0.1265 | 3.04% |
| Cu 324.752*† | 26775.3 | 0.1213 | mg/L | 0.00009 | 6.007 | mg/kg | 0.0046 | 0.08% |
| Fe 273.955*† | 3113760.9 | 153.1 | mg/L | 6.24 | 7579 | mg/kg | 308.90 | 4.08% |
| K 766.490*† | 80785.9 | 30.43 | mg/L | 1.125 | 1506 | mg/kg | 55.68 | 3.70% |
| Mg 279.077*† | 836673.9 | 51.34 | mg/L | 0.726 | 2541 | mg/kg | 35.92 | 1.41% |
| Mn 257.610*† | 1458560.6 | 2.556 | mg/L | 0.0204 | 126.5 | mg/kg | 1.01 | 0.80% |
| Mo 202.031*† | 10.1 | 0.0012 | mg/L | 0.00042 | 0.0612 | mg/kg | 0.02078 | 33.97% |
| Na 589.592*† | 15407.9 | 3.892 | mg/L | 0.1510 | 192.7 | mg/kg | 7.48 | 3.88% |
| Ni 231.604*† | 1511.6 | 0.0745 | mg/L | 0.00271 | 3.687 | mg/kg | 0.1343 | 3.64% |
| P 213.617*† | 14555.2 | 9.171 | mg/L | 0.3427 | 454.0 | mg/kg | 16.96 | 3.74% |
| P 214.914† | 10319.4 | 9.800 | mg/L | 0.3371 | 485.1 | mg/kg | 16.69 | 3.44% |
| Pb 220.353*† | 222.3 | 0.0329 | mg/L | 0.00240 | 1.627 | mg/kg | 0.1186 | 7.29% |
| Sb 206.836† | -12.0 | -0.0074 | mg/L | 0.00571 | -0.3658 | mg/kg | 0.28285 | 77.32% |
| Sb 217.582*† | 6.7 | 0.0041 | mg/L | 0.00847 | 0.2024 | mg/kg | 0.41939 | 207.24% |
| Se 196.026*† | -0.9 | -0.0005 | mg/L | 0.00961 | -0.0242 | mg/kg | 0.47577 | >999.9% |
| Si 251.611*† | 329059.2 | 9.730 | mg/L | 0.1095 | 481.7 | mg/kg | 5.42 | 1.13% |
| Sn 189.927*† | -325.8 | -0.0636 | mg/L | 0.00982 | -3.146 | mg/kg | 0.4860 | 15.45% |
| Sn 242.170† | 596.3 | 0.3898 | mg/L | 0.02437 | 19.30 | mg/kg | 1.206 | 6.25% |
| Sr 407.771*† | 200873.2 | 0.6764 | mg/L | 0.02503 | 33.48 | mg/kg | 1.239 | 3.70% |
| Ti 334.940† | 7420847.1 | 9.932 | mg/L | 0.3715 | 491.7 | mg/kg | 18.39 | 3.74% |
| Ti 336.121*† | 5357651.3 | 10.28 | mg/L | 0.385 | 508.8 | mg/kg | 19.06 | 3.75% |
| Tl 190.801*† | -9.3 | -0.0058 | mg/L | 0.00173 | -0.2877 | mg/kg | 0.08581 | 29.83% |
| V 292.402*† | 34629.6 | 0.2852 | mg/L | 0.00150 | 14.12 | mg/kg | 0.074 | 0.53% |
| Zn 206.200*† | 25053.3 | 0.7422 | mg/L | 0.02675 | 36.74 | mg/kg | 1.324 | 3.60% |

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# RAW DATA SHEET
# FOR METHOD: EPA 6010B

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 935 |
| INSTRUMENT: | ICP 7300 | D/T ANALYZED: | 2017-03-24 17:21 |
| EXTRACTION : | EPA 3050B | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-24 00:00 | D/T REVIEWED: | |

DATA FILE: W:\ICP-DATA\170324C 1\17-03-0889-29 MIS.icp

**# 29** **CLIENT SAMPLE NUMBER: D-DU2-ISM2-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170324L01 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 2.00 g / ACTUAL: 2.00 g |
| MS/MSD BATCH: | 170324S01 | FINAL VOLUME / WEIGHT: | DEFAULT: 100.00 ml / ACTUAL: 100.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Antimony | -0.000725 | 0.995 | ND | 0.746 | |
| Arsenic | 0.00690 | 0.995 | ND | 0.746 | |
| Barium | 1.11 | 0.995 | 55.3 | 0.498 | |
| Beryllium | 0.00224 | 0.995 | ND | 0.249 | |
| Cadmium | 0.00412 | 0.995 | ND | 0.498 | |
| Chromium | 0.0777 | 0.995 | 3.87 | 0.249 | |
| Cobalt | 0.0827 | 0.995 | 4.11 | 0.249 | |
| Copper | 0.111 | 0.995 | 5.52 | 0.498 | |
| Lead | 0.0267 | 0.995 | 1.33 | 0.498 | |
| Molybdenum | -0.000160 | 0.995 | ND | 0.249 | |
| Nickel | 0.0687 | 0.995 | 3.42 | 0.249 | |
| Selenium | -0.00741 | 0.995 | ND | 0.746 | |
| Silver | -0.00243 | 0.995 | ND | 0.249 | |
| Thallium | -0.00704 | 0.995 | ND | 0.746 | |
| Vanadium | 0.261 | 0.995 | 13.0 | 0.249 | |
| Zinc | 0.856 | 0.995 | 42.6 | 0.995 | |

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Sequence No.: 69
Sample ID: 17-03-0889-29 MIS
Analyst: 935 icp 7300
Initial Sample Wt: 2.01 g
Dilution:
Wash Time: 15

Autosampler Location: 443
Date Collected: 3/24/2017 5:21:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0889-29 MIS

| Analyte | Mean Corrected Intensity | Calib. Conc. | Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 60784.4 | 82.50 | % | 1.329 | | | | 1.61% |
| Tb 350 | 110739.1 | 93.25 | % | 0.409 | | | | 0.44% |
| Ag 328.068*† | -407.9 | -0.0024 | mg/L | 0.00033 | -0.1208 | mg/kg | 0.01655 | 13.70% |
| Al 308.215*† | 1598862.3 | 103.6 | mg/L | 0.66 | 5155 | mg/kg | 32.83 | 0.64% |
| As 188.979† | 36.5 | 0.0207 | mg/L | 0.00470 | 1.028 | mg/kg | 0.2336 | 22.73% |
| As 193.696*† | 8.5 | 0.0069 | mg/L | 0.00057 | 0.3430 | mg/kg | 0.02820 | 8.22% |
| B 249.677*† | 87.5 | 0.0021 | mg/L | 0.00281 | 0.1030 | mg/kg | 0.13966 | 135.54% |
| Ba 233.527*† | 150341.0 | 1.113 | mg/L | 0.0064 | 55.35 | mg/kg | 0.317 | 0.57% |
| Be 313.042*† | 7464.4 | 0.0022 | mg/L | 0.00001 | 0.1115 | mg/kg | 0.00043 | 0.39% |
| Ca 317.933*† | 94848.7 | 57.16 | mg/L | 1.937 | 2844 | mg/kg | 96.39 | 3.39% |
| Cd 226.502*† | 274.0 | 0.0041 | mg/L | 0.00016 | 0.2048 | mg/kg | 0.00787 | 3.84% |
| Cd 228.802† | -2.3 | -0.0001 | mg/L | 0.00003 | -0.0034 | mg/kg | 0.00138 | 41.32% |
| Co 228.616*† | 2020.3 | 0.0827 | mg/L | 0.00023 | 4.114 | mg/kg | 0.0116 | 0.28% |
| Cr 267.716*† | 7746.0 | 0.0777 | mg/L | 0.00075 | 3.867 | mg/kg | 0.0372 | 0.96% |
| Cu 324.752*† | 24464.7 | 0.1109 | mg/L | 0.00154 | 5.516 | mg/kg | 0.0768 | 1.39% |
| Fe 273.955*† | 2896223.3 | 142.4 | mg/L | 2.26 | 7084 | mg/kg | 112.62 | 1.59% |
| K 766.490*† | 82298.3 | 31.00 | mg/L | 1.186 | 1542 | mg/kg | 59.00 | 3.83% |
| Mg 279.077*† | 831808.5 | 51.04 | mg/L | 0.322 | 2539 | mg/kg | 16.01 | 0.63% |
| Mn 257.610*† | 1408735.0 | 2.469 | mg/L | 0.0182 | 122.8 | mg/kg | 0.91 | 0.74% |
| Mo 202.031*† | -1.3 | -0.0002 | mg/L | 0.00002 | -0.0080 | mg/kg | 0.00097 | 12.23% |
| Na 589.592*† | 19017.6 | 4.804 | mg/L | 0.1726 | 239.0 | mg/kg | 8.59 | 3.59% |
| Ni 231.604*† | 1394.1 | 0.0687 | mg/L | 0.00025 | 3.418 | mg/kg | 0.0125 | 0.37% |
| P 213.617*† | 15022.2 | 9.465 | mg/L | 0.0538 | 470.9 | mg/kg | 2.68 | 0.57% |
| P 214.914† | 10620.1 | 10.09 | mg/L | 0.034 | 501.7 | mg/kg | 1.72 | 0.34% |
| Pb 220.353*† | 180.4 | 0.0267 | mg/L | 0.00149 | 1.327 | mg/kg | 0.0740 | 5.58% |
| Sb 206.836† | -6.9 | -0.0043 | mg/L | 0.01006 | -0.2115 | mg/kg | 0.50054 | 236.63% |
| Sb 217.582*† | -1.2 | -0.0007 | mg/L | 0.00338 | -0.0361 | mg/kg | 0.16826 | 466.55% |
| Se 196.026*† | -13.7 | -0.0074 | mg/L | 0.00864 | -0.3685 | mg/kg | 0.42998 | 116.67% |
| Si 251.611*† | 288105.8 | 8.519 | mg/L | 0.0645 | 423.8 | mg/kg | 3.21 | 0.76% |
| Sn 189.927*† | -312.3 | -0.0609 | mg/L | 0.00736 | -3.030 | mg/kg | 0.3662 | 12.09% |
| Sn 242.170† | 562.4 | 0.3677 | mg/L | 0.00955 | 18.29 | mg/kg | 0.475 | 2.60% |
| Sr 407.771*† | 236991.3 | 0.7980 | mg/L | 0.02350 | 39.70 | mg/kg | 1.169 | 2.95% |
| Ti 334.940† | 7207283.9 | 9.646 | mg/L | 0.1379 | 479.9 | mg/kg | 6.86 | 1.43% |
| Ti 336.121*† | 5204615.3 | 9.985 | mg/L | 0.1540 | 496.7 | mg/kg | 7.66 | 1.54% |
| Tl 190.801*† | -11.3 | -0.0070 | mg/L | 0.00197 | -0.3504 | mg/kg | 0.09823 | 28.04% |
| V 292.402*† | 31672.9 | 0.2608 | mg/L | 0.00251 | 12.97 | mg/kg | 0.125 | 0.96% |
| Zn 206.200*† | 28902.9 | 0.8563 | mg/L | 0.00378 | 42.60 | mg/kg | 0.188 | 0.44% |

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# RAW DATA SHEET
# FOR METHOD: EPA 6010B

**WORK ORDER:** **17-03-0889**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-24 17:22
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170324C 1\17-03-0889-30 MIS.icp

**# 30** **CLIENT SAMPLE NUMBER: D-DU2-ISM3-8**

LCS/MB BATCH: 170324L01
MS/MSD BATCH: 170324S01
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 2.00 g / ACTUAL: 2.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 100.00 ml / ACTUAL: 100.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Antimony | 0.000382 | 0.995 | ND | 0.746 | |
| Arsenic | 0.0115 | 0.995 | ND | 0.746 | |
| Barium | 1.23 | 0.995 | 61.2 | 0.498 | |
| Beryllium | 0.00274 | 0.995 | ND | 0.249 | |
| Cadmium | 0.00471 | 0.995 | ND | 0.498 | |
| Chromium | 0.0940 | 0.995 | 4.68 | 0.249 | |
| Cobalt | 0.0961 | 0.995 | 4.78 | 0.249 | |
| Copper | 0.135 | 0.995 | 6.72 | 0.498 | |
| Lead | 0.0348 | 0.995 | 1.73 | 0.498 | |
| Molybdenum | 0.000409 | 0.995 | ND | 0.249 | |
| Nickel | 0.0763 | 0.995 | 3.80 | 0.249 | |
| Selenium | -0.0125 | 0.995 | ND | 0.746 | |
| Silver | -0.00376 | 0.995 | ND | 0.249 | |
| Thallium | -0.00483 | 0.995 | ND | 0.746 | |
| Vanadium | 0.321 | 0.995 | 16.0 | 0.249 | |
| Zinc | 0.822 | 0.995 | 40.9 | 0.995 | |

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Sequence No.: 70
Sample ID: 17-03-0889-30 MIS
Analyst: 935 icp 7300
Initial Sample Wt: 2.01 g
Dilution:
Wash Time: 15

Autosampler Location: 444
Date Collected: 3/24/2017 5:22:38 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0889-30 MIS

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 60145.7 | 81.64 | % | 0.393 | | | | 0.48% |
| Tb 350 | 117640.2 | 99.07 | % | 0.116 | | | | 0.12% |
| Ag 328.068*† | -631.8 | -0.0038 | mg/L | 0.00060 | -0.1871 | mg/kg | 0.02985 | 15.95% |
| Al 308.215*† | 1811916.1 | 117.4 | mg/L | 1.14 | 5842 | mg/kg | 56.88 | 0.97% |
| As 188.979† | 49.6 | 0.0281 | mg/L | 0.00672 | 1.399 | mg/kg | 0.3342 | 23.90% |
| As 193.696*† | 14.2 | 0.0115 | mg/L | 0.00376 | 0.5741 | mg/kg | 0.18711 | 32.59% |
| B 249.677*† | 36.5 | 0.0009 | mg/L | 0.00272 | 0.0430 | mg/kg | 0.13522 | 314.63% |
| Ba 233.527*† | 166211.3 | 1.230 | mg/L | 0.0156 | 61.19 | mg/kg | 0.774 | 1.27% |
| Be 313.042*† | 9143.1 | 0.0027 | mg/L | 0.00009 | 0.1365 | mg/kg | 0.00456 | 3.34% |
| Ca 317.933*† | 100931.3 | 60.83 | mg/L | 0.617 | 3026 | mg/kg | 30.70 | 1.01% |
| Cd 226.502*† | 313.6 | 0.0047 | mg/L | 0.00021 | 0.2345 | mg/kg | 0.01046 | 4.46% |
| Cd 228.802† | -5.0 | -0.0001 | mg/L | 0.00012 | -0.0073 | mg/kg | 0.00621 | 85.23% |
| Co 228.616*† | 2348.2 | 0.0961 | mg/L | 0.00074 | 4.782 | mg/kg | 0.0367 | 0.77% |
| Cr 267.716*† | 9370.5 | 0.0940 | mg/L | 0.00088 | 4.678 | mg/kg | 0.0438 | 0.94% |
| Cu 324.752*† | 29800.3 | 0.1350 | mg/L | 0.00329 | 6.719 | mg/kg | 0.1638 | 2.44% |
| Fe 273.955*† | 3336968.1 | 164.1 | mg/L | 5.21 | 8162 | mg/kg | 259.15 | 3.17% |
| K 766.490*† | 86191.6 | 32.46 | mg/L | 0.419 | 1615 | mg/kg | 20.84 | 1.29% |
| Mg 279.077*† | 942814.1 | 57.85 | mg/L | 0.730 | 2878 | mg/kg | 36.33 | 1.26% |
| Mn 257.610*† | 1608243.8 | 2.818 | mg/L | 0.0324 | 140.2 | mg/kg | 1.61 | 1.15% |
| Mo 202.031*† | 3.3 | 0.0004 | mg/L | 0.00042 | 0.0204 | mg/kg | 0.02068 | 101.51% |
| Na 589.592*† | 15988.9 | 4.039 | mg/L | 0.0301 | 200.9 | mg/kg | 1.50 | 0.74% |
| Ni 231.604*† | 1548.3 | 0.0763 | mg/L | 0.00080 | 3.796 | mg/kg | 0.0396 | 1.04% |
| P 213.617*† | 17375.9 | 10.95 | mg/L | 0.028 | 544.7 | mg/kg | 1.40 | 0.26% |
| P 214.914† | 12158.9 | 11.55 | mg/L | 0.112 | 574.4 | mg/kg | 5.59 | 0.97% |
| Pb 220.353*† | 235.3 | 0.0348 | mg/L | 0.00308 | 1.730 | mg/kg | 0.1531 | 8.85% |
| Sb 206.836† | -4.8 | -0.0029 | mg/L | 0.00073 | -0.1460 | mg/kg | 0.03611 | 24.73% |
| Sb 217.582*† | 0.6 | 0.0004 | mg/L | 0.00267 | 0.0190 | mg/kg | 0.13272 | 699.20% |
| Se 196.026*† | -23.1 | -0.0125 | mg/L | 0.00767 | -0.6230 | mg/kg | 0.38141 | 61.22% |
| Si 251.611*† | 343849.3 | 10.17 | mg/L | 0.232 | 505.8 | mg/kg | 11.56 | 2.29% |
| Sn 189.927*† | -342.4 | -0.0668 | mg/L | 0.00732 | -3.323 | mg/kg | 0.3644 | 10.97% |
| Sn 242.170† | 706.1 | 0.4616 | mg/L | 0.05102 | 22.96 | mg/kg | 2.538 | 11.05% |
| Sr 407.771*† | 201519.0 | 0.6785 | mg/L | 0.00525 | 33.76 | mg/kg | 0.261 | 0.77% |
| Ti 334.940† | 8057709.0 | 10.78 | mg/L | 0.309 | 536.5 | mg/kg | 15.39 | 2.87% |
| Ti 336.121*† | 5837633.3 | 11.20 | mg/L | 0.325 | 557.2 | mg/kg | 16.18 | 2.90% |
| Tl 190.801*† | -7.8 | -0.0048 | mg/L | 0.00133 | -0.2402 | mg/kg | 0.06636 | 27.63% |
| V 292.402*† | 38974.2 | 0.3211 | mg/L | 0.00659 | 15.97 | mg/kg | 0.328 | 2.05% |
| Zn 206.200*† | 27741.4 | 0.8219 | mg/L | 0.00688 | 40.89 | mg/kg | 0.342 | 0.84% |

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# EPA 6010B ICP Metals

# (Solid)

# Quality Control

# Method Blank
# LCS/LCSD
# MS/MSD
# PDS/PDSD

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 6010B

| | | | |
|---|---|---|---|
| **MB SAMPLE ID:** | **097-01-002-24496** | ANALYZED BY: | 935 |
| MB BATCH ID: | 170324L01 | D/T ANALYZED: | 2017-03-27 15:57 |
| INSTRUMENT: | ICP 7300 | REVIEWED BY: | |
| EXTRACTION: | EPA 3050B | D/T REVIEWED: | |
| D/T EXTRACTED: | 2017-03-24 00:00 | MATRIX: | Soil |

DATA FILE: W:\ICP-DATA\170327C 1\10324-b-01__311.icp

**CLIENT WORK ORDER: 17-03-0889**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 28 | | D-DU2-ISM1-8 | 2017-03-24 17:20 | W:\ICP-DATA\170324C 1\17-03-0889-28 MIS.icp |
| 29 | | D-DU2-ISM2-8 | 2017-03-24 17:21 | W:\ICP-DATA\170324C 1\17-03-0889-29 MIS.icp |
| 30 | | D-DU2-ISM3-8 | 2017-03-24 17:22 | W:\ICP-DATA\170324C 1\17-03-0889-30 MIS.icp |

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# RAW DATA SHEET
# FOR METHOD: EPA 6010B

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **097-01-002** | ANALYZED BY: | 935 |
| INSTRUMENT: | ICP 7300 | D/T ANALYZED: | 2017-03-27 15:57 |
| EXTRACTION : | EPA 3050B | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-24 00:00 | D/T REVIEWED: | |

DATA FILE: W:\ICP-DATA\170327C 1\10324-b-01__311.icp

**# MB** **CLIENT SAMPLE NUMBER: Method Blank**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170324L01 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 2.00 g / ACTUAL: 2.00 g |
| MS/MSD BATCH: | | FINAL VOLUME / WEIGHT: | DEFAULT: 100.00 ml / ACTUAL: 100.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Antimony | 0.000321 | 0.980 | ND | 0.735 | |
| Arsenic | 0.00411 | 0.980 | ND | 0.735 | |
| Barium | 0.000726 | 0.980 | ND | 0.490 | |
| Beryllium | 0.0000116 | 0.980 | ND | 0.245 | |
| Cadmium | 0.000262 | 0.980 | ND | 0.490 | |
| Chromium | 0.000430 | 0.980 | ND | 0.245 | |
| Cobalt | 0.000299 | 0.980 | ND | 0.245 | |
| Copper | 0.000834 | 0.980 | ND | 0.490 | |
| Lead | 0.000650 | 0.980 | ND | 0.490 | |
| Molybdenum | 0.000865 | 0.980 | ND | 0.245 | |
| Nickel | 0.000297 | 0.980 | ND | 0.245 | |
| Selenium | 0.00437 | 0.980 | ND | 0.735 | |
| Silver | 0.00105 | 0.980 | ND | 0.245 | |
| Thallium | -0.00433 | 0.980 | ND | 0.735 | |
| Vanadium | 0.000569 | 0.980 | ND | 0.245 | |
| Zinc | 0.00137 | 0.980 | ND | 0.980 | |

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**LCS SAMPLE ID:** **097-01-002-24496**
LCS/MB BATCH ID: 170324L01
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 16:17
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170327C 1\170324-l-01__314.icp

| COMPOUND | CONC | CONC REC | %REC | %REC CL | ME CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|
| Antimony | 25.00 | 23.59 | 94 | 80-120 | 73-127 | PASS | |
| Arsenic | 25.00 | 23.95 | 96 | 80-120 | 73-127 | PASS | |
| Barium | 25.00 | 26.79 | 107 | 80-120 | 73-127 | PASS | |
| Beryllium | 25.00 | 24.10 | 96 | 80-120 | 73-127 | PASS | |
| Cadmium | 25.00 | 25.28 | 101 | 80-120 | 73-127 | PASS | |
| Chromium | 25.00 | 25.50 | 102 | 80-120 | 73-127 | PASS | |
| Cobalt | 25.00 | 25.72 | 103 | 80-120 | 73-127 | PASS | |
| Copper | 25.00 | 25.85 | 103 | 80-120 | 73-127 | PASS | |
| Lead | 25.00 | 25.91 | 104 | 80-120 | 73-127 | PASS | |
| Molybdenum | 25.00 | 24.68 | 99 | 80-120 | 73-127 | PASS | |
| Nickel | 25.00 | 25.41 | 102 | 80-120 | 73-127 | PASS | |
| Phosphorus | 25.00 | 24.69 | 99 | 80-120 | 73-127 | PASS | |
| Selenium | 25.00 | 23.70 | 95 | 80-120 | 73-127 | PASS | |
| Silver | 12.50 | 12.46 | 100 | 80-120 | 73-127 | PASS | |
| Thallium | 25.00 | 24.87 | 99 | 80-120 | 73-127 | PASS | |
| Vanadium | 25.00 | 24.33 | 97 | 80-120 | 73-127 | PASS | |
| Zinc | 25.00 | 25.27 | 101 | 80-120 | 73-127 | PASS | |
| Aluminum | 25.00 | 26.56 | 106 | 80-120 | 73-127 | PASS | |
| Calcium | 25.00 | 21.02 | 84 | 80-120 | 73-127 | PASS | |
| Iron | 25.00 | 26.07 | 104 | 80-120 | 73-127 | PASS | |
| Magnesium | 25.00 | 24.35 | 97 | 80-120 | 73-127 | PASS | |
| Manganese | 25.00 | 25.23 | 101 | 80-120 | 73-127 | PASS | |
| Potassium | 250.0 | 235.8 | 94 | 80-120 | 73-127 | PASS | |
| Sodium | 250.0 | 258.9 | 104 | 80-120 | 73-127 | PASS | |
| Strontium | 25.00 | 24.41 | 98 | 80-120 | 73-127 | PASS | |
| Tin | 25.00 | 24.69 | 99 | 80-120 | 73-127 | PASS | |
| Titanium | 25.00 | 24.93 | 100 | 80-120 | 73-127 | PASS | |
| Boron | 25.00 | 23.86 | 95 | 80-120 | 73-127 | PASS | |
| Silicon | 25.00 | 24.86 | 99 | 80-120 | 73-127 | PASS | |

Compounds listed in bold are required to be reported.

# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**LCS SAMPLE ID:** **097-01-002-24496**
LCS/MB BATCH ID: 170324L01
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-27 16:17
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170327C 1\170324-I-01__314.icp

| COMPOUND | CONC | CONC REC | %REC | %REC CL | ME CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|

Total number of LCS compounds: 29
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Compounds listed in bold are required to be reported.

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**SPIKED SAMPLE ID:** **17-03-1236-1**
MS/MSD BATCH: 170324S01
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-24 00:00
MS: 2017-03-24 00:00
MSD: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-27 15:40
MS: 2017-03-27 15:41
MSD: 2017-03-27 15:42
REVIEWED BY:
D/T REVIEWED:

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Antimony** | **ND** | **0.5000** | **25.00** | **2.051** | **8** | **4.269** | **17** | **50-115** | **70** | **0-20** | **FAIL** | **3G4** |
| Arsenic | 26.60 | 0.5000 | 25.00 | 53.30 | 107 | 50.55 | 96 | 75-125 | 5 | 0-20 | PASS | |
| Barium | 358.7 | 0.5000 | 25.00 | 354.7 | 4x | 356.3 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Beryllium | 0.6747 | 0.5000 | 25.00 | 25.15 | 98 | 24.62 | 96 | 75-125 | 2 | 0-20 | PASS | |
| Cadmium | 1.878 | 0.5000 | 25.00 | 24.98 | 92 | 24.29 | 90 | 75-125 | 3 | 0-20 | PASS | |
| Chromium | 59.53 | 0.5000 | 25.00 | 79.72 | 81 | 83.93 | 98 | 75-125 | 5 | 0-20 | PASS | |
| Cobalt | 24.86 | 0.5000 | 25.00 | 47.13 | 89 | 45.20 | 81 | 75-125 | 4 | 0-20 | PASS | |
| Copper | 2023 | 0.5000 | 25.00 | 1871 | 4x | 1872 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| **Lead** | **34.76** | **0.5000** | **25.00** | **98.15** | **254** | **64.76** | **120** | **75-125** | **41** | **0-20** | **FAIL** | **3F4** |
| Molybdenum | 2.013 | 0.5000 | 25.00 | 25.31 | 93 | 24.20 | 89 | 75-125 | 4 | 0-20 | PASS | |
| Nickel | 26.28 | 0.5000 | 25.00 | 48.11 | 87 | 46.05 | 79 | 75-125 | 4 | 0-20 | PASS | |
| Phosphorus | 1189 | 0.5000 | 25.00 | 1113 | 4x | 1122 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Selenium | 2.422 | 0.5000 | 25.00 | 28.15 | 103 | 25.47 | 92 | 75-125 | 10 | 0-20 | PASS | |
| Silver | 1.721 | 0.2500 | 12.50 | 15.49 | 110 | 15.59 | 111 | 75-125 | 1 | 0-20 | PASS | |
| **Thallium** | **ND** | **0.5000** | **25.00** | **12.62** | **50** | **16.16** | **65** | **75-125** | **25** | **0-20** | **FAIL** | **3G4** |
| **Vanadium** | **71.01** | **0.5000** | **25.00** | **89.40** | **74** | **88.81** | **71** | **75-125** | **1** | **0-20** | **FAIL** | **3G** |
| Zinc | 114.9 | 0.5000 | 25.00 | 133.1 | 4x | 136.5 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Aluminum | 22690 | 0.5000 | 25.00 | 20650 | 4x | 21020 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Calcium | 90600 | 0.5000 | 25.00 | 83880 | 4x | 83300 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Iron | 70010 | 0.5000 | 25.00 | 64440 | 4x | 64850 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Magnesium | 12250 | 0.5000 | 25.00 | 11330 | 4x | 11320 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Manganese | 1865 | 0.5000 | 25.00 | 1731 | 4x | 1732 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Potassium | 3830 | 5.000 | 250.0 | 3967 | 4x | 3985 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Sodium | 650.3 | 5.000 | 250.0 | 925.6 | 110 | 926.5 | 110 | 75-125 | 0 | 0-20 | PASS | |
| Strontium | 185.0 | 0.5000 | 25.00 | 200.8 | 4x | 202.5 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| **Tin** | **ND** | **0.5000** | **25.00** | **13.83** | **55** | **13.43** | **54** | **75-125** | **3** | **0-20** | **FAIL** | **3G** |
| Titanium | 1284 | 0.5000 | 25.00 | 1121 | 4x | 1199 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Boron | 16.82 | 0.5000 | 25.00 | 40.71 | 96 | 42.68 | 103 | 75-125 | 5 | 0-20 | PASS | |

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**SPIKED SAMPLE ID:** **17-03-1236-1**
MS/MSD BATCH: 170324S01
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-24 00:00
MS: 2017-03-24 00:00
MSD: 2017-03-24 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-27 15:40
MS: 2017-03-27 15:41
MSD: 2017-03-27 15:42
REVIEWED BY:
D/T REVIEWED:

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Silicon | 1038 | 0.5000 | 25.00 | 892.0 | 4x | 1017 | 4x | 75-125 | 4x | 0-20 | PASS | Q |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17-03-1236-1 ms.icp | W:\ICP-DATA\170327C 1\ |
| MSD | 17-03-1236-1 msd.icp | W:\ICP-DATA\170327C 1\ |



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Analysis Begun

Start Time: 3/27/2017 3:57:31 PM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/27/2017 3:34:39 PM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032701.sif
Batch ID:
Results Data Set: 170327C 1
Results Library: W:\pe\7300\Results\results.mdb

Sequence No.: 1
Sample ID: 10324-b-01
Analyst: 935 icp 7300
Initial Sample Wt: 2.04 g
Dilution:
Wash Time:

Autosampler Location: 453
Date Collected: 3/27/2017 3:57:49 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 10324-b-01

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 81787.6 | 99.97 | % | 0.266 | | | | 0.27% |
| Tb 350 | 132404.5 | 99.93 | % | 0.486 | | | | 0.49% |
| Ag 328.068*† | 210.3 | 0.0011 | mg/L | 0.00019 | 0.0516 | mg/kg | 0.00915 | 17.72% |
| Al 308.215*† | 74.5 | 0.0042 | mg/L | 0.00063 | 0.2035 | mg/kg | 0.03101 | 15.24% |
| As 188.979† | -0.6 | -0.0003 | mg/L | 0.00018 | -0.0124 | mg/kg | 0.00863 | 69.87% |
| As 193.696*† | 6.6 | 0.0041 | mg/L | 0.00482 | 0.2016 | mg/kg | 0.23612 | 117.11% |
| B 249.677*† | 1172.4 | 0.0218 | mg/L | 0.00023 | 1.067 | mg/kg | 0.0112 | 1.05% |
| Ba 233.527*† | 116.3 | 0.0007 | mg/L | 0.00011 | 0.0356 | mg/kg | 0.00552 | 15.53% |
| Be 313.042*† | 47.4 | 0.0000 | mg/L | 0.00001 | 0.0006 | mg/kg | 0.00034 | 58.99% |
| Ca 317.933*† | 18.5 | 0.0085 | mg/L | 0.00272 | 0.4156 | mg/kg | 0.13334 | 32.08% |
| Cd 226.502*† | 22.0 | 0.0003 | mg/L | 0.00004 | 0.0128 | mg/kg | 0.00194 | 15.09% |
| Cd 228.802† | 1.6 | 0.0000 | mg/L | 0.00009 | 0.0020 | mg/kg | 0.00425 | 217.70% |
| Co 228.616*† | 8.9 | 0.0003 | mg/L | 0.00024 | 0.0146 | mg/kg | 0.01164 | 79.51% |
| Cr 267.716*† | 51.9 | 0.0004 | mg/L | 0.00071 | 0.0211 | mg/kg | 0.03485 | 165.26% |
| Cu 324.752*† | 219.7 | 0.0008 | mg/L | 0.00028 | 0.0409 | mg/kg | 0.01356 | 33.18% |
| Fe 273.955*† | 462.3 | 0.0185 | mg/L | 0.00156 | 0.9078 | mg/kg | 0.07669 | 8.45% |
| K 766.490*† | -61.7 | -0.0192 | mg/L | 0.11719 | -0.9390 | mg/kg | 5.74443 | 611.74% |
| Mg 279.077*† | 4.9 | 0.0002 | mg/L | 0.00242 | 0.0115 | mg/kg | 0.11840 | >999.9% |
| Mn 257.610*† | 359.0 | 0.0005 | mg/L | 0.00006 | 0.0255 | mg/kg | 0.00285 | 11.15% |
| Mo 202.031*† | 8.4 | 0.0009 | mg/L | 0.00059 | 0.0424 | mg/kg | 0.02902 | 68.46% |
| Na 589.592*† | 1350.3 | 0.2897 | mg/L | 0.01366 | 14.20 | mg/kg | 0.670 | 4.72% |
| Ni 231.604*† | 7.9 | 0.0003 | mg/L | 0.00010 | 0.0146 | mg/kg | 0.00496 | 34.01% |
| P 213.617*† | 27.1 | 0.0123 | mg/L | 0.00201 | 0.6031 | mg/kg | 0.09856 | 16.34% |
| P 214.914† | 4.8 | 0.0035 | mg/L | 0.00391 | 0.1696 | mg/kg | 0.19180 | 113.12% |
| Pb 220.353*† | 5.6 | 0.0006 | mg/L | 0.00177 | 0.0319 | mg/kg | 0.08679 | 272.42% |
| Sb 206.836† | 17.1 | 0.0084 | mg/L | 0.00667 | 0.4100 | mg/kg | 0.32713 | 79.79% |
| Sb 217.582*† | 0.6 | 0.0003 | mg/L | 0.00166 | 0.0157 | mg/kg | 0.08150 | 518.61% |
| Se 196.026*† | 10.6 | 0.0044 | mg/L | 0.00029 | 0.2143 | mg/kg | 0.01417 | 6.61% |
| Si 251.611*† | -84.1 | -0.0020 | mg/L | 0.00057 | -0.0975 | mg/kg | 0.02790 | 28.60% |
| Sn 189.927*† | 20.0 | 0.0030 | mg/L | 0.00036 | 0.1481 | mg/kg | 0.01783 | 12.04% |
| Sn 242.170† | -11.3 | -0.0060 | mg/L | 0.00309 | -0.2930 | mg/kg | 0.15138 | 51.67% |
| Sr 407.771*† | 31.5 | 0.0001 | mg/L | 0.00009 | 0.0045 | mg/kg | 0.00460 | 101.92% |
| Ti 334.940† | 251.2 | 0.0003 | mg/L | 0.00037 | 0.0140 | mg/kg | 0.01806 | 128.74% |
| Ti 336.121*† | 518.4 | 0.0008 | mg/L | 0.00055 | 0.0412 | mg/kg | 0.02703 | 65.53% |
| Tl 190.801*† | -8.5 | -0.0043 | mg/L | 0.00427 | -0.2121 | mg/kg | 0.20928 | 98.66% |
| V 292.402*† | 81.6 | 0.0006 | mg/L | 0.00044 | 0.0279 | mg/kg | 0.02178 | 78.02% |
| Zn 206.200*† | 62.3 | 0.0014 | mg/L | 0.00015 | 0.0672 | mg/kg | 0.00739 | 10.99% |

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Analysis Begun

Start Time: 3/27/2017 4:16:48 PM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401
Plasma On Time: 3/27/2017 3:34:39 PM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032701.sif
Batch ID:
Results Data Set: 170327C 1
Results Library: W:\pe\7300\Results\results.mdb

Sequence No.: 1
Sample ID: 170324-l-01
Analyst: 935 icp 7300
Initial Sample Wt: 1.98 g
Dilution:
Wash Time:
Autosampler Location: 447
Date Collected: 3/27/2017 4:17:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 170324-l-01

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 77176.3 | 94.33 | % | 0.411 | | | | 0.44% |
| Tb 350 | 126729.9 | 95.65 | % | 0.151 | | | | 0.16% |
| Ag 328.068*† | 49261.6 | 0.2467 | mg/L | 0.00053 | 12.46 | mg/kg | 0.027 | 0.21% |
| Al 308.215*† | 9443.2 | 0.5259 | mg/L | 0.00466 | 26.56 | mg/kg | 0.235 | 0.89% |
| As 188.979† | 1104.8 | 0.4735 | mg/L | 0.00324 | 23.92 | mg/kg | 0.164 | 0.68% |
| As 193.696*† | 763.3 | 0.4742 | mg/L | 0.00710 | 23.95 | mg/kg | 0.359 | 1.50% |
| B 249.677*† | 25456.3 | 0.4725 | mg/L | 0.00159 | 23.86 | mg/kg | 0.080 | 0.34% |
| Ba 233.527*† | 84984.9 | 0.5304 | mg/L | 0.00448 | 26.79 | mg/kg | 0.226 | 0.84% |
| Be 313.042*† | 1952308.6 | 0.4773 | mg/L | 0.00290 | 24.10 | mg/kg | 0.147 | 0.61% |
| Ca 317.933*† | 910.4 | 0.4162 | mg/L | 0.00216 | 21.02 | mg/kg | 0.109 | 0.52% |
| Cd 226.502*† | 42139.9 | 0.5006 | mg/L | 0.00261 | 25.28 | mg/kg | 0.132 | 0.52% |
| Cd 228.802† | 20125.7 | 0.4864 | mg/L | 0.00052 | 24.56 | mg/kg | 0.026 | 0.11% |
| Co 228.616*† | 15239.5 | 0.5092 | mg/L | 0.00173 | 25.72 | mg/kg | 0.088 | 0.34% |
| Cr 267.716*† | 60931.6 | 0.5049 | mg/L | 0.00203 | 25.50 | mg/kg | 0.103 | 0.40% |
| Cu 324.752*† | 134909.9 | 0.5119 | mg/L | 0.00210 | 25.85 | mg/kg | 0.106 | 0.41% |
| Fe 273.955*† | 12885.9 | 0.5162 | mg/L | 0.00188 | 26.07 | mg/kg | 0.095 | 0.36% |
| K 766.490*† | 15033.8 | 4.669 | mg/L | 0.1404 | 235.8 | mg/kg | 7.09 | 3.01% |
| Mg 279.077*† | 10003.3 | 0.4821 | mg/L | 0.00286 | 24.35 | mg/kg | 0.144 | 0.59% |
| Mn 257.610*† | 344277.0 | 0.4996 | mg/L | 0.00245 | 25.23 | mg/kg | 0.124 | 0.49% |
| Mo 202.031*† | 4742.5 | 0.4886 | mg/L | 0.00039 | 24.68 | mg/kg | 0.020 | 0.08% |
| Na 589.592*† | 23887.0 | 5.125 | mg/L | 0.1443 | 258.9 | mg/kg | 7.29 | 2.82% |
| Ni 231.604*† | 13301.8 | 0.5032 | mg/L | 0.00070 | 25.41 | mg/kg | 0.035 | 0.14% |
| P 213.617*† | 1078.6 | 0.4889 | mg/L | 0.00158 | 24.69 | mg/kg | 0.080 | 0.32% |
| P 214.914† | 620.7 | 0.4496 | mg/L | 0.00837 | 22.71 | mg/kg | 0.423 | 1.86% |
| Pb 220.353*† | 4445.9 | 0.5129 | mg/L | 0.00196 | 25.91 | mg/kg | 0.099 | 0.38% |
| Sb 206.836† | 969.6 | 0.4754 | mg/L | 0.00039 | 24.01 | mg/kg | 0.019 | 0.08% |
| Sb 217.582*† | 946.8 | 0.4671 | mg/L | 0.00229 | 23.59 | mg/kg | 0.116 | 0.49% |
| Se 196.026*† | 1133.4 | 0.4693 | mg/L | 0.00250 | 23.70 | mg/kg | 0.126 | 0.53% |
| Si 251.611*† | 20800.5 | 0.4922 | mg/L | 0.00483 | 24.86 | mg/kg | 0.244 | 0.98% |
| Sn 189.927*† | 3233.6 | 0.4888 | mg/L | 0.00004 | 24.69 | mg/kg | 0.002 | 0.01% |
| Sn 242.170† | 887.2 | 0.4713 | mg/L | 0.00645 | 23.81 | mg/kg | 0.326 | 1.37% |
| Sr 407.771*† | 165563.4 | 0.4833 | mg/L | 0.01030 | 24.41 | mg/kg | 0.520 | 2.13% |
| Ti 334.940† | 430707.7 | 0.4907 | mg/L | 0.00169 | 24.78 | mg/kg | 0.085 | 0.34% |
| Ti 336.121*† | 304060.2 | 0.4935 | mg/L | 0.00305 | 24.93 | mg/kg | 0.154 | 0.62% |
| Tl 190.801*† | 963.1 | 0.4924 | mg/L | 0.00953 | 24.87 | mg/kg | 0.482 | 1.94% |
| V 292.402*† | 69018.6 | 0.4816 | mg/L | 0.00228 | 24.33 | mg/kg | 0.115 | 0.47% |
| Zn 206.200*† | 22718.3 | 0.5003 | mg/L | 0.00028 | 25.27 | mg/kg | 0.014 | 0.06% |

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Sequence No.: 3
Sample ID: 17-03-1236-1 ms
Analyst: 935 icp 7300
Initial Sample Wt: 2.02 g
Dilution:
Wash Time: 20

Autosampler Location: 449
Date Collected: 3/27/2017 3:41:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1236-1 ms

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 49448.4 | 60.44 | % | 0.599 | | | | 0.99% |
| Tb 350 | 98909.2 | 74.65 | % | 0.455 | | | | 0.61% |
| Ag 328.068*† | 62476.3 | 0.3129 | mg/L | 0.00047 | 15.49 | mg/kg | 0.023 | 0.15% |
| Al 308.215*† | 7489067.3 | 417.0 | mg/L | 5.97 | 20650 | mg/kg | 295.46 | 1.43% |
| As 188.979† | 2350.5 | 1.008 | mg/L | 0.0246 | 49.88 | mg/kg | 1.218 | 2.44% |
| As 193.696*† | 1732.7 | 1.077 | mg/L | 0.0198 | 53.29 | mg/kg | 0.980 | 1.84% |
| B 249.677*† | 44310.0 | 0.8224 | mg/L | 0.00278 | 40.71 | mg/kg | 0.138 | 0.34% |
| Ba 233.527*† | 1147996.5 | 7.164 | mg/L | 0.0326 | 354.7 | mg/kg | 1.61 | 0.45% |
| Be 313.042*† | 2078034.3 | 0.5080 | mg/L | 0.00421 | 25.15 | mg/kg | 0.209 | 0.83% |
| Ca 317.933*† | 3706094.7 | 1694 | mg/L | 18.28 | 83880 | mg/kg | 904.82 | 1.08% |
| Cd 226.502*† | 42484.5 | 0.5047 | mg/L | 0.00235 | 24.98 | mg/kg | 0.116 | 0.47% |
| Cd 228.802† | 22793.8 | 0.5508 | mg/L | 0.01090 | 27.27 | mg/kg | 0.540 | 1.98% |
| Co 228.616*† | 28496.5 | 0.9521 | mg/L | 0.01877 | 47.13 | mg/kg | 0.929 | 1.97% |
| Cr 267.716*† | 194323.7 | 1.610 | mg/L | 0.0081 | 79.72 | mg/kg | 0.402 | 0.50% |
| Cu 324.752*† | 9959773.9 | 37.79 | mg/L | 0.128 | 1871 | mg/kg | 6.34 | 0.34% |
| Fe 273.955*† | 32491847.4 | 1302 | mg/L | 18.55 | 64440 | mg/kg | 918.20 | 1.42% |
| K 766.490*† | 258005.3 | 80.13 | mg/L | 1.274 | 3967 | mg/kg | 63.06 | 1.59% |
| Mg 279.077*† | 4747880.0 | 228.8 | mg/L | 1.63 | 11330 | mg/kg | 80.51 | 0.71% |
| Mn 257.610*† | 24088501.0 | 34.96 | mg/L | 0.542 | 1731 | mg/kg | 26.82 | 1.55% |
| Mo 202.031*† | 4961.9 | 0.5112 | mg/L | 0.00061 | 25.31 | mg/kg | 0.030 | 0.12% |
| Na 589.592*† | 87137.0 | 18.70 | mg/L | 0.430 | 925.6 | mg/kg | 21.29 | 2.30% |
| Ni 231.604*† | 25686.8 | 0.9717 | mg/L | 0.01690 | 48.11 | mg/kg | 0.837 | 1.74% |
| P 213.617*† | 49587.8 | 22.48 | mg/L | 0.334 | 1113 | mg/kg | 16.53 | 1.49% |
| P 214.914† | 32164.0 | 23.30 | mg/L | 0.438 | 1153 | mg/kg | 21.69 | 1.88% |
| Pb 220.353*† | 17184.1 | 1.983 | mg/L | 0.0452 | 98.15 | mg/kg | 2.236 | 2.28% |
| Sb 206.836† | 558.8 | 0.2740 | mg/L | 0.00801 | 13.57 | mg/kg | 0.397 | 2.92% |
| Sb 217.582*† | 84.0 | 0.0414 | mg/L | 0.04279 | 2.051 | mg/kg | 2.1185 | 103.27% |
| Se 196.026*† | 1373.1 | 0.5685 | mg/L | 0.02348 | 28.15 | mg/kg | 1.162 | 4.13% |
| Si 251.611*† | 761400.7 | 18.02 | mg/L | 0.082 | 892.0 | mg/kg | 4.05 | 0.45% |
| Sn 189.927*† | 1847.6 | 0.2793 | mg/L | 0.01369 | 13.83 | mg/kg | 0.678 | 4.90% |
| Sn 242.170† | 5685.3 | 3.020 | mg/L | 0.1173 | 149.5 | mg/kg | 5.81 | 3.88% |
| Sr 407.771*† | 1389469.4 | 4.056 | mg/L | 0.1000 | 200.8 | mg/kg | 4.95 | 2.47% |
| Ti 334.940† | 19721109.9 | 22.47 | mg/L | 0.343 | 1112 | mg/kg | 17.00 | 1.53% |
| Ti 336.121*† | 13952187.8 | 22.65 | mg/L | 0.343 | 1121 | mg/kg | 16.99 | 1.52% |
| Tl 190.801*† | 498.4 | 0.2548 | mg/L | 0.01835 | 12.62 | mg/kg | 0.908 | 7.20% |
| V 292.402*† | 261835.5 | 1.806 | mg/L | 0.0132 | 89.40 | mg/kg | 0.655 | 0.73% |
| Zn 206.200*† | 122134.2 | 2.690 | mg/L | 0.0167 | 133.1 | mg/kg | 0.82 | 0.62% |

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Sequence No.: 4
Sample ID: 17-03-1236-1 msd
Analyst: 935 icp 7300
Initial Sample Wt: 2.03 g
Dilution:
Wash Time: 20

Autosampler Location: 450
Date Collected: 3/27/2017 3:42:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1236-1 msd

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 49922.7 | 61.02 | % | 0.025 | | | | 0.04% |
| Tb 350 | 99677.7 | 75.23 | % | 0.295 | | | | 0.39% |
| Ag 328.068*† | 63212.1 | 0.3166 | mg/L | 0.00301 | 15.59 | mg/kg | 0.148 | 0.95% |
| Al 308.215*† | 7662758.9 | 426.7 | mg/L | 7.01 | 21020 | mg/kg | 345.39 | 1.64% |
| As 188.979† | 2234.2 | 0.9576 | mg/L | 0.02593 | 47.17 | mg/kg | 1.277 | 2.71% |
| As 193.696*† | 1651.6 | 1.026 | mg/L | 0.0208 | 50.55 | mg/kg | 1.027 | 2.03% |
| B 249.677*† | 46680.5 | 0.8664 | mg/L | 0.00483 | 42.68 | mg/kg | 0.238 | 0.56% |
| Ba 233.527*† | 1159079.1 | 7.234 | mg/L | 0.0538 | 356.3 | mg/kg | 2.65 | 0.74% |
| Be 313.042*† | 2044769.0 | 0.4999 | mg/L | 0.00383 | 24.62 | mg/kg | 0.189 | 0.77% |
| Ca 317.933*† | 3698686.4 | 1691 | mg/L | 41.86 | 83300 | mg/kg | 2062.27 | 2.48% |
| Cd 226.502*† | 41505.7 | 0.4930 | mg/L | 0.00552 | 24.29 | mg/kg | 0.272 | 1.12% |
| Cd 228.802† | 21480.3 | 0.5191 | mg/L | 0.00829 | 25.57 | mg/kg | 0.408 | 1.60% |
| Co 228.616*† | 27462.2 | 0.9176 | mg/L | 0.01715 | 45.20 | mg/kg | 0.845 | 1.87% |
| Cr 267.716*† | 205600.3 | 1.704 | mg/L | 0.0154 | 83.93 | mg/kg | 0.761 | 0.91% |
| Cu 324.752*† | 10014353.9 | 38.00 | mg/L | 0.141 | 1872 | mg/kg | 6.94 | 0.37% |
| Fe 273.955*† | 32861011.2 | 1316 | mg/L | 24.11 | 64850 | mg/kg | 1187.51 | 1.83% |
| K 766.490*† | 260493.4 | 80.90 | mg/L | 1.779 | 3985 | mg/kg | 87.62 | 2.20% |
| Mg 279.077*† | 4767916.8 | 229.8 | mg/L | 2.71 | 11320 | mg/kg | 133.57 | 1.18% |
| Mn 257.610*† | 24222609.8 | 35.15 | mg/L | 0.667 | 1732 | mg/kg | 32.88 | 1.90% |
| Mo 202.031*† | 4768.4 | 0.4912 | mg/L | 0.00388 | 24.20 | mg/kg | 0.191 | 0.79% |
| Na 589.592*† | 87659.0 | 18.81 | mg/L | 0.429 | 926.5 | mg/kg | 21.15 | 2.28% |
| Ni 231.604*† | 24709.1 | 0.9348 | mg/L | 0.01564 | 46.05 | mg/kg | 0.771 | 1.67% |
| P 213.617*† | 50233.0 | 22.77 | mg/L | 0.340 | 1122 | mg/kg | 16.75 | 1.49% |
| P 214.914† | 31198.8 | 22.60 | mg/L | 0.503 | 1113 | mg/kg | 24.80 | 2.23% |
| Pb 220.353*† | 11394.7 | 1.315 | mg/L | 0.0351 | 64.76 | mg/kg | 1.729 | 2.67% |
| Sb 206.836† | 603.3 | 0.2958 | mg/L | 0.02034 | 14.57 | mg/kg | 1.002 | 6.88% |
| Sb 217.582*† | 175.7 | 0.0867 | mg/L | 0.01094 | 4.269 | mg/kg | 0.5391 | 12.63% |
| Se 196.026*† | 1248.6 | 0.5170 | mg/L | 0.03482 | 25.47 | mg/kg | 1.715 | 6.74% |
| Si 251.611*† | 872338.4 | 20.64 | mg/L | 0.165 | 1017 | mg/kg | 8.13 | 0.80% |
| Sn 189.927*† | 1804.1 | 0.2727 | mg/L | 0.01274 | 13.43 | mg/kg | 0.627 | 4.67% |
| Sn 242.170† | 5519.0 | 2.932 | mg/L | 0.0770 | 144.4 | mg/kg | 3.79 | 2.62% |
| Sr 407.771*† | 1408228.2 | 4.111 | mg/L | 0.0939 | 202.5 | mg/kg | 4.63 | 2.28% |
| Ti 334.940† | 21153154.5 | 24.10 | mg/L | 0.427 | 1187 | mg/kg | 21.04 | 1.77% |
| Ti 336.121*† | 14992208.1 | 24.33 | mg/L | 0.419 | 1199 | mg/kg | 20.65 | 1.72% |
| Tl 190.801*† | 641.4 | 0.3280 | mg/L | 0.03828 | 16.16 | mg/kg | 1.886 | 11.67% |
| V 292.402*† | 261434.7 | 1.803 | mg/L | 0.0104 | 88.81 | mg/kg | 0.514 | 0.58% |
| Zn 206.200*† | 125836.9 | 2.771 | mg/L | 0.0421 | 136.5 | mg/kg | 2.07 | 1.52% |

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Sequence No.: 2
Sample ID: 17-03-1236-1
Analyst: 935 icp 7300
Initial Sample Wt: 2.02 g
Dilution:
Wash Time: 15

Autosampler Location: 448
Date Collected: 3/27/2017 3:40:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1236-1

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 48814.2 | 59.67 | % | 0.826 | | | | 1.39% |
| Tb 350 | 97890.4 | 73.88 | % | 0.369 | | | | 0.50% |
| Ag 328.068*† | 6942.2 | 0.0348 | mg/L | 0.00162 | 1.721 | mg/kg | 0.0802 | 4.66% |
| Al 308.215*† | 8231490.8 | 458.4 | mg/L | 3.73 | 22690 | mg/kg | 184.76 | 0.81% |
| As 188.979† | 1126.7 | 0.4829 | mg/L | 0.00173 | 23.91 | mg/kg | 0.085 | 0.36% |
| As 193.696*† | 864.8 | 0.5373 | mg/L | 0.00708 | 26.60 | mg/kg | 0.350 | 1.32% |
| B 249.677*† | 18308.5 | 0.3398 | mg/L | 0.00107 | 16.82 | mg/kg | 0.053 | 0.32% |
| Ba 233.527*† | 1161129.4 | 7.246 | mg/L | 0.0136 | 358.7 | mg/kg | 0.67 | 0.19% |
| Be 313.042*† | 55751.9 | 0.0136 | mg/L | 0.00002 | 0.6747 | mg/kg | 0.00122 | 0.18% |
| Ca 317.933*† | 4002720.8 | 1830 | mg/L | 55.98 | 90600 | mg/kg | 2771.44 | 3.06% |
| Cd 226.502*† | 3193.6 | 0.0379 | mg/L | 0.00002 | 1.878 | mg/kg | 0.0010 | 0.05% |
| Cd 228.802† | 590.2 | 0.0143 | mg/L | 0.00023 | 0.7060 | mg/kg | 0.01158 | 1.64% |
| Co 228.616*† | 15031.4 | 0.5022 | mg/L | 0.00277 | 24.86 | mg/kg | 0.137 | 0.55% |
| Cr 267.716*† | 145119.0 | 1.203 | mg/L | 0.0067 | 59.53 | mg/kg | 0.331 | 0.56% |
| Cu 324.752*† | 10768641.7 | 40.86 | mg/L | 0.025 | 2023 | mg/kg | 1.22 | 0.06% |
| Fe 273.955*† | 35303717.1 | 1414 | mg/L | 12.44 | 70010 | mg/kg | 615.69 | 0.88% |
| K 766.490*† | 249132.3 | 77.37 | mg/L | 0.499 | 3830 | mg/kg | 24.70 | 0.64% |
| Mg 279.077*† | 5132085.4 | 247.4 | mg/L | 0.82 | 12250 | mg/kg | 40.49 | 0.33% |
| Mn 257.610*† | 25954139.5 | 37.67 | mg/L | 0.389 | 1865 | mg/kg | 19.25 | 1.03% |
| Mo 202.031*† | 394.8 | 0.0407 | mg/L | 0.00008 | 2.013 | mg/kg | 0.0038 | 0.19% |
| Na 589.592*† | 61222.1 | 13.14 | mg/L | 0.069 | 650.3 | mg/kg | 3.40 | 0.52% |
| Ni 231.604*† | 14035.1 | 0.5310 | mg/L | 0.00608 | 26.28 | mg/kg | 0.301 | 1.15% |
| P 213.617*† | 52993.1 | 24.02 | mg/L | 0.022 | 1189 | mg/kg | 1.08 | 0.09% |
| P 214.914† | 32845.2 | 23.79 | mg/L | 0.100 | 1178 | mg/kg | 4.97 | 0.42% |
| Pb 220.353*† | 6086.7 | 0.7022 | mg/L | 0.00198 | 34.76 | mg/kg | 0.098 | 0.28% |
| Sb 206.836† | 270.6 | 0.1327 | mg/L | 0.00068 | 6.569 | mg/kg | 0.0337 | 0.51% |
| Sb 217.582*† | -46.7 | -0.0230 | mg/L | 0.02266 | -1.140 | mg/kg | 1.1218 | 98.39% |
| Se 196.026*† | 118.2 | 0.0489 | mg/L | 0.04473 | 2.422 | mg/kg | 2.2143 | 91.42% |
| Si 251.611*† | 885761.0 | 20.96 | mg/L | 0.068 | 1038 | mg/kg | 3.35 | 0.32% |
| Sn 189.927*† | -1027.8 | -0.1554 | mg/L | 0.00641 | -7.691 | mg/kg | 0.3175 | 4.13% |
| Sn 242.170† | 5063.7 | 2.690 | mg/L | 0.0904 | 133.2 | mg/kg | 4.47 | 3.36% |
| Sr 407.771*† | 1280126.5 | 3.737 | mg/L | 0.0225 | 185.0 | mg/kg | 1.11 | 0.60% |
| Ti 334.940† | 22605842.3 | 25.75 | mg/L | 0.260 | 1275 | mg/kg | 12.87 | 1.01% |
| Ti 336.121*† | 15975935.6 | 25.93 | mg/L | 0.241 | 1284 | mg/kg | 11.95 | 0.93% |
| Tl 190.801*† | -137.8 | -0.0705 | mg/L | 0.02405 | -3.489 | mg/kg | 1.1904 | 34.12% |
| V 292.402*† | 208866.4 | 1.434 | mg/L | 0.0059 | 71.01 | mg/kg | 0.291 | 0.41% |
| Zn 206.200*† | 105436.1 | 2.322 | mg/L | 0.0061 | 114.9 | mg/kg | 0.30 | 0.26% |

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# EPA 6010B ICP Metals

# (Solid)

# Run Logs

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# 170324C 1

M006-032-05 0.050 ml

**INT STD M120716A** PDS/PDSD 10 ml

**R.B. R12091602** M006-032-06 0.050 ml

Carrier/wash sol R12091604/R12091603

| No. | File Name | Date | Time | Analyst Name | A/S Location |
|---|---|---|---|---|---|
| 1 | Cal blankR12091601_935 | 3/24/2017 | 9:32:25 AM | 935 icp 7300 | 1 |
| 2 | STD3-M111116A_935_ICP7300 | 3/24/2017 | 9:33:31 AM | 935 icp 7300 | 2 |
| 3 | ICV-M072816C | 3/24/2017 | 9:34:27 AM | 935 icp 7300 | 10 |
| 4 | ICB-R12091601 | 3/24/2017 | 9:36:10 AM | 935 icp 7300 | 1 |
| 5 | ICS_A - M110116B | 3/24/2017 | 9:37:13 AM | 935 icp 7300 | 8 |
| 6 | ICS_AB - M110116A | 3/24/2017 | 9:38:04 AM | 935 icp 7300 | 9 |
| 7 | CCV= STD3x0.5 | 3/24/2017 | 9:38:54 AM | 935 icp 7300 | 3 |
| 8 | CCB-R12091601 | 3/24/2017 | 9:39:45 AM | 935 icp 7300 | 1 |
| 9 | CCB2-R12091601 | 3/24/2017 | 9:45:45 AM | 935 icp 7300 | 5 |
| 10 | LLCV-M082616A | 3/24/2017 | 9:46:51 AM | 935 icp 7300 | 101 |
| 11 | LLCV--M082616A | 3/24/2017 | 9:47:52 AM | 935 icp 7300 | 102 |
| 12 | CCV= STD3x0.5 | 3/24/2017 | 9:48:52 AM | 935 icp 7300 | 3 |
| 13 | CCB-R12091601 | 3/24/2017 | 9:50:30 AM | 935 icp 7300 | 1 |
| 14 | 170321-ba-1 | 3/24/2017 | 10:25:33 AM | 935 icp 7300 | 103 |
| 15 | 170321-la-1 | 3/24/2017 | 10:26:38 AM | 935 icp 7300 | 104 |
| 16 | 170321-la-2 | 3/24/2017 | 10:28:28 AM | 935 icp 7300 | 106 |
| 17 | 170321-la-3 | 3/24/2017 | 10:30:18 AM | 935 icp 7300 | 108 |
| 18 | 170323-la-4 | 3/24/2017 | 10:32:08 AM | 935 icp 7300 | 110 |
| 19 | 170323-la-6 | 3/24/2017 | 10:33:58 AM | 935 icp 7300 | 112 |
| 20 | CCV= STD3x0.5 | 3/24/2017 | 10:34:49 AM | 935 icp 7300 | 3 |
| 21 | CCB-R12091601 | 3/24/2017 | 10:36:36 AM | 935 icp 7300 | 1 |
| 22 | 170321-ba-2 | 3/24/2017 | 10:38:53 AM | 935 icp 7300 | 105 |
| 23 | 170321-ba-3 | 3/24/2017 | 10:39:58 AM | 935 icp 7300 | 107 |
| 24 | 170323-ba-4 | 3/24/2017 | 10:40:59 AM | 935 icp 7300 | 109 |

B > RL

Sb out, As and Tl out





Reviewed/Assign to Logbook Date: 3/27/17
Analysis: 200.7/600 Chemist ID: 1012
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| No. | File Name | Date | Time | Analyst Name | A/S Location |
|---|---|---|---|---|---|
| 313 | 17-03-0865-11 | 3/24/2017 | 5:10:37 PM | 935 icp 7300 | 432 |
| 314 | 17-03-0865-12 | 3/24/2017 | 5:11:28 PM | 935 icp 7300 | 433 |
| 315 | 17-03-0865-13 | 3/24/2017 | 5:12:20 PM | 935 icp 7300 | 434 |
| 316 | 17-03-0865-14 | 3/24/2017 | 5:13:02 PM | 935 icp 7300 | 435 |
| 317 | CCV= STD3x0.5 | 3/24/2017 | 5:13:54 PM | 935 icp 7300 | 3 |
| 318 | CCB-R12091601 | 3/24/2017 | 5:14:47 PM | 935 icp 7300 | 1 |
| 319 | 17-03-0865-15 | 3/24/2017 | 5:15:47 PM | 935 icp 7300 | 436 |
| 320 | 17-03-0865-16 | 3/24/2017 | 5:16:41 PM | 935 icp 7300 | 437 |
| 321 | 17-03-0865-17 | 3/24/2017 | 5:17:32 PM | 935 icp 7300 | 438 |
| 322 | 17-03-0888-28 MIS | 3/24/2017 | 5:18:23 PM | 935 icp 7300 | 439 |
| 323 | 17-03-0888-29 MIS | 3/24/2017 | 5:19:14 PM | 935 icp 7300 | 440 |
| 324 | 17-03-0888-30 MIS | 3/24/2017 | 5:20:05 PM | 935 icp 7300 | 441 |
| 325 | 17-03-0889-28 MIS | 3/24/2017 | 5:20:56 PM | 935 icp 7300 | 442 |
| 326 | 17-03-0889-29 MIS | 3/24/2017 | 5:21:47 PM | 935 icp 7300 | 443 |
| 327 | 17-03-0889-30 MIS | 3/24/2017 | 5:22:38 PM | 935 icp 7300 | 444 |
| 328 | 17-03-1274-1 | 3/24/2017 | 5:23:29 PM | 935 icp 7300 | 107 |
| 329 | CCV= STD3x0.5 | 3/24/2017 | 5:24:23 PM | 935 icp 7300 | 3 |
| 330 | CCB-R12091601 | 3/24/2017 | 5:25:16 PM | 935 icp 7300 | 1 |
| 331 | 17-03-1274-1 ms | 3/24/2017 | 5:26:17 PM | 935 icp 7300 | 108 |
| 332 | 17-03-1274-1 msd | 3/24/2017 | 5:27:11 PM | 935 icp 7300 | 109 |
| 333 | 17-03-1274-2 | 3/24/2017 | 5:28:03 PM | 935 icp 7300 | 110 |
| 334 | 17-03-1274-3 | 3/24/2017 | 5:28:54 PM | 935 icp 7300 | 111 |
| 335 | 17-03-1274-4 | 3/24/2017 | 5:29:45 PM | 935 icp 7300 | 112 |
| 336 | 17-03-1274-5 | 3/24/2017 | 5:30:36 PM | 935 icp 7300 | 113 |
| 337 | 17-03-1274-6 | 3/24/2017 | 5:31:27 PM | 935 icp 7300 | 114 |
| 338 | 17-03-1817-1 | 3/24/2017 | 5:32:18 PM | 935 icp 7300 | 115 |
| 339 | 17-03-1817-2 | 3/24/2017 | 5:33:09 PM | 935 icp 7300 | 116 |
| 340 | 17-03-1817-3 | 3/24/2017 | 5:34:00 PM | 935 icp 7300 | 117 |
| 341 | CCV= STD3x0.5 | 3/24/2017 | 5:34:51 PM | 935 icp 7300 | 3 |
| 342 | CCB-R12091601 | 3/24/2017 | 5:35:44 PM | 935 icp 7300 | 1 |
| 343 | 17-03-1828-1 | 3/24/2017 | 5:36:45 PM | 935 icp 7300 | 118 |
| 344 | 17-03-1794-1 | 3/24/2017 | 5:37:40 PM | 935 icp 7300 | 119 |



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# 170327C 1

**M006-032-05 0.050 ml**

**INT STD M120716A** **PDS/PDSD** **10 ml**

**R.B. R12091602** **M006-032-06 0.050 ml**

Carrier/wash sol R12091604/R12091603

| No. | File Name | Date | Time | Analyst Name | A/S Location |
|---|---|---|---|---|---|
| 1 | Cal blankR12091601_935 | 3/27/2017 | 10:17:52 AM | 935 icp 7300 | 1 |
| 2 | Cal blankR12091601_935 | 3/27/2017 | 10:19:28 AM | 935 icp 7300 | 1 |
| 3 | Cal blankR12091601_935 | 3/27/2017 | 10:25:50 AM | 935 icp 7300 | 1 |
| 4 | Cal blankR12091601_935 | 3/27/2017 | 10:27:02 AM | 935 icp 7300 | 1 |
| 5 | STD3-M111116A_935_ICP7300 | 3/27/2017 | 10:28:08 AM | 935 icp 7300 | 2 |
| 6 | ICV-M072816C | 3/27/2017 | 10:28:54 AM | 935 icp 7300 | 10 |
| 7 | ICB-R12091601 | 3/27/2017 | 10:29:52 AM | 935 icp 7300 | 1 |
| 8 | ICS_A - M110116B | 3/27/2017 | 10:30:53 AM | 935 icp 7300 | 8 |
| 9 | ICS_AB - M110116A | 3/27/2017 | 10:31:44 AM | 935 icp 7300 | 9 |
| 10 | CCV= STD3x0.5 | 3/27/2017 | 10:32:35 AM | 935 icp 7300 | 3 |
| 11 | CCB-R12091601 | 3/27/2017 | 10:33:27 AM | 935 icp 7300 | 1 |
| 12 | LLCV-M082616A | 3/27/2017 | 10:45:04 AM | 935 icp 7300 | 101 |
| 13 | LLCV--M082616A | 3/27/2017 | 10:46:10 AM | 935 icp 7300 | 102 |
| 14 | 170324-b-07 | 3/27/2017 | 10:47:09 AM | 935 icp 7300 | 109 |
| 15 | 170324-l-07 | 3/27/2017 | 10:48:10 AM | 935 icp 7300 | 110 |
| 16 | 170324-b-08 | 3/27/2017 | 10:49:01 AM | 935 icp 7300 | 111 |
| 17 | 170324-l-08 | 3/27/2017 | 10:50:00 AM | 935 icp 7300 | 112 |
| 18 | 170324-b-09 | 3/27/2017 | 10:50:51 AM | 935 icp 7300 | 113 |
| 19 | 170324-l-09 | 3/27/2017 | 10:51:50 AM | 935 icp 7300 | 114 |
| 20 | 170324-b-10 | 3/27/2017 | 10:52:40 AM | 935 icp 7300 | 115 |
| 21 | 170324-l-10 | 3/27/2017 | 10:53:39 AM | 935 icp 7300 | 116 |
| 22 | CCV= STD3x0.5 | 3/27/2017 | 10:54:30 AM | 935 icp 7300 | 3 |
| 23 | CCB-R12091601 | 3/27/2017 | 10:55:23 AM | 935 icp 7300 | 1 |
| 24 | 170324-b-11 | 3/27/2017 | 10:56:24 AM | 935 icp 7300 | 117 |

T/out



Reviewed/Assign to Logbook Date: 3/28/17
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| No. | File Name | Date | Time | Analyst Name | A/S Location | |
|---|---|---|---|---|---|---|
| 281 | 17-03-1911-2 eb | 3/27/2017 | 3:23:00 PM | 935 icp 7300 | 438 | |
| 282 | 17-03-1005-16 eb | 3/27/2017 | 3:24:00 PM | 935 icp 7300 | 439 | |
| 283 | 170321-la-7 | 3/27/2017 | 3:25:00 PM | 935 icp 7300 | 440 | |
| 284 | 170327-ba-1 | 3/27/2017 | 3:25:52 PM | 935 icp 7300 | 441 | |
| 285 | 170327-la-1 | 3/27/2017 | 3:26:52 PM | 935 icp 7300 | 442 | |
| 286 | 17-03-1826-5 | 3/27/2017 | 3:27:44 PM | 935 icp 7300 | 443 | |
| 287 | 17-03-1826-5 ms | 3/27/2017 | 3:28:40 PM | 935 icp 7300 | 444 | |
| 288 | CCV= STD3x0.5 | 3/27/2017 | 3:29:37 PM | 935 icp 7300 | 3 | |
| 289 | CCB-R12091601 | 3/27/2017 | 3:30:30 PM | 935 icp 7300 | 1 | |
| 290 | 17-03-1826-5 msd | 3/27/2017 | 3:31:31 PM | 935 icp 7300 | 445 | |
| 291 | 17-03-1826x10-9 | 3/27/2017 | 3:35:15 PM | 935 icp 7300 | 446 | |
| 292 | CCV= STD3x0.5 | 3/27/2017 | 3:36:17 PM | 935 icp 7300 | 3 | |
| 293 | CCB-R12091601 | 3/27/2017 | 3:37:11 PM | 935 icp 7300 | 1 | |
| 294 | 170324-l-01 | 3/27/2017 | 3:39:25 PM | 935 icp 7300 | 447 | No solution |
| 295 | 17-03-1236-1 | 3/27/2017 | 3:40:31 PM | 935 icp 7300 | 448 | |
| 296 | 17-03-1236-1 ms | 3/27/2017 | 3:41:23 PM | 935 icp 7300 | 449 | |
| 297 | 17-03-1236-1 msd | 3/27/2017 | 3:42:13 PM | 935 icp 7300 | 450 | |
| 298 | 17-03-1114-1 pds | 3/27/2017 | 3:43:03 PM | 935 icp 7300 | 451 | |
| 299 | 17-03-1114-1 pdsd | 3/27/2017 | 3:43:55 PM | 935 icp 7300 | 452 | |
| 300 | CCV= STD3x0.5 } * | 3/27/2017 | 3:44:47 PM | 935 icp 7300 | 3 | } * T22 + minerals (60/0% Soil) |
| 301 | CCB-R12091601 } * | 3/27/2017 | 3:45:40 PM | 935 icp 7300 | 1 | |
| 302 | CCV= STD3x0.5 } ** | 3/27/2017 | 3:48:47 PM | 935 icp 7300 | 3 | } ** T22 + minerals (60/0% Water) |
| 303 | CCB-R12091601 } ** | 3/27/2017 | 3:49:44 PM | 935 icp 7300 | 1 | |
| 304 | 17-03-1717x10-4 | 3/27/2017 | 3:50:36 PM | 935 icp 7300 | 430 | |
| 305 | 17-03-1717x10-5 | 3/27/2017 | 3:51:39 PM | 935 icp 7300 | 431 | |
| 306 | 17-03-1717x10-6 | 3/27/2017 | 3:52:35 PM | 935 icp 7300 | 432 | |
| 307 | 17-03-1717x10-7 | 3/27/2017 | 3:53:29 PM | 935 icp 7300 | 433 | |
| 308 | 17-03-1717x10-8 | 3/27/2017 | 3:54:23 PM | 935 icp 7300 | 434 | |
| 309 | CCV= STD3x0.5 | 3/27/2017 | 3:55:17 PM | 935 icp 7300 | 3 | |
| 310 | CCB-R12091601 | 3/27/2017 | 3:56:11 PM | 935 icp 7300 | 1 | |
| 311 | 10324-b-01 | 3/27/2017 | 3:57:49 PM | 935 icp 7300 | 453 | |
| 312 | CCV= STD3x0.5 | 3/27/2017 | 3:58:56 PM | 935 icp 7300 | 3 | |



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| No. | File Name | Date | Time | Analyst Name | A/S Location |
|---|---|---|---|---|---|
| 313 | CCB-R12091601 | 3/27/2017 | 3:59:49 PM | 935 icp 7300 | 1 |
| 314 | 170324-l-01 | 3/27/2017 | 4:17:09 PM | 935 icp 7300 | 447 |
| 315 | CCV= STD3x0.5 | 3/27/2017 | 4:18:08 PM | 935 icp 7300 | 3 |
| 316 | CCB-R12091601 | 3/27/2017 | 4:19:02 PM | 935 icp 7300 | 1 |
| 317 | 17-03-1115-1 pds | 3/27/2017 | 4:58:26 PM | 935 icp 7300 | 103 |
| 318 | 17-03-1115-1 pdsd | 3/27/2017 | 4:59:25 PM | 935 icp 7300 | 104 |
| 319 | 17-03-1084x10-6 | 3/27/2017 | 5:00:17 PM | 935 icp 7300 | 105 |
| 320 | 17-03-1084x10-7 | 3/27/2017 | 5:01:07 PM | 935 icp 7300 | 106 |
| 321 | 17-03-1005x10-1 | 3/27/2017 | 5:01:57 PM | 935 icp 7300 | 107 |
| 322 | 17-03-1005x10-2 | 3/27/2017 | 5:02:48 PM | 935 icp 7300 | 108 |
| 323 | 17-03-1005x10-6 | 3/27/2017 | 5:03:38 PM | 935 icp 7300 | 109 |
| 324 | 17-03-1005x10-10 | 3/27/2017 | 5:04:28 PM | 935 icp 7300 | 110 |
| 325 | 17-03-1005x10-11 | 3/27/2017 | 5:05:19 PM | 935 icp 7300 | 111 |
| 326 | 17-03-1005x10-15 | 3/27/2017 | 5:06:09 PM | 935 icp 7300 | 112 |
| 327 | CCV= STD3x0.5 | 3/27/2017 | 5:07:05 PM | 935 icp 7300 | 3 |
| 328 | CCB-R12091601 | 3/27/2017 | 5:07:57 PM | 935 icp 7300 | 1 |
| 329 | CCV= STD3x0.5 | 3/27/2017 | 5:08:49 PM | 935 icp 7300 | 3 |
| 330 | CCB-R12091601 | 3/27/2017 | 5:09:47 PM | 935 icp 7300 | 1 |
| 331 | 170327-ba-2 | 3/27/2017 | 5:10:38 PM | 935 icp 7300 | 113 |
| 332 | 170327-la-2 | 3/27/2017 | 5:11:45 PM | 935 icp 7300 | 114 |
| 333 | 170327-la-2-d | 3/27/2017 | 5:12:36 PM | 935 icp 7300 | 115 |
| 334 | 17-03-1569-dist-1 | 3/27/2017 | 5:13:27 PM | 935 icp 7300 | 116 |
| 335 | 17-03-1569-dist-1 ms | 3/27/2017 | 5:14:26 PM | 935 icp 7300 | 117 |
| 336 | 17-03-1569-dist-1 msd | 3/27/2017 | 5:15:18 PM | 935 icp 7300 | 118 |
| 337 | 17-03-1569-dist-2 | 3/27/2017 | 5:16:10 PM | 935 icp 7300 | 119 |
| 338 | 17-03-1569-dist-3 | 3/27/2017 | 5:17:09 PM | 935 icp 7300 | 120 |
| 339 | 17-03-1569-dist-4 | 3/27/2017 | 5:17:59 PM | 935 icp 7300 | 121 |
| 340 | 17-03-1569-dist-5 | 3/27/2017 | 5:18:48 PM | 935 icp 7300 | 122 |
| 341 | CCV= STD3x0.5 | 3/27/2017 | 5:20:17 PM | 935 icp 7300 | 3 |
| 342 | CCB-R12091601 | 3/27/2017 | 5:21:15 PM | 935 icp 7300 | 1 |
| 343 | 17-03-1569-dist-6 | 3/27/2017 | 5:22:07 PM | 935 icp 7300 | 123 |
| 344 | 170327-ba-3 | 3/27/2017 | 5:23:03 PM | 935 icp 7300 | 124 |



Reviewed/Assign to Logbook Date: 3/28/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 51 Instrument ID: ICP7



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# EPA 6010B ICP Metals (Solid)

# Preparation Logs

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# Metals Sample Preparation Logbook (Solid / Other)

| METHOD | MATRIX | EQUIPMENT ID # | REAGENT ID # | STANDARD ID # |
|---|---|---|---|---|
| ☒ EPA 3050B | ☒ Solid | Thermometer HD 14 (CF -4.0 °C) | $HNO_3$ R013/1701 20 mL | Spike 1 M022017A |
| ☐ EPA 200.7 | ☐ Other (Specify) | Block Digester 4 | HCl R12301602 15 mL | Spike 2 M020617C |
| ☐ EPA 200.8 | | Pipetter / Dispenser P072/D027/D028 | $H_2O_2$ M006-040-13 3.0 mL | Spike 3 |

| BATCH NUMBER | SUPPLY LOT # | BALANCE ID # | QUALITY SYSTEM MATRIX ID # | SAMPLE HANDLING |
|---|---|---|---|---|
| MS/MSD 170324S01 | Tube / Container 170104 | 65 | Teflon Chip M006-035-15 | 1 = Composite 2 = Subsample |
| (Specify) | Filter | | (Specify) | 3 = Homogenize 4 = None |

| DIGESTION | | | | | | | | | | SAMPLE | | SPIKE STANDARD | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | START | | | END | | | | | | | | | | |
| DATE | TIME | TEMP W/O CF (°C) | PREP TECH ID # | TIME | TEMP W/O CF (°C) | PREP TECH ID # | SAMPLE HANDLING | ECI ID # | ANALYTE(S) | INITIAL (g) | FINAL (mL) | 1 (µL) | 2 (µL) | 3 (µL) |
| 3/24/17 | 0915 | 98 | 935 | 1045 | 99 | 935 | 4 | MS 17-03-1236-1A | Metals | 2.02 | 100 | 500 | 500 | |
| | | | | | | | | MSD -1A | | 2.03 | | | | |
| | | | | | | | | LCS 170324L01 | | 1.98 | | | | |
| | | | | | | | | LCSD/MB 170324B01 | | 2.04 | | | | |
| | | | | | | | | 17-03-1236-1A | | 2.02 | | | | |
| | | | | | | | | 17-03-0889-28A | | 2.05 | | | | |
| | | | | | | | | -28B | | 2.05 | | | | |
| | | | | | | | | -28C | | 1.94 | | | | |
| | | | | | | | | -28D | | 1.99 | | | | |
| | | | | | | | | -28E | | 2.08 | | | | |
| | | | | | | | | -29A | | 1.99 | | | | |
| | | | | | | | | -29B | | 1.95 | | | | |
| | | | | | | | | -29C | | 2.10 | | | | |
| | | | | | | | | -29D | | 2.00 | | | | |
| | | | | | | | | -29E | | 2.03 | | | | |
| | | | | | | | | -30A | | 2.00 | | | | |
| | | | | | | | | -30B | | 2.03 | | | | |
| | | | | | | | | -30C | | 1.99 | | | | |
| | | | | | | | | -30D | | 2.00 | | | | |
| | | | | | | | | -30E | | 2.04 | | | | |

COMMENTS: * 889 is MS



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# EPA 7471A Mercury

# (Solid)

# RAW DATA

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# EPA 7471A Mercury

# (Solid)

## Initial Calibration
ICV/ICB
CCV/CCB

## Sample Data

## Quality Control
Method Blank
LCS/LCSD
MS/MSD
PDS/PDSD

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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
# Initial Calibration Verification

Work Order No.: 17-03-0889

Instrument ID: HG 8 (H)

Concentration Unit: µg/L  Test Method: EPA 7471A

| | Initial Calibration Verification | | | |
|---|---|---|---|---|
| | | ICV-1 | | Control |
| Analyte | True | Observed | %D | Limit |
| Mercury | 5.000000 | 5.312726 | 6 | 0 - 10 |

03/20/2017 09:36

ICV-1 File: ICV M030617B 03/17/2017 12:18:37 PM

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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Continuing Calibration Verification

Work Order No.: 17-03-0889
Instrument ID: HG 8 (H)
Concentration Unit: µg/L
Test Method: EPA 7471A

| | Continuing Calibration Verification | | | | | |
|---|---|---|---|---|---|---|
| | | CCV-1 | | CCV-2 | | Control |
| Analyte | True | Observed | %D | Observed | %D | Limit |
| Mercury | 2.000000 | 2.399000 | 20 | 2.364051 | 18 | 0 - 20 |

04/17/2017 12:46

CCV-1 File: CCV 0.2x10ppb 03/17/2017 03:16:14 PM
CCV-2 File: CCV 0.2x10ppb 03/17/2017 03:38:22 PM

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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Initial and Continuing Calibration Blanks

Work Order No.: 17-03-0889
Instrument ID: HG 8 (H)
Concentration Unit: µg/L
Test Method: EPA 7471A

| Analyte | Initial and Continuing Calibration Blanks | | | |
|---|---|---|---|---|
| | ICB-1 | CCB-1 | CCB-2 | RL (No PF) |
| Mercury | -0.075715 | -0.082402 | -0.075546 | 0.500000 |

04/20/2017 11:55

ICB-1 File: ICB 03/17/2017 12:20:51 PM
CCB-1 File: CCB 03/17/2017 03:18:30 PM
CCB-2 File: CCB 03/17/2017 03:40:36 PM
Note: Preparation factor (PF) = 167 L/kg

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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Continuing Calibration Verification

Work Order No.: 17-03-0889
Instrument ID: HG 8 (H)
Concentration Unit: µg/L
Test Method: EPA 7471A

| | Continuing Calibration Verification | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | CCV-1 | | CCV-2 | | CCV-3 | | Control |
| Analyte | True | Observed | %D | Observed | %D | Observed | %D | Limit |
| Mercury | 2.000000 | 2.153731 | 8 | 2.144377 | 7 | 2.228124 | 11 | 0 - 20 |

03/20/2017 09:36

CCV-1 File: CCV 0.2x10ppb 03/17/2017 05:41:41 PM
CCV-2 File: CCV 0.2x10ppb 03/17/2017 06:56:49 PM
CCV-3 File: CCV 0.2x10ppb 03/17/2017 07:21:57 PM

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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Initial and Continuing Calibration Blanks

Work Order No.: 17-03-0889

Instrument ID: HG 8 (H)

Concentration Unit: µg/L

Test Method: EPA 7471A

| | Initial and Continuing Calibration Blanks | | | | |
|---|---|---|---|---|---|
| Analyte | ICB-1 | CCB-1 | CCB-2 | CCB-3 | RL (No PF) |
| Mercury | -0.075715 | -0.079408 | -0.085221 | -0.084941 | 0.500000 |

03/20/2017 09:36

ICB-1 File: ICB 03/17/2017 12:20:51 PM

CCB-1 File: CCB 03/17/2017 05:43:57 PM

CCB-2 File: CCB 03/17/2017 06:59:06 PM

CCB-3 File: CCB 03/17/2017 07:24:13 PM

Note: Preparation factor (PF) = 167 L/kg

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# RAW DATA SHEET
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 868 |
| INSTRUMENT: | Mercury 08 | D/T ANALYZED: | 2017-03-17 19:10 |
| EXTRACTION : | EPA 7471A Total | REVIEWED BY: | 309 |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | 2017-03-20 09:33 |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\17-03-0889-25.icp

**# 25** **CLIENT SAMPLE NUMBER: D-DU2-ISM1-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L03 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 0.60 g / ACTUAL: 0.57 g |
| MS/MSD BATCH: | 170317S03 | FINAL VOLUME / WEIGHT: | DEFAULT: 100.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 1.05 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Mercury | 0.0000525 | 1.00 | ND | 0.0877 | |

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# RAW DATA SHEET
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 868 |
| INSTRUMENT: | Mercury 08 | D/T ANALYZED: | 2017-03-17 19:12 |
| EXTRACTION : | EPA 7471A Total | REVIEWED BY: | 309 |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | 2017-03-20 09:33 |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\17-03-0889-26.icp

**# 26** **CLIENT SAMPLE NUMBER: D-DU2-ISM2-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L03 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 0.60 g / ACTUAL: 0.63 g |
| MS/MSD BATCH: | 170317S03 | FINAL VOLUME / WEIGHT: | DEFAULT: 100.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 0.95 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Mercury | 0.000643 | 1.00 | 0.102 | 0.0794 | |

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# RAW DATA SHEET
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 868 |
| INSTRUMENT: | Mercury 08 | D/T ANALYZED: | 2017-03-17 19:15 |
| EXTRACTION : | EPA 7471A Total | REVIEWED BY: | 309 |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | 2017-03-20 09:33 |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\17-03-0889-27.icp

**# 27** **CLIENT SAMPLE NUMBER: D-DU2-ISM3-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L03 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 0.60 g / ACTUAL: 0.61 g |
| MS/MSD BATCH: | 170317S03 | FINAL VOLUME / WEIGHT: | DEFAULT: 100.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 0.98 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Mercury | 0.000212 | 1.00 | ND | 0.0820 | |

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **MB SAMPLE ID:** | **099-16-272-2880** | ANALYZED BY: | 868 |
| MB BATCH ID: | 170317L03 | D/T ANALYZED: | 2017-03-17 18:34 |
| INSTRUMENT: | Mercury 08 | REVIEWED BY: | 309 |
| EXTRACTION: | EPA 7471A Total | D/T REVIEWED: | 2017-03-20 09:23 |
| D/T EXTRACTED: | 2017-03-17 00:00 | MATRIX: | Soil |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\170317-B-03.icp

**CLIENT WORK ORDER: 17-03-0889**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 25 | | D-DU2-ISM1-8 | 2017-03-17 19:10 | W:\MERCURY_DATA\FINAL\170317H1\17-03-0889-25.icp |
| 26 | | D-DU2-ISM2-8 | 2017-03-17 19:12 | W:\MERCURY_DATA\FINAL\170317H1\17-03-0889-26.icp |
| 27 | | D-DU2-ISM3-8 | 2017-03-17 19:15 | W:\MERCURY_DATA\FINAL\170317H1\17-03-0889-27.icp |

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# RAW DATA SHEET
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **099-16-272** | ANALYZED BY: | 868 |
| INSTRUMENT: | Mercury 08 | D/T ANALYZED: | 2017-03-17 18:34 |
| EXTRACTION : | EPA 7471A Total | REVIEWED BY: | 309 |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | 2017-03-20 09:23 |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\170317-B-03.icp

**# MB** **CLIENT SAMPLE NUMBER: Method Blank**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L03 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 0.60 g / ACTUAL: 0.60 g |
| MS/MSD BATCH: | | FINAL VOLUME / WEIGHT: | DEFAULT: 100.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Mercury | -0.0000781 | 1.00 | ND | 0.0833 | |

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 7471A

| | | | | | |
|---|---|---|---|---|---|
| **LCS SAMPLE ID:** | **099-16-272- 2880** | EXTRACTION : | EPA 7471A Total | ANALYZED BY: | 868 |
| LCS/MB BATCH ID: | 170317L03 | D/T EXTRACTED: | 2017-03-17 00:00 | D/T ANALYZED: | 2017-03-17 18:36 |
| INSTRUMENT: | Mercury 08 | | | REVIEWED BY: | 309 |
| | | | | D/T REVIEWED: | 2017-03-20 09:23 |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\170317-L-03.icp

| COMPOUND NAME | CONC ADDED | CONC REC | %RECOVERY | %REC CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| Mercury | 0.8350 | 0.7488 | 90 | 85-121 | PASS | |

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 7471A

**SPIKED SAMPLE ID:** **17-03-0980-1**
MS/MSD BATCH: 170317S03
INSTRUMENTS:
SAMPLE: Mercury 08
MS: Mercury 08
MSD: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED:
SAMPLE: 2017-03-17 00:00
MS: 2017-03-17 00:00
MSD: 2017-03-17 00:00

ANALYZED BY: 868
D/T ANALYZED:
SAMPLE: 2017-03-17 15:22
MS: 2017-03-17 18:38
MSD: 2017-03-17 18:40
REVIEWED BY: 309
D/T REVIEWED: 2017-03-20 09:25

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | ND | 0.005000 | 0.8350 | 0.9955 | 119 | 1.104 | 132 | 71-137 | 10 | 0-14 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17-03-0980-1 MS.icp | W:\MERCURY_DATA\FINAL\170317H1\ |
| MSD | 17-03-0980-1 MSD.icp | W:\MERCURY_DATA\FINAL\170317H1\ |

Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170317H1.sifx
Batch ID:
Results Data Set: 170317H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 1
Autosampler Location: 1
Sample ID: Calib blank_868
Date Collected: 3/17/2017 11:57:27 AM
Analyst: JGB
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: Calib blank_868
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | | [0.00] | 0.0001 | -0.0004 | 0.0001 | 11:58:30 AM | Yes |
| 2 | | [0.00] | 0.0001 | -0.0003 | 0.0001 | 11:59:15 AM | Yes |
| Mean: | | [0.00] | 0.0001 | | | | |
| SD: | | 0.0000 | 0.0000 | | | | |
| %RSD: | | 0.00% | 7.81 | | | | |

Auto-zero performed.

Sequence No.: 2
Autosampler Location: 2
Sample ID: 0.025ppb 0.005x5ppb
Date Collected: 3/17/2017 11:59:41 AM
Analyst: JGB
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 0.025ppb 0.005x5ppb
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | | [0.025] | 0.0001 | 0.0005 | 0.0002 | 12:00:45 PM | Yes |
| 2 | | [0.025] | 0.0001 | 0.0005 | 0.0003 | 12:01:30 PM | Yes |
| Mean: | | [0.025] | 0.0001 | | | | |
| SD: | | 0.00000 | 0.0000 | | | | |
| %RSD: | | 0.00% | 14.43 | | | | |

Standard number 1 applied. [0.025]
Correlation Coef.: 1.000000 Slope: 0.00505 Intercept: 0.00000

Sequence No.: 3
Autosampler Location: 3
Sample ID: 0.10ppb M030617AX0.0001
Date Collected: 3/17/2017 12:01:56 PM
Analyst: JGB
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 0.10ppb M030617AX0.0001
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | | [0.100] | 0.0009 | 0.0028 | 0.0010 | 12:03:01 PM | Yes |
| 2 | | [0.100] | 0.0009 | 0.0027 | 0.0010 | 12:03:46 PM | Yes |
| Mean: | | [0.100] | 0.0009 | | | | |
| SD: | | 0.00000 | 0.0000 | | | | |
| %RSD: | | 0.00% | 0.08 | | | | |

Standard number 2 applied. [0.100]
Correlation Coef.: 0.993808 Slope: 0.00921 Intercept: -0.00004

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Sequence No.: 4 Autosampler Location: 4
Sample ID: 1.00ppb M030617AX0.001 Date Collected: 3/17/2017 12:04:12 PM
Analyst: 268 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 1.00ppb M030617AX0.001 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | | [1.000] | 0.0091 | 0.0271 | 0.0092 | 12:05:17 PM | Yes |
| 2 | | [1.000] | 0.0093 | 0.0289 | 0.0094 | 12:06:02 PM | Yes |
| Mean: | | [1.000] | 0.0092 | | | | |
| SD: | | 0.00000 | 0.0001 | | | | |
| %RSD: | | 0.00% | 1.35 | | | | |

Standard number 3 applied. [1.000]
Correlation Coef.: 0.999952 Slope: 0.00924 Intercept: -0.00005

Sequence No.: 5 Autosampler Location: 5
Sample ID: 2.00ppb M030617AX0.002 Date Collected: 3/17/2017 12:06:29 PM
Analyst: 268 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 2.00ppb M030617AX0.002 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | | [2.000] | 0.0185 | 0.0555 | 0.0186 | 12:07:34 PM | Yes |
| 2 | | [2.000] | 0.0184 | 0.0553 | 0.0185 | 12:08:18 PM | Yes |
| Mean: | | [2.000] | 0.0184 | | | | |
| SD: | | 0.00000 | 0.0000 | | | | |
| %RSD: | | 0.00% | 0.26 | | | | |

Standard number 4 applied. [2.000]
Correlation Coef.: 0.999989 Slope: 0.00924 Intercept: -0.00005

Sequence No.: 6 Autosampler Location: 6
Sample ID: 5.00ppb M030617AX0.005 Date Collected: 3/17/2017 12:08:46 PM
Analyst: 268 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 5.00ppb M030617AX0.005 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | | [5.000] | 0.0442 | 0.1367 | 0.0443 | 12:09:49 PM | Yes |
| 2 | | [5.000] | 0.0444 | 0.1374 | 0.0445 | 12:10:33 PM | Yes |
| Mean: | | [5.000] | 0.0443 | | | | |
| SD: | | 0.00000 | 0.0002 | | | | |
| %RSD: | | 0.00% | 0.34 | | | | |

Standard number 5 applied. [5.000]
Correlation Coef.: 0.999845 Slope: 0.00888 Intercept: 0.00013

Sequence No.: 7 Autosampler Location: 7
Sample ID: 10.0ppb M030617AX0.01 Date Collected: 3/17/2017 12:10:59 PM
Analyst: 268 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 10.0ppb M030617AX0.01 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|

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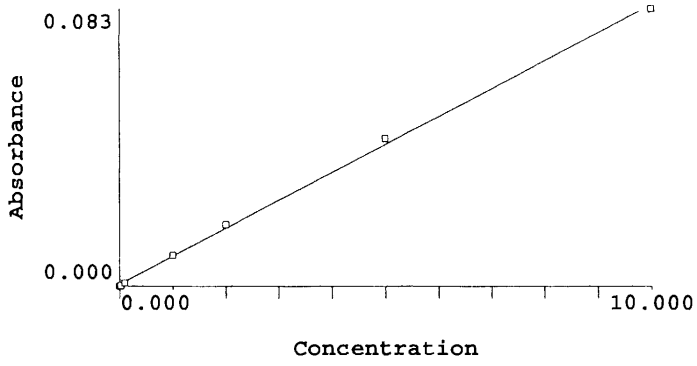
| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | [10.00] | 0.0831 | 0.2708 | 0.0833 | 12:12:03 PM | Yes |
| 2 | [10.00] | 0.0836 | 0.2741 | 0.0838 | 12:12:48 PM | Yes |
| Mean: | [10.00] | 0.0834 | | | | |
| SD: | 0.0000 | 0.0003 | | | | |
| %RSD: | 0.00% | 0.41 | | | | |

Standard number 6 applied. [10.00]
Correlation Coef.: 0.999436 Slope: 0.00839 Intercept: 0.00062

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**Calibration data for Hg 253.7** **Equation: Linear, Calculated Intercept**

| ID | Mean Signal (Abs) | Entered Conc. ug/L | Calculated Conc. ug/L | Standard Deviation | %RSD |
|---|---|---|---|---|---|
| Calib blank_868 | 0.0000 | 0 | -0.073946 | 0.00 | 7.81 |
| 0.025ppb 0.005x5ppb | 0.0001 | 0.025 | -0.058898 | 0.00 | 14.43 |
| 0.10ppb M030617AX0.0001 | 0.0009 | 0.100 | 0.032312 | 0.00 | 0.08 |
| 1.00ppb M030617AX0.001 | 0.0092 | 1.000 | 1.023047 | 0.00 | 1.35 |
| 2.00ppb M030617AX0.002 | 0.0184 | 2.000 | 2.124221 | 0.00 | 0.26 |
| 5.00ppb M030617AX0.005 | 0.0443 | 5.000 | 5.209051 | 0.00 | 0.34 |
| 10.0ppb M030617AX0.01 | 0.0834 | 10.00 | 9.869212 | 0.00 | 0.41 |

Correlation Coef.: 0.999436 Slope: 0.00839 Intercept: 0.00062

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Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170317H1.sifx
Batch ID:
Results Data Set: 170317H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 1
Autosampler Location: 8
Sample ID: ICV M030617B
Date Collected: 3/17/2017 12:16:49 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1.0000

Replicate Data: ICV M030617B
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00530 | 5.30 | 0.0451 | 0.1511 | 0.0452 | 12:17:52 PM | Yes |
| 2 | 0.00533 | 5.33 | 0.0453 | 0.1528 | 0.0454 | 12:18:37 PM | Yes |
| Mean: | 0.00531 | 5.31 | 0.0452 | | | | |
| SD: | 0.000020 | 0.020 | 0.0002 | | | | |
| %RSD: | 0.38% | 0.38% | 0.38 | | | | |

QC value within limits for Hg 253.7 Recovery = 106.25%
All analyte(s) passed QC.

Sequence No.: 2
Autosampler Location: 1
Sample ID: ICB
Date Collected: 3/17/2017 12:19:03 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1.0000

Replicate Data: ICB
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000076 | -0.0763 | -0.0000 | -0.0002 | 0.0001 | 12:20:06 PM | Yes |
| 2 | -0.000075 | -0.0751 | -0.0000 | -0.0001 | 0.0001 | 12:20:51 PM | Yes |
| Mean: | -0.000076 | -0.0757 | -0.0000 | | | | |
| SD: | 0.0000008 | 0.00085 | 0.0000 | | | | |
| %RSD: | 1.12% | 1.12% | 47.98 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 3
Autosampler Location: 9
Sample ID: CRQL 0.25
Date Collected: 3/17/2017 12:21:16 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt: 0.6 g
Initial Sample Vol:
Dilution:
Sample Prep Vol: 100 mL
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: CRQL 0.25
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0402 | 0.241 | 0.0026 | 0.0089 | 0.0028 | 12:22:21 PM | Yes |
| 2 | 0.0404 | 0.243 | 0.0027 | 0.0087 | 0.0028 | 12:23:06 PM | Yes |
| Mean: | 0.0403 | 0.242 | 0.0026 | | | | |
| SD: | 0.00018 | 0.0011 | 0.0000 | | | | |
| %RSD: | 0.45% | 0.45% | 0.34 | | | | |

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Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170317H1.sifx
Batch ID:
Results Data Set: 170317H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 25
Autosampler Location: 5
Sample ID: CCV 0.2x10ppb
Date Collected: 3/17/2017 3:14:24 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00245 | 2.45 | 0.0212 | 0.0802 | 0.0213 | 3:15:30 PM | Yes |
| 2 | 0.00235 | 2.35 | 0.0203 | 0.0805 | 0.0204 | 3:16:14 PM | Yes |
| Mean: | 0.00240 | 2.40 | 0.0207 | | | | |
| SD: | 0.000075 | 0.075 | 0.0006 | | | | |
| %RSD: | 3.12% | 3.12% | 3.02 | | | | |

QC value within limits for Hg 253.7 Recovery = 119.95%
All analyte(s) passed QC.

Sequence No.: 26
Autosampler Location: 1
Sample ID: CCB
Date Collected: 3/17/2017 3:16:41 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt:
Initial Sample Vol:
Dilution:
Sample Prep Vol:
Wash Time (before sample): 0
Auto Dilution Factor: 1.0000

Replicate Data: CCB
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000081 | -0.0809 | -0.0001 | -0.0000 | 0.0001 | 3:17:45 PM | Yes |
| 2 | -0.000084 | -0.0839 | -0.0001 | 0.0000 | 0.0000 | 3:18:30 PM | Yes |
| Mean: | -0.000082 | -0.0824 | -0.0001 | | | | |
| SD: | 0.0000021 | 0.00207 | 0.0000 | | | | |
| %RSD: | 2.51% | 2.51% | 24.47 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 27
Autosampler Location: 30
Sample ID: 17-03-1067-16
Date Collected: 3/17/2017 3:18:55 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt: 0.58 g
Initial Sample Vol:
Dilution:
Sample Prep Vol: 100 mL
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 17-03-1067-16
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0185 | 0.107 | 0.0015 | 0.0066 | 0.0016 | 3:19:59 PM | Yes |
| 2 | 0.0163 | 0.0947 | 0.0014 | 0.0054 | 0.0015 | 3:20:43 PM | Yes |
| Mean: | 0.0174 | 0.101 | 0.0015 | | | | |
| SD: | 0.00151 | 0.0087 | 0.0001 | | | | |
| %RSD: | 8.67% | 8.67% | 5.00 | | | | |

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Sequence No.: 28
Sample ID: 17-03-0980-1
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 31
Date Collected: 3/17/2017 3:21:09 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0980-1 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.00954 | -0.0582 | 0.0001 | 0.0009 | 0.0003 | 3:22:13 PM | Yes |
| 2 | -0.0111 | -0.0675 | 0.0001 | -0.0002 | 0.0002 | 3:22:58 PM | Yes |
| Mean: | -0.0103 | -0.0628 | 0.0001 | | | | |
| SD: | 0.00107 | 0.00655 | 0.0001 | | | | |
| %RSD: | 10.43% | 10.43% | 58.89 | | | | |

==========

Sequence No.: 29
Sample ID: 17-03-0884-1
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 32
Date Collected: 3/17/2017 3:23:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0884-1 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 4.58 | 27.5 | 0.2309 | 0.8932 | 0.2310 | 3:24:27 PM | Yes |
| | Sample concentration is greater than that of the highest standard. | | | | | | |
| 2 | 4.44 | 26.6 | 0.2239 | 0.8179 | 0.2240 | 3:25:11 PM | Yes |
| | Sample concentration is greater than that of the highest standard. | | | | | | |
| Mean: | 4.51 | 27.0 | 0.2274 | | | | |
| SD: | 0.098 | 0.59 | 0.0049 | | | | |
| %RSD: | 2.17% | 2.17% | 2.17 | | | | |
| | Sample concentration is greater than that of the highest standard. | | | | | | |

==========

Sequence No.: 30
Sample ID: 17-03-1217-4
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 33
Date Collected: 3/17/2017 3:25:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1217-4 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 21.7 | 132 | 1.1109 | 5.5293 | 1.1110 | 3:26:41 PM | Yes |
| | Sample concentration is greater than that of the highest standard. | | | | | | |
| 2 | 21.4 | 130 | 1.0944 | 5.1420 | 1.0945 | 3:27:26 PM | Yes |
| | Sample concentration is greater than that of the highest standard. | | | | | | |
| Mean: | 21.5 | 131 | 1.1026 | | | | |
| SD: | 0.23 | 1.39 | 0.0117 | | | | |
| %RSD: | 1.06% | 1.06% | 1.06 | | | | |
| | Sample concentration is greater than that of the highest standard. | | | | | | |

User canceled analysis.

==========

Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560 Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\
170317H1.sifx
Batch ID:
Results Data Set: 170317H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

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Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560 Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\
170317H1.sifx
Batch ID:
Results Data Set: 170317H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 32 Autosampler Location: 5
Sample ID: CCV 0.2x10ppb Date Collected: 3/17/2017 3:36:32 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00244 | 2.44 | 0.0211 | 0.0792 | 0.0212 | 3:37:37 PM | Yes |
| 2 | 0.00229 | 2.29 | 0.0198 | 0.0726 | 0.0200 | 3:38:22 PM | Yes |
| Mean: | 0.00236 | 2.36 | 0.0204 | | | | |
| SD: | 0.000104 | 0.104 | 0.0009 | | | | |
| %RSD: | 4.38% | 4.38% | 4.25 | | | | |

QC value within limits for Hg 253.7 Recovery = 118.20%
All analyte(s) passed QC.

Sequence No.: 33 Autosampler Location: 1
Sample ID: CCB Date Collected: 3/17/2017 3:38:48 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1.0000

Replicate Data: CCB Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000073 | -0.0730 | 0.0000 | 0.0016 | 0.0001 | 3:39:51 PM | Yes |
| 2 | -0.000078 | -0.0781 | -0.0000 | 0.0008 | 0.0001 | 3:40:36 PM | Yes |
| Mean: | -0.000076 | -0.0755 | -0.0000 | | | | |
| SD: | 0.0000036 | 0.00364 | 0.0000 | | | | |
| %RSD: | 4.82% | 4.82% | 227.67 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | -0.000163 | -0.0814 | -0.0001 | 0.0002 | 0.0001 | 5:36:21 PM | Yes |
| 2 | -0.000163 | -0.0816 | -0.0001 | 0.0005 | 0.0001 | 5:37:06 PM | Yes |
| Mean: | -0.000163 | -0.0815 | -0.0001 | | | | |
| SD: | 0.0000003 | 0.00016 | 0.0000 | | | | |
| %RSD: | 0.20% | 0.20% | 2.13 | | | | |

**Sequence No.: 51** **Autosampler Location: 73**
**Sample ID: 17-03-1320-1** **Date Collected: 3/17/2017 5:37:33 PM**
**Analyst: 868 HG-8** **Data Type: Original**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution: 2X** **Sample Prep Vol:**
**Wash Time (before sample): 0** **Auto Dilution Factor: 1**

**Replicate Data: 17-03-1320-1** **Analyte: Hg 253.7**

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000134 | -0.0669 | 0.0001 | 0.0010 | 0.0002 | 5:38:38 PM | Yes |
| 2 | -0.000138 | -0.0688 | 0.0000 | 0.0006 | 0.0002 | 5:39:24 PM | Yes |
| Mean: | -0.000136 | -0.0678 | 0.0001 | | | | |
| SD: | 0.0000028 | 0.00138 | 0.0000 | | | | |
| %RSD: | 2.03% | 2.03% | 22.64 | | | | |

**Sequence No.: 52** **Autosampler Location: 5**
**Sample ID: CCV 0.2x10ppb** **Date Collected: 3/17/2017 5:39:51 PM**
**Analyst: 868 HG-8** **Data Type: Original**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time (before sample): 0** **Auto Dilution Factor: 1.0000**

**Replicate Data: CCV 0.2x10ppb** **Analyte: Hg 253.7**

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00220 | 2.20 | 0.0191 | 0.0706 | 0.0192 | 5:40:56 PM | Yes |
| 2 | 0.00211 | 2.11 | 0.0183 | 0.0652 | 0.0184 | 5:41:41 PM | Yes |
| Mean: | 0.00215 | 2.15 | 0.0187 | | | | |
| SD: | 0.000068 | 0.068 | 0.0006 | | | | |
| %RSD: | 3.15% | 3.15% | 3.04 | | | | |

QC value within limits for Hg 253.7 Recovery = 107.69%
All analyte(s) passed QC.

**Sequence No.: 53** **Autosampler Location: 1**
**Sample ID: CCB** **Date Collected: 3/17/2017 5:42:08 PM**
**Analyst: 868 HG-8** **Data Type: Original**
**Initial Sample Wt:** **Initial Sample Vol:**
**Dilution:** **Sample Prep Vol:**
**Wash Time (before sample): 0** **Auto Dilution Factor: 1.0000**

**Replicate Data: CCB** **Analyte: Hg 253.7**

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000078 | -0.0777 | -0.0000 | 0.0001 | 0.0001 | 5:43:12 PM | Yes |
| 2 | -0.000081 | -0.0812 | -0.0001 | -0.0004 | 0.0001 | 5:43:57 PM | Yes |
| Mean: | -0.000079 | -0.0794 | -0.0000 | | | | |
| SD: | 0.0000025 | 0.00247 | 0.0000 | | | | |
| %RSD: | 3.11% | 3.11% | 45.16 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

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Analysis Begun

Logged In Analyst: US26_SVC_INSTRUMENT
Technique: AA FIMS-MHS
Spectrometer: FIMS-400, S/N B050-9560
Autosampler: S10

Sample Information File: C:\Users\Public\PerkinElmer Syngistix\AA\Data\Sample Information\170317H1.sifx
Batch ID:
Results Data Set: 170317H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 1
Autosampler Location: 74
Sample ID: 170317-B-03
Date Collected: 3/17/2017 6:32:14 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt: 0.6 g
Initial Sample Vol:
Dilution:
Sample Prep Vol: 100 mL
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 170317-B-03
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.0129 | -0.0772 | -0.0000 | 0.0009 | 0.0001 | 6:33:19 PM | Yes |
| 2 | -0.0132 | -0.0791 | -0.0000 | 0.0007 | 0.0001 | 6:34:05 PM | Yes |
| Mean: | -0.0130 | -0.0781 | -0.0000 | | | | |
| SD: | 0.00023 | 0.00136 | 0.0000 | | | | |
| %RSD: | 1.74% | 1.74% | 32.55 | | | | |

Sequence No.: 2
Autosampler Location: 75
Sample ID: 170317-L-03
Date Collected: 3/17/2017 6:34:32 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt: 0.6 g
Initial Sample Vol:
Dilution:
Sample Prep Vol: 100 mL
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 170317-L-03
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.743 | 4.46 | 0.0380 | 0.1113 | 0.0381 | 6:35:37 PM | Yes |
| 2 | 0.755 | 4.53 | 0.0386 | 0.1127 | 0.0387 | 6:36:21 PM | Yes |
| Mean: | 0.749 | 4.49 | 0.0383 | | | | |
| SD: | 0.0086 | 0.051 | 0.0004 | | | | |
| %RSD: | 1.14% | 1.14% | 1.12 | | | | |

Sequence No.: 3
Autosampler Location: 76
Sample ID: 17-03-0980-1 MS
Date Collected: 3/17/2017 6:36:48 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt: 0.6 g
Initial Sample Vol:
Dilution:
Sample Prep Vol: 100 mL
Wash Time (before sample): 0
Auto Dilution Factor: 1

Replicate Data: 17-03-0980-1 MS
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.924 | 5.54 | 0.0471 | 0.1428 | 0.0472 | 6:37:53 PM | Yes |
| 2 | 1.07 | 6.40 | 0.0543 | 0.1951 | 0.0544 | 6:38:38 PM | Yes |
| Mean: | 0.995 | 5.97 | 0.0507 | | | | |
| SD: | 0.1013 | 0.608 | 0.0051 | | | | |
| %RSD: | 10.18% | 10.18% | 10.05 | | | | |

Sequence No.: 4
Autosampler Location: 77
Sample ID: 17-03-0980-1 MSD
Date Collected: 3/17/2017 6:39:05 PM
Analyst: 868 HG-8
Data Type: Original
Initial Sample Wt: 0.59 g
Initial Sample Vol:

Return to Contents

Dilution:
Wash Time (before sample): 0

Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0980-1 MSD — Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 1.13 | 6.69 | 0.0567 | 0.2098 | 0.0569 | 6:40:09 PM | Yes |
| 2 | 1.07 | 6.33 | 0.0537 | 0.1937 | 0.0538 | 6:40:54 PM | Yes |
| Mean: | 1.10 | 6.51 | 0.0552 | | | | |
| SD: | 0.044 | 0.258 | 0.0022 | | | | |
| %RSD: | 3.96% | 3.96% | 3.91 | | | | |

==========

Sequence No.: 5
Sample ID: 17-03-0991-1
Analyst: 868 HG-8
Initial Sample Wt: 0.57 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 78
Date Collected: 3/17/2017 6:41:21 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0991-1 — Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.169 | 0.964 | 0.0087 | 0.0330 | 0.0088 | 6:42:25 PM | Yes |
| 2 | 0.160 | 0.913 | 0.0083 | 0.0310 | 0.0084 | 6:43:10 PM | Yes |
| Mean: | 0.165 | 0.939 | 0.0085 | | | | |
| SD: | 0.0063 | 0.0362 | 0.0003 | | | | |
| %RSD: | 3.85% | 3.85% | 3.57 | | | | |

==========

Sequence No.: 6
Sample ID: 17-03-1007-1
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 79
Date Collected: 3/17/2017 6:43:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1007-1 — Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.341 | 2.11 | 0.0183 | 0.0683 | 0.0185 | 6:44:42 PM | Yes |
| 2 | 0.322 | 2.00 | 0.0174 | 0.0629 | 0.0175 | 6:45:27 PM | Yes |
| Mean: | 0.331 | 2.05 | 0.0178 | | | | |
| SD: | 0.0129 | 0.080 | 0.0007 | | | | |
| %RSD: | 3.91% | 3.91% | 3.77 | | | | |

==========

Sequence No.: 7
Sample ID: 17-03-1007-2
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 80
Date Collected: 3/17/2017 6:45:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1007-2 — Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.155 | 0.945 | 0.0085 | 0.0325 | 0.0087 | 6:46:59 PM | Yes |
| 2 | 0.147 | 0.899 | 0.0082 | 0.0302 | 0.0083 | 6:47:43 PM | Yes |
| Mean: | 0.151 | 0.922 | 0.0084 | | | | |
| SD: | 0.0054 | 0.0330 | 0.0003 | | | | |
| %RSD: | 3.57% | 3.57% | 3.31 | | | | |

==========

Sequence No.: 8
Sample ID: 17-03-1007-3
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g

Autosampler Location: 81
Date Collected: 3/17/2017 6:48:10 PM
Data Type: Original
Initial Sample Vol:

Return to Contents

Dilution:
Wash Time (before sample): 0
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1007-3
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0406 | 0.248 | 0.0027 | 0.0110 | 0.0028 | 6:49:15 PM | Yes |
| 2 | 0.0383 | 0.234 | 0.0026 | 0.0103 | 0.0027 | 6:50:00 PM | Yes |
| Mean: | 0.0394 | 0.241 | 0.0026 | | | | |
| SD: | 0.00165 | 0.0101 | 0.0001 | | | | |
| %RSD: | 4.19% | 4.19% | 3.20 | | | | |

==========

Sequence No.: 9
Sample ID: 17-03-1007-4
Analyst: 868 HG-8
Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0
Autosampler Location: 82
Date Collected: 3/17/2017 6:50:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1007-4
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.107 | 0.632 | 0.0059 | 0.0229 | 0.0060 | 6:51:31 PM | Yes |
| 2 | 0.102 | 0.603 | 0.0057 | 0.0211 | 0.0058 | 6:52:16 PM | Yes |
| Mean: | 0.105 | 0.617 | 0.0058 | | | | |
| SD: | 0.0035 | 0.0205 | 0.0002 | | | | |
| %RSD: | 3.32% | 3.32% | 2.97 | | | | |

==========

Sequence No.: 10
Sample ID: 17-03-1086-1
Analyst: 868 HG-8
Initial Sample Wt: 0.58 g
Dilution:
Wash Time (before sample): 0
Autosampler Location: 83
Date Collected: 3/17/2017 6:52:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1086-1
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0133 | 0.0770 | 0.0013 | 0.0048 | 0.0014 | 6:53:48 PM | Yes |
| 2 | 0.0120 | 0.0693 | 0.0012 | 0.0051 | 0.0013 | 6:54:33 PM | Yes |
| Mean: | 0.0126 | 0.0732 | 0.0012 | | | | |
| SD: | 0.00093 | 0.00541 | 0.0000 | | | | |
| %RSD: | 7.39% | 7.39% | 3.68 | | | | |

==========

Sequence No.: 11
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0
Autosampler Location: 5
Date Collected: 3/17/2017 6:54:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

---

Replicate Data: CCV 0.2x10ppb
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00220 | 2.20 | 0.0191 | 0.0701 | 0.0192 | 6:56:04 PM | Yes |
| 2 | 0.00209 | 2.09 | 0.0181 | 0.0646 | 0.0183 | 6:56:49 PM | Yes |
| Mean: | 0.00214 | 2.14 | 0.0186 | | | | |
| SD: | 0.000080 | 0.080 | 0.0007 | | | | |
| %RSD: | 3.72% | 3.72% | 3.60 | | | | |

QC value within limits for Hg 253.7 Recovery = 107.22%
All analyte(s) passed QC.

==========

Sequence No.: 12
Sample ID: CCB
Autosampler Location: 1
Date Collected: 3/17/2017 6:57:17 PM

Return to Contents

Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1.0000

---

Replicate Data: CCB

Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000083 | -0.0826 | -0.0001 | 0.0002 | 0.0001 | 6:58:20 PM | Yes |
| 2 | -0.000088 | -0.0878 | -0.0001 | -0.0004 | 0.0000 | 6:59:06 PM | Yes |
| Mean: | -0.000085 | -0.0852 | -0.0001 | | | | |
| SD: | 0.0000036 | 0.00365 | 0.0000 | | | | |
| %RSD: | 4.28% | 4.28% | 32.33 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 13
Sample ID: 17-03-1085-1
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 84
Date Collected: 3/17/2017 6:59:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1085-1

Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00547 | 0.0328 | 0.0009 | 0.0040 | 0.0010 | 7:00:36 PM | Yes |
| 2 | 0.00357 | 0.0214 | 0.0008 | 0.0030 | 0.0009 | 7:01:21 PM | Yes |
| Mean: | 0.00452 | 0.0271 | 0.0008 | | | | |
| SD: | 0.001345 | 0.00807 | 0.0001 | | | | |
| %RSD: | 29.75% | 29.75% | 7.98 | | | | |

==========

Sequence No.: 14
Sample ID: 17-03-0888-25
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 85
Date Collected: 3/17/2017 7:01:48 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0888-25

Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0486 | 0.301 | 0.0031 | 0.0119 | 0.0033 | 7:02:54 PM | Yes |
| 2 | 0.0453 | 0.281 | 0.0030 | 0.0111 | 0.0031 | 7:03:39 PM | Yes |
| Mean: | 0.0469 | 0.291 | 0.0031 | | | | |
| SD: | 0.00230 | 0.0143 | 0.0001 | | | | |
| %RSD: | 4.90% | 4.90% | 3.91 | | | | |

==========

Sequence No.: 15
Sample ID: 17-03-0888-~~25~~ 26
Analyst: 868 HG-8
Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0

309
03/17/17

Autosampler Location: 86
Date Collected: 3/17/2017 7:04:06 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0888-~~25~~ 26

Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0121 | 0.0716 | 0.0012 | 0.0045 | 0.0013 | 7:05:11 PM | Yes |
| 2 | 0.0110 | 0.0649 | 0.0012 | 0.0048 | 0.0013 | 7:05:56 PM | Yes |
| Mean: | 0.0116 | 0.0682 | 0.0012 | | | | |
| SD: | 0.00080 | 0.00473 | 0.0000 | | | | |
| %RSD: | 6.94% | 6.94% | 3.33 | | | | |

==========

Return to Contents

Sequence No.: 16
Sample ID: 17-03-0888-27
Analyst: 868 HG-8
Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 87
Date Collected: 3/17/2017 7:06:23 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0888-27 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0102 | 0.0604 | 0.0011 | 0.0042 | 0.0013 | 7:07:28 PM | Yes |
| 2 | 0.00954 | 0.0563 | 0.0011 | 0.0046 | 0.0012 | 7:08:13 PM | Yes |
| Mean: | 0.00988 | 0.0583 | 0.0011 | | | | |
| SD: | 0.000488 | 0.00288 | 0.0000 | | | | |
| %RSD: | 4.94% | 4.94% | 2.18 | | | | |

Sequence No.: 17
Sample ID: 17-03-0889-25
Analyst: 868 HG-8
Initial Sample Wt: 0.57 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 88
Date Collected: 3/17/2017 7:08:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0889-25 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0102 | 0.0583 | 0.0011 | 0.0047 | 0.0012 | 7:09:45 PM | Yes |
| 2 | 0.00818 | 0.0466 | 0.0010 | 0.0039 | 0.0011 | 7:10:30 PM | Yes |
| Mean: | 0.00921 | 0.0525 | 0.0011 | | | | |
| SD: | 0.001448 | 0.00826 | 0.0001 | | | | |
| %RSD: | 15.73% | 15.73% | 6.53 | | | | |

Sequence No.: 18
Sample ID: 17-03-0889-26
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 89
Date Collected: 3/17/2017 7:10:57 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0889-26 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.105 | 0.661 | 0.0062 | 0.0229 | 0.0063 | 7:12:01 PM | Yes |
| 2 | 0.0991 | 0.624 | 0.0059 | 0.0212 | 0.0060 | 7:12:46 PM | Yes |
| Mean: | 0.102 | 0.643 | 0.0060 | | | | |
| SD: | 0.0042 | 0.0263 | 0.0002 | | | | |
| %RSD: | 4.09% | 4.09% | 3.67 | | | | |

Sequence No.: 19
Sample ID: 17-03-0889-27
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 90
Date Collected: 3/17/2017 7:13:13 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0889-27 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0356 | 0.217 | 0.0024 | 0.0089 | 0.0026 | 7:14:18 PM | Yes |
| 2 | 0.0338 | 0.206 | 0.0023 | 0.0086 | 0.0025 | 7:15:04 PM | Yes |
| Mean: | 0.0347 | 0.212 | 0.0024 | | | | |
| SD: | 0.00128 | 0.0078 | 0.0001 | | | | |
| %RSD: | 3.70% | 3.70% | 2.74 | | | | |

Return to Contents

Sequence No.: 20 Autosampler Location: 91
Sample ID: 17-03-1366-1 Date Collected: 3/17/2017 7:15:31 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: 2X Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 17-03-1366-1 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000132 | -0.0662 | 0.0001 | 0.0003 | 0.0002 | 7:16:37 PM | Yes |
| 2 | -0.000135 | -0.0677 | 0.0001 | 0.0003 | 0.0002 | 7:17:21 PM | Yes |
| Mean: | -0.000134 | -0.0670 | 0.0001 | | | | |
| SD: | 0.0000021 | 0.00107 | 0.0000 | | | | |
| %RSD: | 1.60% | 1.60% | 15.32 | | | | |

Sequence No.: 21 Autosampler Location: 92
Sample ID: 17-03-1367-1 Date Collected: 3/17/2017 7:17:48 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: 2X Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1

Replicate Data: 17-03-1367-1 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000158 | -0.0788 | -0.0000 | 0.0003 | 0.0001 | 7:18:54 PM | Yes |
| 2 | -0.000163 | -0.0815 | -0.0001 | 0.0002 | 0.0001 | 7:19:39 PM | Yes |
| Mean: | -0.000160 | -0.0801 | -0.0001 | | | | |
| SD: | 0.0000038 | 0.00192 | 0.0000 | | | | |
| %RSD: | 2.39% | 2.39% | 31.10 | | | | |

Sequence No.: 22 Autosampler Location: 5
Sample ID: CCV 0.2x10ppb Date Collected: 3/17/2017 7:20:06 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1.0000

Replicate Data: CCV 0.2x10ppb Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00229 | 2.29 | 0.0198 | 0.0730 | 0.0200 | 7:21:12 PM | Yes |
| 2 | 0.00217 | 2.17 | 0.0188 | 0.0678 | 0.0189 | 7:21:57 PM | Yes |
| Mean: | 0.00223 | 2.23 | 0.0193 | | | | |
| SD: | 0.000089 | 0.089 | 0.0007 | | | | |
| %RSD: | 4.01% | 4.01% | 3.88 | | | | |

QC value within limits for Hg 253.7 Recovery = 111.41%
All analyte(s) passed QC.

Sequence No.: 23 Autosampler Location: 1
Sample ID: CCB Date Collected: 3/17/2017 7:22:24 PM
Analyst: 868 HG-8 Data Type: Original
Initial Sample Wt: Initial Sample Vol:
Dilution: Sample Prep Vol:
Wash Time (before sample): 0 Auto Dilution Factor: 1.0000

Replicate Data: CCB Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000085 | -0.0849 | -0.0001 | -0.0003 | 0.0000 | 7:23:28 PM | Yes |
| 2 | -0.000085 | -0.0850 | -0.0001 | -0.0000 | 0.0000 | 7:24:13 PM | Yes |
| Mean: | -0.000085 | -0.0849 | -0.0001 | | | | |
| SD: | 0.0000001 | 0.00008 | 0.0000 | | | | |
| %RSD: | 0.09% | 0.09% | 0.72 | | | | |

Return to Contents

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Return to Contents

# EPA 7471A Mercury

# (Solid)

# Run Logs

Return to Contents

# 170317H1

**Carrier solution R07141602** **Reducing Agent R07141603**

| Sample ID | Analyst Name | Initial Sample Wt | Analyte Name | Date | Time | Conc (Calib) | Units (Calib) | Conc (Samp) | Units (Samp) | Corr Coef |
|---|---|---|---|---|---|---|---|---|---|---|
| Calib blank_868 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 11:59:15 AM | | ug/L | | mg/L | |
| 0.025ppb 0.005x5ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:01:30 PM | | ug/L | | mg/L | |
| 0.10ppb M030617AX0.0001 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:03:46 PM | | ug/L | | mg/L | |
| 1.00ppb M030617AX0.001 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:06:02 PM | | ug/L | | mg/L | |
| 2.00ppb M030617AX0.002 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:08:18 PM | | ug/L | | mg/L | |
| 5.00ppb M030617AX0.005 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:10:33 PM | | ug/L | | mg/L | |
| 10.0ppb M030617AX0.01 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:12:48 PM | | ug/L | | mg/L | |
| ICV M030617B | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:18:37 PM | 5.312726 | ug/L | 0.005313 | mg/L | 0.999436 |
| ICB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:20:51 PM | -0.07571 | ug/L | -7.57E-05 | mg/L | 0.999436 |
| CRQL 0.25 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 12:23:06 PM | 0.241804 | ug/L | 0.040301 | mg/kg | 0.999436 |
| 17-03-1163-1 10X | 868 HG-8 | 1 | Hg 253.7 | 3/17/2017 | 12:25:23 PM | 5.610323 | ug/L | 5.610323 | mg/kg | 0.999436 |
| 17-03-1163-2 10X | 868 HG-8 | 1 | Hg 253.7 | 3/17/2017 | 12:27:42 PM | 2.36953 | ug/L | 2.36953 | mg/kg | 0.999436 |
| CRQL 0.25 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 12:29:59 PM | 0.265022 | ug/L | 0.04417 | mg/kg | 0.999436 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:39:26 PM | 2.393104 | ug/L | 0.002393 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 12:41:41 PM | -0.07362 | ug/L | -7.36E-05 | mg/L | 0.999436 |
| CCV 0.2x10ppb * | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 2:18:44 PM | 2.237028 | ug/L | 0.002237 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 2:20:59 PM | -0.06469 | ug/L | -6.47E-05 | mg/L | 0.999436 |
| 17-03-0755-16 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 2:23:13 PM | 0.040853 | ug/L | 0.006809 | mg/kg | 0.999436 |
| 17-03-0755-20 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 2:25:28 PM | 0.029339 | ug/L | 0.00489 | mg/kg | 0.999436 |
| 17-03-0856-10 | 868 HG-8 | 0.63 | Hg 253.7 | 3/17/2017 | 2:27:44 PM | 0.034518 | ug/L | 0.005479 | mg/kg | 0.999436 |
| 170317-B-01 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 2:30:00 PM | -0.08491 | ug/L | -0.01415 | mg/kg | 0.999436 |
| 170317-L-01 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 2:32:15 PM | 6.532416 | ug/L | 1.088736 | mg/kg | 0.999436 |
| 17-03-1067-6 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 2:34:29 PM | -0.01169 | ug/L | -0.00192 | mg/kg | 0.999436 |
| 17-03-1067-6 MS | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 2:36:41 PM | 6.206644 | ug/L | 1.051974 | mg/kg | 0.999436 |
| 17-03-1067-6 MSD | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 2:38:55 PM | 6.180588 | ug/L | 1.013211 | mg/kg | 0.999436 |

* time gap

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|---|---|---|---|---|---|---|---|---|---|---|
| 17-03-1067-1 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 2:41:08 PM | 0.263048 | ug/L | 0.044584 | mg/kg | 0.999436 |
| 17-03-1067-2 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 2:43:22 PM | -0.0227 | ug/L | -0.00372 | mg/kg | 0.999436 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 2:45:38 PM | 2.399825 | ug/L | 0.0024 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 2:47:52 PM | -0.08568 | ug/L | -8.57E-05 | mg/L | 0.999436 |
| 17-03-1067-3 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 2:50:06 PM | 0.41093 | ug/L | 0.068488 | mg/kg | 0.999436 |
| 17-03-1067-4 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 2:52:23 PM | -0.02322 | ug/L | -0.00394 | mg/kg | 0.999436 |
| 17-03-1067-5 | 868 HG-8 | 0.62 | Hg 253.7 | 3/17/2017 | 2:54:38 PM | 0.021878 | ug/L | 0.003529 | mg/kg | 0.999436 |
| 17-03-1067-7 | 868 HG-8 | 0.58 | Hg 253.7 | 3/17/2017 | 2:56:54 PM | 0.773276 | ug/L | 0.133324 | mg/kg | 0.999436 |
| 17-03-1067-8 | 868 HG-8 | 0.58 | Hg 253.7 | 3/17/2017 | 2:59:10 PM | 0.013658 | ug/L | 0.002355 | mg/kg | 0.999436 |
| 17-03-1067-10 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:01:27 PM | 3.916876 | ug/L | 0.652813 | mg/kg | 0.999436 |
| 17-03-1067-11 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 3:03:43 PM | -0.02006 | ug/L | -0.0034 | mg/kg | 0.999436 |
| 17-03-1067-12 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:05:57 PM | 0.888846 | ug/L | 0.148141 | mg/kg | 0.999436 |
| 17-03-1067-13 | 868 HG-8 | 0.57 | Hg 253.7 | 3/17/2017 | 3:08:13 PM | 0.212545 | ug/L | 0.037289 | mg/kg | 0.999436 |
| 17-03-1067-15 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 3:10:28 PM | 0.50131 | ug/L | 0.084968 | mg/kg | 0.999436 |
| CCV 0.2x10ppb * | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 3:12:44 PM | 2.431 | ug/L | 0.002431 | mg/L | 0.999436 |
| CCV 0.2x10ppb * | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 3:16:14 PM | 2.399 | ug/L | 0.002399 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 3:18:30 PM | -0.0824 | ug/L | -8.24E-05 | mg/L | 0.999436 |
| 17-03-1067-16 | 868 HG-8 | 0.58 | Hg 253.7 | 3/17/2017 | 3:20:43 PM | 0.100862 | ug/L | 0.01739 | mg/kg | 0.999436 |
| 17-03-0980-1 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 3:22:58 PM | -0.06282 | ug/L | -0.0103 | mg/kg | 0.999436 |
| 17-03-0884-1 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:25:11 PM | 27.0418 | ug/L | 4.506966 | mg/kg | 0.999436 |
| 17-03-1217-4 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 3:27:26 PM | 131.4166 | ug/L | 21.5437 | mg/kg | 0.999436 |
| CCV 0.2x10ppb * | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 3:32:15 PM | 2.400107 | ug/L | 0.0024 | mg/L | 0.999436 |
| CCV 0.2x10ppb * | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 3:38:22 PM | 2.364051 | ug/L | 0.002364 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 3:40:36 PM | -0.07555 | ug/L | -7.55E-05 | mg/L | 0.999436 |
| 170317-L-01 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:44:57 PM | 5.806286 | ug/L | 0.967714 | mg/kg | 0.999436 |
| 17-03-0884-1 10X | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:47:11 PM | 2.548183 | ug/L | 4.246972 | mg/kg | 0.999436 |
| 17-03-1217-4 100X | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 3:49:26 PM | 2.682276 | ug/L | 43.97174 | mg/kg | 0.999436 |
| 170317-B-02 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:51:40 PM | -0.08257 | ug/L | -0.01376 | mg/kg | 0.999436 |
| 170317-L-02 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:53:56 PM | 5.891804 | ug/L | 0.981967 | mg/kg | 0.999436 |

* ccv failed, reran - passed

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|---|---|---|---|---|---|---|---|---|---|---|
| 17-03-1223-1 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 3:56:12 PM | -0.03306 | ug/L | -0.00551 | mg/kg | 0.999436 |
| 17-03-1223-1 MS | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 3:58:28 PM | 6.097147 | ug/L | 0.999532 | mg/kg | 0.999436 |
| 17-03-1223-1 MSD | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 4:00:44 PM | 6.206471 | ug/L | 1.051944 | mg/kg | 0.999436 |
| 17-03-1223-2 | 868 HG-8 | 0.63 | Hg 253.7 | 3/17/2017 | 4:04:16 PM | 0.019674 | ug/L | 0.003123 | mg/kg | 0.999436 |
| 17-03-1223-3 | 868 HG-8 | 0.57 | Hg 253.7 | 3/17/2017 | 4:06:32 PM | 0.302917 | ug/L | 0.053143 | mg/kg | 0.999436 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 4:08:48 PM | 2.329537 | ug/L | 0.00233 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 4:11:03 PM | -0.07936 | ug/L | -7.94E-05 | mg/L | 0.999436 |
| 17-03-1223-4 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 4:13:17 PM | 0.216983 | ug/L | 0.036164 | mg/kg | 0.999436 |
| 17-03-1223-5 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 4:15:32 PM | 2.688216 | ug/L | 0.440691 | mg/kg | 0.999436 |
| 17-03-1071-1 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 4:17:46 PM | 0.111849 | ug/L | 0.018336 | mg/kg | 0.999436 |
| 17-03-1071-2 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 4:20:00 PM | 0.135395 | ug/L | 0.022948 | mg/kg | 0.999436 |
| 17-03-1071-3 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 4:22:15 PM | -0.04652 | ug/L | -0.00788 | mg/kg | 0.999436 |
| 17-03-1071-4 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 4:24:30 PM | -0.05325 | ug/L | -0.00873 | mg/kg | 0.999436 |
| 17-03-1071-5 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 4:26:46 PM | -0.05307 | ug/L | -0.00884 | mg/kg | 0.999436 |
| 17-03-1071-6 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 4:29:03 PM | -0.05301 | ug/L | -0.00898 | mg/kg | 0.999436 |
| 17-03-1071-7 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 4:31:19 PM | -0.05939 | ug/L | -0.0099 | mg/kg | 0.999436 |
| 17-03-1071-8 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 4:33:36 PM | -0.03831 | ug/L | -0.00639 | mg/kg | 0.999436 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 4:35:53 PM | 2.390825 | ug/L | 0.002391 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 4:38:09 PM | -0.07616 | ug/L | -7.62E-05 | mg/L | 0.999436 |
| 17-03-1071-9 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 4:40:23 PM | -0.01654 | ug/L | -0.00271 | mg/kg | 0.999436 |
| 17-03-1186-1 | 868 HG-8 | 0.63 | Hg 253.7 | 3/17/2017 | 4:42:39 PM | 0.736916 | ug/L | 0.116971 | mg/kg | 0.999436 |
| 17-03-1186-2 | 868 HG-8 | 0.62 | Hg 253.7 | 3/17/2017 | 4:44:55 PM | 0.523436 | ug/L | 0.084425 | mg/kg | 0.999436 |
| 17-03-1186-3 | 868 HG-8 | 0.62 | Hg 253.7 | 3/17/2017 | 4:47:10 PM | 0.775614 | ug/L | 0.125099 | mg/kg | 0.999436 |
| 17-03-1186-4 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 4:49:25 PM | 0.520479 | ug/L | 0.085324 | mg/kg | 0.999436 |
| 17-03-1186-5 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 4:51:40 PM | 0.546742 | ug/L | 0.092668 | mg/kg | 0.999436 |
| 17-03-1186-6 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 4:53:55 PM | 0.79067 | ug/L | 0.129618 | mg/kg | 0.999436 |
| 170317-B-A1 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 4:56:10 PM | -0.0835 | ug/L | -0.00017 | mg/L | 0.999436 |
| 170317-L-A1 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 4:58:26 PM | 5.778848 | ug/L | 0.011558 | mg/L | 0.999436 |
| 17-03-1045-4 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:00:41 PM | -0.07754 | ug/L | -0.00016 | mg/L | 0.999436 |

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|---|---|---|---|---|---|---|---|---|---|---|
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:02:58 PM | 2.175165 | ug/L | 0.002175 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:05:14 PM | -0.07958 | ug/L | -7.96E-05 | mg/L | 0.999436 |
| 17-03-1045-4 MS | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:07:30 PM | 6.222015 | ug/L | 0.012444 | mg/L | 0.999436 |
| 17-03-1045-4 MSD | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:09:48 PM | 5.549272 | ug/L | 0.011099 | mg/L | 0.999436 |
| 17-03-1045-2 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:12:05 PM | -0.07008 | ug/L | -0.00014 | mg/L | 0.999436 |
| 17-03-1045-3 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:14:22 PM | -0.08086 | ug/L | -0.00016 | mg/L | 0.999436 |
| 17-03-1045-5 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:16:40 PM | -0.07854 | ug/L | -0.00016 | mg/L | 0.999436 |
| 17-03-1045-6 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:18:56 PM | -0.07618 | ug/L | -0.00015 | mg/L | 0.999436 |
| 17-03-1045-7 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:21:13 PM | -0.07298 | ug/L | -0.00015 | mg/L | 0.999436 |
| 17-03-1045-8 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:23:30 PM | -0.07614 | ug/L | -0.00015 | mg/L | 0.999436 |
| 17-03-1045-9 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:25:46 PM | -0.07821 | ug/L | -0.00016 | mg/L | 0.999436 |
| 17-03-1045-10 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:28:02 PM | -0.08197 | ug/L | -0.00016 | mg/L | 0.999436 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:30:19 PM | 2.160161 | ug/L | 0.00216 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:32:35 PM | -0.0796 | ug/L | -7.96E-05 | mg/L | 0.999436 |
| 17-03-1045-11 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:34:50 PM | -0.08242 | ug/L | -0.00016 | mg/L | 0.999436 |
| 17-03-1045-12 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:37:06 PM | -0.08149 | ug/L | -0.00016 | mg/L | 0.999436 |
| 17-03-1320-1 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:39:24 PM | -0.06785 | ug/L | -0.00014 | mg/L | 0.999436 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:41:41 PM | 2.153731 | ug/L | 0.002154 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 5:43:57 PM | -0.07941 | ug/L | -7.94E-05 | mg/L | 0.999436 |
| 170317-B-03 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 6:34:05 PM | -0.07813 | ug/L | -0.01302 | mg/kg | 0.999436 |
| 170317-L-03 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 6:36:21 PM | 4.492942 | ug/L | 0.748824 | mg/kg | 0.999436 |
| 17-03-0980-1 MS | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 6:38:38 PM | 5.972803 | ug/L | 0.995467 | mg/kg | 0.999436 |
| 17-03-0980-1 MSD | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 6:40:54 PM | 6.511165 | ug/L | 1.103587 | mg/kg | 0.999436 |
| 17-03-0991-1 | 868 HG-8 | 0.57 | Hg 253.7 | 3/17/2017 | 6:43:10 PM | 0.9389 | ug/L | 0.164719 | mg/kg | 0.999436 |
| 17-03-1007-1 | 868 HG-8 | 0.62 | Hg 253.7 | 3/17/2017 | 6:45:27 PM | 2.054476 | ug/L | 0.331367 | mg/kg | 0.999436 |
| 17-03-1007-2 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 6:47:43 PM | 0.922162 | ug/L | 0.151174 | mg/kg | 0.999436 |
| 17-03-1007-3 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 6:50:00 PM | 0.240629 | ug/L | 0.039447 | mg/kg | 0.999436 |
| 17-03-1007-4 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 6:52:16 PM | 0.617329 | ug/L | 0.104632 | mg/kg | 0.999436 |
| 17-03-1086-1 | 868 HG-8 | 0.58 | Hg 253.7 | 3/17/2017 | 6:54:33 PM | 0.073163 | ug/L | 0.012614 | mg/kg | 0.999436 |

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|---|---|---|---|---|---|---|---|---|---|---|
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 6:56:49 PM | 2.144377 | ug/L | 0.002144 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 6:59:06 PM | -0.08522 | ug/L | -8.52E-05 | mg/L | 0.999436 |
| 17-03-1085-1 | 868 HG-8 | 0.6 | Hg 253.7 | 3/17/2017 | 7:01:21 PM | 0.027126 | ug/L | 0.004521 | mg/kg | 0.999436 |
| 17-03-0888-25 | 868 HG-8 | 0.62 | Hg 253.7 | 3/17/2017 | 7:03:39 PM | 0.290995 | ug/L | 0.046935 | mg/kg | 0.999436 |
| 17-03-0888-26 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 7:05:56 PM | 0.068205 | ug/L | 0.01156 | mg/kg | 0.999436 |
| 17-03-0888-27 | 868 HG-8 | 0.59 | Hg 253.7 | 3/17/2017 | 7:08:13 PM | 0.05832 | ug/L | 0.009885 | mg/kg | 0.999436 |
| 17-03-0889-25 | 868 HG-8 | 0.57 | Hg 253.7 | 3/17/2017 | 7:10:30 PM | 0.052484 | ug/L | 0.009208 | mg/kg | 0.999436 |
| 17-03-0889-26 | 868 HG-8 | 0.63 | Hg 253.7 | 3/17/2017 | 7:12:46 PM | 0.64285 | ug/L | 0.10204 | mg/kg | 0.999436 |
| 17-03-0889-27 | 868 HG-8 | 0.61 | Hg 253.7 | 3/17/2017 | 7:15:04 PM | 0.211515 | ug/L | 0.034675 | mg/kg | 0.999436 |
| 17-03-1366-1 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 7:17:21 PM | -0.06696 | ug/L | -0.00013 | mg/L | 0.999436 |
| 17-03-1367-1 | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 7:19:39 PM | -0.08011 | ug/L | -0.00016 | mg/L | 0.999436 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 7:21:57 PM | 2.228124 | ug/L | 0.002228 | mg/L | 0.999436 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/17/2017 | 7:24:13 PM | -0.08494 | ug/L | -8.49E-05 | mg/L | 0.999436 |

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# EPA 7471A Mercury (Solid)

# Preparation Logs

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# Mercury Sample Preparation Logbook (Solid / Other)

| METHOD | MATRIX | EQUIPMENT ID # | REAGENT ID # | STANDARD ID # |
|---|---|---|---|---|
| ☒ EPA 7471A<br>☐ EPA 7471B | ☒ Solid<br>☐ Other (Specify) _____ | Thermometer GT-4 (CF-2.0 °C)<br>Block Digester 3<br>Pipetter / Dispenser P071/F | Aqua Regia RO429160J 10 mL<br>5% $KMnO_4$ R1006160I<br>NaCl-$H_3NO$-HCl R1026160I 6 mL | Spike M030617A<br>IC 1 A<br>ICV B |

| BATCH NUMBER | SUPPLY LOT # | BALANCE ID # | QUALITY SYSTEM MATRIX ID # | SAMPLE HANDLING |
|---|---|---|---|---|
| MS/MSD 170317-503 | Tube / Container 160925 | | Teflon Chip M006-35-15 | 1 = Composite 2 = Subsample |
| (Specify) | Filter | | (Specify) | 3 = Homogenize 4 = None |

| DIGESTION | | | | | | | | | SAMPLE | | 5% $KMNO_4$ | SPIKE OR IC/ICV |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | START | | | END | | | | | INITIAL | FINAL | V | V |
| DATE | TIME | TEMP W/O CF (°C) | PREP TECH ID # | TIME | TEMP W/O CF (°C) | PREP TECH ID # | SAMPLE HANDLING | ECI ID # | (g) | (mL) | (mL) | (µL) |
| 3/17/17 | 14:00 | 95 | 848 | 14:45 | 95 | 848 | 3 | MS 17-03-0980-1A | 0.60 | 100 | 15 | 506 |
| | | | | | | | 3 | MSD | 0.59 | | | |
| | | | | | | | 4 | LCS 170317-L03 | 0.60 | | | |
| | | | | | | | 4 | LCSD / MB 170317-B03 | 0.60 | | | |
| | | | | | | | 3 | 17-03-0980-1A | 0.61 | | | |
| | | | | | | | 4 | 17-03-0991-1A | 0.57 | | | |
| | | | | | | | | 17-03-1007-1A | 0.62 | | | |
| | | | | | | | | 2 | 0.61 | | | |
| | | | | | | | | 3 | 0.61 | | | |
| | | | | | | | | 4 | 0.59 | | | |
| | | | | | | | | 17-03-1086-1A | 0.58 | | | |
| | | | | | | | | 17-03-1085-1A | 0.60 | | | |
| | | | | | | | | 17-03-0688-29A | 0.62 | | | |
| | | | | | | | | 26 | 0.59 | | | |
| | | | | | | | | 27 | 0.59 | | | |
| | | | | | | | | 17-03-0889-25A | 0.57 | | | |
| | | | | | | | | 26 | 0.63 | | | |
| | | | | | | | | 27 | 0.61 | | | |
| | | | | | | | | IC | | | | |
| | | | | | | | | ICV | | | | |
| | | | | | | | | CB | | | | |

COMMENTS: * D003/MD043/D058



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# EPA METHOD 8082
# PCB Aroclors

# RAW DATA

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# EPA METHOD 8082
# PCB Aroclors

# Initial Calibration

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# INITIAL CALIBRATION QUALITY CONTROL SUMMARY
# FOR METHOD: EPA 8082

ICAL WORK ORDER: 099-12-532-9351-5154
ICAL BATCH ID: 170222I003
INSTRUMENT: GC 66

ANALYZED BY: 669
ICAL D/T ANALYZED: 2017-02-22 17:27
REVIEWED BY:
D/T REVIEWED:

| COMPOUND | COMP. TYPE | CALIB. MODEL | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | Avg. RF | Min. RF | %RSD | %RSD CL | R or R^2 | R or R^2 CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | C | Avg RF | 975,287 | 941,045 | 882,730 | 864,861 | 802,600 | | | | | 893,304 | 0.00 | 8 | 0-20 | | | PASS |
| Aroclor-1260 | C | Avg RF | 1,012,414 | 995,847 | 939,916 | 914,296 | 876,433 | | | | | 947,781 | 0.00 | 6 | 0-20 | | | PASS |

**Data Files:**

| Level # | D/T Analyzed | Data File |
|---|---|---|
| 1 | 2017-02-22 17:27 | /chem1/SVOA/GC_66/170222A/b1702220117022201 |
| 2 | 2017-02-22 17:45 | /chem1/SVOA/GC_66/170222A/b1702220217022202 |
| 3 | 2017-02-22 18:03 | /chem1/SVOA/GC_66/170222A/b1702220317022203 |
| 4 | 2017-02-22 18:21 | /chem1/SVOA/GC_66/170222A/b1702220417022204 |
| 5 | 2017-02-22 18:38 | /chem1/SVOA/GC_66/170222A/b1702220517022205 |

LR - E: Linear Regression (Equal Weight)
Avg RF: Average Response Factor

LR - IC: Linear Regression (Inverse Concentration Weight)
QR - E: Quadratic Regression (Equal Weight)

LR - ISC: Linear Regression (Inverse Square Concentration Weight)

# INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

**ICV WORK ORDER:** **099-12-532-9351-5154**
INITIAL BATCH: 170222I003
INSTRUMENT: GC 66

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
ICV: 2017-02-22 18:56
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170222A/b1702220617022206

| COMPOUND NAME | COMP TYPE | CALIB MODEL | MIN RF | AVG RF | ICV RF | AMOUNT | ICV CONC | ICV %D | ICV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | C | Avg Resp | 0.00 | 893304.438 | 1007962.398 | | | -13 | 0-15 | PASS |
| Aroclor-1260 | C | Avg Resp | 0.00 | 947781.003 | 1078849.128 | | | -14 | 0-15 | PASS |

MIN RF: Method Specified Minimum Response Factor



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Report Date : 03-Mar-2017 10:49 Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
End Cal Date : 22-FEB-2017 20:07
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Cal Date : 03-Mar-2017 10:49 uhhn
Curve Type : Average

Calibration File Names:
Level 1: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
Level 2: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
Level 3: /chem1/SVOA/GC_66.i/170222A.b/b17022210.d
Level 4: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
Level 5: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d

| Compound | 100.000 Level 1 | 250.000 Level 2 | 500.000 Level 3 | 750.000 Level 4 | 2000.000 Level 5 | RRF | % RSD |
|---|---|---|---|---|---|---|---|
|M 2 Aroclor-1016 | 975287 | 941045 | 882730 | 864861 | 802600 | 893304 | 8 |
| 3 Aroclor 1016 (1) | 101963 | 96557 | 88889 | 85902 | 76867 | 90036 | 11 |
| 4 Aroclor 1016 (2) | 177940 | 169399 | 157230 | 152953 | 139805 | 159465 | 9 |
| 5 Aroclor 1016 (3) | 368139 | 367391 | 353292 | 350925 | 334872 | 354924 | 4 |
| 6 Aroclor 1016 (4) | 185303 | 173132 | 158540 | 153765 | 139752 | 162098 | 11 |
| 7 Aroclor 1016 (5) | 141942 | 134567 | 124778 | 121316 | 111304 | 126781 | 9 |
|M 8 Aroclor-1260 | 1012414 | 995847 | 939916 | 914296 | 876433 | 947781 | 6 |
| 9 Aroclor 1260 (1) | 295733 | 284622 | 266899 | 258701 | 245467 | 270285 | 7 |
| 10 Aroclor 1260 (2) | 233964 | 225940 | 211260 | 204056 | 194563 | 213956 | 7 |
| 11 Aroclor 1260 (3) | 244538 | 243699 | 232324 | 225188 | 219576 | 233065 | 5 |
| 12 Aroclor 1260 (4) | 84774 | 85815 | 81119 | 85251 | 78652 | 83122 | 4 |
| 13 Aroclor 1260 (5) | 153405 | 155772 | 148314 | 141098 | 138176 | 147353 | 5 |
|M 14 Aroclor-1221 | +++++ | +++++ | 293209 | +++++ | +++++ | 293209 | 0 |
| 15 Aroclor 1221 (1) | +++++ | +++++ | 43149 | +++++ | +++++ | 43149 | 0 |
| 16 Aroclor 1221 (2) | +++++ | +++++ | 55578 | +++++ | +++++ | 55578 | 0 |
| 17 Aroclor 1221 (3) | +++++ | +++++ | 34870 | +++++ | +++++ | 34870 | 0 |
| 18 Aroclor 1221 (4) | +++++ | +++++ | 138535 | +++++ | +++++ | 138535 | 0 |
| 19 Aroclor 1221 (5) | +++++ | +++++ | 21077 | +++++ | +++++ | 21077 | 0 |
|M 20 Aroclor-1232 | +++++ | +++++ | 461201 | +++++ | +++++ | 461201 | 0 |
| 21 Aroclor 1232 (1) | +++++ | +++++ | 93661 | +++++ | +++++ | 93661 | 0 |
| 22 Aroclor 1232 (2) | +++++ | +++++ | 75982 | +++++ | +++++ | 75982 | 0 |
| 23 Aroclor 1232 (3) | +++++ | +++++ | 160461 | +++++ | +++++ | 160461 | 0 |

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
End Cal Date : 22-FEB-2017 20:07
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Cal Date : 03-Mar-2017 10:49 uhhn
Curve Type : Average

| | Compound | 100.000 Level 1 | 250.000 Level 2 | 500.000 Level 3 | 750.000 Level 4 | 2000.000 Level 5 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|---|
| | 24 Aroclor 1232 (4) | +++++ | +++++ | 74085 | +++++ | +++++ | 74085 | 0 |
| | 25 Aroclor 1232 (5) | +++++ | +++++ | 57013 | +++++ | +++++ | 57013 | 0 |
| M | 26 Aroclor-1242 | +++++ | +++++ | 721392 | +++++ | +++++ | 721392 | 0 |
| | 27 Aroclor 1242 (1) | +++++ | +++++ | 71280 | +++++ | +++++ | 71280 | 0 |
| | 28 Aroclor 1242 (2) | +++++ | +++++ | 129507 | +++++ | +++++ | 129507 | 0 |
| | 29 Aroclor 1242 (3) | +++++ | +++++ | 287006 | +++++ | +++++ | 287006 | 0 |
| | 30 Aroclor 1242 (4) | +++++ | +++++ | 130903 | +++++ | +++++ | 130903 | 0 |
| | 31 Aroclor 1242 (5) | +++++ | +++++ | 102696 | +++++ | +++++ | 102696 | 0 |
| M | 32 Aroclor-1248 | +++++ | +++++ | 698713 | +++++ | +++++ | 698713 | 0 |
| | 33 Aroclor 1248 (1) | +++++ | +++++ | 185195 | +++++ | +++++ | 185195 | 0 |
| | 34 Arcolor 1248 (2) | +++++ | +++++ | 103145 | +++++ | +++++ | 103145 | 0 |
| | 35 Aroclor 1248 (3) | +++++ | +++++ | 76812 | +++++ | +++++ | 76812 | 0 |
| | 36 Aroclor 1248 (4) | +++++ | +++++ | 152023 | +++++ | +++++ | 152023 | 0 |
| | 37 Aroclor 1248 (5) | +++++ | +++++ | 181538 | +++++ | +++++ | 181538 | 0 |
| M | 38 Aroclor-1254 | +++++ | +++++ | 1318858 | +++++ | +++++ | 1318858 | 0 |
| | 39 Aroclor 1254 (1) | +++++ | +++++ | 265379 | +++++ | +++++ | 265379 | 0 |
| | 40 Aroclor 1254 (2) | +++++ | +++++ | 186148 | +++++ | +++++ | 186148 | 0 |
| | 41 Arcolor 1254 (3) | +++++ | +++++ | 350152 | +++++ | +++++ | 350152 | 0 |
| | 42 Aroclor 1254 (4) | +++++ | +++++ | 239737 | +++++ | +++++ | 239737 | 0 |
| | 43 Aroclor 1254 (5) | +++++ | +++++ | 277442 | +++++ | +++++ | 277442 | 0 |
| M | 44 Aroclor-1262 | +++++ | +++++ | 1059164 | +++++ | +++++ | 1059164 | 0 |
| | 45 Aroclor 1262 (1) | +++++ | +++++ | 199559 | +++++ | +++++ | 199559 | 0 |
| | 46 Aroclor 1262 (2) | +++++ | +++++ | 285769 | +++++ | +++++ | 285769 | 0 |
| | 47 Aroclor 1262 (3) | +++++ | +++++ | 264628 | +++++ | +++++ | 264628 | 0 |
| | 48 Aroclor 1262 (4) | +++++ | +++++ | 89771 | +++++ | +++++ | 89771 | 0 |
| | 49 Aroclor 1262 (5) | +++++ | +++++ | 219437 | +++++ | +++++ | 219437 | 0 |
| M | 50 Aroclor-1268 | +++++ | +++++ | 4264652 | +++++ | +++++ | 4264652 | 0 |
| | 51 Aroclor 1268 (1) | +++++ | +++++ | 707347 | +++++ | +++++ | 707347 | 0 |
| | 52 Aroclor 1268 (2) | +++++ | +++++ | 709040 | +++++ | +++++ | 709040 | 0 |

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Report Date : 03-Mar-2017 10:49 Page 3

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
End Cal Date : 22-FEB-2017 20:07
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Cal Date : 03-Mar-2017 10:49 uhhn
Curve Type : Average

| Compound | 100.000 Level 1 | 250.000 Level 2 | 500.000 Level 3 | 750.000 Level 4 | 2000.000 Level 5 | RRF | % RSD |
|---|---|---|---|---|---|---|---|
| 53 Aroclor 1268 (3) | +++++ | +++++ | 580421 | +++++ | +++++ | 580421 | 0 |
| 54 Aroclor 1268 (4) | +++++ | +++++ | 255277 | +++++ | +++++ | 255277 | 0 |
| 55 Aroclor 1268 (5) | +++++ | +++++ | 2012567 | +++++ | +++++ | 2012567 | 0 |
| $ 1 2,4,5,6-Tetrachloro-m-xylene | 5417720 | 5823446 | 5836705 | 5879203 | 5752252 | 5741865 | 3 |
| $ 56 Decachlorobiphenyl | 5382862 | 5603807 | 5539339 | 5351948 | 5420179 | 5459627 | 2 |

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 22-FEB-2017 17:27
End Cal Date : 22-FEB-2017 20:07
Quant Method : ESTD
Origin : Disabled
Target Version : 3.50
Integrator : HP Genie
Method file : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Cal Date : 03-Mar-2017 10:49 uhhn
Curve Type : Average

| Average %RSD Results. |
|---|
| Calculated Average %RSD = 6.53024 |
| Maximun Average %RSD = 20.00000 |
| * Passed Average %RSD Test. |

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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022206.d
Report Date: 02/23/2017 09:52

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_66.i
Sample Name: PCB ICV P021517H 500PPB
Sublist used: p1016_1260.sub
Method used: /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m

Injection Date and Time: 22-FEB-2017 18:56
Initial Calibration Date(s): 17-OCT-2016 22-FEB-2017
Initial Calibration Time(s): 20:04 20:07

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type | |
|---|---|---|---|---|---|---|---|
| Aroclor 1260 (1) | 270284.532 | 318239.382 | 0.01 | -18 | 15 | Averaged | <-Failed |
| Aroclor 1260 (2) | 213956.488 | 237968.342 | 0.01 | -11 | 15 | Averaged | |
| Aroclor 1260 (3) | 233064.808 | 267435.304 | 0.01 | -15 | 15 | Averaged | |
| Aroclor 1260 (4) | 83122.167 | 83559.856 | 0.01 | -1 | 15 | Averaged | |
| Aroclor-1260 | 947781.003 | 1078849.128 | 0.01 | -14 | 15 | Averaged | |
| Aroclor-1016 | 893304.438 | 1007962.398 | 0.01 | -13 | 15 | Averaged | |
| Aroclor 1016 (1) | 90035.625 | 99898.782 | 0.01 | -11 | 15 | Averaged | |
| Aroclor 1016 (2) | 159465.395 | 177206.146 | 0.01 | -11 | 15 | Averaged | |
| Aroclor 1016 (3) | 354923.864 | 406965.954 | 0.01 | -15 | 15 | Averaged | |
| Aroclor 1016 (4) | 162098.269 | 181154.002 | 0.01 | -12 | 15 | Averaged | |
| Aroclor 1016 (5) | 126781.283 | 142737.514 | 0.01 | -13 | 15 | Averaged | |
| Aroclor 1260 (5) | 147353.008 | 171646.244 | 0.01 | -16 | 15 | Averaged | <-Failed |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 5741865.170 | 5554897.950 | 0.01 | 3 | 15 | Averaged |
| Decachlorobiphenyl | 5459627.040 | 5505849.720 | 0.01 | -1 | 15 | Averaged |



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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d Page 1
Report Date: 23-Feb-2017 09:41

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022201.d
Lab Smp Id:
Inj Date : 22-FEB-2017 17:27
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB ICAL1 P021517F 100PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 22-FEB-2017 17:27 Cal File: b17022201.d
Als bottle: 1 Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.694 | 0.000 | 108354401 | 20.0000 | 18.9(a) |
| M | 2 Aroclor-1016 | | | | 97528686 | 100.000 | 109 |
| | 3 Aroclor 1016 (1) | 5.539 | 5.533 | 0.006 | 10196308 | 100.000 | 113 |
| | 4 Aroclor 1016 (2) | 6.168 | 6.165 | 0.003 | 17794023 | 100.000 | 112 |
| | 5 Aroclor 1016 (3) | 6.852 | 6.844 | 0.008 | 36813879 | 100.000 | 104 |
| | 6 Aroclor 1016 (4) | 7.050 | 7.043 | 0.007 | 18530301 | 100.000 | 114 |
| | 7 Aroclor 1016 (5) | 7.204 | 7.194 | 0.010 | 14194175 | 100.000 | 112 |
| M | 8 Aroclor-1260 | | | | 101241371 | 100.000 | 107 |
| | 9 Aroclor 1260 (1) | 9.753 | 9.749 | 0.004 | 29573320 | 100.000 | 109 |
| | 10 Aroclor 1260 (2) | 10.352 | 10.348 | 0.004 | 23396360 | 100.000 | 109 |
| | 11 Aroclor 1260 (3) | 10.745 | 10.742 | 0.003 | 24453781 | 100.000 | 105 |
| | 12 Aroclor 1260 (4) | 12.119 | 12.115 | 0.004 | 8477403 | 100.000 | 102 |
| | 13 Aroclor 1260 (5) | 12.340 | 12.337 | 0.003 | 15340507 | 100.000 | 104 |
| $ | 56 Decachlorobiphenyl | 13.107 | 13.103 | 0.004 | 107657233 | 20.0000 | 19.7(a) |

QC Flag Legend

a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

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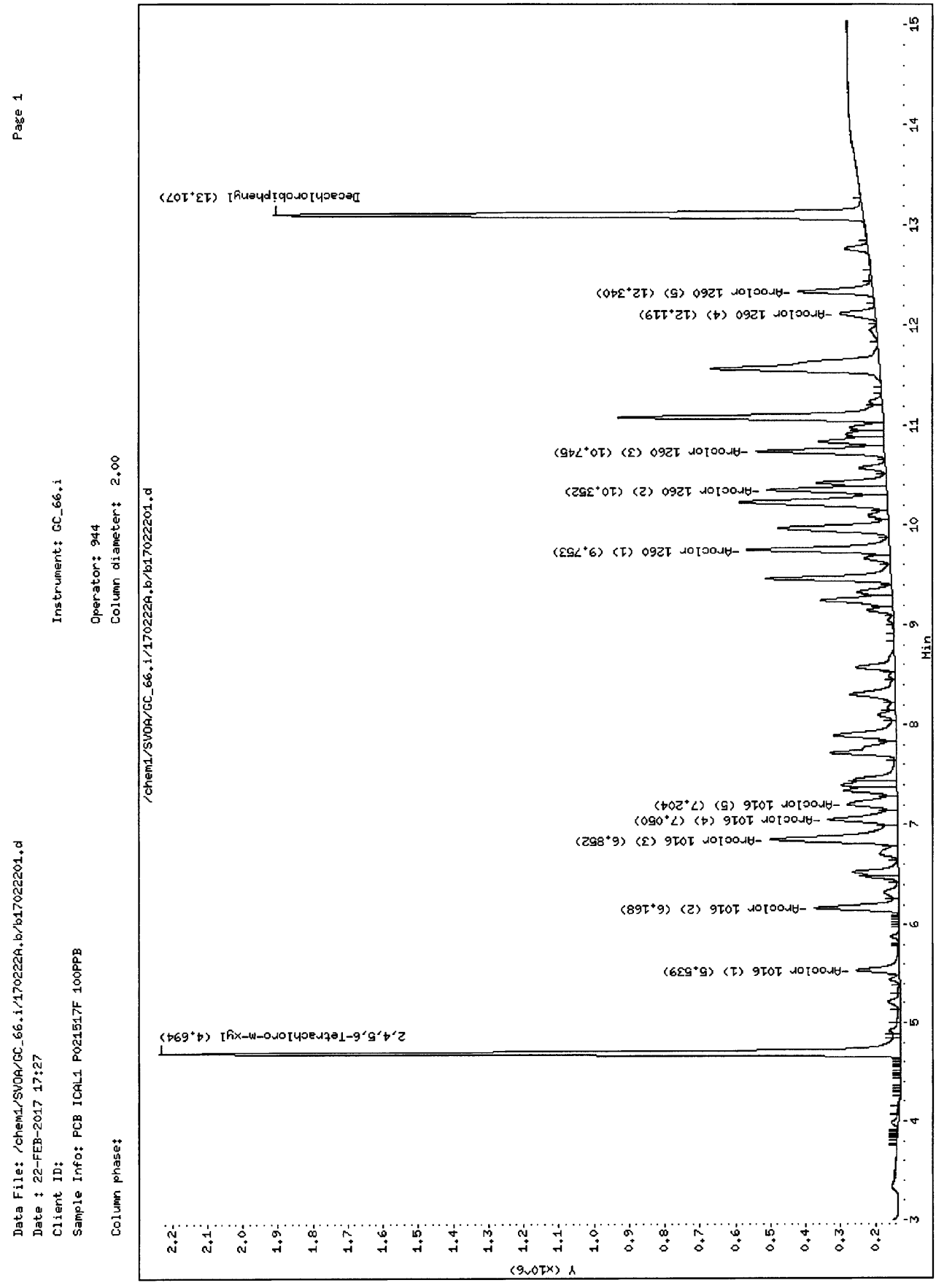


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d Page 1
Report Date: 23-Feb-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022202.d
Lab Smp Id:
Inj Date : 22-FEB-2017 17:45
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB ICAL2 P021517E 250PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 22-FEB-2017 17:45 Cal File: b17022202.d
Als bottle: 2 Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.693 | 4.694 | -0.001 | 291172299 | 50.0000 | 50.7 |
| M | 2 Aroclor-1016 | | | | 235261233 | 250.000 | 263 |
| | 3 Aroclor 1016 (1) | 5.536 | 5.539 | -0.003 | 24139170 | 250.000 | 268 |
| | 4 Aroclor 1016 (2) | 6.166 | 6.168 | -0.002 | 42349726 | 250.000 | 266 |
| | 5 Aroclor 1016 (3) | 6.848 | 6.852 | -0.004 | 91847697 | 250.000 | 259 |
| | 6 Aroclor 1016 (4) | 7.046 | 7.050 | -0.004 | 43282979 | 250.000 | 267 |
| | 7 Aroclor 1016 (5) | 7.198 | 7.204 | -0.006 | 33641661 | 250.000 | 265 |
| M | 8 Aroclor-1260 | | | | 248961695 | 250.000 | 263 |
| | 9 Aroclor 1260 (1) | 9.751 | 9.753 | -0.002 | 71155515 | 250.000 | 263 |
| | 10 Aroclor 1260 (2) | 10.349 | 10.352 | -0.003 | 56484954 | 250.000 | 264 |
| | 11 Aroclor 1260 (3) | 10.743 | 10.745 | -0.002 | 60924633 | 250.000 | 261 |
| | 12 Aroclor 1260 (4) | 12.116 | 12.119 | -0.003 | 21453649 | 250.000 | 258 |
| | 13 Aroclor 1260 (5) | 12.339 | 12.340 | -0.001 | 38942944 | 250.000 | 264 |
| $ | 56 Decachlorobiphenyl | 13.105 | 13.107 | -0.002 | 280190360 | 50.0000 | 51.3 |

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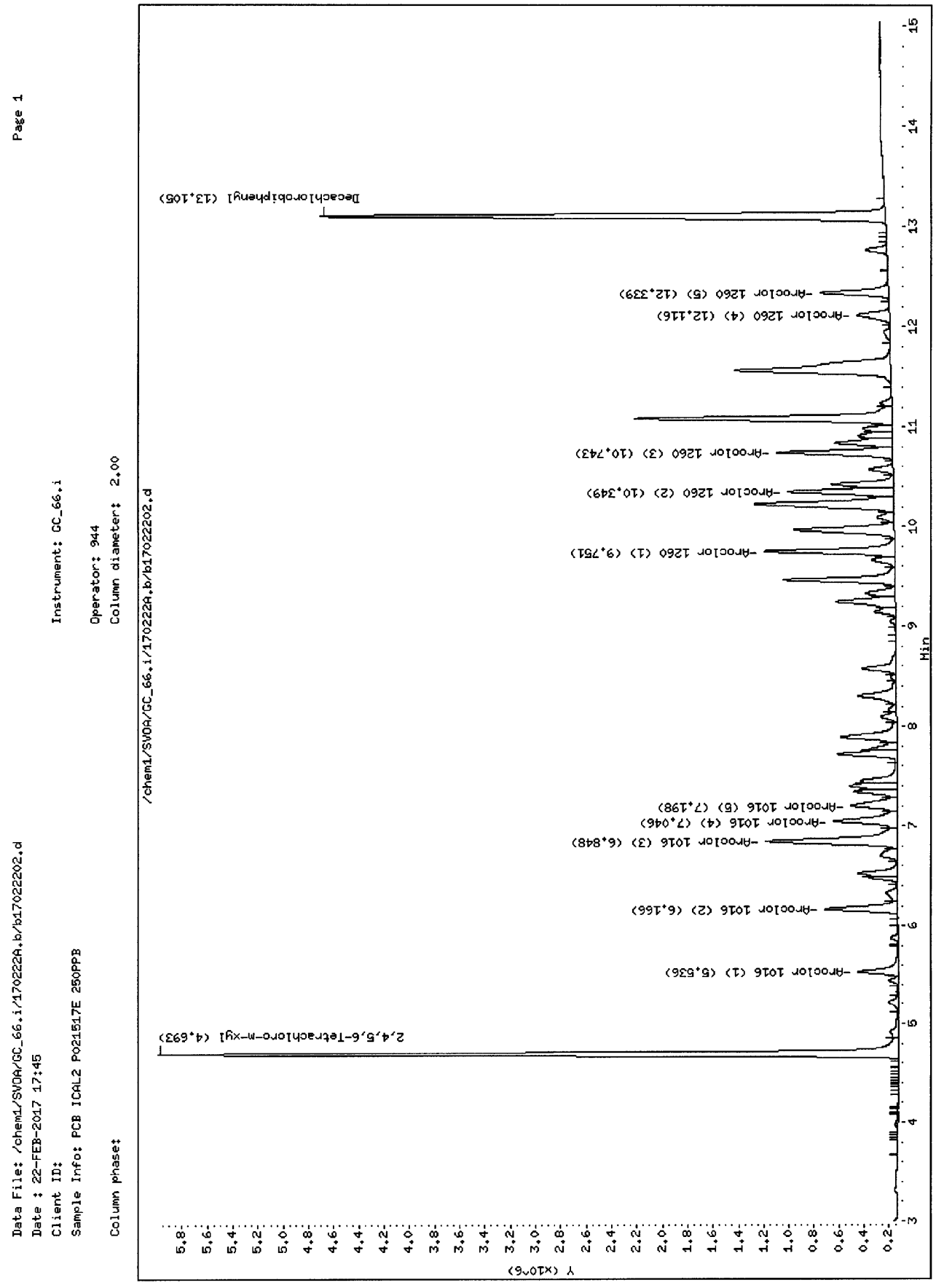


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022203.d Page 1
Report Date: 23-Feb-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022203.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:03
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB ICAL3 P021517D 500PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 3 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.692 | 4.693 | -0.001 | 583670480 | 100.000 | 102 |
| M | 2 Aroclor-1016 | | | | 441364860 | 500.000 | 494 |
| | 3 Aroclor 1016 (1) | 5.533 | 5.536 | -0.003 | 44444648 | 500.000 | 494 |
| | 4 Aroclor 1016 (2) | 6.164 | 6.166 | -0.002 | 78615211 | 500.000 | 493 |
| | 5 Aroclor 1016 (3) | 6.844 | 6.848 | -0.004 | 176646127 | 500.000 | 498 |
| | 6 Aroclor 1016 (4) | 7.043 | 7.046 | -0.003 | 79269778 | 500.000 | 489 |
| | 7 Aroclor 1016 (5) | 7.195 | 7.198 | -0.003 | 62389096 | 500.000 | 492 |
| M | 8 Aroclor-1260 | | | | 469957779 | 500.000 | 496 |
| | 9 Aroclor 1260 (1) | 9.749 | 9.751 | -0.002 | 133449409 | 500.000 | 494 |
| | 10 Aroclor 1260 (2) | 10.348 | 10.349 | -0.001 | 105630017 | 500.000 | 494 |
| | 11 Aroclor 1260 (3) | 10.742 | 10.743 | -0.001 | 116161904 | 500.000 | 498 |
| | 12 Aroclor 1260 (4) | 12.115 | 12.116 | -0.001 | 40559632 | 500.000 | 488 |
| | 13 Aroclor 1260 (5) | 12.337 | 12.339 | -0.002 | 74156817 | 500.000 | 503 |
| $ | 56 Decachlorobiphenyl | 13.105 | 13.105 | 0.000 | 553933911 | 100.000 | 101 |

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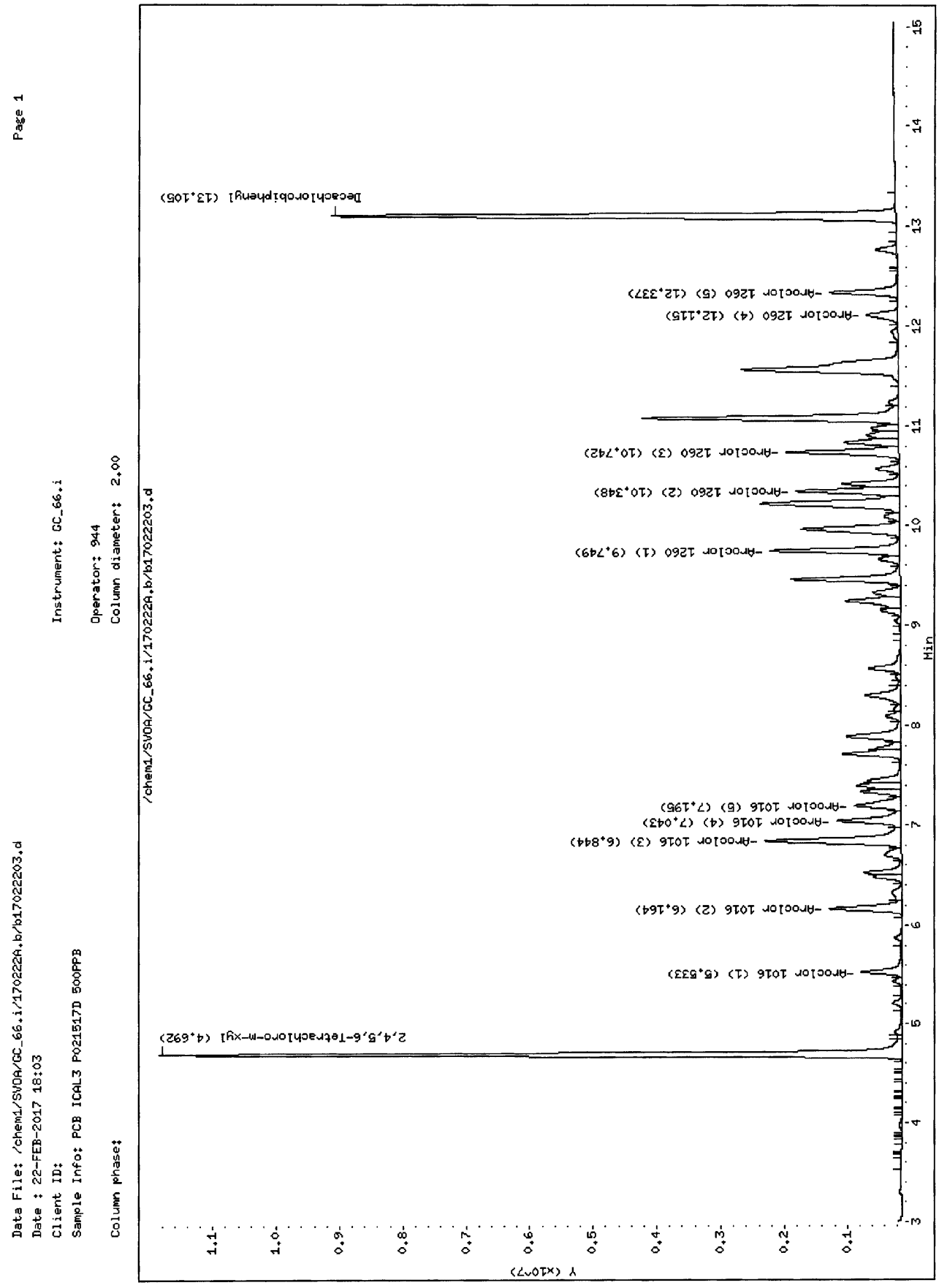
Page 1
Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022203.d
Date : 22-FEB-2017 18:03
Client ID:
Sample Info: PCB ICAL3 P021517D 500PPB
Column phase:
Instrument: GC_66.i
Operator: 944
Column diameter: 2.00
/chem1/SVOA/GC_66.i/170222A.b/b17022203.d
2,4,5,6-Tetrachloro-m-xyl (4.692)
-Aroclor 1016 (1) (5.533)
-Aroclor 1016 (2) (6.164)
-Aroclor 1016 (3) (6.844)
-Aroclor 1016 (4) (7.043)
-Aroclor 1016 (5) (7.195)
-Aroclor 1260 (1) (9.749)
-Aroclor 1260 (2) (10.348)
-Aroclor 1260 (3) (10.742)
-Aroclor 1260 (4) (12.115)
-Aroclor 1260 (5) (12.337)
Decachlorobiphenyl (13.105)
Y (x10^7)
Min

Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d Page 1
Report Date: 23-Feb-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:21
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB ICAL4 P021517C 750PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 22-FEB-2017 18:21 Cal File: b17022204.d
Als bottle: 4 Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.691 | 4.692 | -0.001 | 881880457 | 150.000 | 154 |
| M | 2 Aroclor-1016 | | | | 648645686 | 750.000 | 726 |
| | 3 Aroclor 1016 (1) | 5.530 | 5.533 | -0.003 | 64426684 | 750.000 | 716 |
| | 4 Aroclor 1016 (2) | 6.163 | 6.164 | -0.001 | 114714592 | 750.000 | 719 |
| | 5 Aroclor 1016 (3) | 6.842 | 6.844 | -0.002 | 263194053 | 750.000 | 742 |
| | 6 Aroclor 1016 (4) | 7.041 | 7.043 | -0.002 | 115323393 | 750.000 | 711 |
| | 7 Aroclor 1016 (5) | 7.192 | 7.195 | -0.003 | 90986964 | 750.000 | 718 |
| M | 8 Aroclor-1260 | | | | 685721676 | 750.000 | 724 |
| | 9 Aroclor 1260 (1) | 9.748 | 9.749 | -0.001 | 194025997 | 750.000 | 718 |
| | 10 Aroclor 1260 (2) | 10.348 | 10.348 | 0.000 | 153042314 | 750.000 | 715 |
| | 11 Aroclor 1260 (3) | 10.742 | 10.742 | 0.000 | 168891068 | 750.000 | 725 |
| | 12 Aroclor 1260 (4) | 12.113 | 12.115 | -0.002 | 63938532 | 750.000 | 769 |
| | 13 Aroclor 1260 (5) | 12.336 | 12.337 | -0.001 | 105823765 | 750.000 | 718 |
| $ | 56 Decachlorobiphenyl | 13.104 | 13.105 | -0.001 | 802792169 | 150.000 | 147 |

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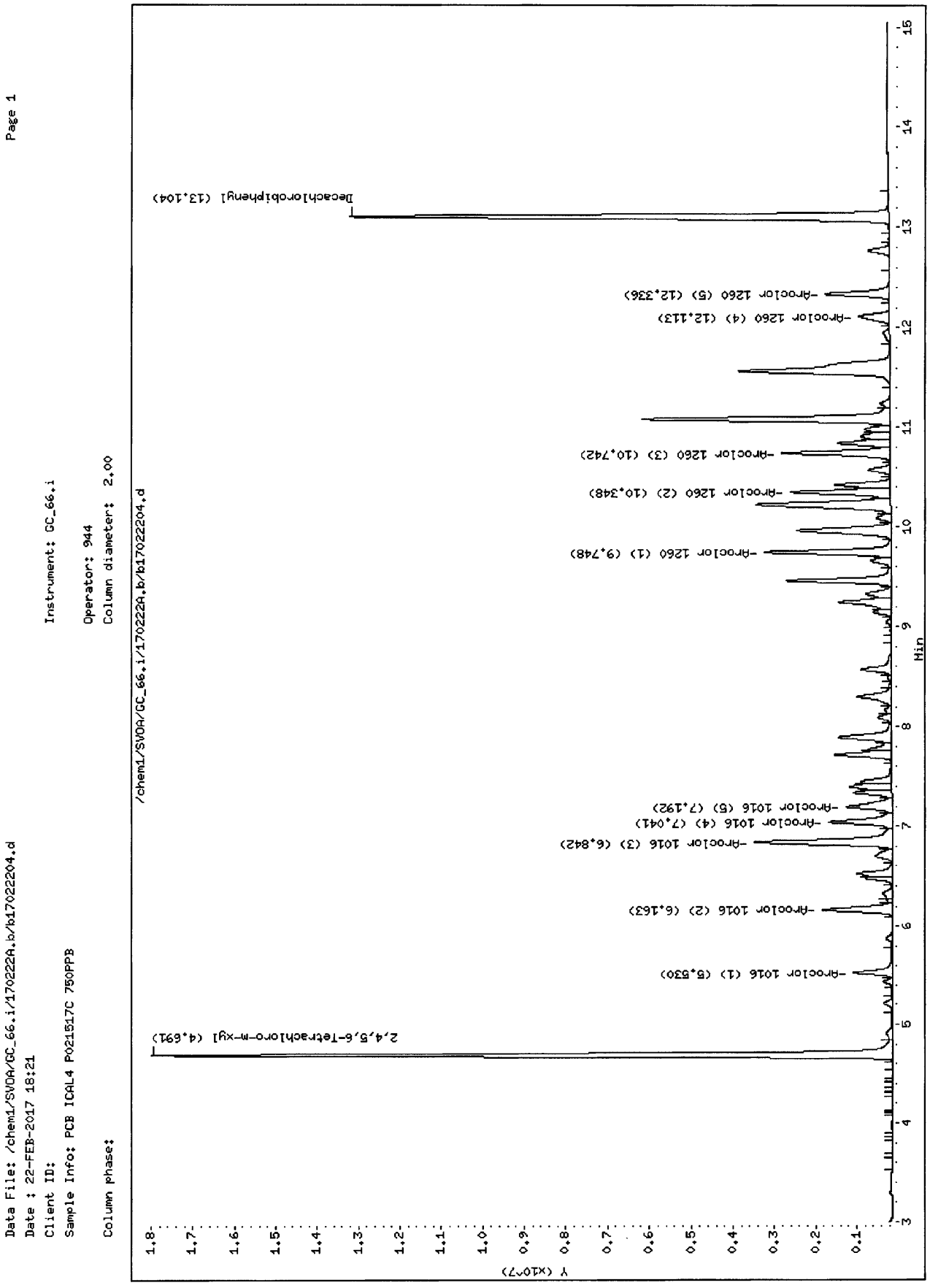


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d Page 1
Report Date: 23-Feb-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022205.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:38
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB ICAL5 P021517B 2000PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 22-FEB-2017 18:38 Cal File: b17022205.d
Als bottle: 5 Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.693 | 4.691 | 0.002 | 2300900796 | 400.000 | 401(A) |
| M | 2 Aroclor-1016 | | | | 1605199523 | 2000.00 | 1800 |
| | 3 Aroclor 1016 (1) | 5.530 | 5.530 | 0.000 | 153733649 | 2000.00 | 1710 |
| | 4 Aroclor 1016 (2) | 6.163 | 6.163 | 0.000 | 279609263 | 2000.00 | 1750 |
| | 5 Aroclor 1016 (3) | 6.839 | 6.842 | -0.003 | 669744171 | 2000.00 | 1890 |
| | 6 Aroclor 1016 (4) | 7.041 | 7.041 | 0.000 | 279504681 | 2000.00 | 1720 |
| | 7 Aroclor 1016 (5) | 7.190 | 7.192 | -0.002 | 222607759 | 2000.00 | 1760 |
| M | 8 Aroclor-1260 | | | | 1752866795 | 2000.00 | 1850 |
| | 9 Aroclor 1260 (1) | 9.747 | 9.748 | -0.001 | 490934501 | 2000.00 | 1820 |
| | 10 Aroclor 1260 (2) | 10.347 | 10.348 | -0.001 | 389125144 | 2000.00 | 1820 |
| | 11 Aroclor 1260 (3) | 10.742 | 10.742 | 0.000 | 439151601 | 2000.00 | 1880 |
| | 12 Aroclor 1260 (4) | 12.114 | 12.113 | 0.001 | 157303133 | 2000.00 | 1890 |
| | 13 Aroclor 1260 (5) | 12.336 | 12.336 | 0.000 | 276352416 | 2000.00 | 1880 |
| $ | 56 Decachlorobiphenyl | 13.104 | 13.104 | 0.000 | 2168071770 | 400.000 | 397 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

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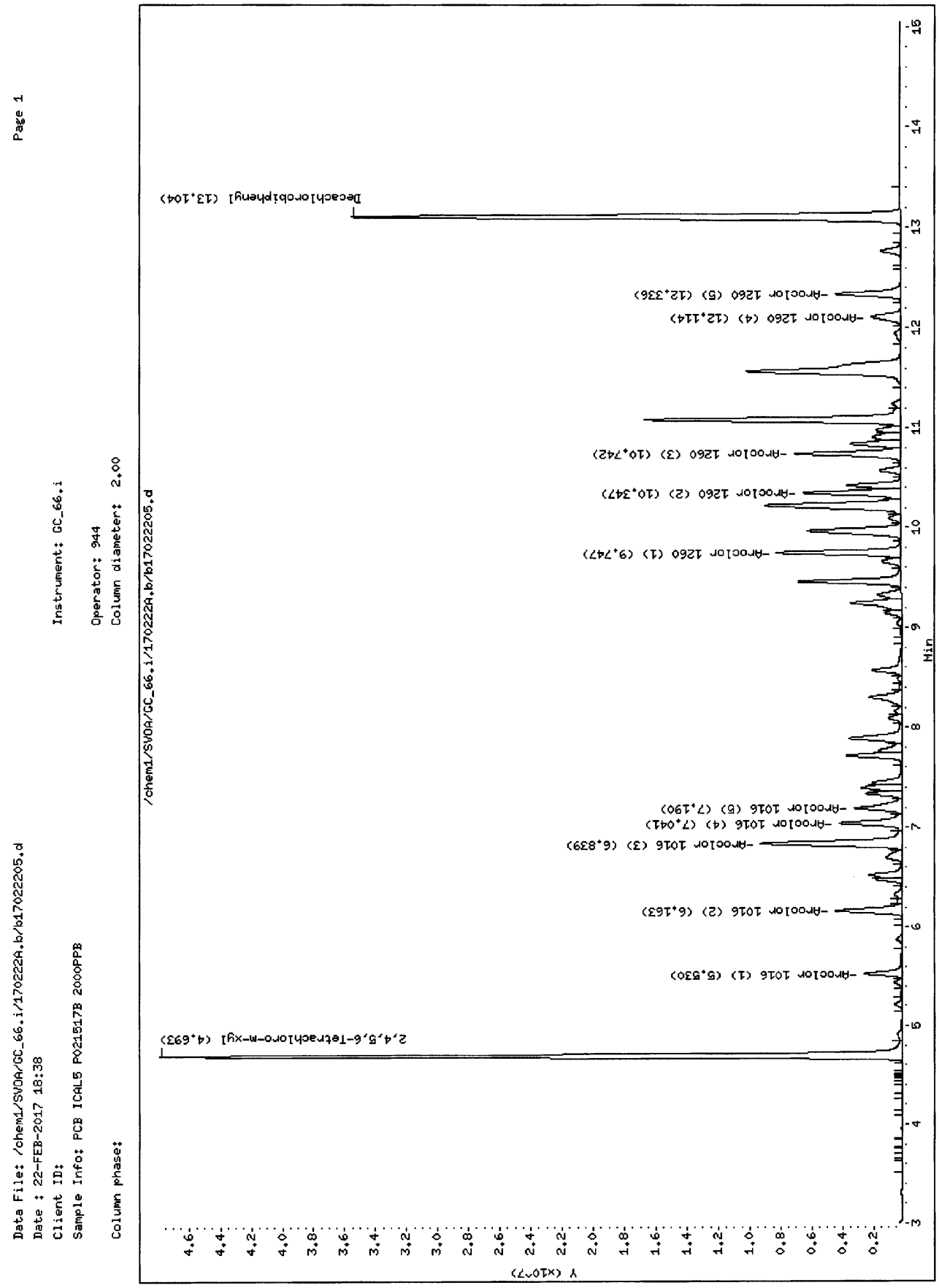


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022206.d Page 1
Report Date: 23-Feb-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022206.d
Lab Smp Id:
Inj Date : 22-FEB-2017 18:56
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB ICV P021517H 500PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 22-FEB-2017 18:38 Cal File: b17022205.d
Als bottle: 6 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.693 | 0.001 | 555489795 | 100.000 | 96.7 |
| M | 2 Aroclor-1016 | | | | 503981199 | 500.000 | 564 |
| | 3 Aroclor 1016 (1) | 5.533 | 5.530 | 0.003 | 49949391 | 500.000 | 555 |
| | 4 Aroclor 1016 (2) | 6.165 | 6.163 | 0.002 | 88603073 | 500.000 | 556 |
| | 5 Aroclor 1016 (3) | 6.844 | 6.839 | 0.005 | 203482977 | 500.000 | 573 |
| | 6 Aroclor 1016 (4) | 7.043 | 7.041 | 0.002 | 90577001 | 500.000 | 559 |
| | 7 Aroclor 1016 (5) | 7.194 | 7.190 | 0.004 | 71368757 | 500.000 | 563 |
| M | 8 Aroclor-1260 | | | | 539424564 | 500.000 | 569 |
| | 9 Aroclor 1260 (1) | 9.749 | 9.747 | 0.002 | 159119691 | 500.000 | 589 |
| | 10 Aroclor 1260 (2) | 10.348 | 10.347 | 0.001 | 118984171 | 500.000 | 556 |
| | 11 Aroclor 1260 (3) | 10.742 | 10.742 | 0.000 | 133717652 | 500.000 | 574 |
| | 12 Aroclor 1260 (4) | 12.115 | 12.114 | 0.001 | 41779928 | 500.000 | 503 |
| | 13 Aroclor 1260 (5) | 12.337 | 12.336 | 0.001 | 85823122 | 500.000 | 582 |
| $ | 56 Decachlorobiphenyl | 13.103 | 13.104 | -0.001 | 550584972 | 100.000 | 101 |

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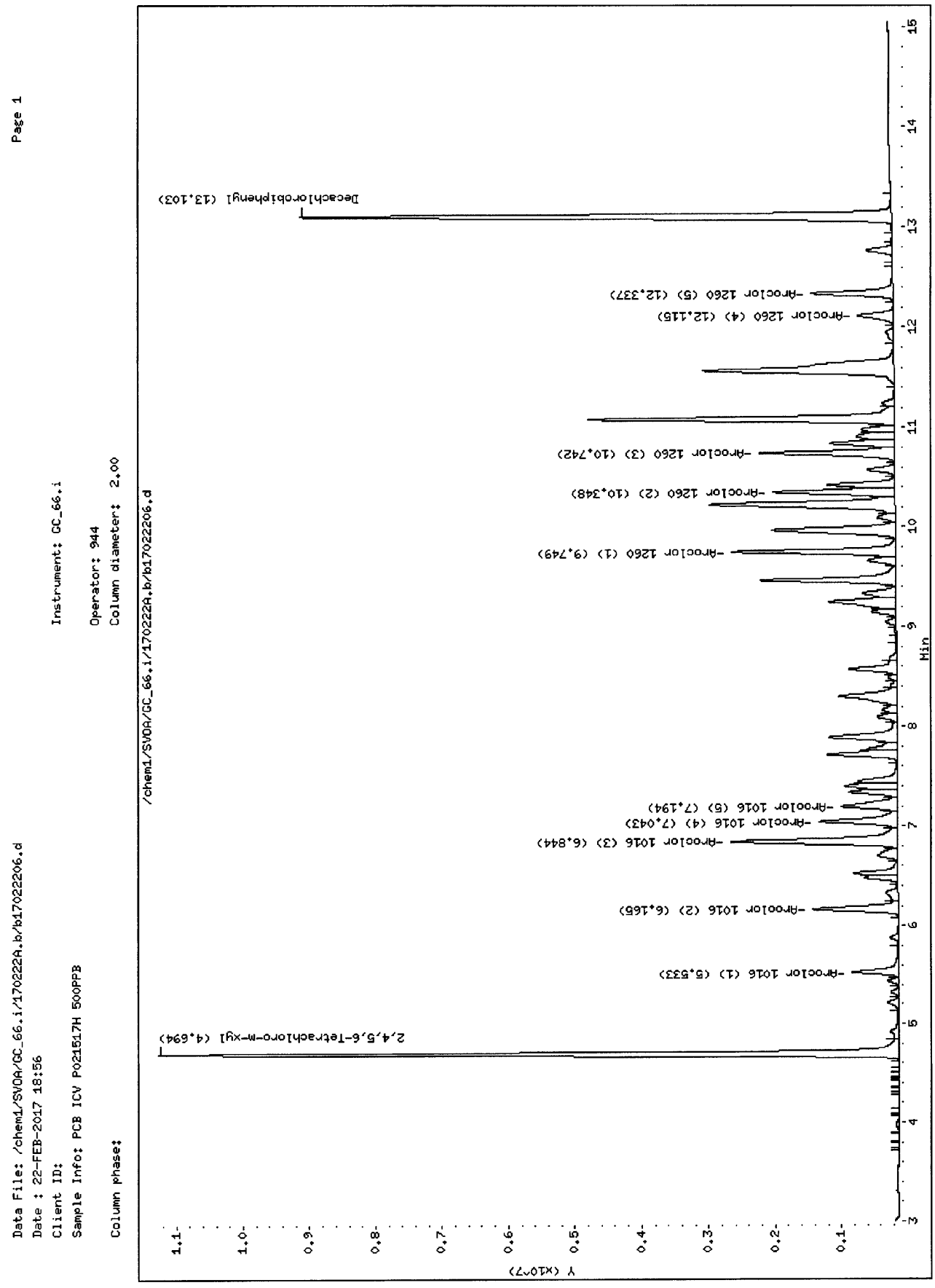


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022207.d Page 1
Report Date: 23-Feb-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022207.d
Lab Smp Id:
Inj Date : 22-FEB-2017 19:14
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB 1221/54 500PPB P120616I
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 7 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1221_1254.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|
| M 14 Aroclor-1221 | | | | 146604462 | 500.000 | 500 |
| 15 Aroclor 1221 (1) | 3.949 | 3.949 | 0.000 | 21574609 | 500.000 | 500 |
| 16 Aroclor 1221 (2) | 5.209 | 5.209 | 0.000 | 27788962 | 500.000 | 500 |
| 17 Aroclor 1221 (3) | 5.436 | 5.436 | 0.000 | 17435037 | 500.000 | 500 |
| 18 Aroclor 1221 (4) | 5.532 | 5.532 | 0.000 | 69267403 | 500.000 | 500 |
| 19 Aroclor 1221 (5) | 6.166 | 6.166 | 0.000 | 10538451 | 500.000 | 500 |
| M 38 Aroclor-1254 | | | | 659429043 | 500.000 | 500 |
| 39 Aroclor 1254 (1) | 8.300 | 8.300 | 0.000 | 132689273 | 500.000 | 500 |
| 40 Aroclor 1254 (2) | 8.658 | 8.658 | 0.000 | 93074176 | 500.000 | 500 |
| 41 Arcolor 1254 (3) | 9.199 | 9.199 | 0.000 | 175076127 | 500.000 | 500 |
| 42 Aroclor 1254 (4) | 9.513 | 9.513 | 0.000 | 119868437 | 500.000 | 500 |
| 43 Aroclor 1254 (5) | 9.976 | 9.976 | 0.000 | 138721030 | 500.000 | 500 |

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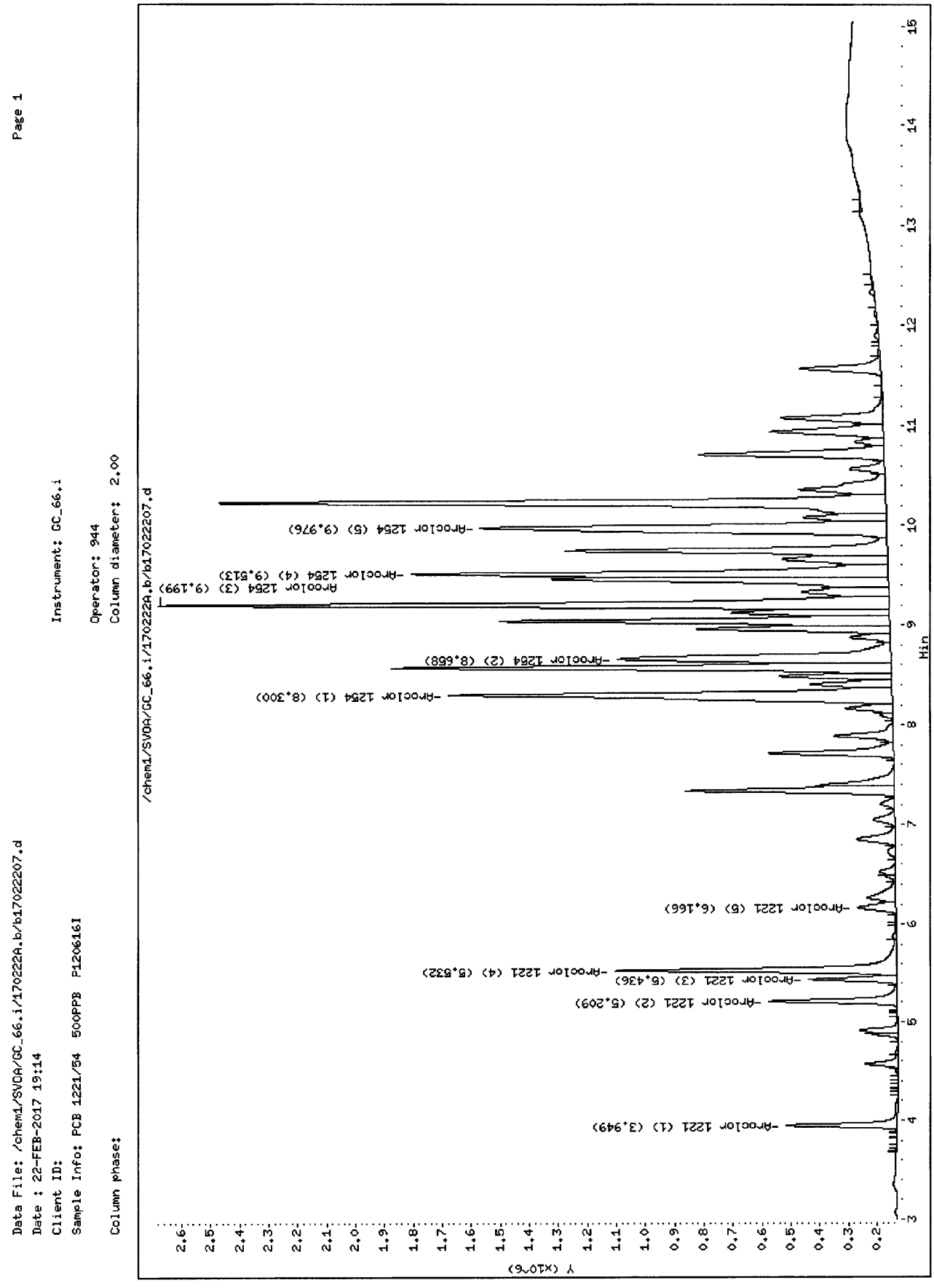


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022208.d Page 1
Report Date: 23-Feb-2017 09:42

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022208.d
Lab Smp Id:
Inj Date : 22-FEB-2017 19:32
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB 1232/62 500PPB P120616J
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 8 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1232_1262.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|
| M 20 Aroclor-1232 | | | | 230600593 | 500.000 | 500 |
| 21 Aroclor 1232 (1) | 5.533 | 5.533 | 0.000 | 46830292 | 500.000 | 500 |
| 22 Aroclor 1232 (2) | 6.164 | 6.164 | 0.000 | 37990961 | 500.000 | 500 |
| 23 Aroclor 1232 (3) | 6.846 | 6.846 | 0.000 | 80230398 | 500.000 | 500 |
| 24 Aroclor 1232 (4) | 7.045 | 7.045 | 0.000 | 37042341 | 500.000 | 500 |
| 25 Aroclor 1232 (5) | 7.198 | 7.198 | 0.000 | 28506601 | 500.000 | 500 |
| M 44 Aroclor-1262 | | | | 529581884 | 500.000 | 500 |
| 45 Aroclor 1262 (1) | 9.749 | 9.749 | 0.000 | 99779332 | 500.000 | 500 |
| 46 Aroclor 1262 (2) | 10.347 | 10.347 | 0.000 | 142884711 | 500.000 | 500 |
| 47 Aroclor 1262 (3) | 10.742 | 10.742 | 0.000 | 132313903 | 500.000 | 500 |
| 48 Aroclor 1262 (4) | 12.118 | 12.118 | 0.000 | 44885518 | 500.000 | 500 |
| 49 Aroclor 1262 (5) | 12.337 | 12.337 | 0.000 | 109718420 | 500.000 | 500 |

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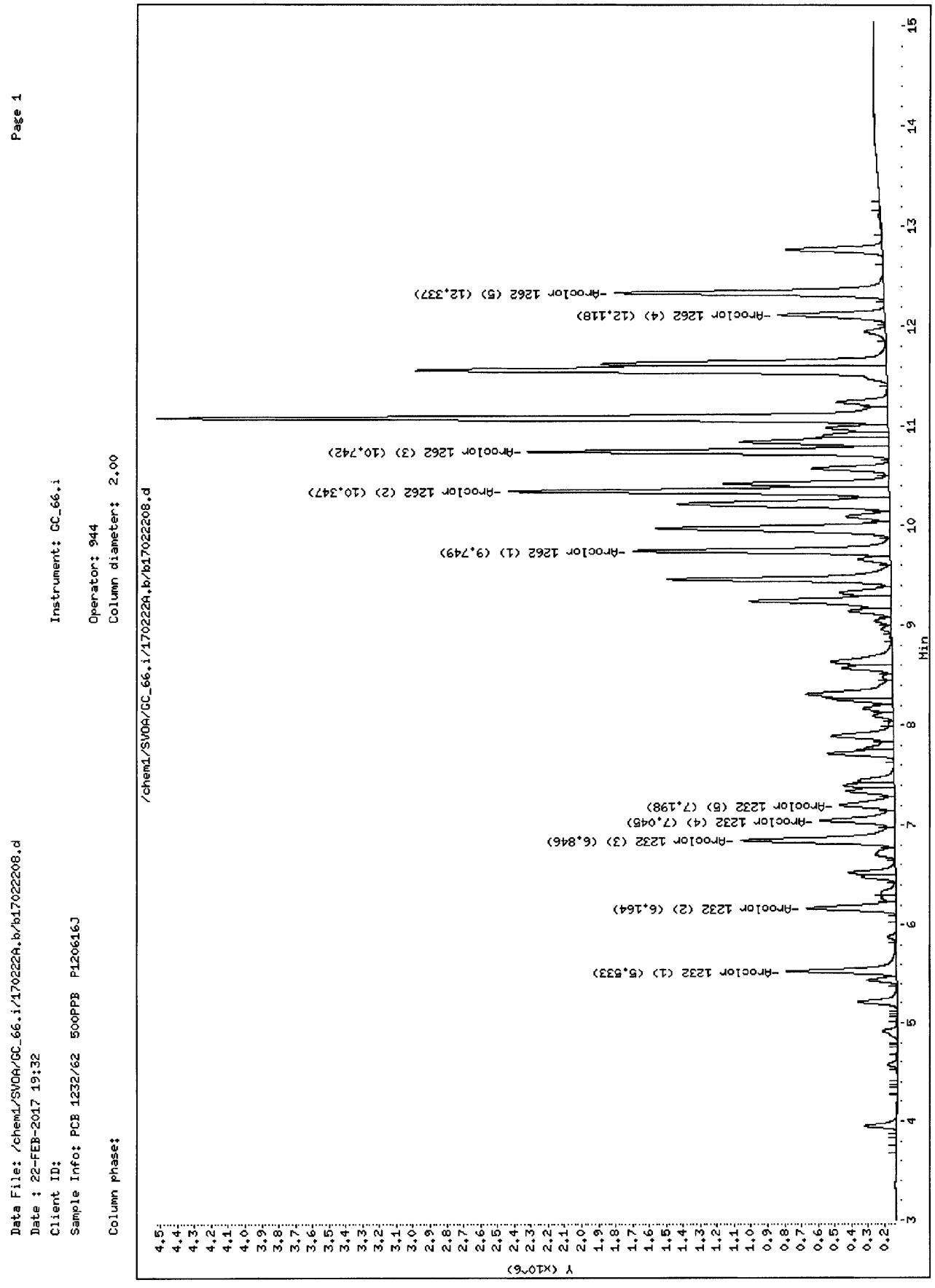


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022209.d Page 1
Report Date: 23-Feb-2017 09:43

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022209.d
Lab Smp Id:
Inj Date : 22-FEB-2017 19:50
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB 1248/68 500PPB P120616K
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 9 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1248_1268.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|
| M 32 Aroclor-1248 | | | | 349356650 | 500.000 | 500 |
| 33 Aroclor 1248 (1) | 6.845 | 6.164 | 0.681 | 92597659 | 500.000 | 500 |
| 34 Arcolor 1248 (2) | 7.397 | 7.397 | 0.000 | 51572554 | 500.000 | 500 |
| 35 Aroclor 1248 (3) | 7.445 | 7.445 | 0.000 | 38405884 | 500.000 | 500 |
| 36 Aroclor 1248 (4) | 7.715 | 7.715 | 0.000 | 76011522 | 500.000 | 500 |
| 37 Aroclor 1248 (5) | 7.888 | 7.888 | 0.000 | 90769029 | 500.000 | 500 |
| M 50 Aroclor-1268 | | | | 2132325871 | 500.000 | 500 |
| 51 Aroclor 1268 (1) | 11.554 | 11.554 | 0.000 | 353673525 | 500.000 | 500 |
| 52 Aroclor 1268 (2) | 11.615 | 11.615 | 0.000 | 354519915 | 500.000 | 500 |
| 53 Aroclor 1268 (3) | 11.948 | 11.948 | 0.000 | 290210573 | 500.000 | 500 |
| 54 Aroclor 1268 (4) | 12.334 | 12.334 | 0.000 | 127638418 | 500.000 | 500 |
| 55 Aroclor 1268 (5) | 12.764 | 12.764 | 0.000 | 1006283437 | 500.000 | 500 |

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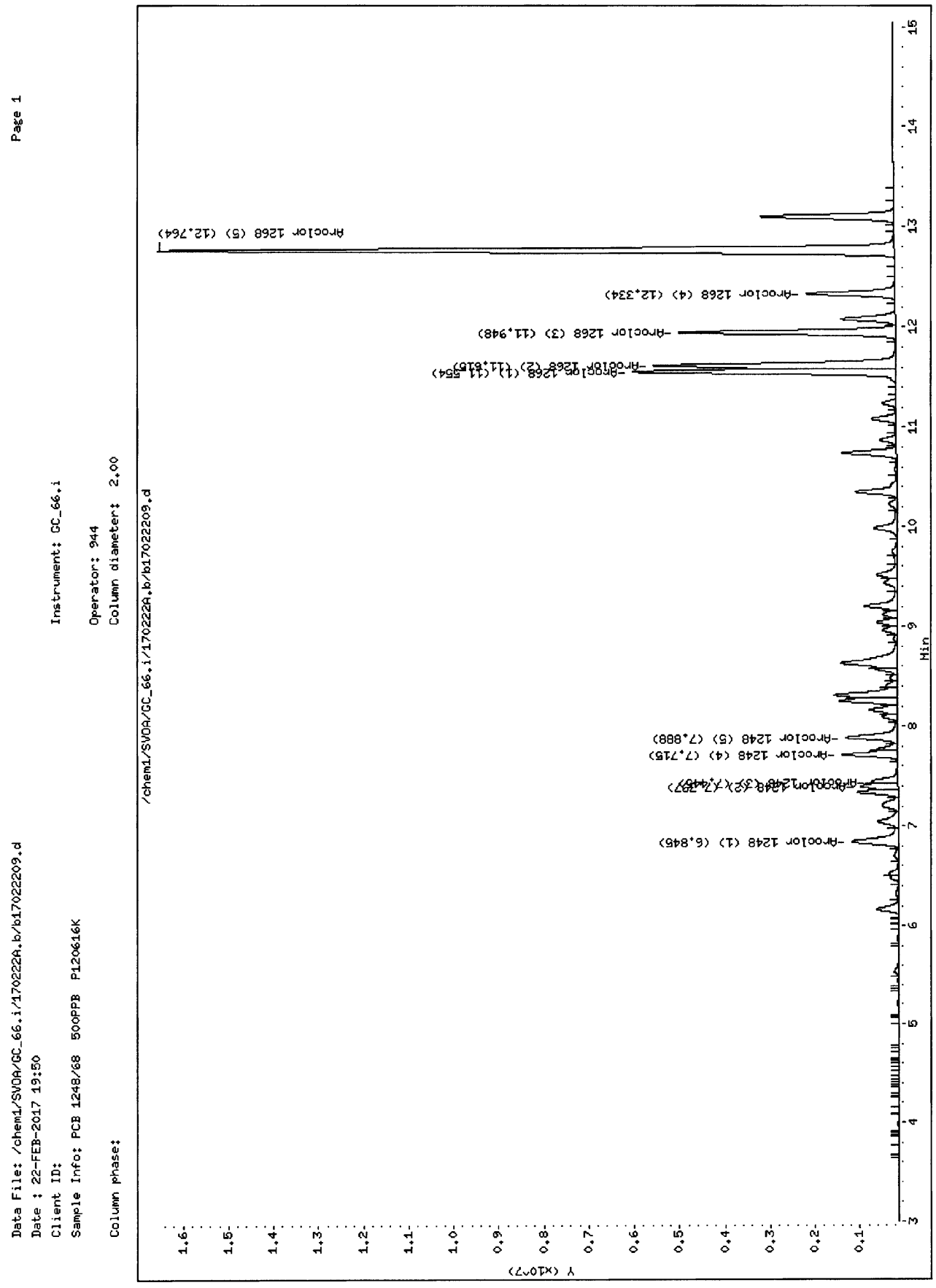


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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022210.d Page 1
Report Date: 23-Feb-2017 09:43

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170222A.b/b17022210.d
Lab Smp Id:
Inj Date : 22-FEB-2017 20:07
Operator : 944 Inst ID: GC_66.i
Smp Info : PCB 1242 500PPB P120616L
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170222A.b/b8082d-n2.m
Meth Date : 23-Feb-2017 09:41 uj3k Quant Type: ESTD
Cal Date : 27-JAN-2017 13:18 Cal File: b17012710.d
Als bottle: 10 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1242-ical.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|
| | | | | | CAL-AMT | ON-COL |
| Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| M 26 Aroclor-1242 | | | | 360695998 | 500.000 | 500 |
| 27 Aroclor 1242 (1) | 5.534 | 5.534 | 0.000 | 35639904 | 500.000 | 500 |
| 28 Aroclor 1242 (2) | 6.164 | 6.164 | 0.000 | 64753688 | 500.000 | 500 |
| 29 Aroclor 1242 (3) | 6.844 | 6.844 | 0.000 | 143503184 | 500.000 | 500 |
| 30 Aroclor 1242 (4) | 7.044 | 7.044 | 0.000 | 65451422 | 500.000 | 500 |
| 31 Aroclor 1242 (5) | 7.195 | 7.195 | 0.000 | 51347800 | 500.000 | 500 |

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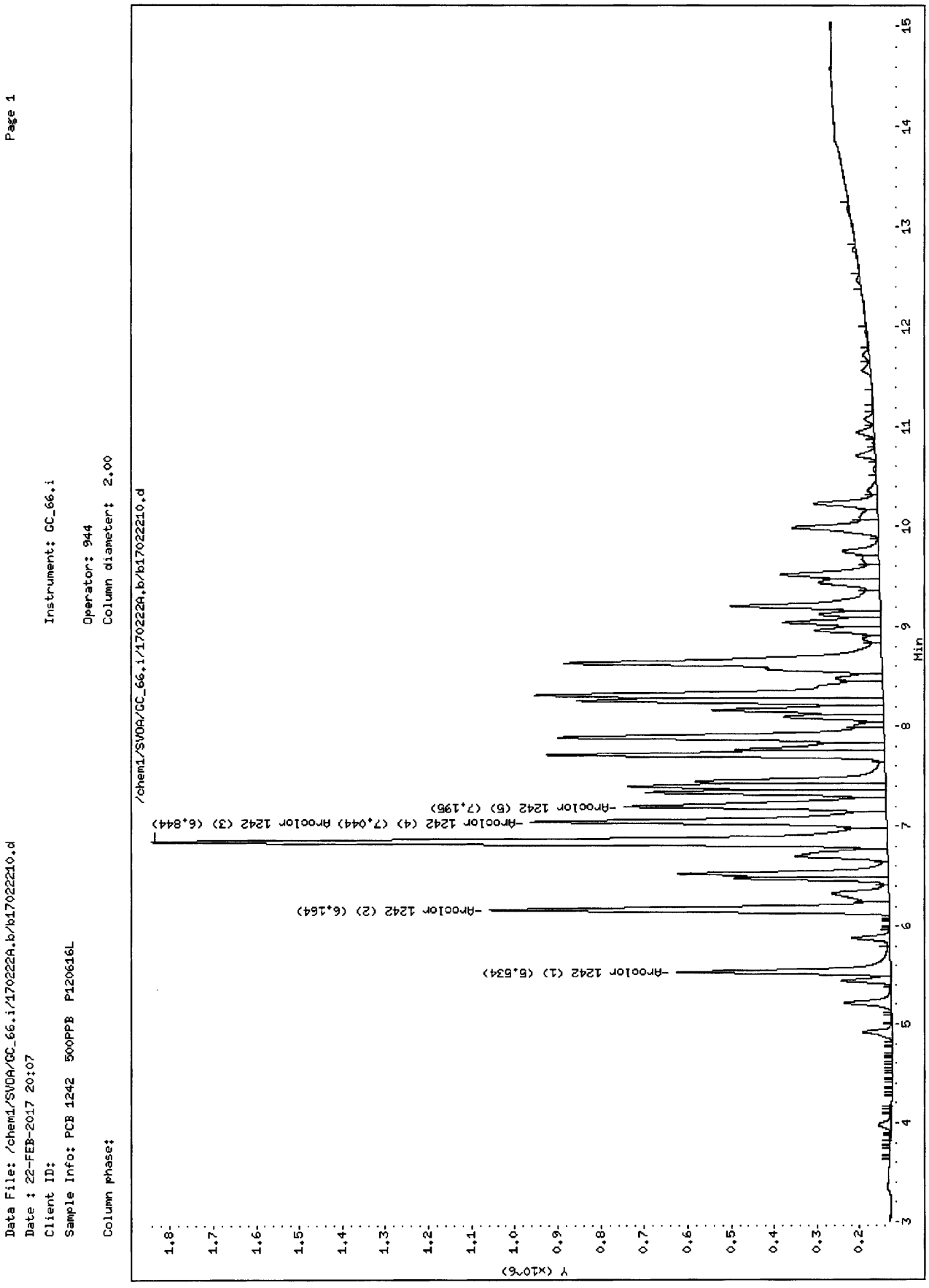


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# EPA METHOD 8082
# PCB Aroclors

# Sample Data

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# RAW DATA SHEET
# FOR METHOD: EPA 8082

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 669 |
| INSTRUMENT: | GC 66 | D/T ANALYZED: | 2017-03-18 06:47 |
| EXTRACTION : | EPA 3545 | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | |

DATA FILE: /chem1/SVOA/GC_66/170318/b1703181617031816

**# 28** **CLIENT SAMPLE NUMBER: D-DU2-ISM1-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L031 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 20.00 g / ACTUAL: 20.00 g |
| MS/MSD BATCH: | 170317S031 | FINAL VOLUME / WEIGHT: | DEFAULT: 10.00 ml / ACTUAL: 10.00 ml |
| UNITS: | ug/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT: Sample extracted outside recommended holding time.

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Aroclor-1016 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1221 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1232 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1242 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1248 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1254 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1260 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1262 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1268 | 0.000 | 1.00 | ND | 50 | w |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031816.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031816.d
Lab Smp Id:
Inj Date : 18-MAR-2017 06:47
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-0889-28
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 16
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | CONCENTRATIONS FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.692 | 0.002 | 429452617 | 74.7932 | 74.8 |
| M | 2 Aroclor-1016 | Compound Not Detected. | | | | | |
| | 3 Aroclor 1016 (1) | Compound Not Detected. | | | | | |
| | 4 Aroclor 1016 (2) | Compound Not Detected. | | | | | |
| | 5 Aroclor 1016 (3) | Compound Not Detected. | | | | | |
| | 6 Aroclor 1016 (4) | Compound Not Detected. | | | | | |
| | 7 Aroclor 1016 (5) | Compound Not Detected. | | | | | |
| M | 8 Aroclor-1260 | Compound Not Detected. | | | | | |
| | 9 Aroclor 1260 (1) | Compound Not Detected. | | | | | |
| | 10 Aroclor 1260 (2) | Compound Not Detected. | | | | | |
| | 11 Aroclor 1260 (3) | Compound Not Detected. | | | | | |
| | 12 Aroclor 1260 (4) | Compound Not Detected. | | | | | |
| | 13 Aroclor 1260 (5) | Compound Not Detected. | | | | | |
| M | 14 Aroclor-1221 | Compound Not Detected. | | | | | |
| | 15 Aroclor 1221 (1) | Compound Not Detected. | | | | | |
| | 16 Aroclor 1221 (2) | Compound Not Detected. | | | | | |
| | 17 Aroclor 1221 (3) | Compound Not Detected. | | | | | |
| | 18 Aroclor 1221 (4) | Compound Not Detected. | | | | | |
| | 19 Aroclor 1221 (5) | Compound Not Detected. | | | | | |
| M | 20 Aroclor-1232 | Compound Not Detected. | | | | | |
| | 21 Aroclor 1232 (1) | Compound Not Detected. | | | | | |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031816.d Page 2
Report Date: 20-Mar-2017 10:25

| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | CONCENTRATIONS FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| | 22 Aroclor 1232 (2) | Compound Not Detected. | | | | | |
| | 23 Aroclor 1232 (3) | Compound Not Detected. | | | | | |
| | 24 Aroclor 1232 (4) | Compound Not Detected. | | | | | |
| | 25 Aroclor 1232 (5) | Compound Not Detected. | | | | | |
| M | 26 Aroclor-1242 | Compound Not Detected. | | | | | |
| | 27 Aroclor 1242 (1) | Compound Not Detected. | | | | | |
| | 28 Aroclor 1242 (2) | Compound Not Detected. | | | | | |
| | 29 Aroclor 1242 (3) | Compound Not Detected. | | | | | |
| | 30 Aroclor 1242 (4) | Compound Not Detected. | | | | | |
| | 31 Aroclor 1242 (5) | Compound Not Detected. | | | | | |
| M | 32 Aroclor-1248 | Compound Not Detected. | | | | | |
| | 33 Aroclor 1248 (1) | Compound Not Detected. | | | | | |
| | 34 Arcolor 1248 (2) | Compound Not Detected. | | | | | |
| | 35 Aroclor 1248 (3) | Compound Not Detected. | | | | | |
| | 36 Aroclor 1248 (4) | Compound Not Detected. | | | | | |
| | 37 Aroclor 1248 (5) | Compound Not Detected. | | | | | |
| M | 38 Aroclor-1254 | Compound Not Detected. | | | | | |
| | 39 Aroclor 1254 (1) | Compound Not Detected. | | | | | |
| | 40 Aroclor 1254 (2) | Compound Not Detected. | | | | | |
| | 41 Arcolor 1254 (3) | Compound Not Detected. | | | | | |
| | 42 Aroclor 1254 (4) | Compound Not Detected. | | | | | |
| | 43 Aroclor 1254 (5) | Compound Not Detected. | | | | | |
| M | 44 Aroclor-1262 | Compound Not Detected. | | | | | |
| | 45 Aroclor 1262 (1) | Compound Not Detected. | | | | | |
| | 46 Aroclor 1262 (2) | Compound Not Detected. | | | | | |
| | 47 Aroclor 1262 (3) | Compound Not Detected. | | | | | |
| | 48 Aroclor 1262 (4) | Compound Not Detected. | | | | | |
| | 49 Aroclor 1262 (5) | Compound Not Detected. | | | | | |
| M | 50 Aroclor-1268 | Compound Not Detected. | | | | | |
| | 51 Aroclor 1268 (1) | Compound Not Detected. | | | | | |
| | 52 Aroclor 1268 (2) | Compound Not Detected. | | | | | |
| | 53 Aroclor 1268 (3) | Compound Not Detected. | | | | | |
| | 54 Aroclor 1268 (4) | Compound Not Detected. | | | | | |
| | 55 Aroclor 1268 (5) | Compound Not Detected. | | | | | |
| $ | 56 Decachlorobiphenyl | 13.103 | 13.102 | 0.001 | 692454057 | 126.832 | 127 |

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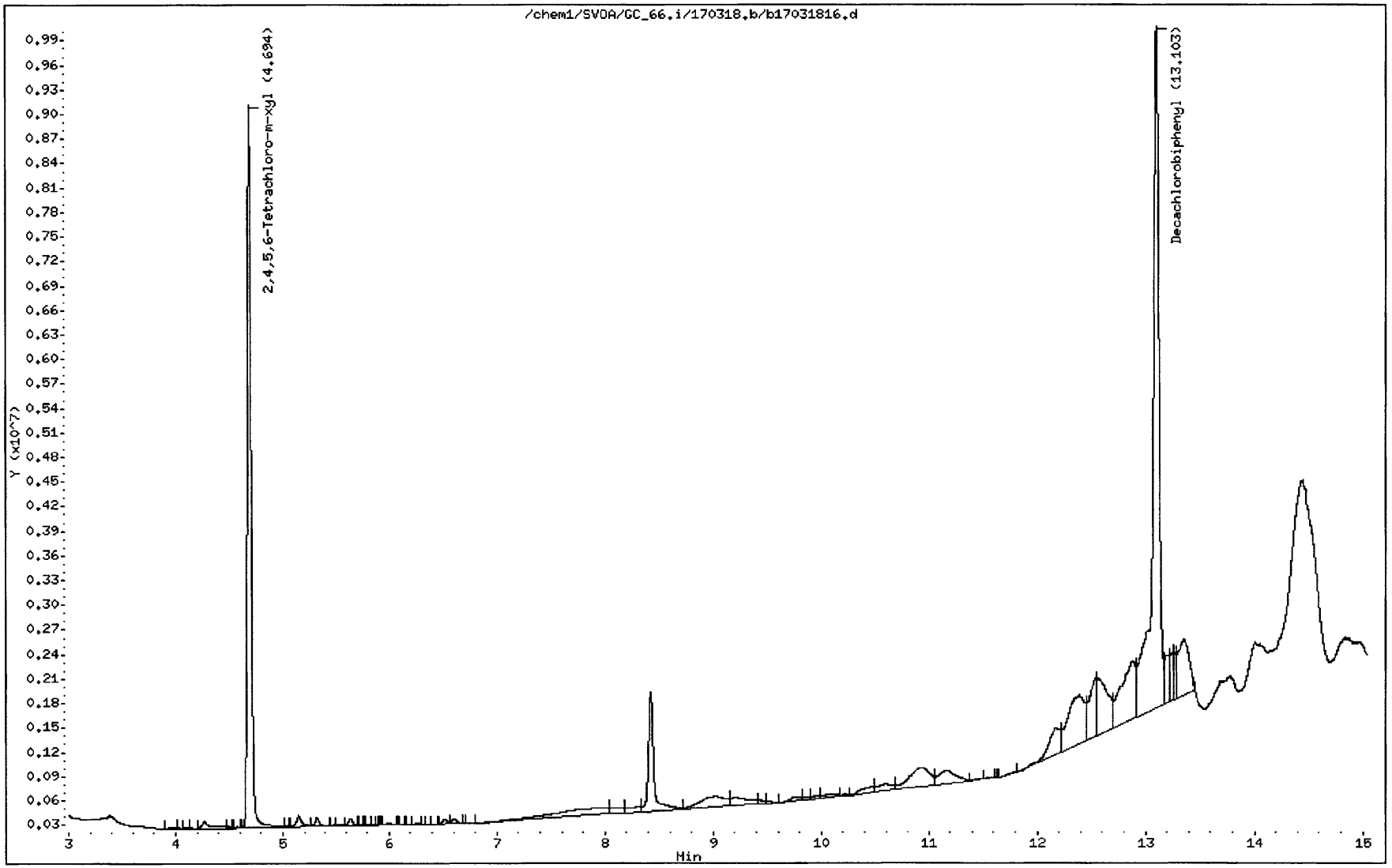
Data File: /chem1/SVOA/GC_66.i/170318.b/b17031816.d
Date : 18-MAR-2017 06:47
Client ID:
Sample Info: 17-03-0889-28

Instrument: GC_66.i

Operator: 669
Column diameter: 2.00

Column phase:



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# RAW DATA SHEET
# FOR METHOD: EPA 8082

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 669 |
| INSTRUMENT: | GC 66 | D/T ANALYZED: | 2017-03-18 07:04 |
| EXTRACTION : | EPA 3545 | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | |

DATA FILE: /chem1/SVOA/GC_66/170318/b1703181717031817

**# 29** **CLIENT SAMPLE NUMBER: D-DU2-ISM2-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L031 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 20.00 g / ACTUAL: 20.10 g |
| MS/MSD BATCH: | 170317S031 | FINAL VOLUME / WEIGHT: | DEFAULT: 10.00 ml / ACTUAL: 10.00 ml |
| UNITS: | ug/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT: Sample extracted outside recommended holding time.

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Aroclor-1016 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1221 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1232 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1242 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1248 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1254 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1260 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1262 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1268 | 0.000 | 1.00 | ND | 50 | w |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031817.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031817.d
Lab Smp Id:
Inj Date : 18-MAR-2017 07:04
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-0889-29
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 17
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | CONCENTRATIONS | |
|---|---|---|---|---|---|---|---|
| | | | | | | ON-COLUMN | FINAL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | (ug/Kg) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.692 | 0.002 | 457026000 | 79.5954 | 79.6 |
| M | 2 Aroclor-1016 | Compound Not Detected. | | | | | |
| | 3 Aroclor 1016 (1) | Compound Not Detected. | | | | | |
| | 4 Aroclor 1016 (2) | Compound Not Detected. | | | | | |
| | 5 Aroclor 1016 (3) | Compound Not Detected. | | | | | |
| | 6 Aroclor 1016 (4) | Compound Not Detected. | | | | | |
| | 7 Aroclor 1016 (5) | Compound Not Detected. | | | | | |
| M | 8 Aroclor-1260 | Compound Not Detected. | | | | | |
| | 9 Aroclor 1260 (1) | Compound Not Detected. | | | | | |
| | 10 Aroclor 1260 (2) | Compound Not Detected. | | | | | |
| | 11 Aroclor 1260 (3) | Compound Not Detected. | | | | | |
| | 12 Aroclor 1260 (4) | Compound Not Detected. | | | | | |
| | 13 Aroclor 1260 (5) | Compound Not Detected. | | | | | |
| M | 14 Aroclor-1221 | Compound Not Detected. | | | | | |
| | 15 Aroclor 1221 (1) | Compound Not Detected. | | | | | |
| | 16 Aroclor 1221 (2) | Compound Not Detected. | | | | | |
| | 17 Aroclor 1221 (3) | Compound Not Detected. | | | | | |
| | 18 Aroclor 1221 (4) | Compound Not Detected. | | | | | |
| | 19 Aroclor 1221 (5) | Compound Not Detected. | | | | | |
| M | 20 Aroclor-1232 | Compound Not Detected. | | | | | |
| | 21 Aroclor 1232 (1) | Compound Not Detected. | | | | | |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031817.d Page 2
Report Date: 20-Mar-2017 10:25

| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | CONCENTRATIONS FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| | 22 Aroclor 1232 (2) | Compound Not Detected. | | | | | |
| | 23 Aroclor 1232 (3) | Compound Not Detected. | | | | | |
| | 24 Aroclor 1232 (4) | Compound Not Detected. | | | | | |
| | 25 Aroclor 1232 (5) | Compound Not Detected. | | | | | |
| M | 26 Aroclor-1242 | Compound Not Detected. | | | | | |
| | 27 Aroclor 1242 (1) | Compound Not Detected. | | | | | |
| | 28 Aroclor 1242 (2) | Compound Not Detected. | | | | | |
| | 29 Aroclor 1242 (3) | Compound Not Detected. | | | | | |
| | 30 Aroclor 1242 (4) | Compound Not Detected. | | | | | |
| | 31 Aroclor 1242 (5) | Compound Not Detected. | | | | | |
| M | 32 Aroclor-1248 | Compound Not Detected. | | | | | |
| | 33 Aroclor 1248 (1) | Compound Not Detected. | | | | | |
| | 34 Arcolor 1248 (2) | Compound Not Detected. | | | | | |
| | 35 Aroclor 1248 (3) | Compound Not Detected. | | | | | |
| | 36 Aroclor 1248 (4) | Compound Not Detected. | | | | | |
| | 37 Aroclor 1248 (5) | Compound Not Detected. | | | | | |
| M | 38 Aroclor-1254 | Compound Not Detected. | | | | | |
| | 39 Aroclor 1254 (1) | Compound Not Detected. | | | | | |
| | 40 Aroclor 1254 (2) | Compound Not Detected. | | | | | |
| | 41 Arcolor 1254 (3) | Compound Not Detected. | | | | | |
| | 42 Aroclor 1254 (4) | Compound Not Detected. | | | | | |
| | 43 Aroclor 1254 (5) | Compound Not Detected. | | | | | |
| M | 44 Aroclor-1262 | Compound Not Detected. | | | | | |
| | 45 Aroclor 1262 (1) | Compound Not Detected. | | | | | |
| | 46 Aroclor 1262 (2) | Compound Not Detected. | | | | | |
| | 47 Aroclor 1262 (3) | Compound Not Detected. | | | | | |
| | 48 Aroclor 1262 (4) | Compound Not Detected. | | | | | |
| | 49 Aroclor 1262 (5) | Compound Not Detected. | | | | | |
| M | 50 Aroclor-1268 | Compound Not Detected. | | | | | |
| | 51 Aroclor 1268 (1) | Compound Not Detected. | | | | | |
| | 52 Aroclor 1268 (2) | Compound Not Detected. | | | | | |
| | 53 Aroclor 1268 (3) | Compound Not Detected. | | | | | |
| | 54 Aroclor 1268 (4) | Compound Not Detected. | | | | | |
| | 55 Aroclor 1268 (5) | Compound Not Detected. | | | | | |
| $ | 56 Decachlorobiphenyl | 13.102 | 13.102 | 0.000 | 485154575 | 88.8622 | 88.9 |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031817.d

Page 1

Date : 18-MAR-2017 07:04

Client ID:

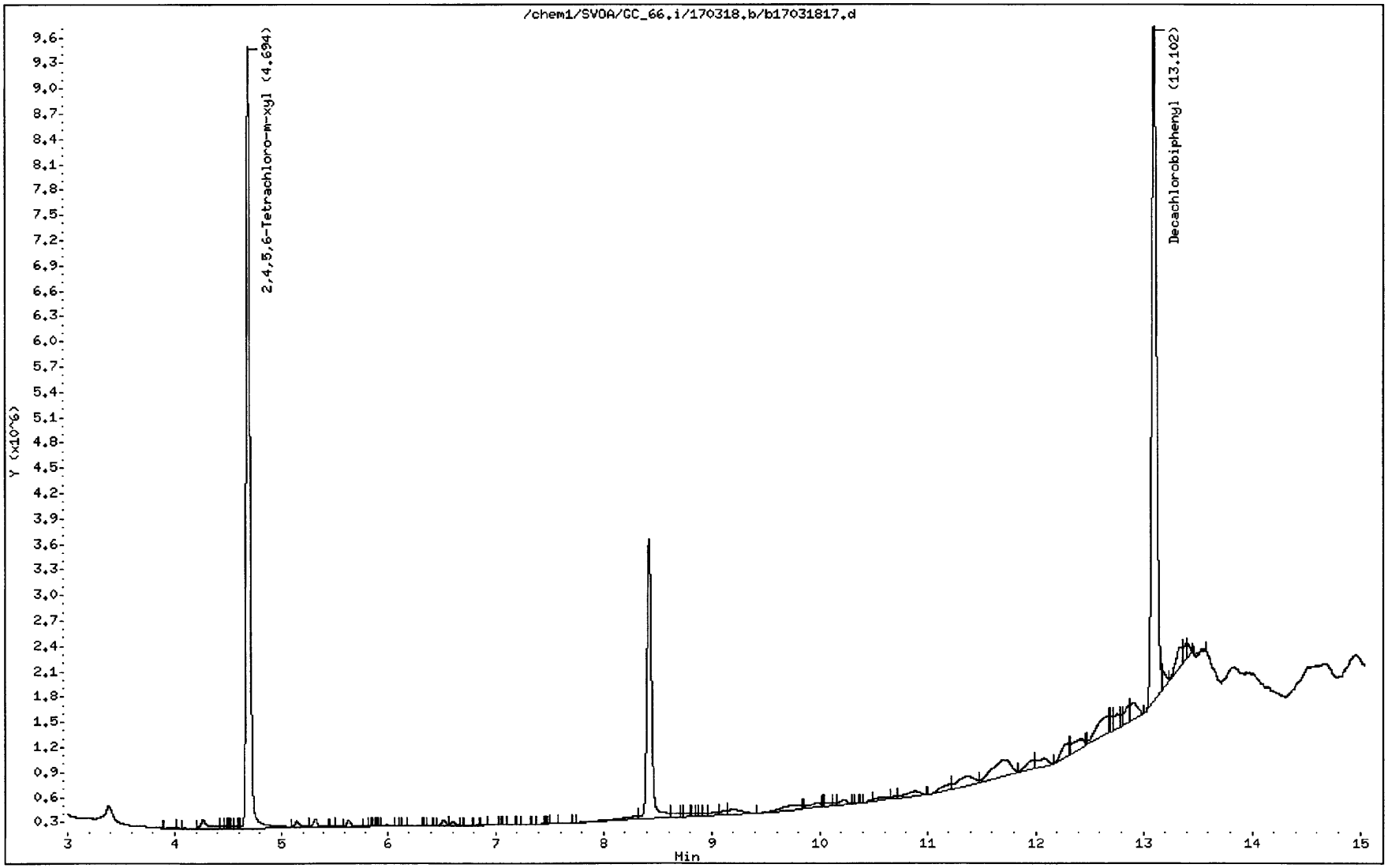
Instrument: GC_66.i

Sample Info: 17-03-0889-29

Operator: 669

Column phase:

Column diameter: 2.00



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# RAW DATA SHEET
# FOR METHOD: EPA 8082

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0889** | ANALYZED BY: | 669 |
| INSTRUMENT: | GC 66 | D/T ANALYZED: | 2017-03-18 07:22 |
| EXTRACTION : | EPA 3545 | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | |

DATA FILE: /chem1/SVOA/GC_66/170318/b1703181817031818

**# 30** **CLIENT SAMPLE NUMBER: D-DU2-ISM3-8**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L031 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 20.00 g / ACTUAL: 20.00 g |
| MS/MSD BATCH: | 170317S031 | FINAL VOLUME / WEIGHT: | DEFAULT: 10.00 ml / ACTUAL: 10.00 ml |
| UNITS: | ug/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT: Sample extracted outside recommended holding time.

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Aroclor-1016 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1221 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1232 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1242 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1248 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1254 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1260 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1262 | 0.000 | 1.00 | ND | 50 | w |
| Aroclor-1268 | 0.000 | 1.00 | ND | 50 | w |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031818.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031818.d
Lab Smp Id:
Inj Date : 18-MAR-2017 07:22
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-0889-30
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 18
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | CONCENTRATIONS | |
|---|---|---|---|---|---|---|---|
| | | | | | | ON-COLUMN | FINAL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | (ug/Kg) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.693 | 4.692 | 0.001 | 462010838 | 80.4635 | 80.5 |
| M | 2 Aroclor-1016 | Compound Not Detected. | | | | | |
| | 3 Aroclor 1016 (1) | Compound Not Detected. | | | | | |
| | 4 Aroclor 1016 (2) | Compound Not Detected. | | | | | |
| | 5 Aroclor 1016 (3) | Compound Not Detected. | | | | | |
| | 6 Aroclor 1016 (4) | Compound Not Detected. | | | | | |
| | 7 Aroclor 1016 (5) | Compound Not Detected. | | | | | |
| M | 8 Aroclor-1260 | Compound Not Detected. | | | | | |
| | 9 Aroclor 1260 (1) | Compound Not Detected. | | | | | |
| | 10 Aroclor 1260 (2) | Compound Not Detected. | | | | | |
| | 11 Aroclor 1260 (3) | Compound Not Detected. | | | | | |
| | 12 Aroclor 1260 (4) | Compound Not Detected. | | | | | |
| | 13 Aroclor 1260 (5) | Compound Not Detected. | | | | | |
| M | 14 Aroclor-1221 | Compound Not Detected. | | | | | |
| | 15 Aroclor 1221 (1) | Compound Not Detected. | | | | | |
| | 16 Aroclor 1221 (2) | Compound Not Detected. | | | | | |
| | 17 Aroclor 1221 (3) | Compound Not Detected. | | | | | |
| | 18 Aroclor 1221 (4) | Compound Not Detected. | | | | | |
| | 19 Aroclor 1221 (5) | Compound Not Detected. | | | | | |
| M | 20 Aroclor-1232 | Compound Not Detected. | | | | | |
| | 21 Aroclor 1232 (1) | Compound Not Detected. | | | | | |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031818.d Page 2
Report Date: 20-Mar-2017 10:25

| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | CONCENTRATIONS FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| | 22 Aroclor 1232 (2) | Compound Not Detected. | | | | | |
| | 23 Aroclor 1232 (3) | Compound Not Detected. | | | | | |
| | 24 Aroclor 1232 (4) | Compound Not Detected. | | | | | |
| | 25 Aroclor 1232 (5) | Compound Not Detected. | | | | | |
| M | 26 Aroclor-1242 | Compound Not Detected. | | | | | |
| | 27 Aroclor 1242 (1) | Compound Not Detected. | | | | | |
| | 28 Aroclor 1242 (2) | Compound Not Detected. | | | | | |
| | 29 Aroclor 1242 (3) | Compound Not Detected. | | | | | |
| | 30 Aroclor 1242 (4) | Compound Not Detected. | | | | | |
| | 31 Aroclor 1242 (5) | Compound Not Detected. | | | | | |
| M | 32 Aroclor-1248 | Compound Not Detected. | | | | | |
| | 33 Aroclor 1248 (1) | Compound Not Detected. | | | | | |
| | 34 Arcolor 1248 (2) | Compound Not Detected. | | | | | |
| | 35 Aroclor 1248 (3) | Compound Not Detected. | | | | | |
| | 36 Aroclor 1248 (4) | Compound Not Detected. | | | | | |
| | 37 Aroclor 1248 (5) | Compound Not Detected. | | | | | |
| M | 38 Aroclor-1254 | Compound Not Detected. | | | | | |
| | 39 Aroclor 1254 (1) | Compound Not Detected. | | | | | |
| | 40 Aroclor 1254 (2) | Compound Not Detected. | | | | | |
| | 41 Arcolor 1254 (3) | Compound Not Detected. | | | | | |
| | 42 Aroclor 1254 (4) | Compound Not Detected. | | | | | |
| | 43 Aroclor 1254 (5) | Compound Not Detected. | | | | | |
| M | 44 Aroclor-1262 | Compound Not Detected. | | | | | |
| | 45 Aroclor 1262 (1) | Compound Not Detected. | | | | | |
| | 46 Aroclor 1262 (2) | Compound Not Detected. | | | | | |
| | 47 Aroclor 1262 (3) | Compound Not Detected. | | | | | |
| | 48 Aroclor 1262 (4) | Compound Not Detected. | | | | | |
| | 49 Aroclor 1262 (5) | Compound Not Detected. | | | | | |
| M | 50 Aroclor-1268 | Compound Not Detected. | | | | | |
| | 51 Aroclor 1268 (1) | Compound Not Detected. | | | | | |
| | 52 Aroclor 1268 (2) | Compound Not Detected. | | | | | |
| | 53 Aroclor 1268 (3) | Compound Not Detected. | | | | | |
| | 54 Aroclor 1268 (4) | Compound Not Detected. | | | | | |
| | 55 Aroclor 1268 (5) | Compound Not Detected. | | | | | |
| $ | 56 Decachlorobiphenyl | 13.103 | 13.102 | 0.001 | 479269683 | 87.7843 | 87.8 |

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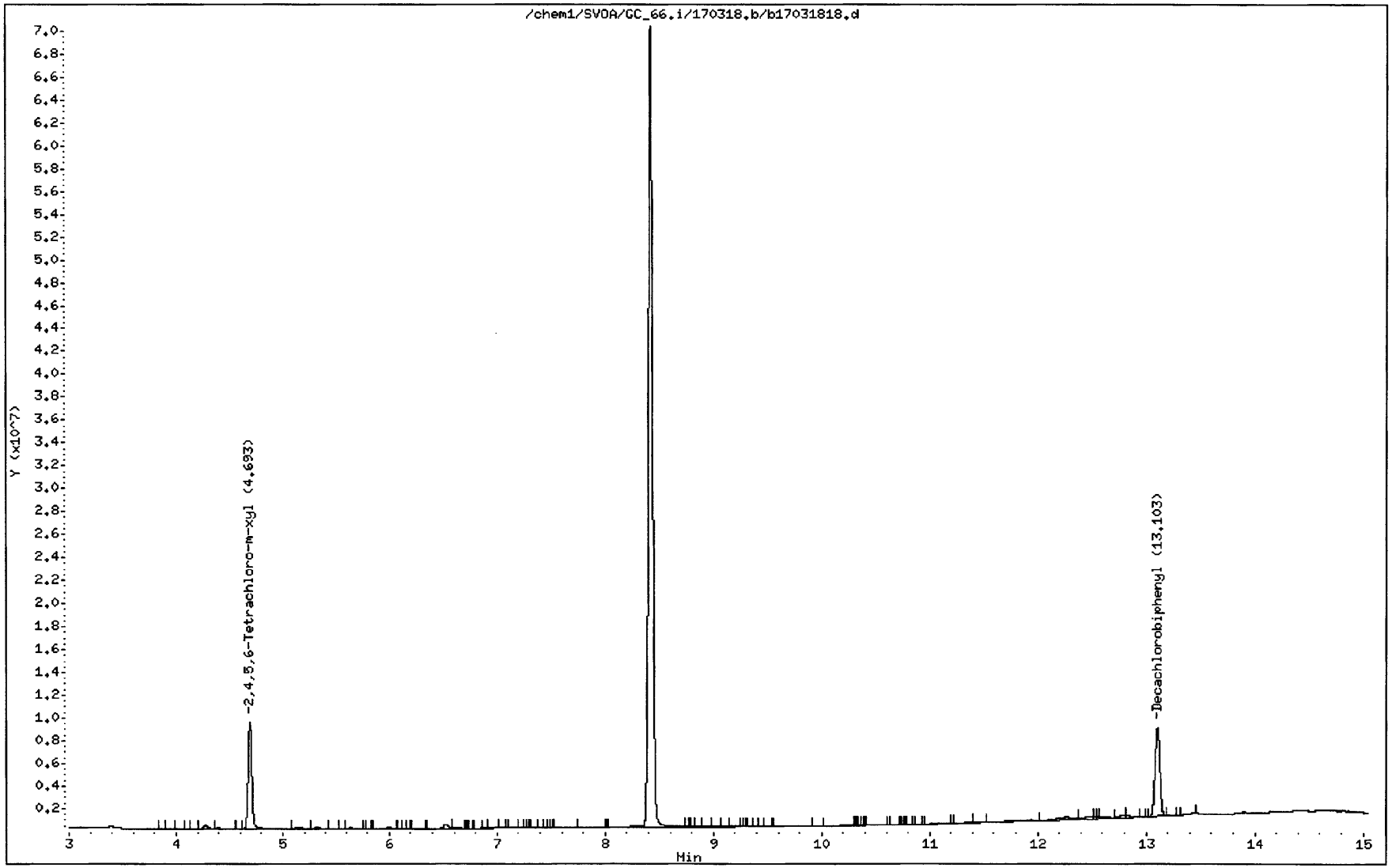
Data File: /chem1/SVOA/GC_66.i/170318.b/b17031818.d
Date : 18-MAR-2017 07:22
Client ID:
Sample Info: 17-03-0889-30

Instrument: GC_66.i
Operator: 669
Column diameter: 2.00

Column phase:



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# EPA METHOD 8082
# PCB Aroclors

## Quality Control

## Method Blank
## LCS/LCSD
## MS/MSD

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 8082

| | | | |
|---|---|---|---|
| **MB SAMPLE ID:** | **099-12-535-4108** | ANALYZED BY: | 669 |
| MB BATCH ID: | 170317L031 | D/T ANALYZED: | 2017-03-18 05:00 |
| INSTRUMENT: | GC 66 | REVIEWED BY: | |
| EXTRACTION: | EPA 3545 | D/T REVIEWED: | |
| D/T EXTRACTED: | 2017-03-17 00:00 | MATRIX: | Soil |

DATA FILE: /chem1/SVOA/GC_66/170318/b1703181017031810

**CLIENT WORK ORDER: 17-03-0889**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 28 | | D-DU2-ISM1-8 | 2017-03-18 06:47 | /chem1/SVOA/GC_66/170318/b1703181617031816 |
| 29 | | D-DU2-ISM2-8 | 2017-03-18 07:04 | /chem1/SVOA/GC_66/170318/b1703181717031817 |
| 30 | | D-DU2-ISM3-8 | 2017-03-18 07:22 | /chem1/SVOA/GC_66/170318/b1703181817031818 |

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# RAW DATA SHEET
# FOR METHOD: EPA 8082

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **099-12-535** | ANALYZED BY: | 669 |
| INSTRUMENT: | GC 66 | D/T ANALYZED: | 2017-03-18 05:00 |
| EXTRACTION : | EPA 3545 | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-17 00:00 | D/T REVIEWED: | |

DATA FILE: /chem1/SVOA/GC_66/170318/b1703181017031810

**# MB** **CLIENT SAMPLE NUMBER: Method Blank**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170317L031 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 1.00 / ACTUAL: 1.00 |
| MS/MSD BATCH: | | FINAL VOLUME / WEIGHT: | DEFAULT: 1.00 ml / ACTUAL: 1.00 ml |
| UNITS: | ug/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Aroclor-1016 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1221 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1232 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1242 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1248 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1254 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1260 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1262 | 0.000 | 1.00 | ND | 50 | |
| Aroclor-1268 | 0.000 | 1.00 | ND | 50 | |

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

| | | | | | |
|---|---|---|---|---|---|
| **LCS SAMPLE ID:** | **099-12-535- 4108** | EXTRACTION : | EPA 3545 | ANALYZED BY: | 669 |
| LCS/MB BATCH ID: | 170317L031 | D/T EXTRACTED: | 2017-03-17 00:00 | D/T ANALYZED: | 2017-03-18 05:17 |
| INSTRUMENT: | GC 66 | | | REVIEWED BY: | |
| | | | | D/T REVIEWED: | |

DATA FILE: /chem1/SVOA/GC_66/170318/b1703181117031811

| COMPOUND NAME | CONC ADDED | CONC REC | %RECOVERY | %REC CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| Aroclor-1016 | 100.0 | 79.50 | 80 | 50-135 | PASS | |
| Aroclor-1260 | 100.0 | 81.50 | 82 | 50-135 | PASS | |

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

**SPIKED SAMPLE ID:** **17-03-0889-28**
MS/MSD BATCH: 170317S031
INSTRUMENTS:
SAMPLE: GC 66
MS: GC 66
MSD: GC 66

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-17 00:00
MS: 2017-03-17 00:00
MSD: 2017-03-17 00:00

ANALYZED BY: 669
D/T ANALYZED:
SAMPLE: 2017-03-18 06:47
MS: 2017-03-18 05:35
MSD: 2017-03-18 05:53
REVIEWED BY:
D/T REVIEWED:

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | ND | 200.0 | 100.0 | 89.50 | 90 | 78.00 | 78 | 50-135 | 14 | 0-20 | PASS | |
| Aroclor-1260 | ND | 200.0 | 100.0 | 84.00 | 84 | 75.00 | 75 | 50-135 | 11 | 0-20 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17031812 | /chem1/SVOA/GC_66/170318/b17031812 |
| MSD | 17031813 | /chem1/SVOA/GC_66/170318/b17031813 |

# SURROGATE RECOVERIES
# FOR METHOD: EPA 8082

WORK ORDER: 17-03-0889
BATCH ID:
**LCS/MB: 170317L031**
**MS: 170317S031**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # 28 CLIENT SAMPLE NUMBER : D-DU2-ISM1-8

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-17 00:00
DATA FILE: /chem1/SVOA/GC_66/170318/b1703181617031816

ANALYZED BY: 669
D/T ANALYZED 2017-03-18 06:47

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 127 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 75 | 25-145 | PASS | |

## # 29 CLIENT SAMPLE NUMBER : D-DU2-ISM2-8

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-17 00:00
DATA FILE: /chem1/SVOA/GC_66/170318/b1703181717031817

ANALYZED BY: 669
D/T ANALYZED 2017-03-18 07:04

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 89 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 80 | 25-145 | PASS | |

## # 30 CLIENT SAMPLE NUMBER : D-DU2-ISM3-8

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-17 00:00
DATA FILE: /chem1/SVOA/GC_66/170318/b1703181817031818

ANALYZED BY: 669
D/T ANALYZED 2017-03-18 07:22

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 88 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 80 | 25-145 | PASS | |

## # MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-17 00:00
DATA FILE: /chem1/SVOA/GC_66/170318/b1703181017031810

ANALYZED BY: 669
D/T ANALYZED 2017-03-18 05:00

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 70 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 70 | 25-145 | PASS | |

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# SURROGATE RECOVERIES FOR METHOD: EPA 8082

WORK ORDER: 17-03-0889
BATCH ID:
**LCS/MB: 170317L031**
**MS:**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-17 00:00
DATA FILE: /chem1/SVOA/GC_66/170318/b1703181117031811

ANALYZED BY: 669
D/T ANALYZED 2017-03-18 05:17

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 69 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 72 | 25-145 | PASS | |

## # MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-17 00:00
DATA FILE: /chem1/SVOA/GC_66/170318/b1703181217031812

ANALYZED BY: 669
D/T ANALYZED 2017-03-18 05:35

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 138 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 71 | 25-145 | PASS | |

## # MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-17 00:00
DATA FILE: /chem1/SVOA/GC_66/170318/b1703181317031813

ANALYZED BY: 669
D/T ANALYZED 2017-03-18 05:53

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 113 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 66 | 25-145 | PASS | |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031810.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031810.d
Lab Smp Id:
Inj Date : 18-MAR-2017 05:00
Operator : 669 Inst ID: GC_66.i
Smp Info : MB 170317L031
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 10
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: all.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | CONCENTRATIONS | |
|---|---|---|---|---|---|---|---|
| | | | | | | ON-COLUMN | FINAL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | (ug/Kg) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.695 | 4.692 | 0.003 | 400585313 | 69.7657 | 69.8 |
| M | 2 Aroclor-1016 | Compound Not Detected. | | | | | |
| | 3 Aroclor 1016 (1) | Compound Not Detected. | | | | | |
| | 4 Aroclor 1016 (2) | Compound Not Detected. | | | | | |
| | 5 Aroclor 1016 (3) | Compound Not Detected. | | | | | |
| | 6 Aroclor 1016 (4) | Compound Not Detected. | | | | | |
| | 7 Aroclor 1016 (5) | Compound Not Detected. | | | | | |
| M | 8 Aroclor-1260 | Compound Not Detected. | | | | | |
| | 9 Aroclor 1260 (1) | Compound Not Detected. | | | | | |
| | 10 Aroclor 1260 (2) | Compound Not Detected. | | | | | |
| | 11 Aroclor 1260 (3) | Compound Not Detected. | | | | | |
| | 12 Aroclor 1260 (4) | Compound Not Detected. | | | | | |
| | 13 Aroclor 1260 (5) | Compound Not Detected. | | | | | |
| M | 14 Aroclor-1221 | Compound Not Detected. | | | | | |
| | 15 Aroclor 1221 (1) | Compound Not Detected. | | | | | |
| | 16 Aroclor 1221 (2) | Compound Not Detected. | | | | | |
| | 17 Aroclor 1221 (3) | Compound Not Detected. | | | | | |
| | 18 Aroclor 1221 (4) | Compound Not Detected. | | | | | |
| | 19 Aroclor 1221 (5) | Compound Not Detected. | | | | | |
| M | 20 Aroclor-1232 | Compound Not Detected. | | | | | |
| | 21 Aroclor 1232 (1) | Compound Not Detected. | | | | | |

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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031810.d Page 2
Report Date: 20-Mar-2017 10:25

| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | CONCENTRATIONS FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| | 22 Aroclor 1232 (2) | Compound Not Detected. | | | | | |
| | 23 Aroclor 1232 (3) | Compound Not Detected. | | | | | |
| | 24 Aroclor 1232 (4) | Compound Not Detected. | | | | | |
| | 25 Aroclor 1232 (5) | Compound Not Detected. | | | | | |
| M | 26 Aroclor-1242 | Compound Not Detected. | | | | | |
| | 27 Aroclor 1242 (1) | Compound Not Detected. | | | | | |
| | 28 Aroclor 1242 (2) | Compound Not Detected. | | | | | |
| | 29 Aroclor 1242 (3) | Compound Not Detected. | | | | | |
| | 30 Aroclor 1242 (4) | Compound Not Detected. | | | | | |
| | 31 Aroclor 1242 (5) | Compound Not Detected. | | | | | |
| M | 32 Aroclor-1248 | Compound Not Detected. | | | | | |
| | 33 Aroclor 1248 (1) | Compound Not Detected. | | | | | |
| | 34 Arcolor 1248 (2) | Compound Not Detected. | | | | | |
| | 35 Aroclor 1248 (3) | Compound Not Detected. | | | | | |
| | 36 Aroclor 1248 (4) | Compound Not Detected. | | | | | |
| | 37 Aroclor 1248 (5) | Compound Not Detected. | | | | | |
| M | 38 Aroclor-1254 | Compound Not Detected. | | | | | |
| | 39 Aroclor 1254 (1) | Compound Not Detected. | | | | | |
| | 40 Aroclor 1254 (2) | Compound Not Detected. | | | | | |
| | 41 Arcolor 1254 (3) | Compound Not Detected. | | | | | |
| | 42 Aroclor 1254 (4) | Compound Not Detected. | | | | | |
| | 43 Aroclor 1254 (5) | Compound Not Detected. | | | | | |
| M | 44 Aroclor-1262 | Compound Not Detected. | | | | | |
| | 45 Aroclor 1262 (1) | Compound Not Detected. | | | | | |
| | 46 Aroclor 1262 (2) | Compound Not Detected. | | | | | |
| | 47 Aroclor 1262 (3) | Compound Not Detected. | | | | | |
| | 48 Aroclor 1262 (4) | Compound Not Detected. | | | | | |
| | 49 Aroclor 1262 (5) | Compound Not Detected. | | | | | |
| M | 50 Aroclor-1268 | Compound Not Detected. | | | | | |
| | 51 Aroclor 1268 (1) | Compound Not Detected. | | | | | |
| | 52 Aroclor 1268 (2) | Compound Not Detected. | | | | | |
| | 53 Aroclor 1268 (3) | Compound Not Detected. | | | | | |
| | 54 Aroclor 1268 (4) | Compound Not Detected. | | | | | |
| | 55 Aroclor 1268 (5) | Compound Not Detected. | | | | | |
| $ | 56 Decachlorobiphenyl | 13.104 | 13.102 | 0.002 | 382354227 | 70.0330 | 70.0 |

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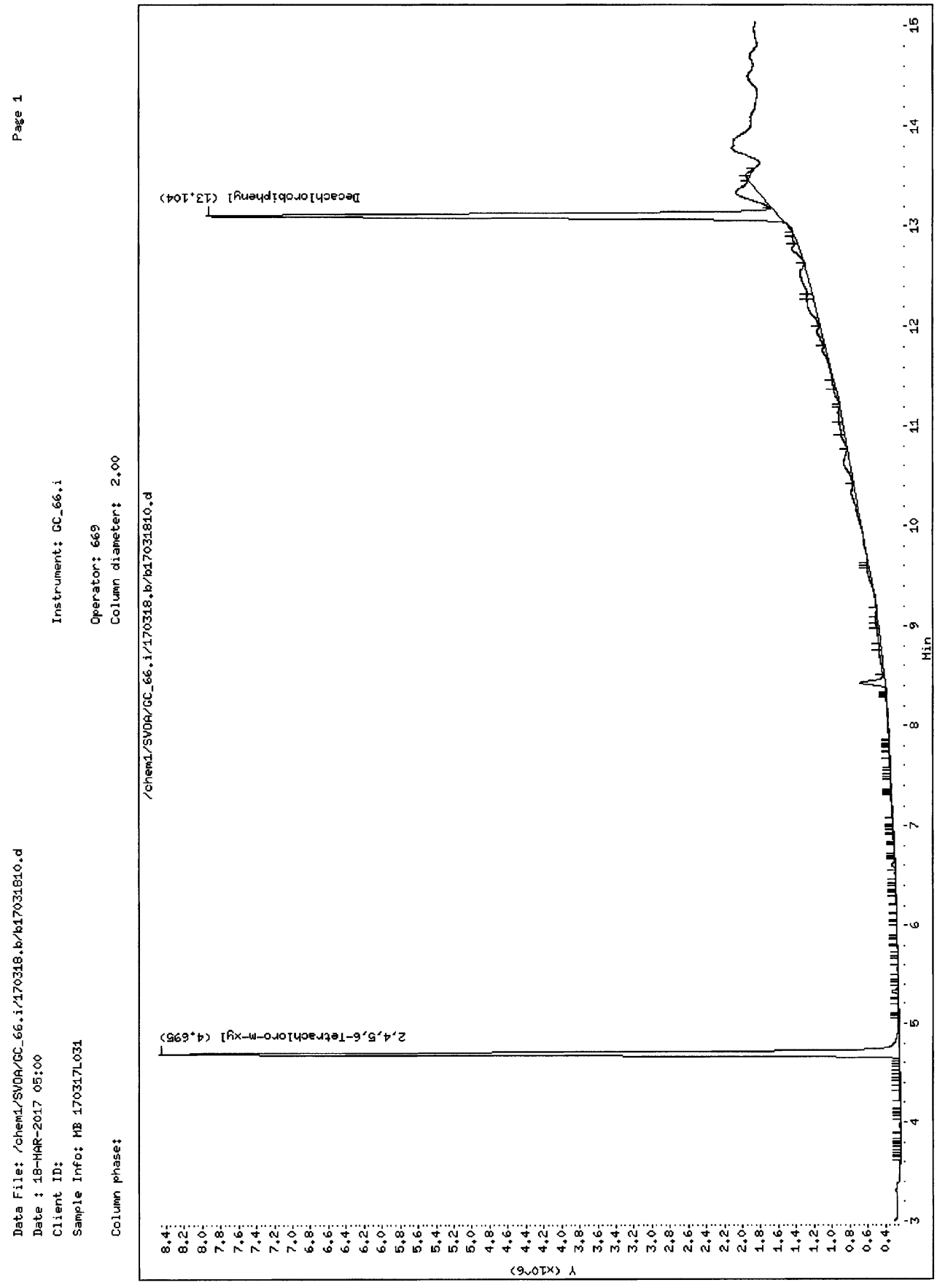


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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031811.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031811.d
Lab Smp Id:
Inj Date : 18-MAR-2017 05:17
Operator : 669 Inst ID: GC_66.i
Smp Info : LCS 170317L031
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 11
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | CONCENTRATIONS | |
|---|---|---|---|---|---|---|---|
| | | | | | | ON-COLUMN | FINAL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | (ug/Kg) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.695 | 4.692 | 0.003 | 413883322 | 72.0817 | 72.1 |
| M | 2 Aroclor-1016 | | | | 142398001 | 159.406 | 159 |
| | 3 Aroclor 1016 (1) | 5.533 | 5.529 | 0.004 | 14548560 | 161.587 | 162 |
| | 4 Aroclor 1016 (2) | 6.164 | 6.163 | 0.001 | 26801078 | 168.068 | 168 |
| | 5 Aroclor 1016 (3) | 6.845 | 6.840 | 0.005 | 56754521 | 159.906 | 160 |
| | 6 Aroclor 1016 (4) | 7.044 | 7.041 | 0.003 | 24996585 | 154.206 | 154 |
| | 7 Aroclor 1016 (5) | 7.194 | 7.190 | 0.004 | 19297257 | 152.209 | 152 |
| M | 8 Aroclor-1260 | | | | 154209212 | 162.706 | 163 |
| | 9 Aroclor 1260 (1) | 9.749 | 9.746 | 0.003 | 41389806 | 153.134 | 153 |
| | 10 Aroclor 1260 (2) | 10.348 | 10.346 | 0.002 | 34749781 | 162.415 | 162 |
| | 11 Aroclor 1260 (3) | 10.741 | 10.740 | 0.001 | 36145385 | 155.087 | 155 |
| | 12 Aroclor 1260 (4) | 12.118 | 12.115 | 0.003 | 13058527 | 157.100 | 157 |
| | 13 Aroclor 1260 (5) | 12.336 | 12.334 | 0.002 | 28865713 | 195.895 | 196 |
| $ | 56 Decachlorobiphenyl | 13.103 | 13.102 | 0.001 | 379143272 | 69.4449 | 69.4 |

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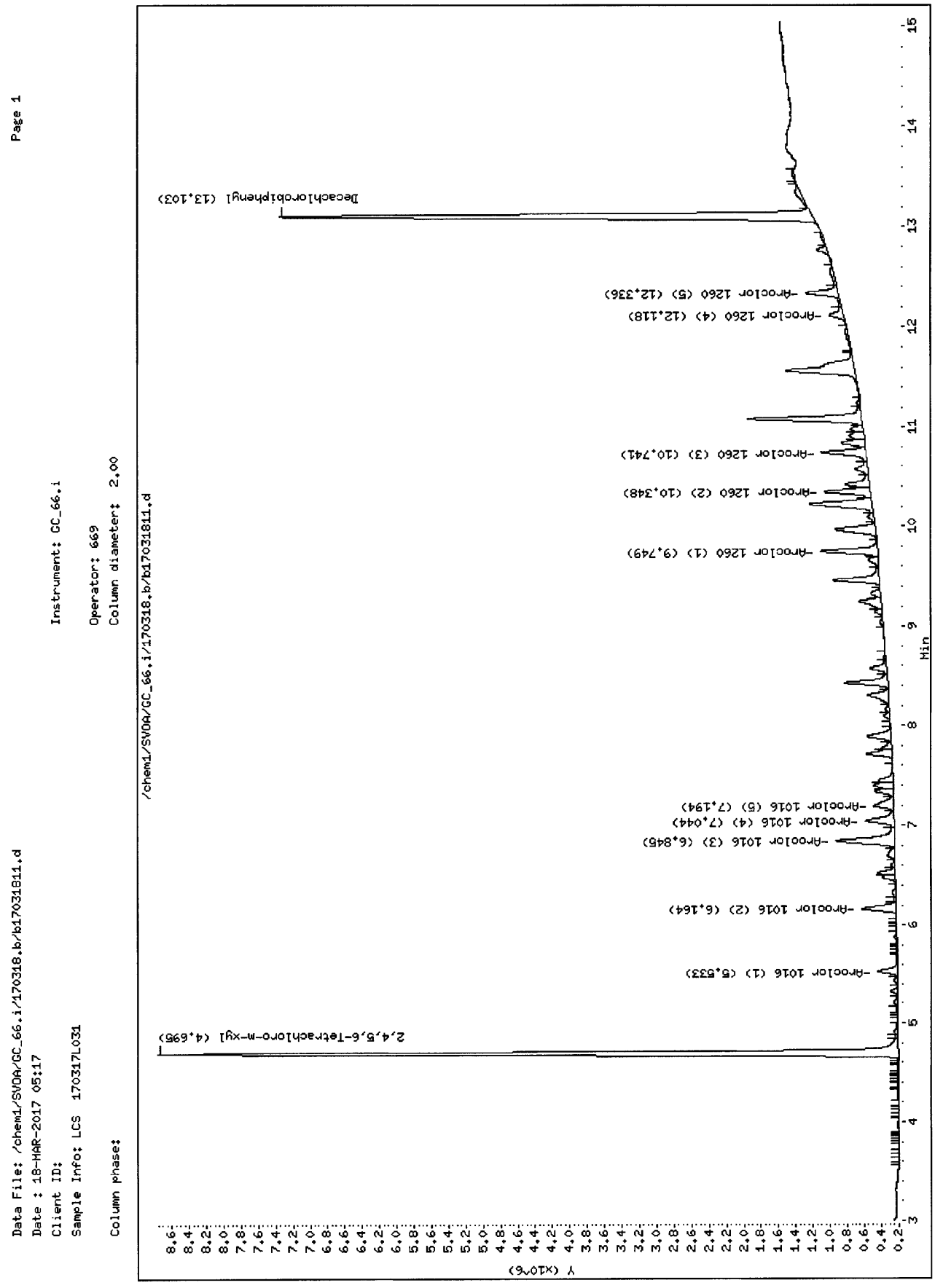


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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031812.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031812.d
Lab Smp Id:
Inj Date : 18-MAR-2017 05:35
Operator : 669 Inst ID: GC_66.i
Smp Info : MS 17-03-0889-28 170317S031
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 12
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | CONCENTRATIONS | |
|---|---|---|---|---|---|---|---|
| | | | | | | ON-COLUMN | FINAL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | (ug/Kg) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.692 | 0.002 | 409652398 | 71.3448 | 71.3 |
| M | 2 Aroclor-1016 | | | | 160178202 | 179.310 | 179 |
| | 3 Aroclor 1016 (1) | 5.532 | 5.529 | 0.003 | 17070921 | 189.602 | 190 |
| | 4 Aroclor 1016 (2) | 6.163 | 6.163 | 0.000 | 28500942 | 178.728 | 179 |
| | 5 Aroclor 1016 (3) | 6.841 | 6.840 | 0.001 | 65135229 | 183.519 | 184 |
| | 6 Aroclor 1016 (4) | 7.042 | 7.041 | 0.001 | 27653132 | 170.595 | 170 |
| | 7 Aroclor 1016 (5) | 7.192 | 7.190 | 0.002 | 21817978 | 172.091 | 172 |
| M | 8 Aroclor-1260 | | | | 159547428 | 168.338 | 168 |
| | 9 Aroclor 1260 (1) | 9.747 | 9.746 | 0.001 | 50576867 | 187.125 | 187 |
| | 10 Aroclor 1260 (2) | 10.348 | 10.346 | 0.002 | 40281234 | 188.268 | 188 |
| | 11 Aroclor 1260 (3) | 10.741 | 10.740 | 0.001 | 39857973 | 171.017 | 171 |
| | 12 Aroclor 1260 (4) | 12.118 | 12.115 | 0.003 | 8945049 | 107.613 | 108 |
| | 13 Aroclor 1260 (5) | 12.336 | 12.334 | 0.002 | 19886305 | 134.957 | 135 |
| $ | 56 Decachlorobiphenyl | 13.103 | 13.102 | 0.001 | 753654691 | 138.041 | 138 |

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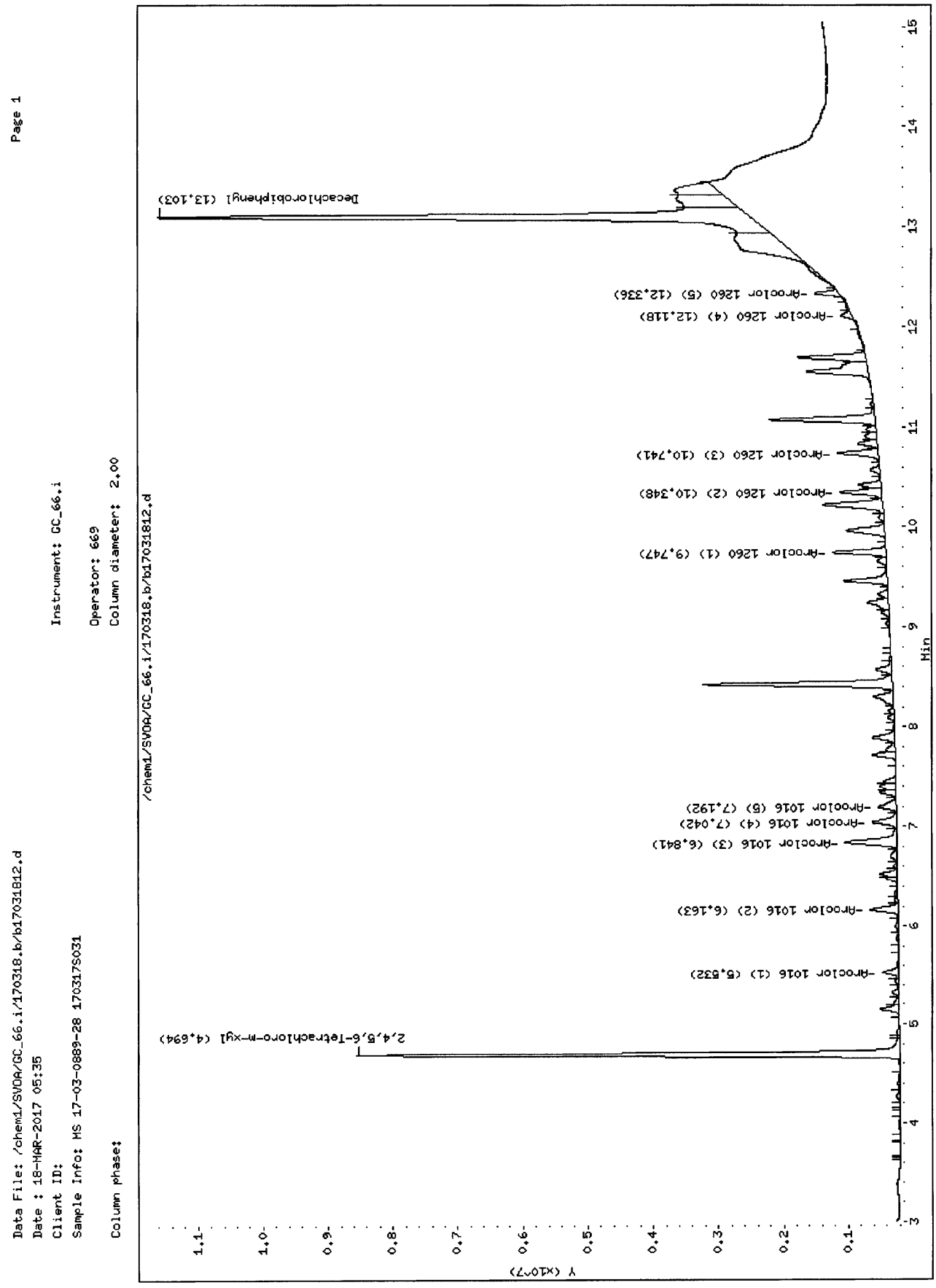


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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031813.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031813.d
Lab Smp Id:
Inj Date : 18-MAR-2017 05:53
Operator : 669 Inst ID: GC_66.i
Smp Info : MSD 17-03-0889-28 170317S031
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 13
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | CONCENTRATIONS | |
|---|---|---|---|---|---|---|---|
| | | | | | | ON-COLUMN | FINAL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | (ug/Kg) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.695 | 4.692 | 0.003 | 378004017 | 65.8330 | 65.8 |
| M | 2 Aroclor-1016 | | | | 139381314 | 156.029 | 156 |
| | 3 Aroclor 1016 (1) | 5.533 | 5.529 | 0.004 | 13816058 | 153.451 | 153 |
| | 4 Aroclor 1016 (2) | 6.164 | 6.163 | 0.001 | 25058812 | 157.143 | 157 |
| | 5 Aroclor 1016 (3) | 6.846 | 6.840 | 0.006 | 56497803 | 159.183 | 159 |
| | 6 Aroclor 1016 (4) | 7.043 | 7.041 | 0.002 | 24693617 | 152.337 | 152 |
| | 7 Aroclor 1016 (5) | 7.193 | 7.190 | 0.003 | 19315024 | 152.349 | 152 |
| M | 8 Aroclor-1260 | | | | 142545216 | 150.399 | 150 |
| | 9 Aroclor 1260 (1) | 9.747 | 9.746 | 0.001 | 45030122 | 166.603 | 167 |
| | 10 Aroclor 1260 (2) | 10.347 | 10.346 | 0.001 | 35617885 | 166.473 | 166 |
| | 11 Aroclor 1260 (3) | 10.740 | 10.740 | 0.000 | 34999558 | 150.171 | 150 |
| | 12 Aroclor 1260 (4) | 12.119 | 12.115 | 0.004 | 8817260 | 106.076 | 106 |
| | 13 Aroclor 1260 (5) | 12.335 | 12.334 | 0.001 | 18080391 | 122.701 | 123 |
| $ | 56 Decachlorobiphenyl | 13.102 | 13.102 | 0.000 | 617834954 | 113.164 | 113 |

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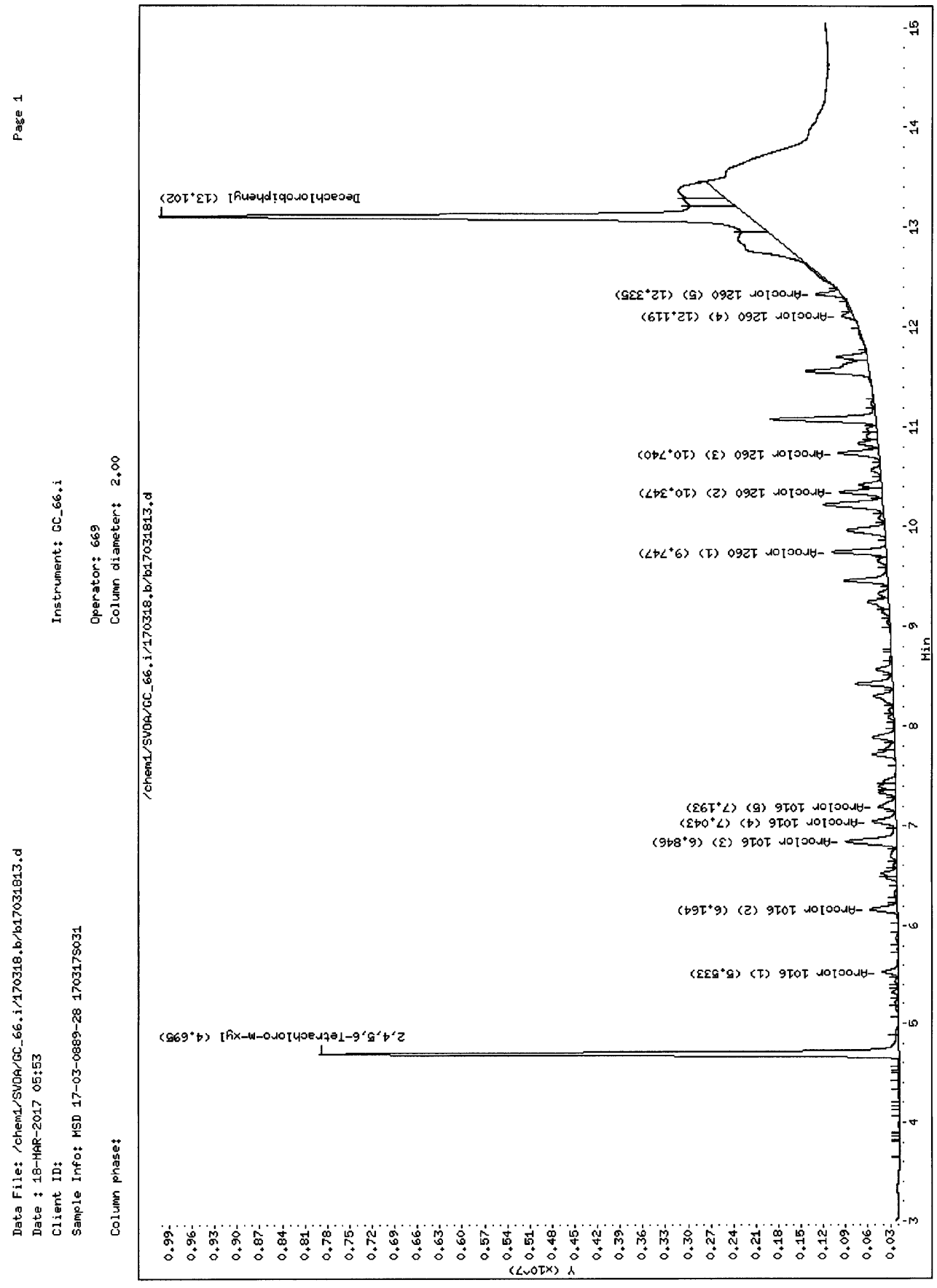


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# EPA METHOD 8082
# PCB Aroclors

# Continuing Calibration

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# CCV ASSOCIATION SUMMARY
# FOR METHOD: EPA 8082

**BATCH ID:** **170318A015** ANALYZED BY: 669
INSTRUMENT: GC 66

**WORK ORDER:** **099-12-532** REVIEWED BY:
MATRIX: Water D/T REVIEWED:

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 9462 | Daily Calibration | 2017-03-18 02:19 | /chem1/SVOA/GC_66/170318/b1703180117031801 |

**WORK ORDER:** **17-03-0889** REVIEWED BY:
MATRIX: Soil D/T REVIEWED:

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 28 | D-DU2-ISM1-8 | 2017-03-18 05:35 | /chem1/SVOA/GC_66/170318/b1703181217031812 |
| 28 | D-DU2-ISM1-8 | 2017-03-18 05:53 | /chem1/SVOA/GC_66/170318/b1703181317031813 |
| 28 | D-DU2-ISM1-8 | 2017-03-18 06:47 | /chem1/SVOA/GC_66/170318/b1703181617031816 |
| 29 | D-DU2-ISM2-8 | 2017-03-18 07:04 | /chem1/SVOA/GC_66/170318/b1703181717031817 |
| 30 | D-DU2-ISM3-8 | 2017-03-18 07:22 | /chem1/SVOA/GC_66/170318/b1703181817031818 |

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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

**CCV WORK ORDER:** **099-12-532-9462-5154**
BATCH ID:
INITIAL: 170222I003
CCV: 170318A015
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170318/b1703180117031801

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
CCV: 2017-03-18 02:19
REVIEWED BY:
D/T REVIEWED:

| COMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | C | Avg Resp | 0.00 | 893304.438 | 807832.250 | | | 10 | 0-15 | PASS |
| Aroclor-1260 | C | Avg Resp | 0.00 | 947781.003 | 808954.834 | | | 15 | 0-15 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170318.b/b17031801.d
Report Date: 03/20/2017 10:43

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_66.i
Sample Name: PCB CCV P021517I 500PPB
Sublist used: p1016_1260.sub
Method used: /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m

Injection Date and Time: 18-MAR-2017 02:19
Initial Calibration Date(s): 22-FEB-2017 22-FEB-2017
Initial Calibration Time(s): 17:27 20:07

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type | |
|---|---|---|---|---|---|---|---|
| Aroclor 1260 (1) | 270284.532 | 235621.814 | 0.01 | 13 | 15 | Averaged | |
| Aroclor 1260 (2) | 213956.488 | 194329.646 | 0.01 | 9 | 15 | Averaged | |
| Aroclor 1260 (3) | 233064.808 | 194635.354 | 0.01 | 16 | 15 | Averaged | <-Failed |
| Aroclor 1260 (4) | 83122.167 | 56207.964 | 0.01 | 32 | 15 | Averaged | <-Failed |
| Aroclor-1260 | 947781.003 | 808954.834 | 0.01 | 15 | 15 | Averaged | |
| Aroclor-1016 | 893304.438 | 807832.250 | 0.01 | 10 | 15 | Averaged | |
| Aroclor 1016 (1) | 90035.625 | 81812.162 | 0.01 | 9 | 15 | Averaged | |
| Aroclor 1016 (2) | 159465.395 | 146668.288 | 0.01 | 8 | 15 | Averaged | |
| Aroclor 1016 (3) | 354923.864 | 324113.184 | 0.01 | 9 | 15 | Averaged | |
| Aroclor 1016 (4) | 162098.269 | 143100.166 | 0.01 | 12 | 15 | Averaged | |
| Aroclor 1016 (5) | 126781.283 | 112138.450 | 0.01 | 12 | 15 | Averaged | |
| Aroclor 1260 (5) | 147353.008 | 128160.056 | 0.01 | 13 | 15 | Averaged | |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 5741865.174 | 5396071.710 | 0.01 | 6 | 15 | Averaged |
| Decachlorobiphenyl | 5459627.036 | 4642794.610 | 0.01 | 15 | 15 | Averaged |



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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031801.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031801.d
Lab Smp Id:
Inj Date : 18-MAR-2017 02:19
Operator : 669 Inst ID: GC_66.i
Smp Info : PCB CCV P021517I 500PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 1 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.692 | 4.692 | 0.000 | 539607171 | 100.000 | 94.0 |
| M | 2 Aroclor-1016 | | | | 403916125 | 500.000 | 452 |
| | 3 Aroclor 1016 (1) | 5.529 | 5.529 | 0.000 | 40906081 | 500.000 | 454 |
| | 4 Aroclor 1016 (2) | 6.163 | 6.163 | 0.000 | 73334144 | 500.000 | 460 |
| | 5 Aroclor 1016 (3) | 6.840 | 6.840 | 0.000 | 162056592 | 500.000 | 456 |
| | 6 Aroclor 1016 (4) | 7.041 | 7.041 | 0.000 | 71550083 | 500.000 | 441 |
| | 7 Aroclor 1016 (5) | 7.190 | 7.190 | 0.000 | 56069225 | 500.000 | 442 |
| M | 8 Aroclor-1260 | | | | 404477417 | 500.000 | 427 |
| | 9 Aroclor 1260 (1) | 9.746 | 9.746 | 0.000 | 117810907 | 500.000 | 436 |
| | 10 Aroclor 1260 (2) | 10.346 | 10.346 | 0.000 | 97164823 | 500.000 | 454 |
| | 11 Aroclor 1260 (3) | 10.740 | 10.740 | 0.000 | 97317677 | 500.000 | 418 |
| | 12 Aroclor 1260 (4) | 12.115 | 12.115 | 0.000 | 28103982 | 500.000 | 338 |
| | 13 Aroclor 1260 (5) | 12.334 | 12.334 | 0.000 | 64080028 | 500.000 | 435 |
| $ | 56 Decachlorobiphenyl | 13.102 | 13.102 | 0.000 | 464279461 | 100.000 | 85.0 |

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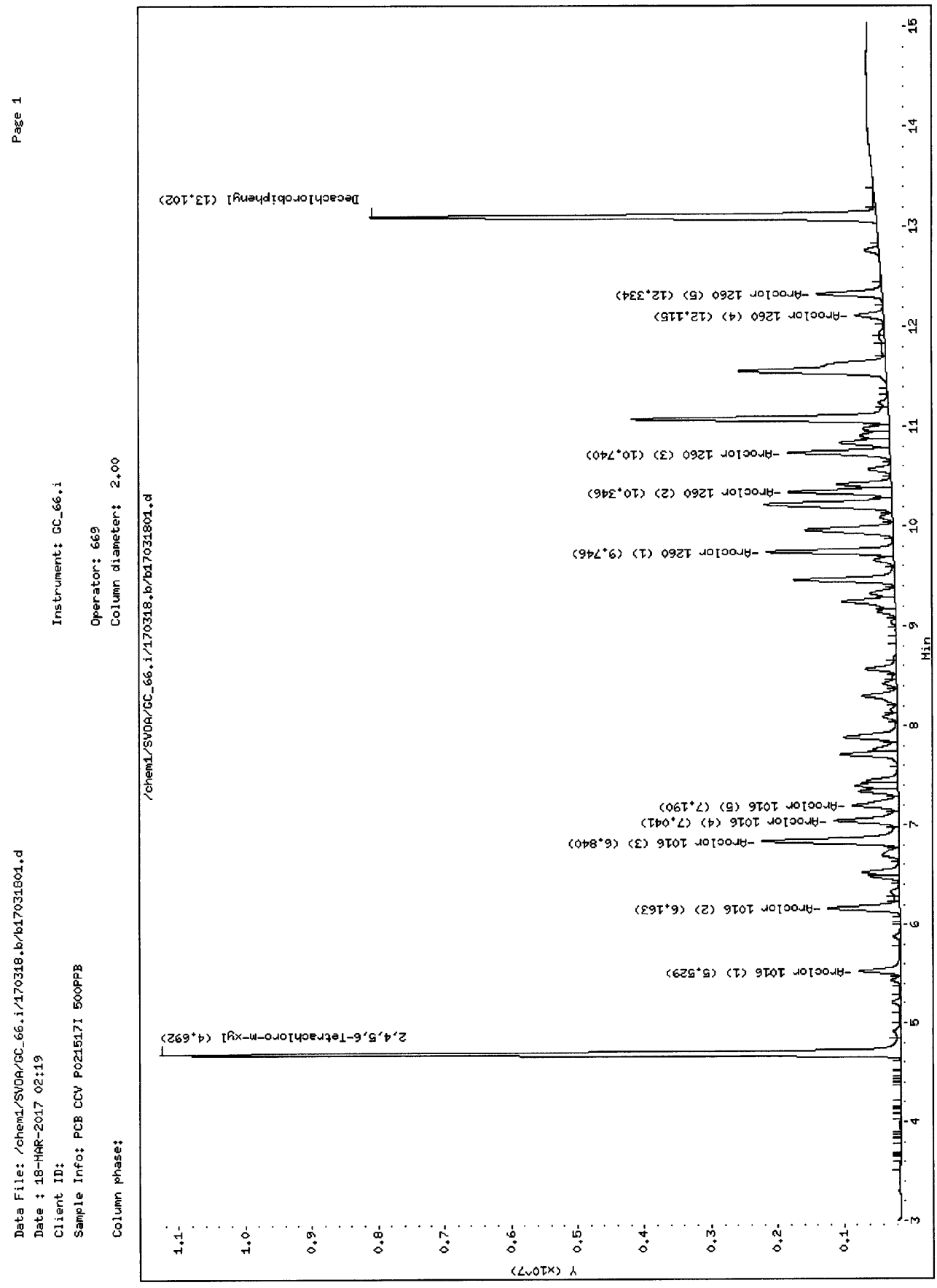


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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

**CCV WORK ORDER:** **099-12-532-9463-5154**
BATCH ID:
INITIAL: 170222I003
CCV: 170318A016
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170318/b1703182217031822

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
CCV: 2017-03-18 08:34
REVIEWED BY:
D/T REVIEWED:

| COMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | C | Avg Resp | 0.00 | 893304.438 | 770549.144 | | | 14 | 0-15 | PASS |
| Aroclor-1260 | C | Avg Resp | 0.00 | 947781.003 | 807773.178 | | | 15 | 0-15 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170318.b/b17031822.d
Report Date: 03/20/2017 10:43

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_66.i
Sample Name: PCB CCV P021517I 500PPB
Sublist used: p1016_1260.sub
Method used: /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m

Injection Date and Time: 18-MAR-2017 08:34
Initial Calibration Date(s): 22-FEB-2017 22-FEB-2017
Initial Calibration Time(s): 17:27 20:07

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type | |
|---|---|---|---|---|---|---|---|
| Aroclor 1260 (1) | 270284.532 | 229662.198 | 0.01 | 15 | 15 | Averaged | |
| Aroclor 1260 (2) | 213956.488 | 192004.940 | 0.01 | 10 | 15 | Averaged | |
| Aroclor 1260 (3) | 233064.808 | 189013.510 | 0.01 | 19 | 15 | Averaged | <-Failed |
| Aroclor 1260 (4) | 83122.167 | 58560.528 | 0.01 | 30 | 15 | Averaged | <-Failed |
| Aroclor-1260 | 947781.003 | 807773.178 | 0.01 | 15 | 15 | Averaged | |
| Aroclor-1016 | 893304.438 | 770549.144 | 0.01 | 14 | 15 | Averaged | |
| Aroclor 1016 (1) | 90035.625 | 77711.668 | 0.01 | 14 | 15 | Averaged | |
| Aroclor 1016 (2) | 159465.395 | 140551.664 | 0.01 | 12 | 15 | Averaged | |
| Aroclor 1016 (3) | 354923.864 | 312490.464 | 0.01 | 12 | 15 | Averaged | |
| Aroclor 1016 (4) | 162098.269 | 134509.556 | 0.01 | 17 | 15 | Averaged | <-Failed |
| Aroclor 1016 (5) | 126781.283 | 105285.792 | 0.01 | 17 | 15 | Averaged | <-Failed |
| Aroclor 1260 (5) | 147353.008 | 138532.002 | 0.01 | 6 | 15 | Averaged | |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| 2,4,5,6-Tetrachloro-m-xylene | 5741865.174 | 5254579.850 | 0.01 | 8 | 15 | Averaged |
| Decachlorobiphenyl | 5459627.036 | 4867732.890 | 0.01 | 11 | 15 | Averaged |



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Data File: /chem1/SVOA/GC_66.i/170318.b/b17031822.d Page 1
Report Date: 20-Mar-2017 10:25

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170318.b/b17031822.d
Lab Smp Id:
Inj Date : 18-MAR-2017 08:34
Operator : 669 Inst ID: GC_66.i
Smp Info : PCB CCV P021517I 500PPB
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170318.b/b8082d-n2.m
Meth Date : 20-Mar-2017 10:25 uhhn Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 22 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: p1016_1260.sub
Target Version: 3.50
Processing Host: US26TAR4

Concentration Formula: Amt * DF * CpndVariable

Cpnd Variable Local Compound Variable

| | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|
| | | | | | | CAL-AMT | ON-COL |
| | Compounds | RT | EXP RT | DLT RT | RESPONSE | ( ppb) | ( ppb) |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.694 | 0.000 | 525457985 | 100.000 | 91.5 |
| M | 2 Aroclor-1016 | | | | 385274572 | 500.000 | 431 |
| | 3 Aroclor 1016 (1) | 5.530 | 5.530 | 0.000 | 38855834 | 500.000 | 432 |
| | 4 Aroclor 1016 (2) | 6.163 | 6.163 | 0.000 | 70275832 | 500.000 | 441 |
| | 5 Aroclor 1016 (3) | 6.841 | 6.841 | 0.000 | 156245232 | 500.000 | 440 |
| | 6 Aroclor 1016 (4) | 7.041 | 7.041 | 0.000 | 67254778 | 500.000 | 415 |
| | 7 Aroclor 1016 (5) | 7.191 | 7.191 | 0.000 | 52642896 | 500.000 | 415 |
| M | 8 Aroclor-1260 | | | | 403886589 | 500.000 | 426 |
| | 9 Aroclor 1260 (1) | 9.747 | 9.747 | 0.000 | 114831099 | 500.000 | 425 |
| | 10 Aroclor 1260 (2) | 10.346 | 10.346 | 0.000 | 96002470 | 500.000 | 449 |
| | 11 Aroclor 1260 (3) | 10.739 | 10.739 | 0.000 | 94506755 | 500.000 | 405 |
| | 12 Aroclor 1260 (4) | 12.114 | 12.114 | 0.000 | 29280264 | 500.000 | 352 |
| | 13 Aroclor 1260 (5) | 12.334 | 12.334 | 0.000 | 69266001 | 500.000 | 470 |
| $ | 56 Decachlorobiphenyl | 13.102 | 13.102 | 0.000 | 486773289 | 100.000 | 89.2 |

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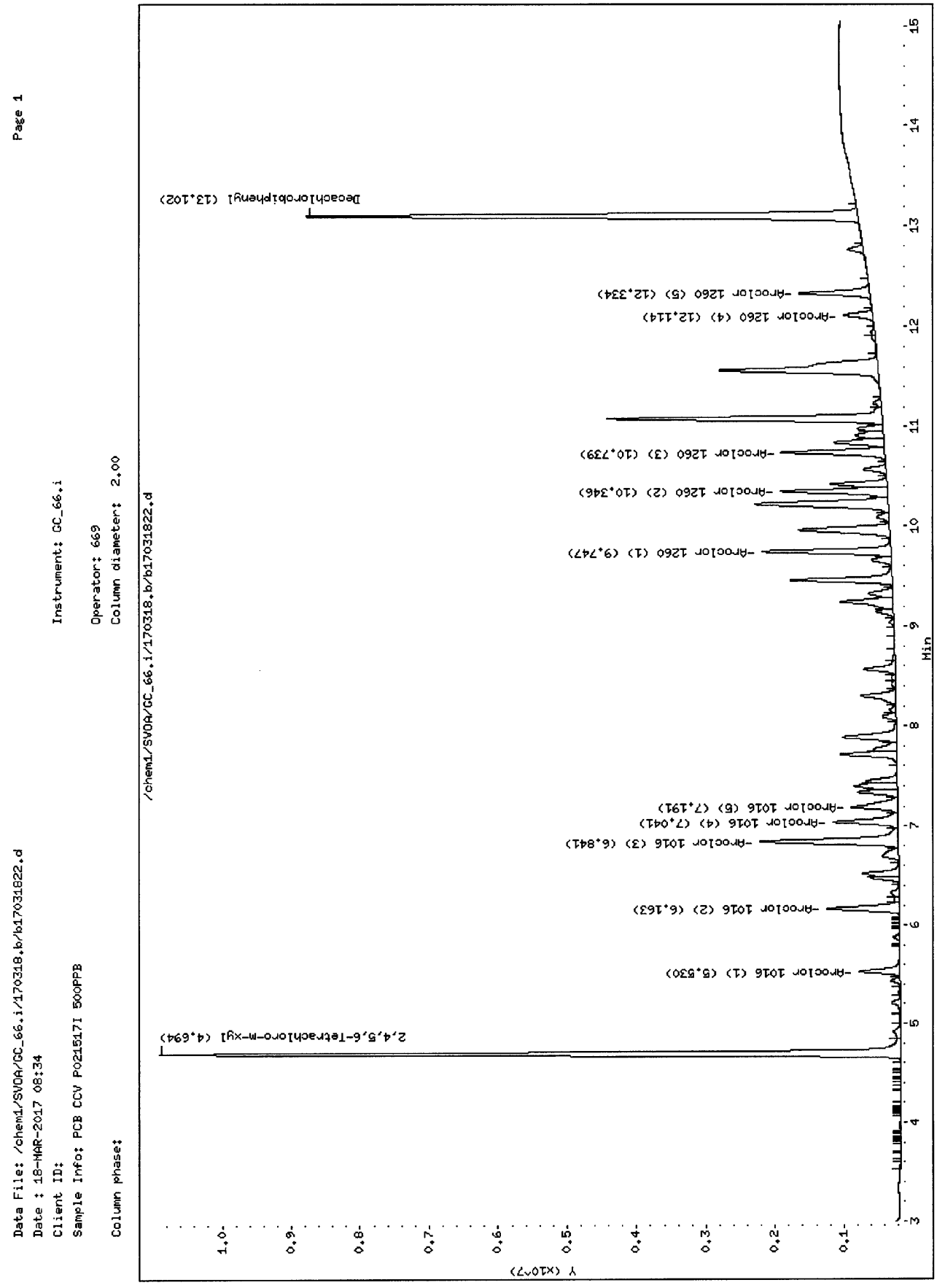


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# EPA METHOD 8082
# PCB Aroclors

# Run Logs

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| Line | Vial | File | Name | Method | InjVolume | Acquired |
|---|---|---|---|---|---|---|
| 1 | 100 | 17022200 | IB S007-044-07 | 8082D-N2 | | 22-Feb-17, 17:09:45 |
| 2 | 1 | 17022201 | PCB ICAL1 P021517F 100PPB | 8082D-N2 | | 22-Feb-17, 17:27:32 |
| 3 | 2 | 17022202 | PCB ICAL2 P021517E 250PPB | 8082D-N2 | | 22-Feb-17, 17:45:20 |
| 4 | 3 | 17022203 | PCB ICAL3 P021517D 500PPB | 8082D-N2 | | 22-Feb-17, 18:03:10 |
| 5 | 4 | 17022204 | PCB ICAL4 P021517C 750PPB | 8082D-N2 | | 22-Feb-17, 18:21:00 |
| 6 | 5 | 17022205 | PCB ICAL5 P021517B 2000PPB | 8082D-N2 | 1003 | 22-Feb-17, 18:38:49 |
| 7 | 6 | 17022206 | PCB ICV P021517H 500PPB | 8082D-N2 | | 22-Feb-17, 18:56:37 |
| 8 | 7 | 17022207 | PCB 1221/54 500PPB P120616I | 8082D-N2 | | 22-Feb-17, 19:14:26 |
| 9 | 8 | 17022208 | PCB 1232/62 500PPB P120616J | 8082D-N2 | | 22-Feb-17, 19:32:18 |
| 10 | 9 | 17022209 | PCB 1248/68 500PPB P120616K | 8082D-N2 | | 22-Feb-17, 19:50:07 |
| 11 | 10 | 17022210 | PCB 1242 500PPB P120616L | 8082D-N2 | | 22-Feb-17, 20:07:55 |

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| Line | Vial | File | Name | Method | InjVolume | Acquired |
|---|---|---|---|---|---|---|
| 1 | 150 | 17031800 | S007-46-21 | 8082D-N2 | | 18-Mar-17, 02:01:55 |
| 2 | 1 | 17031801 | PCB CCV P021517I 500PPB | 8082D-N2 | A015 | 18-Mar-17, 02:19:41 |
| 3 | 2 | 17031802 | 17-03-0879-5 | 8082D-N2 | | 18-Mar-17, 02:37:30 |
| 4 | 3 | 17031803 | 17-03-0879-6 | 8082D-N2 | | 18-Mar-17, 02:55:19 |
| 5 | 4 | 17031804 | 17-03-0879-7 | 8082D-N2 | | 18-Mar-17, 03:13:12 |
| 6 | 5 | 17031805 | 17-03-0879-10 | 8082D-N2 | | 18-Mar-17, 03:31:01 |
| 7 | 6 | 17031806 | 17-03-0879-11 | 8082D-N2 | | 18-Mar-17, 03:48:52 |
| 8 | 7 | 17031807 | 17-03-0879-12 | 8082D-N2 | | 18-Mar-17, 04:06:38 |
| 9 | 8 | 17031808 | MS 17-03-0879-12 170315S032 | 8082D-N2 | | 18-Mar-17, 04:24:29 |
| 10 | 9 | 17031809 | MSD 17-03-0879-12 170315S032 | 8082D-N2 | | 18-Mar-17, 04:42:18 |
| 11 | 10 | 17031810 | MB 170317L031 | 8082D-N2 | | 18-Mar-17, 05:00:09 |
| 12 | 11 | 17031811 | LCS 170317L031 | 8082D-N2 | | 18-Mar-17, 05:17:56 |
| 13 | 12 | 17031812 | MS 17-03-0889-28 170317S031 | 8082D-N2 | | 18-Mar-17, 05:35:48 |
| 14 | 13 | 17031813 | MSD 17-03-0889-28 170317S031 | 8082D-N2 | | 18-Mar-17, 05:53:37 |
| 15 | 14 | 17031814 | 17-03-1356-1 | 8082D-N2 | | 18-Mar-17, 06:11:27 |
| 16 | 15 | 17031815 | 17-03-1356-2 | 8082D-N2 | | 18-Mar-17, 06:29:15 |
| 17 | 16 | 17031816 | 17-03-0889-28 | 8082D-N2 | | 18-Mar-17, 06:47:11 |
| 18 | 17 | 17031817 | 17-03-0889-29 | 8082D-N2 | | 18-Mar-17, 07:04:59 |
| 19 | 18 | 17031818 | 17-03-0889-30 | 8082D-N2 | | 18-Mar-17, 07:22:51 |
| 20 | 19 | 17031819 | 17-03-0888-28 | 8082D-N2 | | 18-Mar-17, 07:40:38 |
| 21 | 20 | 17031820 | 17-03-0888-29 | 8082D-N2 | | 18-Mar-17, 07:58:33 |
| 22 | 21 | 17031821 | 17-03-0888-30 | 8082D-N2 | | 18-Mar-17, 08:16:23 |
| 23 | 22 | 17031822 | PCB CCV P021517I 500PPB | 8082D-N2 | A016 | 18-Mar-17, 08:34:12 |
| 24 | 23 | 17031823 | MB 170316L022 | 8082D-N2 | | 18-Mar-17, 08:52:00 |
| 25 | 24 | 17031824 | LCS 170316L022 | 8082D-N2 | | 18-Mar-17, 09:09:53 |
| 26 | 25 | 17031825 | MS 17-03-1131-8 170316S022 | 8082D-N2 | | 18-Mar-17, 09:27:44 |
| 27 | 26 | 17031826 | MSD 17-03-1131-8 170316S022 | 8082D-N2 | FB & RR wrong bottle (8081) | 18-Mar-17, 09:45:33 |
| 28 | 27 | 17031827 | 17-03-1131-1 | 8082D-N2 | | 18-Mar-17, 10:03:21 |
| 29 | 28 | 17031828 | 17-03-1131-2 | 8082D-N2 | | 18-Mar-17, 10:21:18 |
| 30 | 29 | 17031829 | 17-03-1131-3 | 8082D-N2 | | 18-Mar-17, 10:39:06 |
| 31 | 30 | 17031830 | 17-03-1131-4 | 8082D-N2 | | 18-Mar-17, 10:56:58 |
| 32 | 31 | 17031831 | 17-03-1131-5 | 8082D-N2 | | 18-Mar-17, 11:14:46 |
| 33 | 32 | 17031832 | 17-03-1131-6 | 8082D-N2 | | 18-Mar-17, 11:32:42 |
| 34 | 33 | 17031833 | 17-03-1131-7 | 8082D-N2 | | 18-Mar-17, 11:50:28 |
| 35 | 34 | 17031834 | 17-03-1131-8 | 8082D-N2 | | 18-Mar-17, 12:08:19 |
| 36 | 35 | 17031835 | 17-03-1131-9 | 8082D-N2 | | 18-Mar-17, 12:26:08 |
| 37 | 36 | 17031836 | 17-03-1131-10 | 8082D-N2 | | 18-Mar-17, 12:44:00 |
| 38 | 37 | 17031837 | 17-03-1131-11 | 8082D-N2 | | 18-Mar-17, 13:01:51 |
| 39 | 38 | 17031838 | 17-03-1131-12 | 8082D-N2 | | 18-Mar-17, 13:19:37 |
| 40 | 39 | 17031839 | 17-03-1131-13 | 8082D-N2 | | 18-Mar-17, 13:37:25 |
| 41 | 40 | 17031840 | 17-03-1131-14 | 8082D-N2 | | 18-Mar-17, 13:55:21 |
| 42 | 41 | 17031841 | 17-03-1131-15 | 8082D-N2 | | 18-Mar-17, 14:13:09 |
| 43 | 42 | 17031842 | 17-03-1131-16 | 8082D-N2 | | 18-Mar-17, 14:30:57 |
| 44 | 43 | 17031843 | PCB CCV P021517I 500PPB | 8082D-N2 | A017 | 18-Mar-17, 14:48:27 |
| 45 | 44 | 17031844 | 17-03-1131-17 | 8082D-N2 | | 18-Mar-17, 15:06:20 |
| 46 | 45 | 17031845 | 17-03-1131-18 | 8082D-N2 | | 18-Mar-17, 15:24:08 |
| 47 | 46 | 17031846 | 17-03-1131-19 | 8082D-N2 | | 18-Mar-17, 15:41:59 |
| 48 | 47 | 17031847 | 17-03-1131-20 | 8082D-N2 | | 18-Mar-17, 15:59:48 |
| 49 | 48 | 17031848 | 17-03-1131-21 | 8082D-N2 | | 18-Mar-17, 16:17:49 |
| 50 | 49 | 17031849 | 17-03-1131-22 | 8082D-N2 | | 18-Mar-17, 16:35:38 |
| 51 | 50 | 17031850 | PCB CCV P021517I 500PPB | 8082D-N2 | A018 | 18-Mar-17, 16:53:26 |

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# EPA METHOD 8082
# PCB Aroclors

# Preparation Logs

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**Analysis Method (EPA Method):** ☐ 608 ☐ 8081 ☑ 8082 ☐ 8141 ☐ 8310 ☐ TO-13 ☐ TO-4
☐ 8270 ( ☐ Soil ☐ Soil SIM SUPER ☐ PAH ☐ SIM PAH ☐ SIM Pest ☐ SIM PCB cong. ☐ SIM FL )

Extraction Method (EPA Method): ☐ 3510 ☐ 3520 ☐ 3540 ☐ 3541 ☑ 3545 ☐ 3550 ☐ 3580

Analyst ID#: Measuring Sample- 110 | Start Extraction- 610/787 | Blow Down- 1108/1096 | Clean Up- 1108/1096

Matrix: ☑ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air

Balance ID#: 70 | Filter ID#: S07-17-17 | ASE ID#: 7 | Soxtherm ID#: | Orbit Shaker ID#: | Sonicator ID#:

Ext. Start Date/Time: 03/17/17 12:00 | Ext. End Date/Time: 03/17/17 16:30

Sand or Wipe ID#: S07-19-19

Drying Agent: ☑ $Na_2SO_4$ ☑ Diatomaceous Earth

Drying Agent(s) ID#: S07-44-18 / S07-22-03

Surrogate Std ID# & Volume Added (mL): S101316A 0.5

Spike Std ID# & Volume Added (mL): S020317A 0.5 | Spike Added to: ☑ LCS ☐ LCSD ☑ MS ☐ MSD

Extraction Solvent: ☐ $MeCl_2$ ☑ 1:1 Hexane-Acetone ☐ 1:1 $MeCl_2$-Acetone ☐ 9:1 Hexane-Diethyl-ether ☐ Acetonitrile

Extraction Solvent ID#: S07-44-07/S07-44-08 | Exchange Solvent (☑ Hexane ☐ Acetonitrile) ID#: S07-44-07

Clean Up Start Date & Time: 3/17/17 13:00 | Clean Up End Date & Time: 3/17/17 17:06

Clean Up: ☐ 3620 Florisil ☐ 3630 SGC ☐ 3660 Sulfur ☑ 3665 Acid ☐ Other | Cartridge ID#:

Clean Up Reagent ID#: S07-52-12 | Cartridge Conditioning Column Pre-Elution Reagent ID#:

MB/LCS/MS Batch #: 170317L031

| Cel ID#: | Sample W (g) / V (mL) Initial | Final | Clean Up Performed | Comments |
|---|---|---|---|---|
| MB | 20.0 | 10 | ☑ | |
| LCS | 20.0 | 10 | ☑ | |
| LCSD NA | — | — | ☐ | |
| MS 17-03-0889-28 A | 20.0 | 10 | ☑ | |
| MSD 17-03-0889-28 A | 20.1 | 10 | ☑ | |
| 17-03-0888-28 A | 20.1 | 10 | ☑ | |
| 17-03-0888-29 A | 20.0 | 10 | ☑ | |
| 17-03-0888-30 A | 20.0 | 10 | ☑ | |
| 17-03-0889-28 A | 20.0 | 10 | ☑ | |
| 17-03-0889-29 A | 20.1 | 10 | ☑ | |
| 17-03-0889-30 A | 20.0 | 10 | ☑ | |
| 17-03-0890-28 A | 20.0 | 10 | ☑ | |
| 17-03-0890-29 A | 20.0 | 10 | ☑ | |
| 17-03-0890-30 A | 20.1 | 10 | ☑ | |
| 17-03-1356-1 A | 5.00 | 10 | ☑ | Caulking sample |
| 17-03-1356-2 A | 5.00 | 10 | ☑ | ↓ |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |

Peer Reviewed by: YM | Peer Reviewed Date: 3/17/17 | Revision Date: 10/20/16

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# EPA METHOD 8270C
# PAHSIM

# RAW DATA

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# EPA METHOD 8270C
# PAHSIM

# Initial Calibration

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# INITIAL CALIBRATION QUALITY CONTROL SUMMARY
# FOR METHOD: EPA 8270C SIM PAHs

ICAL WORK ORDER: 099-06-009-4979-4741
ICAL BATCH ID: 170313I001
INSTRUMENT: GC/MS EEE

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-03-13 14:13
REVIEWED BY: 262
D/T REVIEWED: 2017-03-14 12:54

| COMPOUND | COMP. TYPE | CALIB. MODEL | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | AVG. RF | MIN. RF | %RSD | %R SD CL | R or R^2 | R or R^2 CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | | Avg RF | 1.116 | 1.006 | 1.100 | 1.129 | 1.071 | | | | | 1.085 | 0.00 | 4 | 0-15 | 4.487 | | PASS |
| 2-Methylnaphthalene | | Avg RF | 0.652 | 0.598 | 0.675 | 0.704 | 0.679 | | | | | 0.661 | 0.00 | 6 | 0-15 | 6.043 | | PASS |
| 1-Methylnaphthalene | | Avg RF | 0.707 | 0.604 | 0.670 | 0.683 | 0.650 | | | | | 0.663 | 0.00 | 6 | 0-15 | 5.855 | | PASS |
| Acenaphthylene | | Avg RF | 2.585 | 2.328 | 2.575 | 2.640 | 2.513 | | | | | 2.528 | 0.00 | 5 | 0-15 | 4.766 | | PASS |
| Acenaphthene | C | Avg RF | 1.539 | 1.413 | 1.552 | 1.581 | 1.501 | | | | | 1.517 | 0.00 | 4 | 0-15 | 4.263 | | PASS |
| Fluorene | | Avg RF | 1.678 | 1.586 | 1.751 | 1.767 | 1.664 | | | | | 1.689 | 0.00 | 4 | 0-15 | 4.314 | | PASS |
| Phenanthrene | | Avg RF | 1.080 | 0.981 | 1.087 | 1.105 | 1.053 | | | | | 1.061 | 0.00 | 5 | 0-15 | 4.587 | | PASS |
| Anthracene | | Avg RF | 1.036 | 0.984 | 0.969 | 1.116 | 1.083 | | | | | 1.037 | 0.00 | 6 | 0-15 | 6.047 | | PASS |
| Fluoranthene | C | Avg RF | 1.376 | 1.262 | 1.391 | 1.425 | 1.371 | | | | | 1.365 | 0.00 | 4 | 0-15 | 4.487 | | PASS |
| Pyrene | | Avg RF | 1.387 | 1.261 | 1.393 | 1.422 | 1.344 | | | | | 1.362 | 0.00 | 5 | 0-15 | 4.620 | | PASS |
| Benzo (a) Anthracene | | Avg RF | 1.432 | 1.208 | 1.306 | 1.343 | 1.298 | | | | | 1.317 | 0.00 | 6 | 0-15 | 6.146 | | PASS |
| Chrysene | | Avg RF | 1.217 | 1.108 | 1.220 | 1.253 | 1.186 | | | | | 1.197 | 0.00 | 5 | 0-15 | 4.604 | | PASS |
| Benzo (k) Fluoranthene | | Avg RF | 1.363 | 1.261 | 1.425 | 1.424 | 1.358 | | | | | 1.366 | 0.00 | 5 | 0-15 | 4.922 | | PASS |
| Benzo (b) Fluoranthene | | Avg RF | 1.221 | 1.183 | 1.395 | 1.380 | 1.336 | | | | | 1.303 | 0.00 | 7 | 0-15 | 7.367 | | PASS |
| Benzo (a) Pyrene | C | Avg RF | 1.253 | 1.166 | 1.268 | 1.329 | 1.265 | | | | | 1.256 | 0.00 | 5 | 0-15 | 4.648 | | PASS |
| Indeno (1,2,3-c,d) Pyrene | | Avg RF | 1.472 | 1.337 | 1.583 | 1.587 | 1.530 | | | | | 1.502 | 0.00 | 7 | 0-15 | 6.876 | | PASS |
| Dibenz (a,h) Anthracene | | Avg RF | 1.022 | 1.057 | 1.229 | 1.228 | 1.159 | | | | | 1.139 | 0.00 | 8 | 0-15 | 8.436 | | PASS |
| Benzo (g,h,i) Perylene | | Avg RF | 1.197 | 1.089 | 1.261 | 1.263 | 1.221 | | | | | 1.207 | 0.00 | 6 | 0-15 | 5.902 | | PASS |

**Data Files:**

LR - E: Linear Regression (Equal Weight)
Avg RF: Average Response Factor

LR - IC: Linear Regression (Inverse Concentration Weight)
QR - E: Quadratic Regression (Equal Weight)

LR - ISC: Linear Regression (Inverse Square Concentration Weight)

# INITIAL CALIBRATION QUALITY CONTROL SUMMARY
# FOR METHOD: EPA 8270C SIM PAHs

ICAL WORK ORDER: 099-06-009-4979-4741
ICAL BATCH ID: 170313I001
INSTRUMENT: GC/MS EEE

ANALYZED BY: 907
ICAL D/T ANALYZED: 2017-03-13 14:13
REVIEWED BY: 262
D/T REVIEWED: 2017-03-14 12:54

| LEVEL # | D/T ANALYZED | DATA FILE |
|---|---|---|
| 1 | 2017-03-13 14:13 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar010.d\13mar010.rr |
| 2 | 2017-03-13 13:53 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar009.d\13mar009.rr |
| 3 | 2017-03-13 13:33 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar008.d\13mar008.rr |
| 4 | 2017-03-13 13:13 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar007.d\13mar007.rr |
| 5 | 2017-03-13 12:52 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar006.d\13mar006.rr |

LR - E: Linear Regression (Equal Weight)
Avg RF: Average Response Factor
LR - IC: Linear Regression (Inverse Concentration Weight)
QR - E: Quadratic Regression (Equal Weight)
LR - ISC: Linear Regression (Inverse Square Concentration Weight)

# INITIAL CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**ICV WORK ORDER:** **099-06-009-4979-4741**
INITIAL BATCH ID: 170313I001
INSTRUMENT: GC/MS EEE

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar011.d\13mar011.rr

ANALYZED BY: 907
D/T ANALYZED:
INITIAL: 2017-03-13 14:13
ICV: 2017-03-13 14:34
REVIEWED BY: 262
D/T REVIEWED: 2017-03-14 12:54

| COMPOUND | COMP TYPE | CALIB MODEL | MIN RF | AVG RF | ICV RF | AMOUNT | ICV | ICV %D | ICV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | | Avg Resp | 0.00 | 1.085 | 1.135 | | | -5 | 0-20 | PASS |
| 2-Methylnaphthalene | | Avg Resp | 0.00 | 0.661 | 0.783 | | | -18 | 0-20 | PASS |
| 1-Methylnaphthalene | | Avg Resp | 0.00 | 0.663 | 0.698 | | | -5 | 0-20 | PASS |
| Acenaphthylene | | Avg Resp | 0.00 | 2.528 | 2.579 | | | -2 | 0-20 | PASS |
| Acenaphthene | C | Avg Resp | 0.00 | 1.517 | 1.642 | | | -8 | 0-20 | PASS |
| Fluorene | | Avg Resp | 0.00 | 1.689 | 1.833 | | | -9 | 0-20 | PASS |
| Phenanthrene | | Avg Resp | 0.00 | 1.061 | 1.203 | | | -13 | 0-20 | PASS |
| Anthracene | | Avg Resp | 0.00 | 1.037 | 1.123 | | | -8 | 0-20 | PASS |
| Fluoranthene | C | Avg Resp | 0.00 | 1.365 | 1.484 | | | -9 | 0-20 | PASS |
| Pyrene | | Avg Resp | 0.00 | 1.362 | 1.480 | | | -9 | 0-20 | PASS |
| Benzo (a) Anthracene | | Avg Resp | 0.00 | 1.317 | 1.360 | | | -3 | 0-20 | PASS |
| Chrysene | | Avg Resp | 0.00 | 1.197 | 1.249 | | | -4 | 0-20 | PASS |
| Benzo (k) Fluoranthene | | Avg Resp | 0.00 | 1.366 | 1.424 | | | -4 | 0-20 | PASS |
| Benzo (b) Fluoranthene | | Avg Resp | 0.00 | 1.303 | 1.418 | | | -9 | 0-20 | PASS |
| Benzo (a) Pyrene | C | Avg Resp | 0.00 | 1.256 | 1.318 | | | -5 | 0-20 | PASS |
| Indeno (1,2,3-c,d) Pyrene | | Avg Resp | 0.00 | 1.502 | 1.570 | | | -5 | 0-20 | PASS |
| Dibenz (a,h) Anthracene | | Avg Resp | 0.00 | 1.139 | 1.243 | | | -9 | 0-20 | PASS |
| Benzo (g,h,i) Perylene | | Avg Resp | 0.00 | 1.207 | 1.334 | | | -11 | 0-20 | PASS |

MIN RF: Method Specified Minimum Response Factor

Report Date : 13-Mar-2017 15:04 Page 1

Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
End Cal Date : 13-MAR-2017 14:13
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m
Cal Date : 13-Mar-2017 14:59 ev7p
Curve Type : Average

Calibration File Names:
Level 1: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d
Level 2: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d
Level 3: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d
Level 4: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d
Level 5: /chem/SVOA/GCMS_EEE.i/170313.b/13mar006.d

| Compound | 0.10000 Level 1 | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|
| 4 Naphthalene | 1.11581 | 1.00634 | 1.10029 | 1.12879 | 1.07133 | 1.08451 | 4 |
| 5 2-Methylnaphthalene | 0.65197 | 0.59811 | 0.67457 | 0.70415 | 0.67863 | 0.66149 | 6 |
| 6 1-Methylnaphthalene | 0.70747 | 0.60440 | 0.67039 | 0.68304 | 0.65028 | 0.66312 | 6 |
| 8 Biphenyl | 2.35823 | 2.11929 | 2.30021 | 2.29717 | 2.12271 | 2.23952 | 5 |
| 9 2,6-Dimethylnaphthalene | 1.61703 | 1.47875 | 1.60729 | 1.63394 | 1.52299 | 1.57200 | 4 |
| 10 Acenaphthylene | 2.58512 | 2.32846 | 2.57549 | 2.63987 | 2.51288 | 2.52836 | 5 |
| 12 Acenaphthene | 1.53912 | 1.41348 | 1.55163 | 1.58080 | 1.50094 | 1.51719 | 4 |
| 13 Dibenzofuran | 2.16158 | 2.04374 | 2.26236 | 2.30541 | 2.19584 | 2.19379 | 5 |
| 14 1,6,7-Trimethylnaphthalene | 1.63669 | 1.46201 | 1.59794 | 1.62883 | 1.52745 | 1.57058 | 5 |
| 15 Fluorene | 1.67753 | 1.58594 | 1.75075 | 1.76676 | 1.66409 | 1.68901 | 4 |
| 16 Dibenzothiophene | 4.72855 | 4.27529 | 4.71886 | 4.80185 | 4.58747 | 4.62241 | 5 |
| 18 Phenanthrene | 1.07962 | 0.98082 | 1.08700 | 1.10520 | 1.05266 | 1.06106 | 5 |
| 19 Anthracene | 1.03555 | 0.98375 | 0.96886 | 1.11560 | 1.08257 | 1.03727 | 6 |
| 20 1-Methylphenanthrene | 0.97116 | 0.92998 | 1.02072 | 1.05271 | 1.00870 | 0.99665 | 5 |
| 21 Fluoranthene | 1.37602 | 1.26225 | 1.39052 | 1.42534 | 1.37085 | 1.36500 | 4 |
| 22 Pyrene | 1.38699 | 1.26059 | 1.39347 | 1.42216 | 1.34443 | 1.36153 | 5 |
| 24 Benzo (a) Anthracene | 1.43152 | 1.20758 | 1.30623 | 1.34262 | 1.29815 | 1.31722 | 6 |
| 26 Chrysene | 1.21702 | 1.10798 | 1.22017 | 1.25314 | 1.18561 | 1.19678 | 5 |
| 27 Benzo (b) Fluoranthene | 1.22069 | 1.18251 | 1.39522 | 1.38038 | 1.33563 | 1.30289 | 7 |
| 28 Benzo (k) Fluoranthene | 1.36330 | 1.26057 | 1.42543 | 1.42402 | 1.35775 | 1.36621 | 5 |
| 29 Benzo (e) pyrene | 1.59986 | 1.40940 | 1.63930 | 1.60515 | 1.53257 | 1.55726 | 6 |
| 30 Benzo (a) Pyrene | 1.25298 | 1.16587 | 1.26774 | 1.32867 | 1.26501 | 1.25606 | 5 |

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
End Cal Date : 13-MAR-2017 14:13
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m
Cal Date : 13-Mar-2017 14:59 ev7p
Curve Type : Average

| Compound | 0.10000 Level 1 | 0.50000 Level 2 | 1.000 Level 3 | 2.000 Level 4 | 5.000 Level 5 | ___ RRF | % RSD |
|---|---|---|---|---|---|---|---|
| 32 Perylene | 1.53641 | 1.41079 | 1.50876 | 1.54399 | 1.46685 | 1.49336 | 4 |
| 33 Indeno (1,2,3-c,d) Pyrene | 1.47205 | 1.33679 | 1.58268 | 1.58673 | 1.52950 | 1.50155 | 7 |
| 34 Dibenz (a,h) Anthracene | 1.02180 | 1.05709 | 1.22915 | 1.22831 | 1.15856 | 1.13898 | 8 |
| 35 Benzo (g,h,i) Perylene | 1.19737 | 1.08929 | 1.26132 | 1.26340 | 1.22141 | 1.20656 | 6 |
| $ 2 Nitrobenzene-d5 | 0.30130 | 0.29496 | 0.33923 | 0.35910 | 0.36136 | 0.33119 | 10 |
| $ 7 2-Fluorobiphenyl | 1.88477 | 1.69943 | 1.88233 | 1.85964 | 1.69885 | 1.80500 | 5 |
| $ 23 p-Terphenyl-d14 | 0.78803 | 0.71467 | 0.79649 | 0.80490 | 0.77019 | 0.77486 | 5 |

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Eurofins Calscience

INITIAL CALIBRATION DATA

Start Cal Date : 03-JAN-2017 11:59
End Cal Date : 13-MAR-2017 14:13
Quant Method : ISTD
Origin : Disabled
Target Version : 3.50
Integrator : HP RTE
Method file : /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m
Cal Date : 13-Mar-2017 14:59 ev7p
Curve Type : Average

| Average %RSD Results. |
|---|
| Calculated Average %RSD = 5.35528 |
| Maximun Average %RSD = 15.00000 |
| * Passed Average %RSD Test. |

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Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d
Report Date: 03/13/2017 15:04

Eurofins CalScience
Calibration Verification Report

Instrument ID: GCMS_EEE.i
Sample Name: ICV S010317I 1PPM
Sublist used: all.sub
Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m

Injection Date and Time: 13-MAR-2017 14:34
Initial Calibration Date(s): 03-JAN-2017 13-MAR-2017
Initial Calibration Time(s): 11:59 14:13

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| Naphthalene | 1.085 | 1.135 | 0.00 | -5 | 20 | Averaged |
| 2-Methylnaphthalene | 0.661 | 0.783 | 0.00 | -18 | 20 | Averaged |
| 1-Methylnaphthalene | 0.663 | 0.698 | 0.00 | -5 | 20 | Averaged |
| Acenaphthylene | 2.528 | 2.579 | 0.00 | -2 | 20 | Averaged |
| Acenaphthene | 1.517 | 1.642 | 0.00 | -8 | 20 | Averaged |
| Fluorene | 1.689 | 1.833 | 0.00 | -9 | 20 | Averaged |
| Phenanthrene | 1.061 | 1.203 | 0.00 | -13 | 20 | Averaged |
| Anthracene | 1.037 | 1.123 | 0.00 | -8 | 20 | Averaged |
| Fluoranthene | 1.365 | 1.484 | 0.00 | -9 | 20 | Averaged |
| Pyrene | 1.362 | 1.480 | 0.00 | -9 | 20 | Averaged |
| Benzo (a) Anthracene | 1.317 | 1.360 | 0.00 | -3 | 20 | Averaged |
| Chrysene | 1.197 | 1.249 | 0.00 | -4 | 20 | Averaged |
| Benzo (b) Fluoranthene | 1.303 | 1.418 | 0.00 | -9 | 20 | Averaged |
| Benzo (k) Fluoranthene | 1.366 | 1.424 | 0.00 | -4 | 20 | Averaged |
| Benzo (a) Pyrene | 1.256 | 1.318 | 0.00 | -5 | 20 | Averaged |
| Indeno (1,2,3-c,d) Pyrene | 1.502 | 1.570 | 0.00 | -5 | 20 | Averaged |
| Dibenz (a,h) Anthracene | 1.139 | 1.243 | 0.00 | -9 | 20 | Averaged |
| Benzo (g,h,i) Perylene | 1.207 | 1.334 | 0.00 | -11 | 20 | Averaged |
| Biphenyl | 2.240 | 2.047 | 0.00 | 9 | 20 | Averaged |
| 2,6-Dimethylnaphthalene | 1.572 | 1.418 | 0.00 | 10 | 20 | Averaged |
| 1,6,7-Trimethylnaphthalene | 1.571 | 1.354 | 0.00 | 14 | 20 | Averaged |
| Dibenzothiophene | 4.622 | 4.193 | 0.00 | 9 | 20 | Averaged |
| 1-Methylphenanthrene | 0.997 | 0.912 | 0.00 | 9 | 20 | Averaged |
| Benzo (e) pyrene | 1.557 | 1.395 | 0.00 | 10 | 20 | Averaged |
| Perylene | 1.493 | 1.264 | 0.00 | 15 | 20 | Averaged |
| Dibenzofuran | 2.194 | 2.418 | 0.00 | -10 | 20 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| Nitrobenzene-d5 | 0.331 | 0.397 | 0.00 | -20 | 20 | Averaged |
| 2-Fluorobiphenyl | 1.805 | 2.154 | 0.00 | -19 | 20 | Averaged |
| p-Terphenyl-d14 | 0.775 | 0.898 | 0.00 | -16 | 20 | Averaged |



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar006.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 12:52 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-1 S010317D 5PPM Misc Info: 170313I001
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.415 | 152 | 39443 | 5.000 | 0.00 |
| 3)*Naphthalene-d8 | (2) | 4.657 | 136 | 113690 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.542 | 164 | 52246 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.138 | 188 | 176924 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.826 | 264 | 181619 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.060 | 240 | 185442 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.966 | 82 | 41083 | 5.455 | 0.00 |
| SpikedAmount 5.000 | Recovery = | 0.000 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.833 | 172 | 88758 | 4.706 | 0.00 |
| SpikedAmount 5.000 | Recovery = | 0.000 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.934 | 244 | 142825 | 4.970 | 0.00 |
| SpikedAmount 5.000 | Recovery = | 0.000 | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.677 | 128 | 121800 | 4.939 | 99 |
| 5) 2-Methylnaphthalene | (2) | 5.405 | 142 | 77154 | 5.130 | 98 |
| 6) 1-Methylnaphthalene | (2) | 5.518 | 142 | 73930 | 4.903 | 100 |
| 10) Acenaphthylene | (3) | 6.373 | 152 | 131288 | 4.969 | 99 |
| 12) Acenaphthene | (3) | 6.575 | 153 | 78418 | 4.946 | 99 |
| 15) Fluorene | (3) | 7.125 | 166 | 86942 | 4.926 | 100 |
| 18) Phenanthrene | (4) | 8.163 | 178 | 186241 | 4.960 | 100 |
| 19) Anthracene | (4) | 8.211 | 178 | 191533 | 5.218 | 100 |
| 21) Fluoranthene | (4) | 9.471 | 202 | 242537 | 5.021 | 99 |
| 22) Pyrene | (5) | 9.711 | 202 | 249314 | 4.937 | 99 |
| 24) Benzo (a) Anthracene | (5) | 11.042 | 228 | 240732 | 4.928 | 100 |
| 26) Chrysene | (5) | 11.088 | 228 | 219861 | 4.953 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.366 | 252 | 242576 | 5.126 | 99 |
| 28) Benzo (k) Fluoranthene | (6) | 12.396 | 252 | 246593 | 4.969 | 99 |
| 30) Benzo (a) Pyrene | (6) | 12.757 | 252 | 229750 | 5.036 | 99 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.070 | 276 | 277787 | 5.093 | 92 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.094 | 278 | 210417 | 5.086 | 98 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.348 | 276 | 221831 | 5.062 | 99 |
| 8) Biphenyl | (3) | 5.922 | 154 | 110903 | 4.739 | 99 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.084 | 156 | 79570 | 4.844 | 99 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 7.006 | 170 | 79803 | 4.863 | 99 |
| 16) Dibenzothiophene | (3) | 8.027 | 184 | 239677 | 4.962 | 100 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar006.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 12:52 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-1 S010317D 5PPM Misc Info: 170313I001
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.852 | 192 | 187056 | 5.060 | 98 |
| 29) Benzo (e) pyrene | (6) | 12.697 | 252 | 278344 | 4.921 | 97 |
| 32) Perylene | (6) | 12.859 | 252 | 266407 | 4.911 | 98 |
| 13) Dibenzofuran | (3) | 6.749 | 168 | 114724 | 5.005 | 99 |



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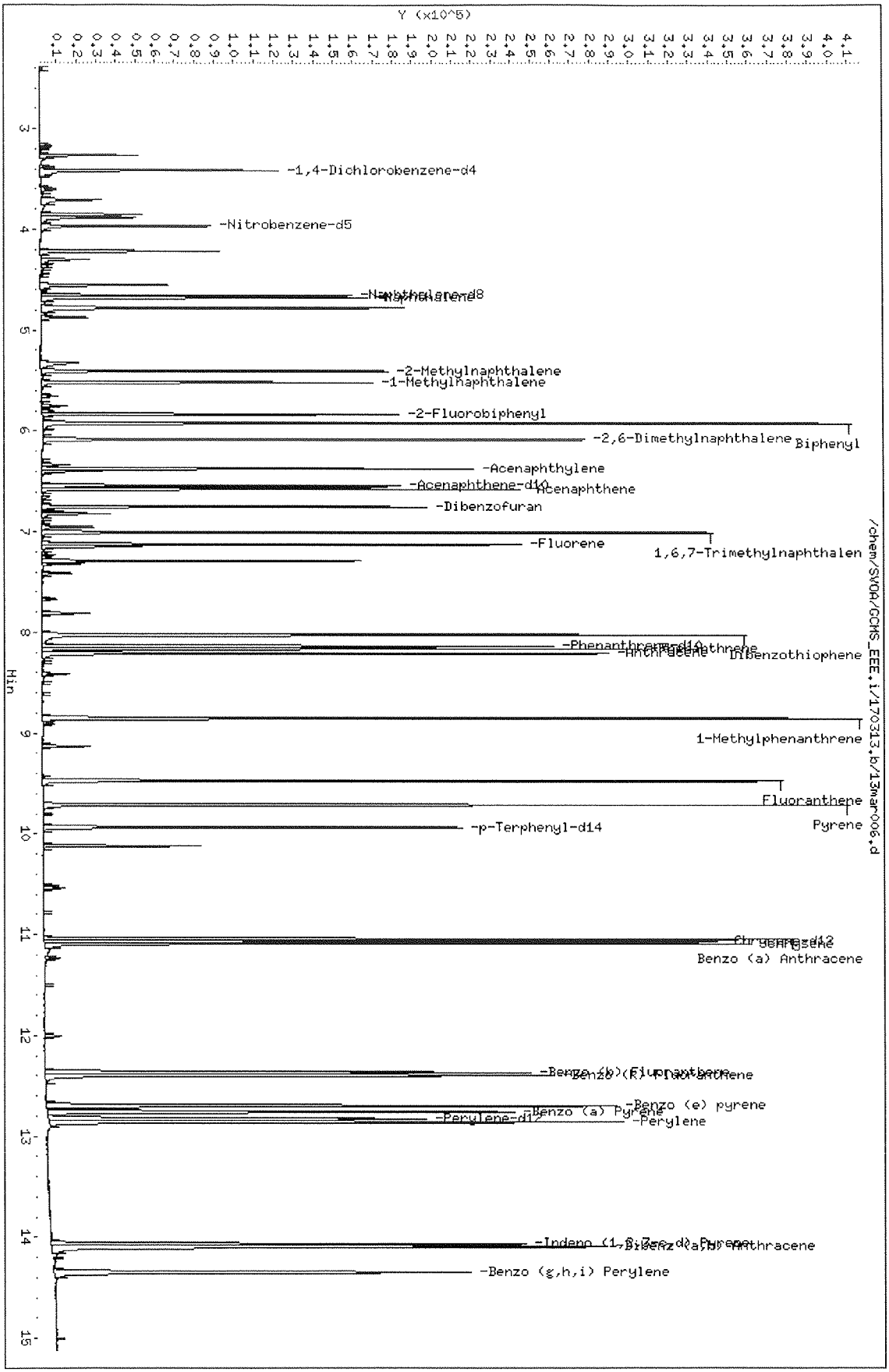


Data File: /chem/SWOA/GCMS_EEE.i/170313.b/13mar006.d
Date : 13-MAR-2017 12:52
Client ID:
Sample Info: ICAL-1 S010317D 5PPM
Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-2 S010317E 2PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.415 | 152 | 43537 | 5.000 | 0.00 |
| 3)*Naphthalene-d8 | (2) | 4.656 | 136 | 128027 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.541 | 164 | 58252 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.138 | 188 | 195969 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.826 | 264 | 200691 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.058 | 240 | 204739 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.965 | 82 | 18390 | 2.169 | 0.00 |
| SpikedAmount 2.000 | Recovery = 204.796 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.832 | 172 | 43331 | 2.061 | 0.00 |
| SpikedAmount 2.000 | Recovery = 201.236 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.931 | 244 | 65918 | 2.078 | 0.00 |
| SpikedAmount 2.000 | Recovery = 204.185 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.676 | 128 | 57806 | 2.082 | 99 |
| 5) 2-Methylnaphthalene | (2) | 5.404 | 142 | 36060 | 2.129 | 97 |
| 6) 1-Methylnaphthalene | (2) | 5.518 | 142 | 34979 | 2.060 | 99 |
| 10) Acenaphthylene | (3) | 6.371 | 152 | 61511 | 2.088 | 99 |
| 12) Acenaphthene | (3) | 6.574 | 153 | 36834 | 2.084 | 99 |
| 15) Fluorene | (3) | 7.123 | 166 | 41167 | 2.092 | 100 |
| 18) Phenanthrene | (4) | 8.161 | 178 | 86634 | 2.083 | 100 |
| 19) Anthracene | (4) | 8.209 | 178 | 87449 | 2.151 | 99 |
| 21) Fluoranthene | (4) | 9.469 | 202 | 111729 | 2.088 | 99 |
| 22) Pyrene | (5) | 9.708 | 202 | 116469 | 2.089 | 100 |
| 24) Benzo (a) Anthracene | (5) | 11.039 | 228 | 109955 | 2.039 | 100 |
| 26) Chrysene | (5) | 11.085 | 228 | 102627 | 2.094 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.363 | 252 | 110812 | 2.119 | 100 |
| 28) Benzo (k) Fluoranthene | (6) | 12.391 | 252 | 114315 | 2.085 | 99 |
| 30) Benzo (a) Pyrene | (6) | 12.752 | 252 | 106661 | 2.116 | 100 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.066 | 276 | 127377 | 2.113 | 91 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.093 | 278 | 98604 | 2.157 | 98 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.343 | 276 | 101421 | 2.094 | 100 |
| 8) Biphenyl | (3) | 5.921 | 154 | 53526 | 2.051 | 99 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.081 | 156 | 38072 | 2.079 | 99 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 7.004 | 170 | 37953 | 2.074 | 99 |
| 16) Dibenzothiophene | (3) | 8.024 | 184 | 111887 | 2.078 | 100 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-2 S010317E 2PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.850 | 192 | 86212 | 2.112 | 99 |
| 29) Benzo (e) pyrene | (6) | 12.694 | 252 | 128856 | 2.062 | 98 |
| 32) Perylene | (6) | 12.855 | 252 | 123946 | 2.068 | 99 |
| 13) Dibenzofuran | (3) | 6.749 | 168 | 53718 | 2.102 | 99 |



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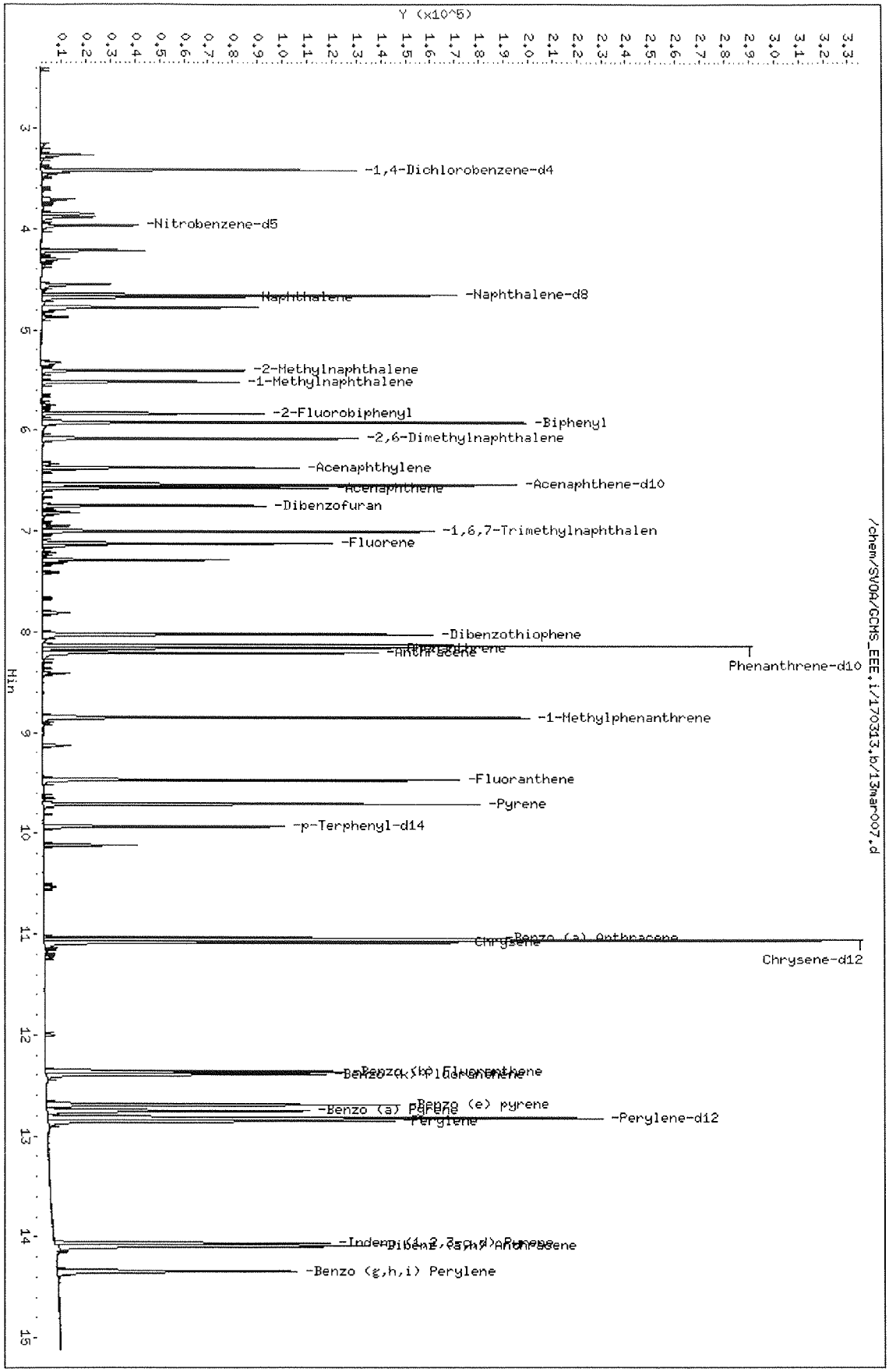


Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d
Date : 13-MAR-2017 13:13
Client ID:
Sample Info: ICAL-2 S010317E 2PPM
Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:33 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-3 S010317F 1PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.414 | 152 | 46489 | 5.000 | 0.01 |
| 3)*Naphthalene-d8 | (2) | 4.656 | 136 | 140022 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.541 | 164 | 63153 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.136 | 188 | 210133 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.823 | 264 | 208071 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.056 | 240 | 220711 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.966 | 82 | 9500 | 1.024 | 0.00 |
| SpikedAmount 1.000 | Recovery = 97.033 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.833 | 172 | 23775 | 1.043 | 0.00 |
| SpikedAmount 1.000 | Recovery = 100.830 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.932 | 244 | 35159 | 1.028 | 0.00 |
| SpikedAmount 1.000 | Recovery = 101.689 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.676 | 128 | 30813 | 1.015 | 100 |
| 5) 2-Methylnaphthalene | (2) | 5.404 | 142 | 18891 | 1.020 | 100 |
| 6) 1-Methylnaphthalene | (2) | 5.517 | 142 | 18774 | 1.011 | 100 |
| 10) Acenaphthylene | (3) | 6.371 | 152 | 32530 | 1.019 | 100 |
| 12) Acenaphthene | (3) | 6.574 | 153 | 19598 | 1.023 | 100 |
| 15) Fluorene | (3) | 7.123 | 166 | 22113 | 1.037 | 100 |
| 18) Phenanthrene | (4) | 8.159 | 178 | 45683 | 1.024 | 100 |
| 19) Anthracene | (4) | 8.211 | 178 | 40718 | 0.934 | 100 |
| 21) Fluoranthene | (4) | 9.470 | 202 | 58439 | 1.019 | 100 |
| 22) Pyrene | (5) | 9.707 | 202 | 61511 | 1.023 | 100 |
| 24) Benzo (a) Anthracene | (5) | 11.040 | 228 | 57660 | 0.992 | 100 |
| 26) Chrysene | (5) | 11.084 | 228 | 53861 | 1.020 | 100 |
| 27) Benzo (b) Fluoranthene | (6) | 12.362 | 252 | 58061 | 1.071 | 100 |
| 28) Benzo (k) Fluoranthene | (6) | 12.391 | 252 | 59318 | 1.043 | 100 |
| 30) Benzo (a) Pyrene | (6) | 12.750 | 252 | 52756 | 1.009 | 100 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.064 | 276 | 65862 | 1.054 | 100 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.094 | 278 | 51150 | 1.079 | 100 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.342 | 276 | 52489 | 1.045 | 100 |
| 8) Biphenyl | (3) | 5.922 | 154 | 29053 | 1.027 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.081 | 156 | 20301 | 1.022 | 100 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 7.003 | 170 | 20183 | 1.017 | 100 |
| 16) Dibenzothiophene | (3) | 8.024 | 184 | 59602 | 1.021 | 100 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:33 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-3 S010317F 1PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.850 | 192 | 45057 | 1.024 | 100 |
| 29) Benzo (e) pyrene | (6) | 12.690 | 252 | 68218 | 1.053 | 100 |
| 32) Perylene | (6) | 12.854 | 252 | 62786 | 1.010 | 100 |
| 13) Dibenzofuran | (3) | 6.749 | 168 | 28575 | 1.031 | 100 |



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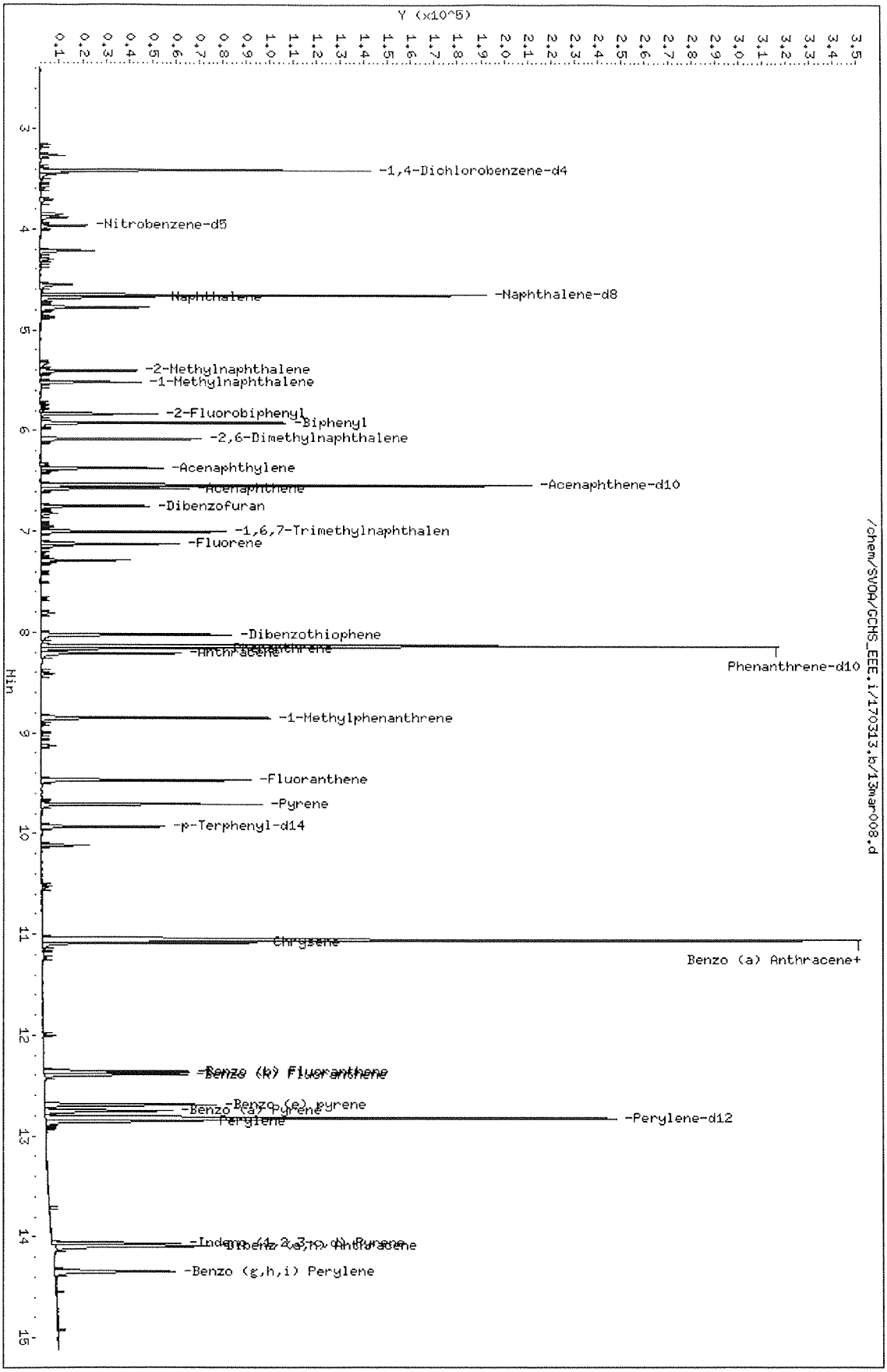


Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d
Date : 13-MAR-2017 13:33
Client ID:
Sample Info: ICAL-3 S010317F 1PPM
Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:53 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-4 S010317G 0.5PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.414 | 152 | 46816 | 5.000 | 0.01 |
| 3)*Naphthalene-d8 | (2) | 4.654 | 136 | 141612 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.540 | 164 | 65116 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.136 | 188 | 215147 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.825 | 264 | 224201 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.057 | 240 | 226005 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.967 | 82 | 4177 | 0.445 | 0.00 |
| SpikedAmount 0.500 | Recovery = 43.133 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.831 | 172 | 11066 | 0.471 | 0.00 |
| SpikedAmount 0.500 | Recovery = 45.627 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.931 | 244 | 16152 | 0.461 | 0.00 |
| SpikedAmount 0.500 | Recovery = 45.890 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.676 | 128 | 14251 | 0.464 | 98 |
| 5) 2-Methylnaphthalene | (2) | 5.404 | 142 | 8470 | 0.452 | 96 |
| 6) 1-Methylnaphthalene | (2) | 5.516 | 142 | 8559 | 0.456 | 99 |
| 10) Acenaphthylene | (3) | 6.371 | 152 | 15162 | 0.460 | 99 |
| 12) Acenaphthene | (3) | 6.574 | 153 | 9204 | 0.466 | 99 |
| 15) Fluorene | (3) | 7.123 | 166 | 10327 | 0.469 | 99 |
| 18) Phenanthrene | (4) | 8.160 | 178 | 21102 | 0.462 | 99 |
| 19) Anthracene | (4) | 8.209 | 178 | 21165 | 0.474 | 99 |
| 21) Fluoranthene | (4) | 9.469 | 202 | 27157 | 0.462 | 99 |
| 22) Pyrene | (5) | 9.707 | 202 | 28490 | 0.463 | 99 |
| 24) Benzo (a) Anthracene | (5) | 11.040 | 228 | 27292 | 0.458 | 99 |
| 26) Chrysene | (5) | 11.085 | 228 | 25041 | 0.463 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.361 | 252 | 26512 | 0.454 | 99 |
| 28) Benzo (k) Fluoranthene | (6) | 12.393 | 252 | 28262 | 0.461 | 98 |
| 30) Benzo (a) Pyrene | (6) | 12.752 | 252 | 26139 | 0.464 | 99 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.065 | 276 | 29971 | 0.445 | 92 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.093 | 278 | 23700 | 0.464 | 99 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.344 | 276 | 24422 | 0.451 | 100 |
| 8) Biphenyl | (3) | 5.921 | 154 | 13800 | 0.473 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.081 | 156 | 9629 | 0.470 | 100 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 7.001 | 170 | 9520 | 0.465 | 99 |
| 16) Dibenzothiophene | (3) | 8.024 | 184 | 27839 | 0.462 | 99 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 13:53 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-4 S010317G 0.5PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.850 | 192 | 21018 | 0.467 | 99 |
| 29) Benzo (e) pyrene | (6) | 12.691 | 252 | 31599 | 0.453 | 99 |
| 32) Perylene | (6) | 12.853 | 252 | 31630 | 0.472 | 100 |
| 13) Dibenzofuran | (3) | 6.749 | 168 | 13308 | 0.466 | 100 |



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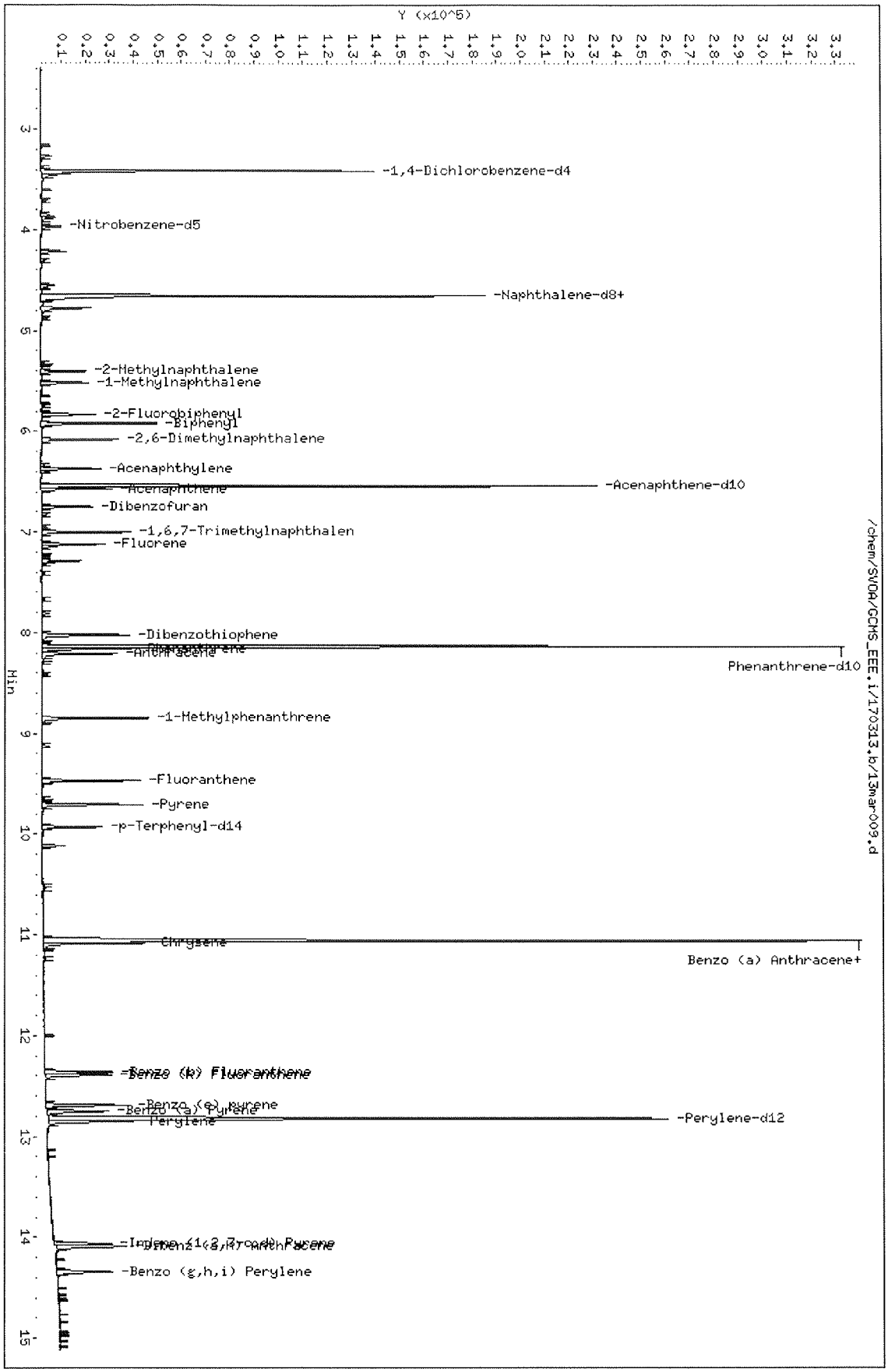


Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d
Date : 13-MAR-2017 13:53
Client ID:
Sample Info: ICAL-4 S010317C 0.5PPM
Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-5 S010317H 0.1PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.414 | 152 | 46155 | 5.000 | 0.01 |
| 3)*Naphthalene-d8 | (2) | 4.655 | 136 | 138733 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.539 | 164 | 66109 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.135 | 188 | 215586 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.823 | 264 | 222988 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.057 | 240 | 227975 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.971 | 82 | 836 | 0.091 | -0.01 |
| SpikedAmount 0.100 | Recovery = | 8.992 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.833 | 172 | 2492 | 0.104 | 0.00 |
| SpikedAmount 0.100 | Recovery = | 10.221 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.933 | 244 | 3593 | 0.102 | 0.00 |
| SpikedAmount 0.100 | Recovery = | 10.183 | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.676 | 128 | 3096 | 0.103 | 100 |
| 5) 2-Methylnaphthalene | (2) | 5.404 | 142 | 1809 | 0.099 | 97 |
| 6) 1-Methylnaphthalene | (2) | 5.517 | 142 | 1963 | 0.107 | 96 |
| 10) Acenaphthylene | (3) | 6.371 | 152 | 3418 | 0.102 | 99 |
| 12) Acenaphthene | (3) | 6.571 | 153 | 2035 | 0.101 | 97 |
| 15) Fluorene | (3) | 7.124 | 166 | 2218 | 0.099 | 99 |
| 18) Phenanthrene | (4) | 8.162 | 178 | 4655 | 0.102 | 98 |
| 19) Anthracene | (4) | 8.211 | 178 | 4465 | 0.100 | 100 |
| 21) Fluoranthene | (4) | 9.471 | 202 | 5933 | 0.101 | 100 |
| 22) Pyrene | (5) | 9.708 | 202 | 6324 | 0.102 | 99 |
| 24) Benzo (a) Anthracene | (5) | 11.039 | 228 | 6527 | 0.109 | 97 |
| 26) Chrysene | (5) | 11.084 | 228 | 5549 | 0.102 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.361 | 252 | 5444 | 0.094 | 93 |
| 28) Benzo (k) Fluoranthene | (6) | 12.393 | 252 | 6080 | 0.100 | 91 |
| 30) Benzo (a) Pyrene | (6) | 12.752 | 252 | 5588 | 0.100 | 93 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.068 | 276 | 6565 | 0.098 | 81 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.096 | 278 | 4557 | 0.090 | 91 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.346 | 276 | 5340 | 0.099 | 97 |
| 8) Biphenyl | (3) | 5.922 | 154 | 3118 | 0.105 | 90 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.081 | 156 | 2138 | 0.103 | 99 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 7.003 | 170 | 2164 | 0.104 | 100 |
| 16) Dibenzothiophene | (3) | 8.024 | 184 | 6252 | 0.102 | 98 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:13 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICAL-5 S010317H 0.1PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.850 | 192 | 4428 | 0.097 | 98 |
| 29) Benzo (e) pyrene | (6) | 12.691 | 252 | 7135 | 0.103 | 99 |
| 32) Perylene | (6) | 12.853 | 252 | 6852 | 0.103 | 98 |
| 13) Dibenzofuran | (3) | 6.748 | 168 | 2858 | 0.099 | 98 |



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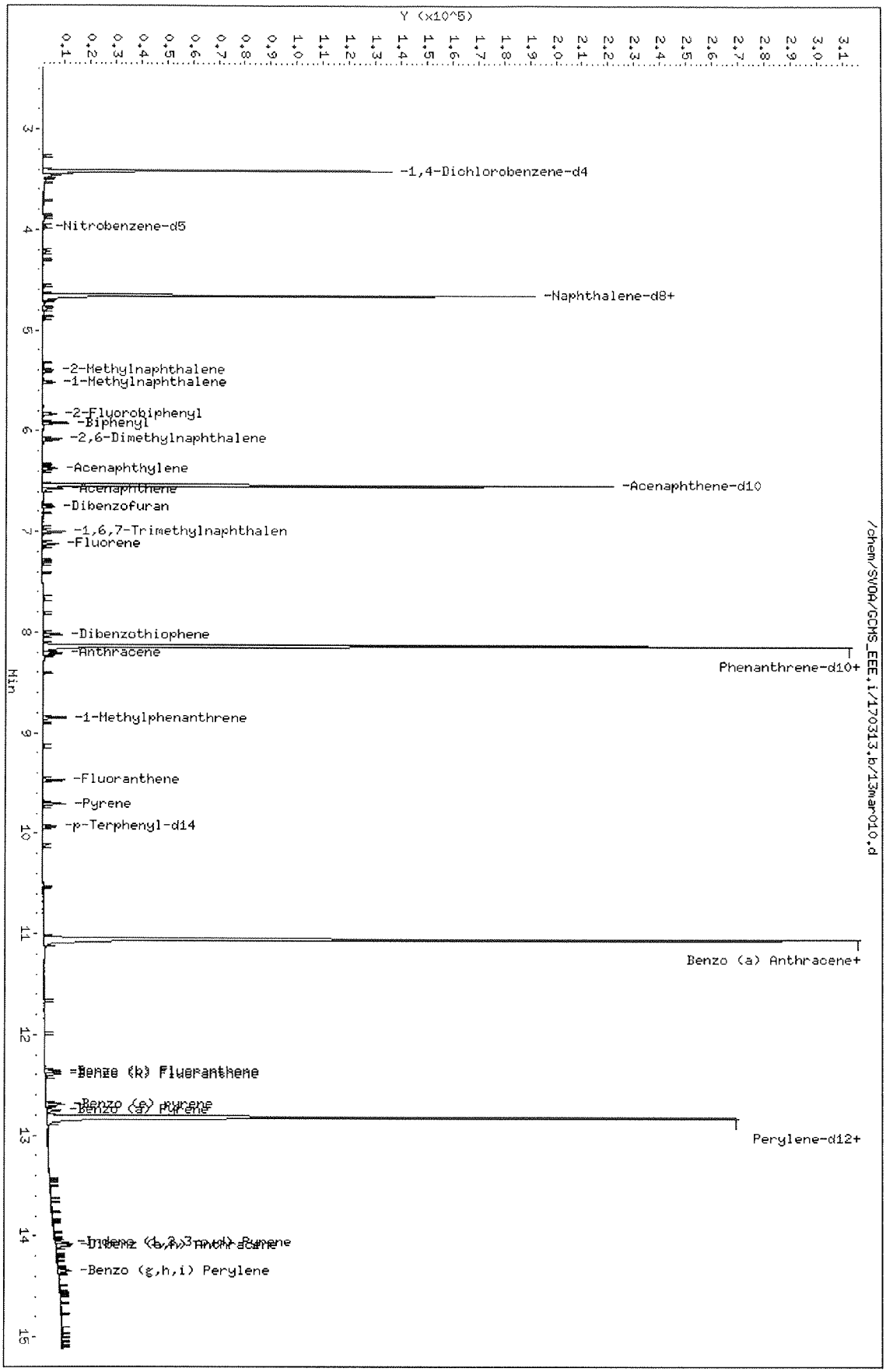


Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d
Date : 13-MAR-2017 14:13
Client ID:
Sample Info: ICAL-5 S010317H 0.1PPM
Column Phase: J&W DB-5MS

Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:34 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICV S010317I 1PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.419 | 152 | 44664 | 5.000 | 0.00 |
| 3)*Naphthalene-d8 | (2) | 4.653 | 136 | 134376 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.538 | 164 | 61082 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.136 | 188 | 200519 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.823 | 264 | 200860 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.055 | 240 | 207148 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.965 | 82 | 10658 | 1.197 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 0.000 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.831 | 172 | 26320 | 1.194 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 0.000 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.929 | 244 | 37191 | 1.159 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 0.000 | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.673 | 128 | 30493 | 1.046 | 100 |
| 5) 2-Methylnaphthalene | (2) | 5.402 | 142 | 21043 | 1.184 | 100 |
| 6) 1-Methylnaphthalene | (2) | 5.516 | 142 | 18763 | 1.053 | 100 |
| 10) Acenaphthylene | (3) | 6.370 | 152 | 31506 | 1.020 | 100 |
| 12) Acenaphthene | (3) | 6.572 | 153 | 20057 | 1.082 | 100 |
| 15) Fluorene | (3) | 7.122 | 166 | 22387 | 1.085 | 100 |
| 18) Phenanthrene | (4) | 8.160 | 178 | 48240 | 1.134 | 100 |
| 19) Anthracene | (4) | 8.209 | 178 | 45040 | 1.083 | 100 |
| 21) Fluoranthene | (4) | 9.469 | 202 | 59504 | 1.087 | 100 |
| 22) Pyrene | (5) | 9.707 | 202 | 61311 | 1.087 | 100 |
| 24) Benzo (a) Anthracene | (5) | 11.038 | 228 | 56357 | 1.033 | 100 |
| 26) Chrysene | (5) | 11.083 | 228 | 51734 | 1.043 | 100 |
| 27) Benzo (b) Fluoranthene | (6) | 12.360 | 252 | 56960 | 1.088 | 100 |
| 28) Benzo (k) Fluoranthene | (6) | 12.391 | 252 | 57224 | 1.043 | 100 |
| 30) Benzo (a) Pyrene | (6) | 12.752 | 252 | 52949 | 1.049 | 100 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.065 | 276 | 63053 | 1.045 | 100 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.091 | 278 | 49952 | 1.092 | 100 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.339 | 276 | 53577 | 1.105 | 100 |
| 8) Biphenyl | (3) | 5.919 | 154 | 25012 | 0.914 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.079 | 156 | 17327 | 0.902 | 100 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 7.001 | 170 | 16542 | 0.862 | 100 |
| 16) Dibenzothiophene | (3) | 8.024 | 184 | 51223 | 0.907 | 100 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 13-MAR-2017 14:34 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170313.b/simpah-extra.m Sublist used: all
Calibration date and time: 13-MAR-2017 14:59
Date, time and analyst ID of latest file update: 13-Mar-2017 14:59 ev7p

Sample Name: ICV S010317I 1PPM Misc Info:
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.848 | 192 | 37778 | 0.915 | 100 |
| 29) Benzo (e) pyrene | (6) | 12.691 | 252 | 56048 | 0.896 | 100 |
| 32) Perylene | (6) | 12.851 | 252 | 50780 | 0.846 | 100 |
| 13) Dibenzofuran | (3) | 6.748 | 168 | 29537 | 1.102 | 100 |



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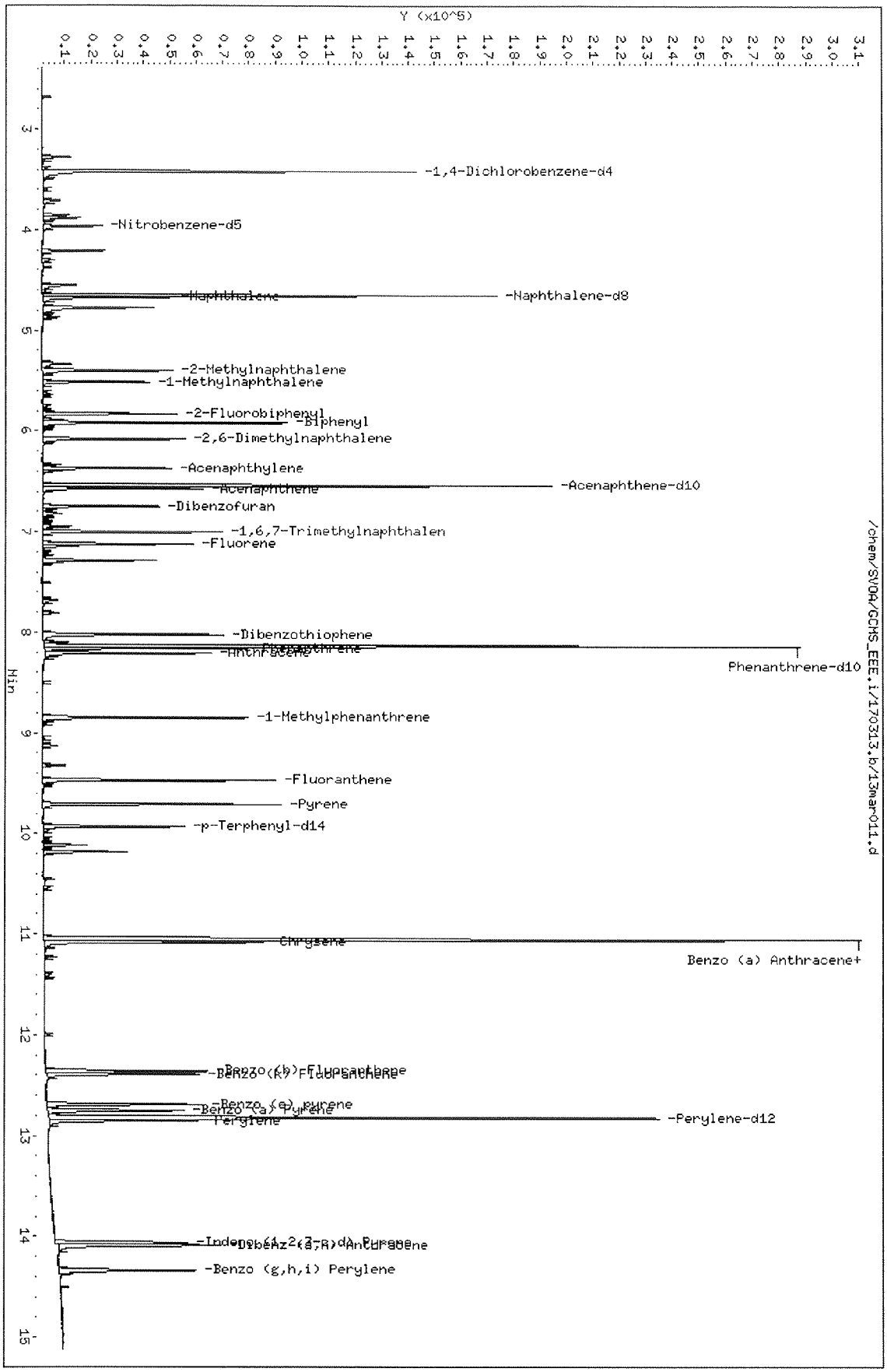


Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d
Date : 13-MAR-2017 14:34
Client ID:
Sample Info: ICV S0103171 1PPM
Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18



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# EPA METHOD 8270C
# PAHSIM

# Sample Data

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# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**WORK ORDER:** **17-03-0889**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-15 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-16 13:19
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar010.d\16mar010.rr

**# 25** **CLIENT SAMPLE NUMBER: D-DU2-ISM1-8**

LCS/MB BATCH: 170315L03
MS/MSD BATCH: 170315S03
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Naphthalene | 0.000 | 1.00 | ND | 0.010 | |
| 2-Methylnaphthalene | 0.000 | 1.00 | ND | 0.010 | |
| 1-Methylnaphthalene | 0.000 | 1.00 | ND | 0.010 | |
| Acenaphthylene | 0.000 | 1.00 | ND | 0.010 | |
| Acenaphthene | 0.000 | 1.00 | ND | 0.010 | |
| Fluorene | 0.000 | 1.00 | ND | 0.010 | |
| Phenanthrene | 0.000 | 1.00 | ND | 0.010 | |
| Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Fluoranthene | 0.000 | 1.00 | ND | 0.010 | |
| Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (a) Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Chrysene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (k) Fluoranthene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (b) Fluoranthene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (a) Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Indeno (1,2,3-c,d) Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Dibenz (a,h) Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (g,h,i) Perylene | 0.000 | 1.00 | ND | 0.010 | |

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar010.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 13:19 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 14:15 ev7p

Sample Name: 17-03-0889-25 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.385 | 152 | 62982 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.618 | 136 | 184539 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.504 | 164 | 99771 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.102 | 188 | 289799 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.780 | 264 | 261833 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.020 | 240 | 270806 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.932 | 82 | 10541 | 0.862 | 0.00 |
| SpikedAmount 1.000 | Recovery = 86.235 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.798 | 172 | 27371 | 0.760 | 0.00 |
| SpikedAmount 1.000 | Recovery = 75.994 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.896 | 244 | 42147 | 1.004 | 0.00 |
| SpikedAmount 1.000 | Recovery = 100.429 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 0.000 | | 0 | N.D. | |
| 5) 2-Methylnaphthalene | (2) | 0.000 | | 0 | N.D. | |
| 6) 1-Methylnaphthalene | (2) | 0.000 | | 0 | N.D. | |
| 10) Acenaphthylene | (3) | 0.000 | | 0 | N.D. | |
| 12) Acenaphthene | (3) | 0.000 | | 0 | N.D. | |
| 15) Fluorene | (3) | 0.000 | | 0 | N.D. | |
| 18) Phenanthrene | (4) | 0.000 | | 0 | N.D. | |
| 19) Anthracene | (4) | 0.000 | | 0 | N.D. | |
| 21) Fluoranthene | (4) | 0.000 | | 0 | N.D. | |
| 22) Pyrene | (5) | 0.000 | | 0 | N.D. | |
| 24) Benzo (a) Anthracene | (5) | 0.000 | | 0D | N.D. | |
| 26) Chrysene | (5) | 0.000 | | 0D | N.D. | |
| 27) Benzo (b) Fluoranthene | (6) | 0.000 | | 0 | N.D. | |
| 28) Benzo (k) Fluoranthene | (6) | 0.000 | | 0 | N.D. | |
| 30) Benzo (a) Pyrene | (6) | 0.000 | | 0 | N.D. | |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 0.000 | | 0 | N.D. | |
| 34) Dibenz (a,h) Anthracene | (6) | 0.000 | | 0 | N.D. | |
| 35) Benzo (g,h,i) Perylene | (6) | 0.000 | | 0 | N.D. | |
| 8) Biphenyl | (3) | 0.000 | | 0 | N.D. | |
| 9) 2,6-Dimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 16) Dibenzothiophene | (3) | 0.000 | | 0 | N.D. | |

D = Compound was deleted.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar010.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 13:19 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 14:15 ev7p

Sample Name: 17-03-0889-25 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 0.000 | | 0 | N.D. | |
| 29) Benzo (e) pyrene | (6) | 0.000 | | 0 | N.D. | |
| 32) Perylene | (6) | 0.000 | | 0D | N.D. | |
| 13) Dibenzofuran | (3) | 0.000 | | 0 | N.D. | |

D = Compound was deleted.



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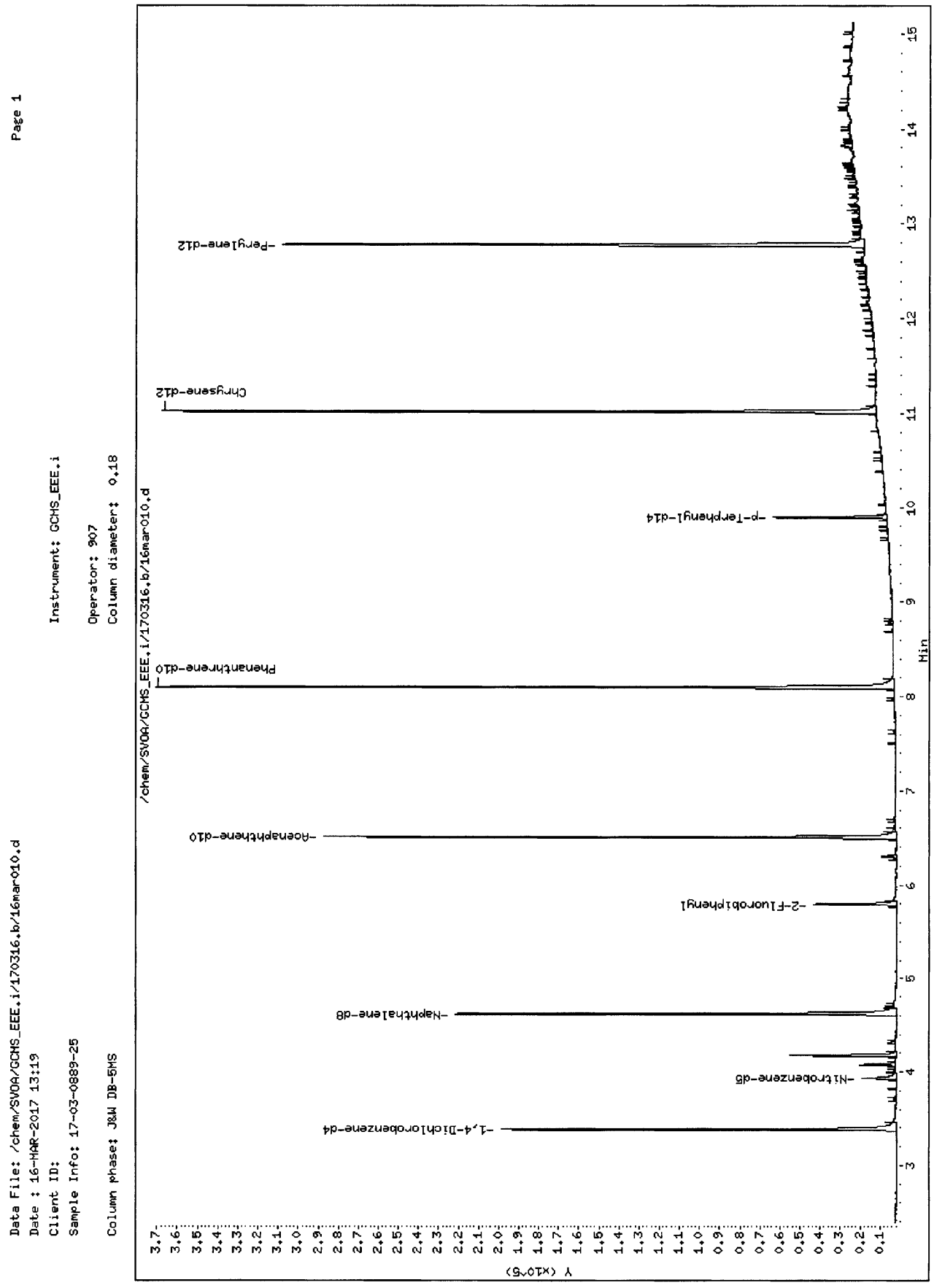


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# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**WORK ORDER:** **17-03-0889**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-15 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-16 13:40
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar011.d\16mar011.rr

**# 26** **CLIENT SAMPLE NUMBER: D-DU2-ISM2-8**

LCS/MB BATCH: 170315L03
MS/MSD BATCH: 170315S03
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
ADJUSTMENT RATIO TO PF: 0.99

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Naphthalene | 0.000 | 1.00 | ND | 0.0099 | |
| 2-Methylnaphthalene | 0.0145 | 1.00 | ND | 0.0099 | |
| 1-Methylnaphthalene | 0.0107 | 1.00 | ND | 0.0099 | |
| Acenaphthylene | 0.000 | 1.00 | ND | 0.0099 | |
| Acenaphthene | 0.000 | 1.00 | ND | 0.0099 | |
| Fluorene | 0.000 | 1.00 | ND | 0.0099 | |
| Phenanthrene | 0.000 | 1.00 | ND | 0.0099 | |
| Anthracene | 0.000 | 1.00 | ND | 0.0099 | |
| Fluoranthene | 0.000 | 1.00 | ND | 0.0099 | |
| Pyrene | 0.000 | 1.00 | ND | 0.0099 | |
| Benzo (a) Anthracene | 0.000 | 1.00 | ND | 0.0099 | |
| Chrysene | 0.000 | 1.00 | ND | 0.0099 | |
| Benzo (k) Fluoranthene | 0.000 | 1.00 | ND | 0.0099 | |
| Benzo (b) Fluoranthene | 0.000 | 1.00 | ND | 0.0099 | |
| Benzo (a) Pyrene | 0.000 | 1.00 | ND | 0.0099 | |
| Indeno (1,2,3-c,d) Pyrene | 0.000 | 1.00 | ND | 0.0099 | |
| Dibenz (a,h) Anthracene | 0.000 | 1.00 | ND | 0.0099 | |
| Benzo (g,h,i) Perylene | 0.000 | 1.00 | ND | 0.0099 | |

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 13:40 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 14:16 ev7p

Sample Name: 17-03-0889-26 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.384 | 152 | 60790 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.618 | 136 | 179951 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.504 | 164 | 97226 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.100 | 188 | 279265 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.778 | 264 | 252359 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.020 | 240 | 265729 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.933 | 82 | 9999 | 0.839 | 0.00 |
| SpikedAmount 1.000 | Recovery = 83.888 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.798 | 172 | 27324 | 0.778 | 0.00 |
| SpikedAmount 1.000 | Recovery = 77.850 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.895 | 244 | 46168 | 1.121 | 0.00 |
| SpikedAmount 1.000 | Recovery = 112.112 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 0.000 | | 0 | N.D. | |
| 5) 2-Methylnaphthalene | (2) | 5.370 | 142 | 345 | 0.014 | 98 |
| 6) 1-Methylnaphthalene | (2) | 5.483 | 142 | 255 | 0.011 | 93 |
| 10) Acenaphthylene | (3) | 0.000 | | 0 | N.D. | |
| 12) Acenaphthene | (3) | 0.000 | | 0 | N.D. | |
| 15) Fluorene | (3) | 0.000 | | 0 | N.D. | |
| 18) Phenanthrene | (4) | 0.000 | | 0 | N.D. | |
| 19) Anthracene | (4) | 0.000 | | 0 | N.D. | |
| 21) Fluoranthene | (4) | 0.000 | | 0 | N.D. | |
| 22) Pyrene | (5) | 0.000 | | 0 | N.D. | |
| 24) Benzo (a) Anthracene | (5) | 0.000 | | 0D | N.D. | |
| 26) Chrysene | (5) | 0.000 | | 0D | N.D. | |
| 27) Benzo (b) Fluoranthene | (6) | 0.000 | | 0 | N.D. | |
| 28) Benzo (k) Fluoranthene | (6) | 0.000 | | 0 | N.D. | |
| 30) Benzo (a) Pyrene | (6) | 0.000 | | 0 | N.D. | |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 0.000 | | 0 | N.D. | |
| 34) Dibenz (a,h) Anthracene | (6) | 0.000 | | 0 | N.D. | |
| 35) Benzo (g,h,i) Perylene | (6) | 0.000 | | 0 | N.D. | |
| 8) Biphenyl | (3) | 0.000 | | 0 | N.D. | |
| 9) 2,6-Dimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 16) Dibenzothiophene | (3) | 0.000 | | 0 | N.D. | |

D = Compound was deleted.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar011.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 13:40 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 14:16 ev7p

Sample Name: 17-03-0889-26 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 0.000 | | 0 | N.D. | |
| 29) Benzo (e) pyrene | (6) | 0.000 | | 0 | N.D. | |
| 32) Perylene | (6) | 0.000 | | 0D | N.D. | |
| 13) Dibenzofuran | (3) | 0.000 | | 0 | N.D. | |

D = Compound was deleted.



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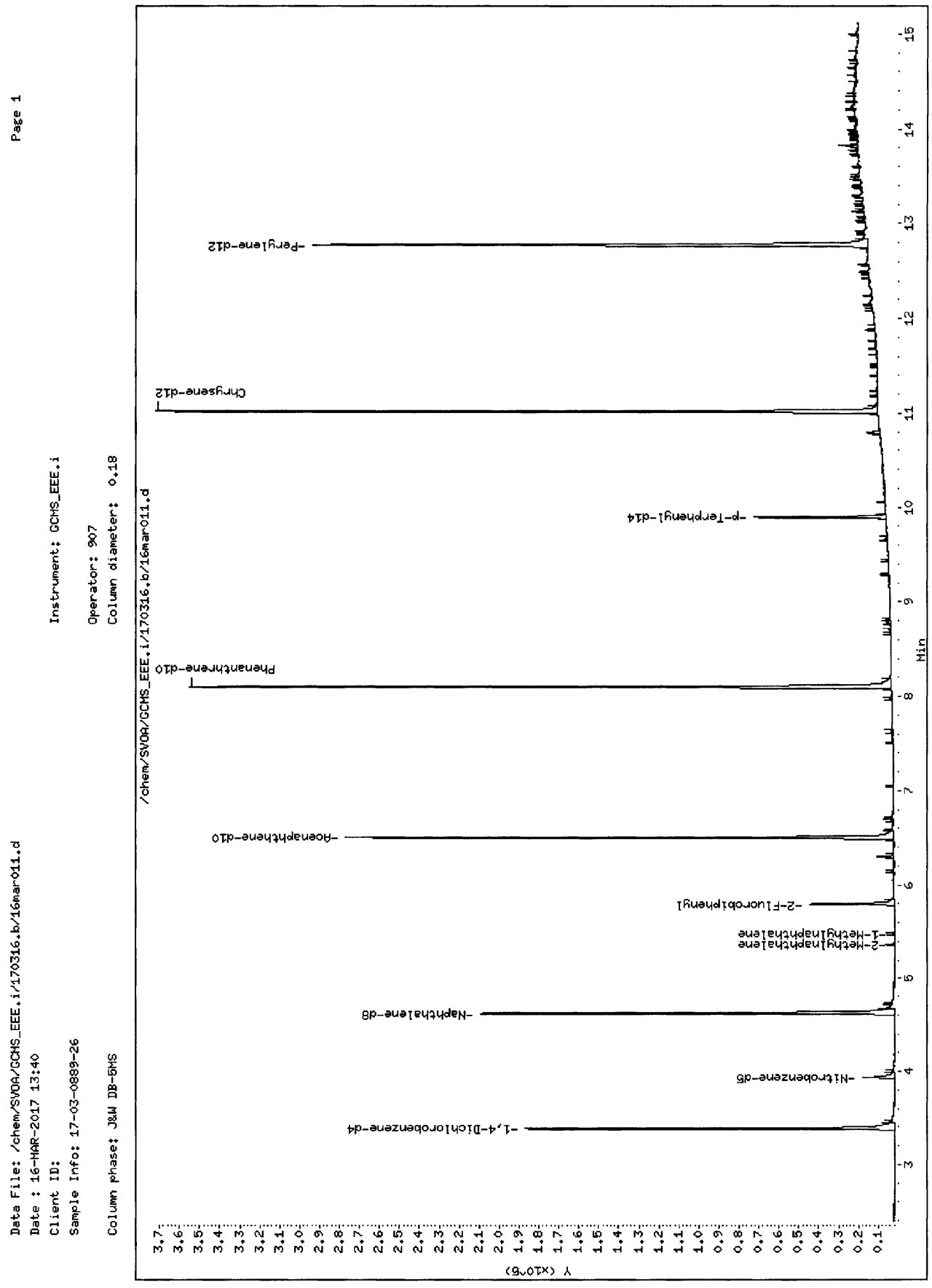


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# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**WORK ORDER:** **17-03-0889**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-15 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-16 14:00
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar012.d\16mar012.rr

**# 27** **CLIENT SAMPLE NUMBER: D-DU2-ISM3-8**

LCS/MB BATCH: 170315L03
MS/MSD BATCH: 170315S03
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.10 g
FINAL VOLUME / WEIGHT: DEFAULT: 2.00 ml / ACTUAL: 2.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Naphthalene | 0.000 | 1.00 | ND | 0.010 | |
| 2-Methylnaphthalene | 0.000 | 1.00 | ND | 0.010 | |
| 1-Methylnaphthalene | 0.000 | 1.00 | ND | 0.010 | |
| Acenaphthylene | 0.000 | 1.00 | ND | 0.010 | |
| Acenaphthene | 0.000 | 1.00 | ND | 0.010 | |
| Fluorene | 0.000 | 1.00 | ND | 0.010 | |
| Phenanthrene | 0.000 | 1.00 | ND | 0.010 | |
| Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Fluoranthene | 0.000 | 1.00 | ND | 0.010 | |
| Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (a) Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Chrysene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (k) Fluoranthene | 0.0167 | 1.00 | ND | 0.010 | |
| Benzo (b) Fluoranthene | 0.0176 | 1.00 | ND | 0.010 | |
| Benzo (a) Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Indeno (1,2,3-c,d) Pyrene | 0.0156 | 1.00 | ND | 0.010 | |
| Dibenz (a,h) Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (g,h,i) Perylene | 0.0224 | 1.00 | ND | 0.010 | |

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar012.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 14:00 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 14:22 Unknown

Sample Name: 17-03-0889-27 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.384 | 152 | 60388 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.619 | 136 | 174119 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.504 | 164 | 94578 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.100 | 188 | 273881 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.778 | 264 | 247544 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.019 | 240 | 274291 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.932 | 82 | 10322 | 0.895 | 0.00 |
| SpikedAmount 1.000 | Recovery = 89.506 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.799 | 172 | 27318 | 0.800 | 0.00 |
| SpikedAmount 1.000 | Recovery = 80.012 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.895 | 244 | 38274 | 0.900 | 0.00 |
| SpikedAmount 1.000 | Recovery = 90.042 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 0.000 | | 0 | N.D. | |
| 5) 2-Methylnaphthalene | (2) | 0.000 | | 0 | N.D. | |
| 6) 1-Methylnaphthalene | (2) | 0.000 | | 0 | N.D. | |
| 10) Acenaphthylene | (3) | 0.000 | | 0 | N.D. | |
| 12) Acenaphthene | (3) | 0.000 | | 0 | N.D. | |
| 15) Fluorene | (3) | 0.000 | | 0 | N.D. | |
| 18) Phenanthrene | (4) | 0.000 | | 0 | N.D. | |
| 19) Anthracene | (4) | 0.000 | | 0 | N.D. | |
| 21) Fluoranthene | (4) | 0.000 | | 0 | N.D. | |
| 22) Pyrene | (5) | 0.000 | | 0 | N.D. | |
| 24) Benzo (a) Anthracene | (5) | 0.000 | | 0 | N.D. | |
| 26) Chrysene | (5) | 0.000 | | 0 | N.D. | |
| 27) Benzo (b) Fluoranthene | (6) | 12.322 | 252 | 1132 | 0.018 | 90 |
| 28) Benzo (k) Fluoranthene | (6) | 12.322 | 252 | 1132 | 0.017 | 90 |
| 30) Benzo (a) Pyrene | (6) | 0.000 | | 0 | N.D. | |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.023 | 276 | 1158 | 0.016 | 85 |
| 34) Dibenz (a,h) Anthracene | (6) | 0.000 | | 0 | N.D. | |
| 35) Benzo (g,h,i) Perylene | (6) | 14.301 | 276 | 1340 | 0.022 | 90 |
| 8) Biphenyl | (3) | 0.000 | | 0 | N.D. | |
| 9) 2,6-Dimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 16) Dibenzothiophene | (3) | 0.000 | | 0 | N.D. | |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar012.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 14:00 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 14:22 Unknown

Sample Name: 17-03-0889-27 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 0.000 | | 0 | N.D. | |
| 29) Benzo (e) pyrene | (6) | 12.651 | 252 | 1114 | 0.014 | 74 |
| 32) Perylene | (6) | 12.808 | 252 | 1052 | 0.014 | 71 |
| 13) Dibenzofuran | (3) | 0.000 | | 0 | N.D. | |



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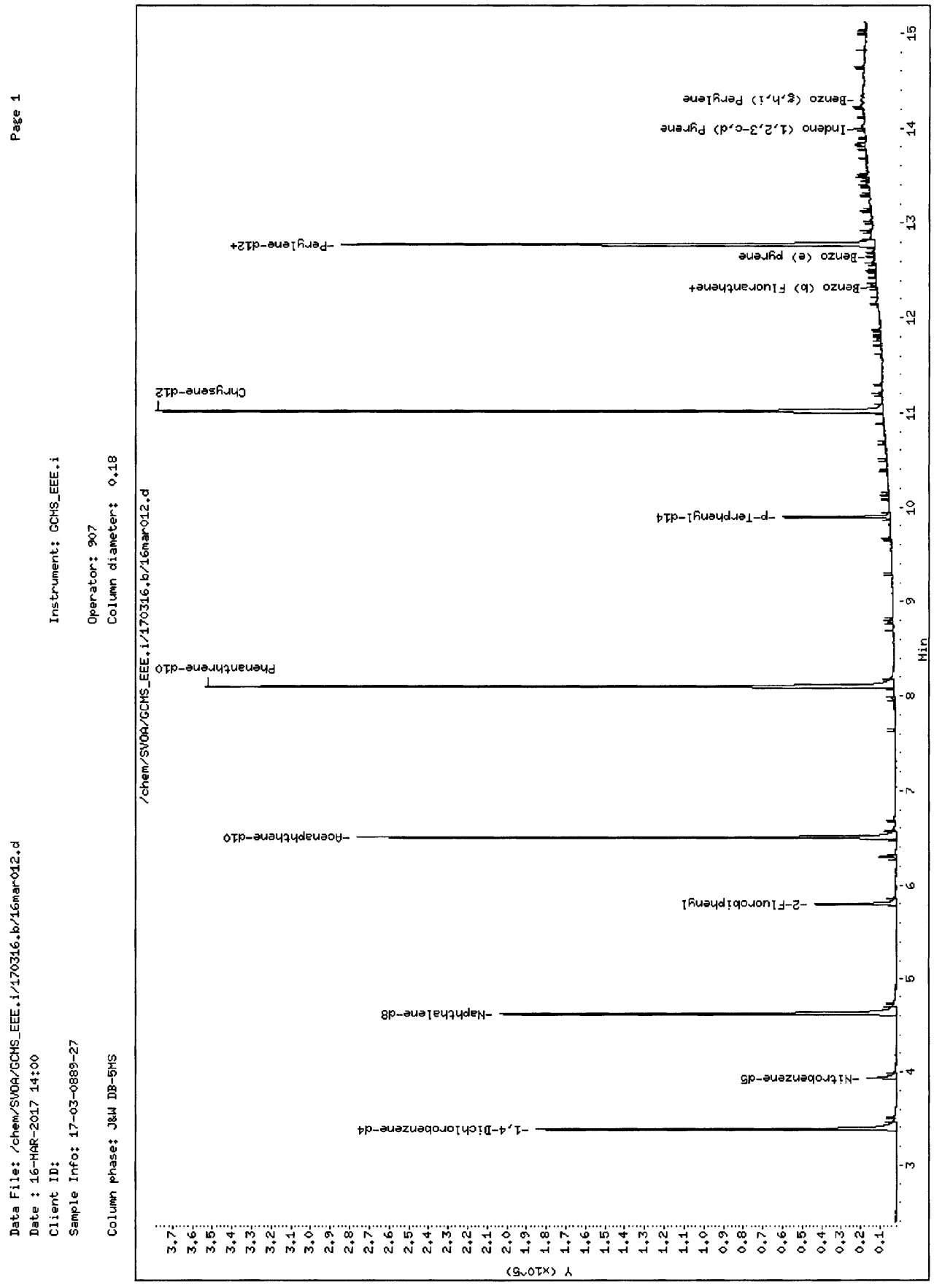


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# EPA METHOD 8270C
# PAHSIM

## Quality Control

## Method Blank
## LCS/LCSD
## MS/MSD

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 8270C SIM PAHs

| | | | |
|---|---|---|---|
| **MB SAMPLE ID:** | **099-14-035-383** | ANALYZED BY: | 907 |
| MB BATCH ID: | 170315L03 | D/T ANALYZED: | 2017-03-16 10:58 |
| INSTRUMENT: | GC/MS EEE | REVIEWED BY: | |
| EXTRACTION: | EPA 3545 | D/T REVIEWED: | |
| D/T EXTRACTED: | 2017-03-15 00:00 | MATRIX: | Soil |

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar003.d\16mar003.rr

**CLIENT WORK ORDER: 17-03-0889**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 25 | | D-DU2-ISM1-8 | 2017-03-16 13:19 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar010.d\16mar010.rr |
| 26 | | D-DU2-ISM2-8 | 2017-03-16 13:40 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar011.d\16mar011.rr |
| 27 | | D-DU2-ISM3-8 | 2017-03-16 14:00 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar012.d\16mar012.rr |

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# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **099-14-035** | ANALYZED BY: | 907 |
| INSTRUMENT: | GC/MS EEE | D/T ANALYZED: | 2017-03-16 10:58 |
| EXTRACTION : | EPA 3545 | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-15 00:00 | D/T REVIEWED: | |

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar003.d\16mar003.rr

**# MB** **CLIENT SAMPLE NUMBER: Method Blank**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170315L03 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 20.00 g / ACTUAL: 20.00 g |
| MS/MSD BATCH: | | FINAL VOLUME / WEIGHT: | DEFAULT: 2.00 ml / ACTUAL: 2.00 ml |
| UNITS: | mg/kg | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Naphthalene | 0.000 | 1.00 | ND | 0.010 | |
| 2-Methylnaphthalene | 0.000 | 1.00 | ND | 0.010 | |
| 1-Methylnaphthalene | 0.000 | 1.00 | ND | 0.010 | |
| Acenaphthylene | 0.000 | 1.00 | ND | 0.010 | |
| Acenaphthene | 0.000 | 1.00 | ND | 0.010 | |
| Fluorene | 0.000 | 1.00 | ND | 0.010 | |
| Phenanthrene | 0.000 | 1.00 | ND | 0.010 | |
| Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Fluoranthene | 0.000 | 1.00 | ND | 0.010 | |
| Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (a) Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Chrysene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (k) Fluoranthene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (b) Fluoranthene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (a) Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Indeno (1,2,3-c,d) Pyrene | 0.000 | 1.00 | ND | 0.010 | |
| Dibenz (a,h) Anthracene | 0.000 | 1.00 | ND | 0.010 | |
| Benzo (g,h,i) Perylene | 0.000 | 1.00 | ND | 0.010 | |

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**LCS SAMPLE ID:** **099-14-035-383**
LCS/MB BATCH ID: 170315L03
INSTRUMENT: GC/MS EEE

EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-15 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-16 11:18
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar004.d\16mar004.rr

| COMPOUND | CONC | CONC REC | %REC | %REC CL | ME CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|
| Naphthalene | 0.1000 | 0.1027 | 103 | 51-129 | 38-142 | PASS | |
| 2-Methylnaphthalene | 0.1000 | 0.1209 | 121 | 50-127 | 37-140 | PASS | |
| 1-Methylnaphthalene | 0.1000 | 0.1084 | 108 | 54-132 | 41-145 | PASS | |
| Acenaphthylene | 0.1000 | 0.09108 | 91 | 50-123 | 38-135 | PASS | |
| Acenaphthene | 0.1000 | 0.09195 | 92 | 53-125 | 41-137 | PASS | |
| Fluorene | 0.1000 | 0.09348 | 93 | 55-127 | 43-139 | PASS | |
| Phenanthrene | 0.1000 | 0.1050 | 105 | 50-122 | 38-134 | PASS | |
| Anthracene | 0.1000 | 0.1047 | 105 | 50-132 | 36-146 | PASS | |
| Fluoranthene | 0.1000 | 0.1046 | 105 | 55-127 | 43-139 | PASS | |
| Pyrene | 0.1000 | 0.1036 | 104 | 50-134 | 36-148 | PASS | |
| Benzo (a) Anthracene | 0.1000 | 0.1019 | 102 | 50-133 | 36-147 | PASS | |
| Chrysene | 0.1000 | 0.1045 | 104 | 51-129 | 38-142 | PASS | |
| Benzo (k) Fluoranthene | 0.1000 | 0.1096 | 110 | 49-150 | 32-167 | PASS | |
| Benzo (b) Fluoranthene | 0.1000 | 0.1044 | 104 | 50-142 | 35-157 | PASS | |
| Benzo (a) Pyrene | 0.1000 | 0.1046 | 105 | 50-134 | 36-148 | PASS | |
| Indeno (1,2,3-c,d) Pyrene | 0.1000 | 0.1004 | 100 | 50-148 | 34-164 | PASS | |
| Dibenz (a,h) Anthracene | 0.1000 | 0.1050 | 105 | 50-133 | 36-147 | PASS | |
| Benzo (g,h,i) Perylene | 0.1000 | 0.1084 | 108 | 50-130 | 37-143 | PASS | |

Total number of LCS compounds: 18
Total number of ME compounds: 0
Total number of ME compounds allowed: 1
LCS ME CL validation result: Pass

Compounds listed in bold are required to be reported.

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**SPIKED SAMPLE ID:** **17-03-0888-27**
MS/MSD BATCH: 170315S03
INSTRUMENTS:
SAMPLE: GC/MS EEE
MS: GC/MS EEE
MSD: GC/MS EEE

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-15 00:00
MS: 2017-03-15 00:00
MSD: 2017-03-15 00:00

ANALYZED BY: 907
D/T ANALYZED:
SAMPLE: 2017-03-16 17:43
MS: 2017-03-16 16:22
MSD: 2017-03-16 16:42
REVIEWED BY:
D/T REVIEWED:

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | ND | 1.000 | 0.1000 | 0.08581 | 86 | 0.09139 | 91 | 20-150 | 6 | 0-33 | PASS | |
| 2-Methylnaphthalene | ND | 1.000 | 0.1000 | 0.1116 | 112 | 0.1223 | 122 | 29-137 | 9 | 0-31 | PASS | |
| 1-Methylnaphthalene | ND | 1.000 | 0.1000 | 0.09328 | 93 | 0.1029 | 103 | 34-136 | 10 | 0-29 | PASS | |
| Acenaphthylene | ND | 1.000 | 0.1000 | 0.07751 | 78 | 0.08692 | 87 | 29-131 | 11 | 0-32 | PASS | |
| Acenaphthene | ND | 1.000 | 0.1000 | 0.08150 | 82 | 0.09017 | 90 | 29-137 | 10 | 0-28 | PASS | |
| Fluorene | ND | 1.000 | 0.1000 | 0.08285 | 83 | 0.09355 | 94 | 36-132 | 12 | 0-27 | PASS | |
| Phenanthrene | ND | 1.000 | 0.1000 | 0.1000 | 100 | 0.1150 | 115 | 20-144 | 14 | 0-27 | PASS | |
| Anthracene | ND | 1.000 | 0.1000 | 0.09854 | 99 | 0.1147 | 115 | 26-134 | 15 | 0-27 | PASS | |
| Fluoranthene | ND | 1.000 | 0.1000 | 0.09940 | 99 | 0.1204 | 120 | 20-151 | 19 | 0-26 | PASS | |
| Pyrene | 0.01225 | 1.000 | 0.1000 | 0.1060 | 94 | 0.1368 | 125 | 20-150 | 25 | 0-32 | PASS | |
| Benzo (a) Anthracene | ND | 1.000 | 0.1000 | 0.09480 | 95 | 0.1106 | 111 | 24-150 | 15 | 0-24 | PASS | |
| Chrysene | 0.01940 | 1.000 | 0.1000 | 0.1061 | 87 | 0.1264 | 107 | 25-145 | 17 | 0-28 | PASS | |
| Benzo (k) Fluoranthene | 0.02293 | 1.000 | 0.1000 | 0.1062 | 83 | 0.1315 | 109 | 28-148 | 21 | 0-26 | PASS | |
| **Benzo (b) Fluoranthene** | **ND** | **1.000** | **0.1000** | **0.1089** | **109** | **0.1641** | **164** | **21-153** | **40** | **0-26** | **FAIL** | **34F** |
| **Benzo (a) Pyrene** | **0.01233** | **1.000** | **0.1000** | **0.09923** | **87** | **0.1420** | **130** | **29-149** | **35** | **0-22** | **FAIL** | **4** |
| **Indeno (1,2,3-c,d) Pyrene** | **0.01480** | **1.000** | **0.1000** | **0.05988** | **45** | **0.08525** | **70** | **20-154** | **35** | **0-25** | **FAIL** | **4** |
| Dibenz (a,h) Anthracene | ND | 1.000 | 0.1000 | 0.06281 | 63 | 0.07512 | 75 | 20-132 | 18 | 0-26 | PASS | |
| **Benzo (g,h,i) Perylene** | **0.02695** | **1.000** | **0.1000** | **0.06264** | **36** | **0.09318** | **66** | **20-148** | **39** | **0-27** | **FAIL** | **4** |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 16mar019.rr | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar019.d\ |
| MSD | 16mar020.rr | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar020.d\ |

# SURROGATE RECOVERIES
# FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0889
BATCH ID:
**LCS/MB: 170315L03**
**MS: 170315S03**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # 25 CLIENT SAMPLE NUMBER : D-DU2-ISM1-8

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar010.d\16mar010.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-16 13:19

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 76 | 13-127 | PASS | |
| Nitrobenzene-d5 | 86 | 17-137 | PASS | |
| p-Terphenyl-d14 | 100 | 4-160 | PASS | |

## # 26 CLIENT SAMPLE NUMBER : D-DU2-ISM2-8

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar011.d\16mar011.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-16 13:40

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| p-Terphenyl-d14 | 112 | 4-160 | PASS | |
| Nitrobenzene-d5 | 84 | 17-137 | PASS | |
| 2-Fluorobiphenyl | 78 | 13-127 | PASS | |

## # 27 CLIENT SAMPLE NUMBER : D-DU2-ISM3-8

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar012.d\16mar012.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-16 14:00

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 80 | 13-127 | PASS | |
| Nitrobenzene-d5 | 90 | 17-137 | PASS | |
| p-Terphenyl-d14 | 90 | 4-160 | PASS | |

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# SURROGATE RECOVERIES
# FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0889
BATCH ID:
**LCS/MB: 170315L03**
**MS:**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar003.d\16mar003.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-16 10:58

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 85 | 13-127 | PASS | |
| Nitrobenzene-d5 | 100 | 17-137 | PASS | |
| p-Terphenyl-d14 | 99 | 4-160 | PASS | |

## # LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar004.d\16mar004.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-16 11:18

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| p-Terphenyl-d14 | 98 | 4-160 | PASS | |
| Nitrobenzene-d5 | 109 | 17-137 | PASS | |
| 2-Fluorobiphenyl | 88 | 13-127 | PASS | |

## # MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar019.d\16mar019.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-16 16:22

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| p-Terphenyl-d14 | 109 | 4-160 | PASS | |
| 2-Fluorobiphenyl | 80 | 13-127 | PASS | |
| Nitrobenzene-d5 | 86 | 17-137 | PASS | |

## # MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-15 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar020.d\16mar020.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-16 16:42

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 86 | 13-127 | PASS | |
| Nitrobenzene-d5 | 93 | 17-137 | PASS | |
| p-Terphenyl-d14 | 116 | 4-160 | PASS | |

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar003.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 10:58 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 11:19 Unknown

Sample Name: MB 170315 L03 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.388 | 152 | 54973 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.619 | 136 | 158088 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.503 | 164 | 83057 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.100 | 188 | 249283 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.774 | 264 | 243191 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.017 | 240 | 253373 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.932 | 82 | 10463 | 0.999 | 0.00 |
| SpikedAmount 1.000 | Recovery = 99.923 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.796 | 172 | 25410 | 0.847 | 0.00 |
| SpikedAmount 1.000 | Recovery = 84.747 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.895 | 244 | 38809 | 0.988 | 0.00 |
| SpikedAmount 1.000 | Recovery = 98.838 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 0.000 | | 0 | N.D. | |
| 5) 2-Methylnaphthalene | (2) | 0.000 | | 0 | N.D. | |
| 6) 1-Methylnaphthalene | (2) | 0.000 | | 0 | N.D. | |
| 10) Acenaphthylene | (3) | 0.000 | | 0 | N.D. | |
| 12) Acenaphthene | (3) | 0.000 | | 0 | N.D. | |
| 15) Fluorene | (3) | 0.000 | | 0 | N.D. | |
| 18) Phenanthrene | (4) | 0.000 | | 0 | N.D. | |
| 19) Anthracene | (4) | 0.000 | | 0 | N.D. | |
| 21) Fluoranthene | (4) | 0.000 | | 0 | N.D. | |
| 22) Pyrene | (5) | 0.000 | | 0 | N.D. | |
| 24) Benzo (a) Anthracene | (5) | 0.000 | | 0 | N.D. | |
| 26) Chrysene | (5) | 0.000 | | 0 | N.D. | |
| 27) Benzo (b) Fluoranthene | (6) | 0.000 | | 0 | N.D. | |
| 28) Benzo (k) Fluoranthene | (6) | 0.000 | | 0 | N.D. | |
| 30) Benzo (a) Pyrene | (6) | 0.000 | | 0 | N.D. | |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 0.000 | | 0 | N.D. | |
| 34) Dibenz (a,h) Anthracene | (6) | 0.000 | | 0 | N.D. | |
| 35) Benzo (g,h,i) Perylene | (6) | 0.000 | | 0 | N.D. | |
| 8) Biphenyl | (3) | 0.000 | | 0 | N.D. | |
| 9) 2,6-Dimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 16) Dibenzothiophene | (3) | 0.000 | | 0 | N.D. | |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar003.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 10:58 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 11:19 Unknown

Sample Name: MB 170315 L03 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 0.000 | | 0 | N.D. | |
| 29) Benzo (e) pyrene | (6) | 0.000 | | 0 | N.D. | |
| 32) Perylene | (6) | 0.000 | | 0 | N.D. | |
| 13) Dibenzofuran | (3) | 0.000 | | 0 | N.D. | |



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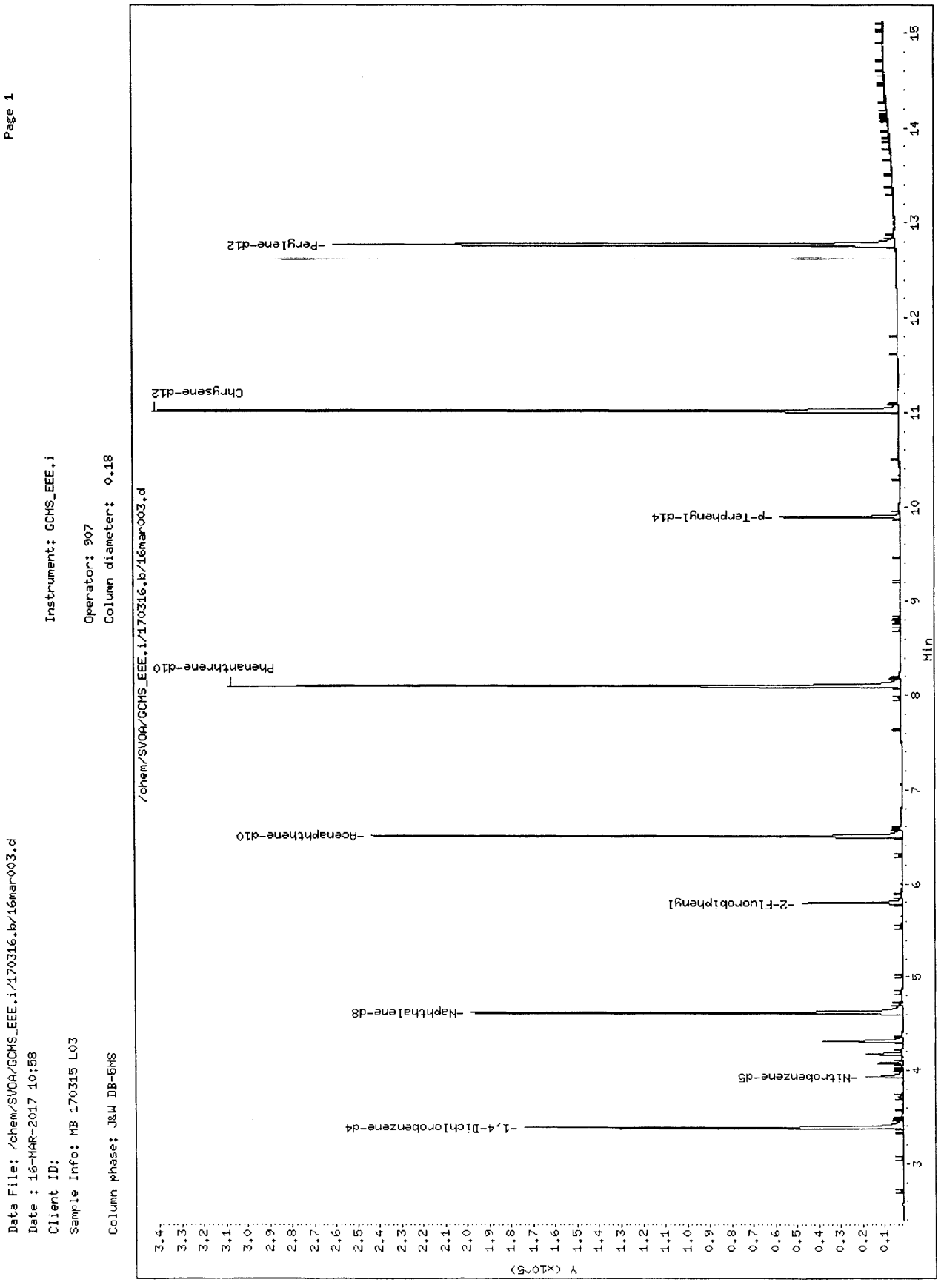


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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar004.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 11:18 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 11:40 Unknown

Sample Name: LCS 170315 L03 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.387 | 152 | 54000 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.617 | 136 | 150008 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.501 | 164 | 80901 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.098 | 188 | 237962 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.775 | 264 | 238058 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.015 | 240 | 248042 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.932 | 82 | 10826 | 1.090 | 0.00 |
| SpikedAmount 1.000 | Recovery = 108.963 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.796 | 172 | 25698 | 0.880 | 0.00 |
| SpikedAmount 1.000 | Recovery = 87.991 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.893 | 244 | 37627 | 0.979 | 0.00 |
| SpikedAmount 1.000 | Recovery = 97.889 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.637 | 128 | 33420 | 1.027 | 99 |
| 5) 2-Methylnaphthalene | (2) | 5.368 | 142 | 23994 | 1.209 | 100 |
| 6) 1-Methylnaphthalene | (2) | 5.480 | 142 | 21573 | 1.084 | 99 |
| 10) Acenaphthylene | (3) | 6.333 | 152 | 37261 | 0.911 | 100 |
| 12) Acenaphthene | (3) | 6.535 | 153 | 22572 | 0.920 | 99 |
| 15) Fluorene | (3) | 7.088 | 166 | 25547 | 0.935 | 99 |
| 18) Phenanthrene | (4) | 8.123 | 178 | 53039 | 1.050 | 99 |
| 19) Anthracene | (4) | 8.173 | 178 | 51702 | 1.047 | 100 |
| 21) Fluoranthene | (4) | 9.433 | 202 | 67970 | 1.046 | 100 |
| 22) Pyrene | (5) | 9.669 | 202 | 69943 | 1.036 | 100 |
| 24) Benzo (a) Anthracene | (5) | 10.999 | 228 | 66560 | 1.019 | 100 |
| 26) Chrysene | (5) | 11.042 | 228 | 62034 | 1.045 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.313 | 252 | 64730 | 1.043 | 99 |
| 28) Benzo (k) Fluoranthene | (6) | 12.341 | 252 | 71274 | 1.096 | 99 |
| 30) Benzo (a) Pyrene | (6) | 12.704 | 252 | 62575 | 1.046 | 97 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.016 | 276 | 71796 | 1.004 | 99 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.043 | 278 | 56911 | 1.049 | 100 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.295 | 276 | 62248 | 1.084 | 98 |
| 8) Biphenyl | (3) | 5.885 | 154 | 32151 | 0.887 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.045 | 156 | 22178 | 0.872 | 99 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.964 | 170 | 21692 | 0.854 | 100 |
| 16) Dibenzothiophene | (3) | 7.987 | 184 | 63743 | 0.852 | 99 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar004.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 11:18 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 11:40 Unknown

Sample Name: LCS 170315 L03 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.813 | 192 | 48465 | 0.980 | 99 |
| 29) Benzo (e) pyrene | (6) | 12.642 | 252 | 74125 | 1.000 | 99 |
| 32) Perylene | (6) | 12.803 | 252 | 68128 | 0.958 | 99 |
| 13) Dibenzofuran | (3) | 6.712 | 168 | 33895 | 0.955 | 97 |



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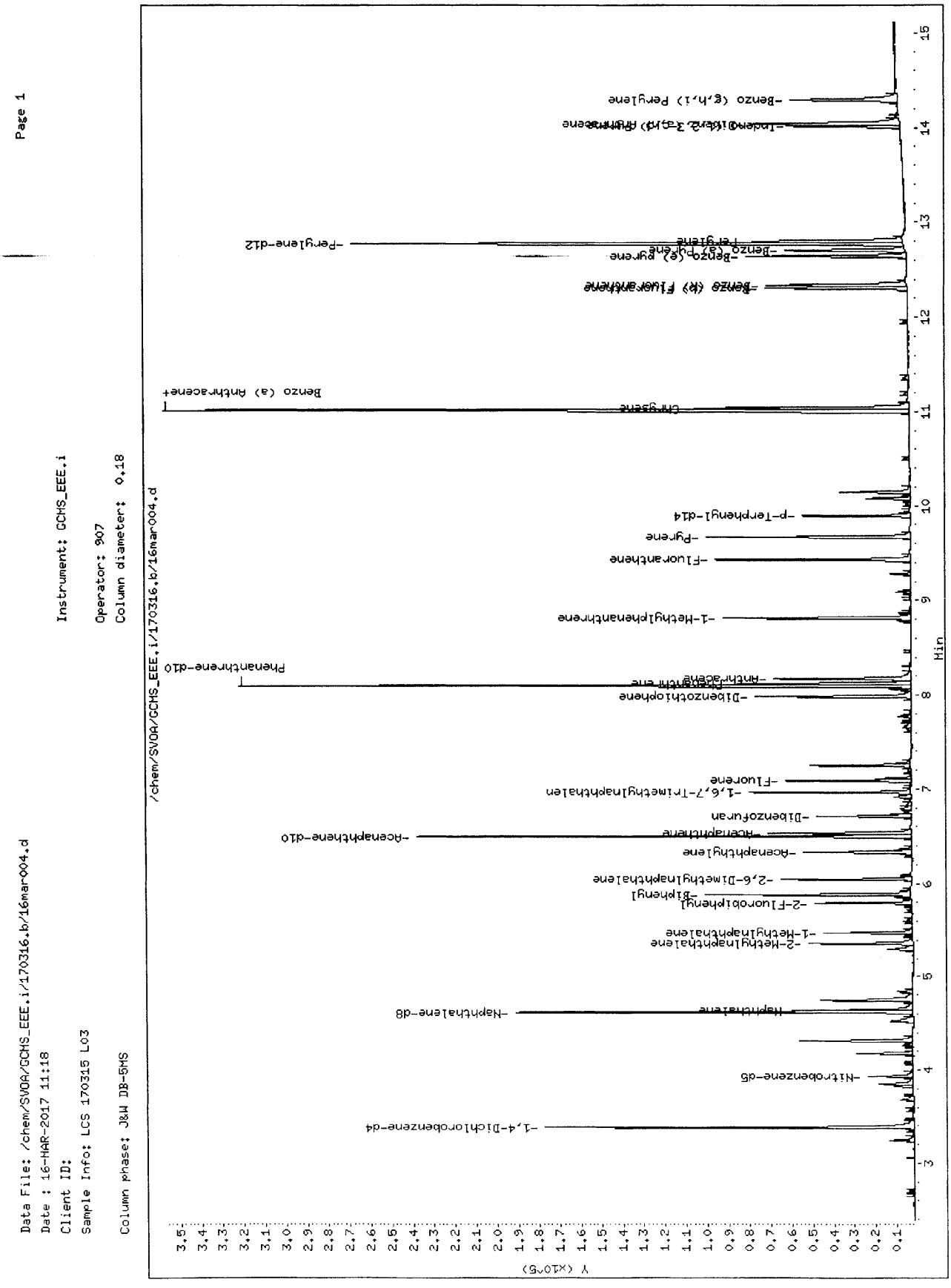


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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar019.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 16:22 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 16:44 Unknown

Sample Name: 17-03-0888-27 MS Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.384 | 152 | 57445 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.618 | 136 | 160594 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.503 | 164 | 85712 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.100 | 188 | 242682 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.790 | 264 | 183720 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.021 | 240 | 238130 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.932 | 82 | 9180 | 0.863 | 0.00 |
| SpikedAmount 1.000 | Recovery = 86.307 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.798 | 172 | 24599 | 0.795 | 0.00 |
| SpikedAmount 1.000 | Recovery = 79.502 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.895 | 244 | 40100 | 1.087 | 0.00 |
| SpikedAmount 1.000 | Recovery = 108.664 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.638 | 128 | 29889 | 0.858 | 99 |
| 5) 2-Methylnaphthalene | (2) | 5.367 | 142 | 23713 | 1.116 | 94 |
| 6) 1-Methylnaphthalene | (2) | 5.480 | 142 | 19867 | 0.933 | 98 |
| 10) Acenaphthylene | (3) | 6.335 | 152 | 33595 | 0.775 | 99 |
| 12) Acenaphthene | (3) | 6.537 | 153 | 21196 | 0.815 | 100 |
| 15) Fluorene | (3) | 7.087 | 166 | 23988 | 0.828 | 99 |
| 18) Phenanthrene | (4) | 8.125 | 178 | 51508 | 1.000 | 99 |
| 19) Anthracene | (4) | 8.173 | 178 | 49609 | 0.985 | 99 |
| 21) Fluoranthene | (4) | 9.433 | 202 | 65855 | 0.994 | 98 |
| 22) Pyrene | (5) | 9.671 | 202 | 68725 | 1.060 | 98 |
| 24) Benzo (a) Anthracene | (5) | 11.002 | 228 | 59469 | 0.948 | 99 |
| 26) Chrysene | (5) | 11.047 | 228 | 60499 | 1.061 | 100 |
| 27) Benzo (b) Fluoranthene | (6) | 12.327 | 252 | 52153 | 1.089 | 95 |
| 28) Benzo (k) Fluoranthene | (6) | 12.355 | 252 | 53315 | 1.062 | 93 |
| 30) Benzo (a) Pyrene | (6) | 12.719 | 252 | 45799 | 0.992 | 93 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.038 | 276 | 33039 | 0.599 | 92 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.060 | 278 | 26286 | 0.628 | 53 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.317 | 276 | 27768 | 0.626 | 94 |
| 8) Biphenyl | (3) | 5.886 | 154 | 29647 | 0.772 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.046 | 156 | 20610 | 0.765 | 99 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.968 | 170 | 21544 | 0.800 | 97 |
| 16) Dibenzothiophene | (3) | 7.989 | 184 | 60823 | 0.768 | 100 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar019.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 16:22 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 16:44 Unknown

Sample Name: 17-03-0888-27 MS Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.814 | 192 | 48038 | 1.012 | 100 |
| 29) Benzo (e) pyrene | (6) | 12.658 | 252 | 56625 | 0.990 | 89 |
| 32) Perylene | (6) | 12.818 | 252 | 56238 | 1.025 | 82 |
| 13) Dibenzofuran | (3) | 6.714 | 168 | 31550 | 0.839 | 97 |



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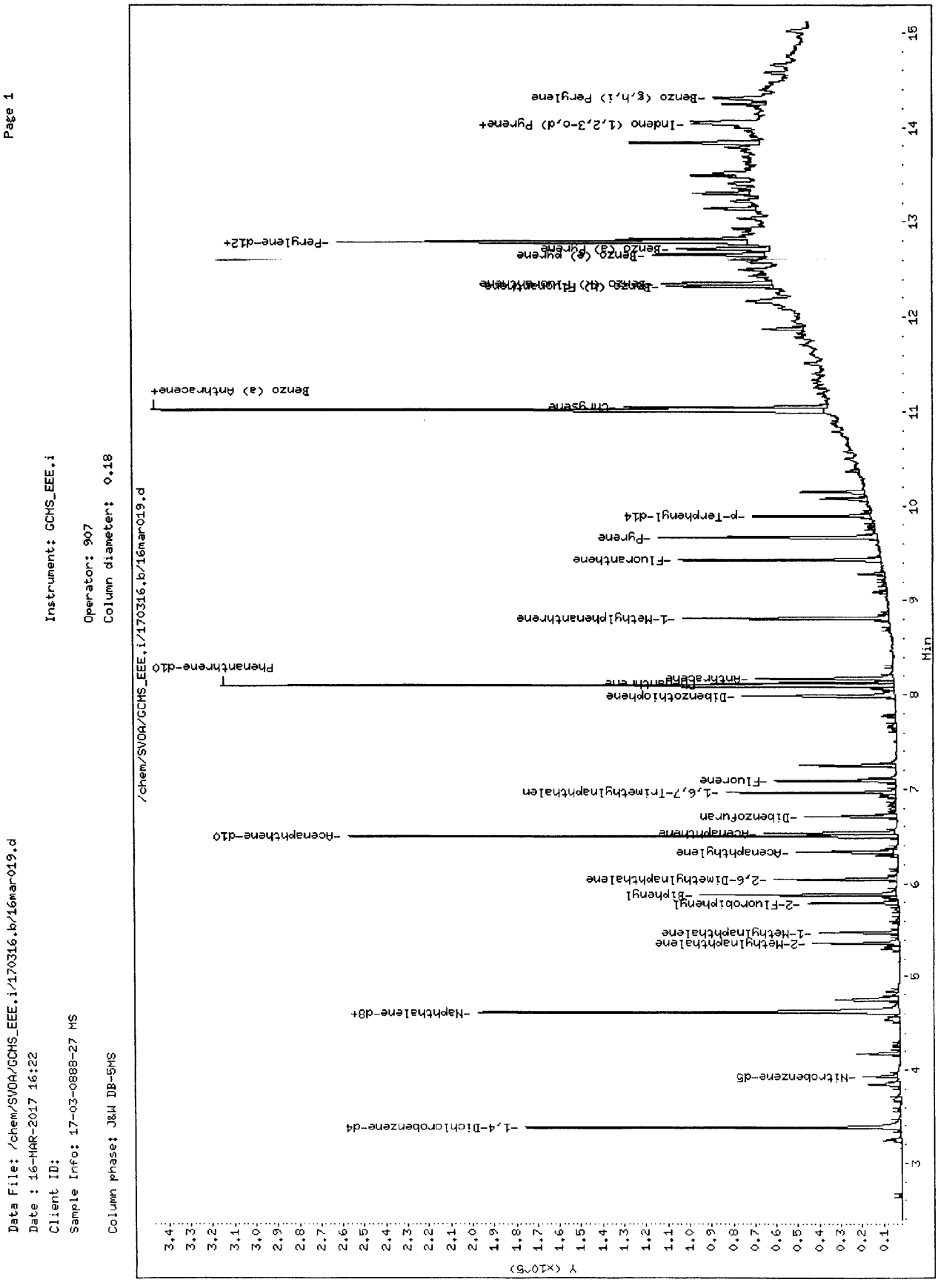


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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar020.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 16:42 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 17:04 Unknown

Sample Name: 17-03-0888-27 MSD Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.384 | 152 | 55900 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.619 | 136 | 159329 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.505 | 164 | 83887 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.102 | 188 | 234861 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.792 | 264 | 162505 | 5.000 | -0.02 |
| 25)*Chrysene-d12 | (5) | 11.022 | 240 | 226213 | 5.000 | -0.01 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.932 | 82 | 9767 | 0.925 | 0.00 |
| SpikedAmount 1.000 | Recovery = 92.550 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.798 | 172 | 25934 | 0.856 | 0.00 |
| SpikedAmount 1.000 | Recovery = 85.638 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.897 | 244 | 40840 | 1.165 | 0.00 |
| SpikedAmount 1.000 | Recovery = 116.499 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.639 | 128 | 31583 | 0.914 | 99 |
| 5) 2-Methylnaphthalene | (2) | 5.369 | 142 | 25776 | 1.223 | 93 |
| 6) 1-Methylnaphthalene | (2) | 5.482 | 142 | 21744 | 1.029 | 97 |
| 10) Acenaphthylene | (3) | 6.336 | 152 | 36869 | 0.869 | 99 |
| 12) Acenaphthene | (3) | 6.537 | 153 | 22953 | 0.902 | 99 |
| 15) Fluorene | (3) | 7.088 | 166 | 26508 | 0.935 | 100 |
| 18) Phenanthrene | (4) | 8.125 | 178 | 57334 | 1.150 | 99 |
| 19) Anthracene | (4) | 8.175 | 178 | 55877 | 1.147 | 99 |
| 21) Fluoranthene | (4) | 9.435 | 202 | 77201 | 1.204 | 99 |
| 22) Pyrene | (5) | 9.673 | 202 | 84245 | 1.368 | 99 |
| 24) Benzo (a) Anthracene | (5) | 11.004 | 228 | 65926 | 1.106 | 97 |
| 26) Chrysene | (5) | 11.049 | 228 | 68418 | 1.264 | 98 |
| 27) Benzo (b) Fluoranthene | (6) | 12.328 | 252 | 69470 | 1.641 | 99 |
| 28) Benzo (k) Fluoranthene | (6) | 12.357 | 252 | 58387 | 1.315 | 93 |
| 30) Benzo (a) Pyrene | (6) | 12.722 | 252 | 57965 | 1.420 | 91 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.042 | 276 | 41602 | 0.852 | 89 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.063 | 278 | 27808 | 0.751 | 57 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.318 | 276 | 36539 | 0.932 | 97 |
| 8) Biphenyl | (3) | 5.887 | 154 | 31905 | 0.849 | 99 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.047 | 156 | 22436 | 0.851 | 99 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.968 | 170 | 23423 | 0.889 | 97 |
| 16) Dibenzothiophene | (3) | 7.989 | 184 | 65846 | 0.849 | 99 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar020.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 16:42 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 17:04 Unknown

Sample Name: 17-03-0888-27 MSD Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.814 | 192 | 51790 | 1.149 | 100 |
| 29) Benzo (e) pyrene | (6) | 12.660 | 252 | 66441 | 1.313 | 85 |
| 32) Perylene | (6) | 12.825 | 252 | 57129 | 1.177 | 66 |
| 13) Dibenzofuran | (3) | 6.716 | 168 | 33649 | 0.914 | 97 |



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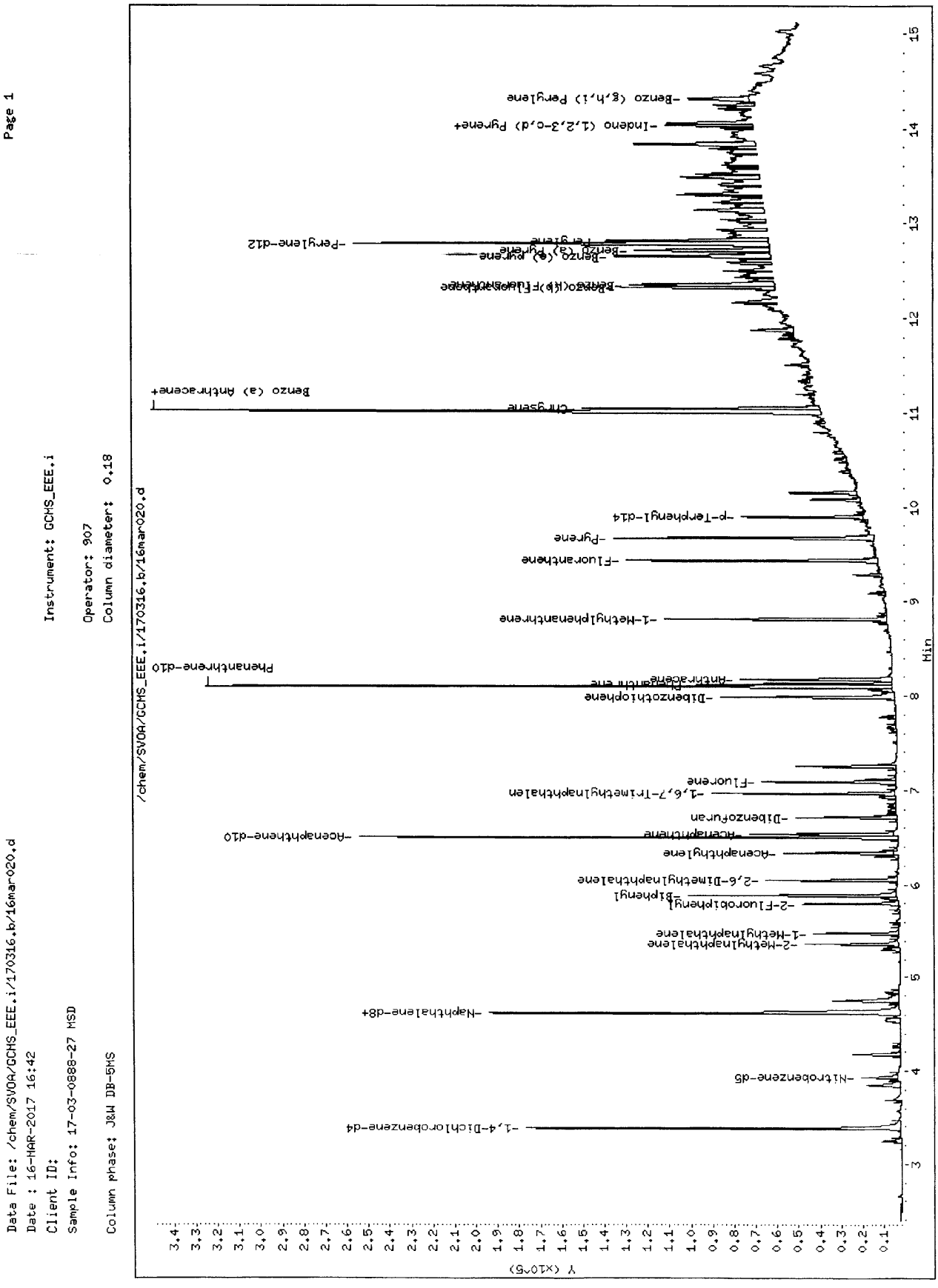


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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar023.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 17:43 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 17-Mar-2017 09:25 ev7p

Sample Name: 17-03-0888-27 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.387 | 152 | 59097 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.622 | 136 | 169515 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.507 | 164 | 93469 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.105 | 188 | 261573 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.803 | 264 | 142092 | 5.000 | -0.03 |
| 25)*Chrysene-d12 | (5) | 11.029 | 240 | 233573 | 5.000 | -0.01 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.936 | 82 | 9166 | 0.816 | 0.00 |
| SpikedAmount 1.000 | Recovery = 81.633 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.802 | 172 | 25876 | 0.767 | 0.00 |
| SpikedAmount 1.000 | Recovery = 76.687 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.900 | 244 | 46768 | 1.292 | 0.00 |
| SpikedAmount 1.000 | Recovery = 129.204 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 0.000 | | 0 | N.D. | |
| 5) 2-Methylnaphthalene | (2) | 5.375 | 142 | 451 | 0.020 | 95 |
| 6) 1-Methylnaphthalene | (2) | 5.487 | 142 | 276 | 0.012 | 88 |
| 10) Acenaphthylene | (3) | 0.000 | | 0 | N.D. | |
| 12) Acenaphthene | (3) | 0.000 | | 0 | N.D. | |
| 15) Fluorene | (3) | 0.000 | | 0 | N.D. | |
| 18) Phenanthrene | (4) | 8.130 | 178 | 1919 | 0.035 | 95 |
| 19) Anthracene | (4) | 8.181 | 178 | 709 | 0.013 | 28 |
| 21) Fluoranthene | (4) | 9.439 | 202 | 6684 | 0.094 | 97 |
| 22) Pyrene | (5) | 9.679 | 202 | 7828 | 0.123 | 82 |
| 24) Benzo (a) Anthracene | (5) | 11.010 | 228 | 4133 | 0.067 | 72 |
| 26) Chrysene | (5) | 11.053 | 228 | 10904 | 0.195 | 83 |
| 27) Benzo (b) Fluoranthene | (6) | 12.340 | 252 | 3275M | 0.088 | 1 |
| 28) Benzo (k) Fluoranthene | (6) | 12.340 | 252 | 8945M | 0.230 | 1 |
| 30) Benzo (a) Pyrene | (6) | 12.734 | 252 | 4423 | 0.124 | 45 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.053 | 276 | 6344 | 0.149 | 80 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.075 | 278 | 1316 | 0.041 | 78 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.333 | 276 | 9286 | 0.271 | 80 |
| 8) Biphenyl | (3) | 0.000 | | 0 | N.D. | |
| 9) 2,6-Dimethylnaphthalene | (3) | 0.000 | | 0D | N.D. | |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 0.000 | | 0 | N.D. | |
| 16) Dibenzothiophene | (3) | 0.000 | | 0D | N.D. | |

M = Compound was manually integrated.
D = Compound was deleted.
* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar023.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 17:43 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 17-Mar-2017 09:25 ev7p

Sample Name: 17-03-0888-27 Misc Info: S101716B 10UL
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.820 | 192 | 940 | 0.020 | 90 |
| 29) Benzo (e) pyrene | (6) | 12.672 | 252 | 8397 | 0.190 | 85 |
| 32) Perylene | (6) | 12.835 | 252 | 12366 | 0.291 | 1 |
| 13) Dibenzofuran | (3) | 0.000 | | 0 | N.D. | |



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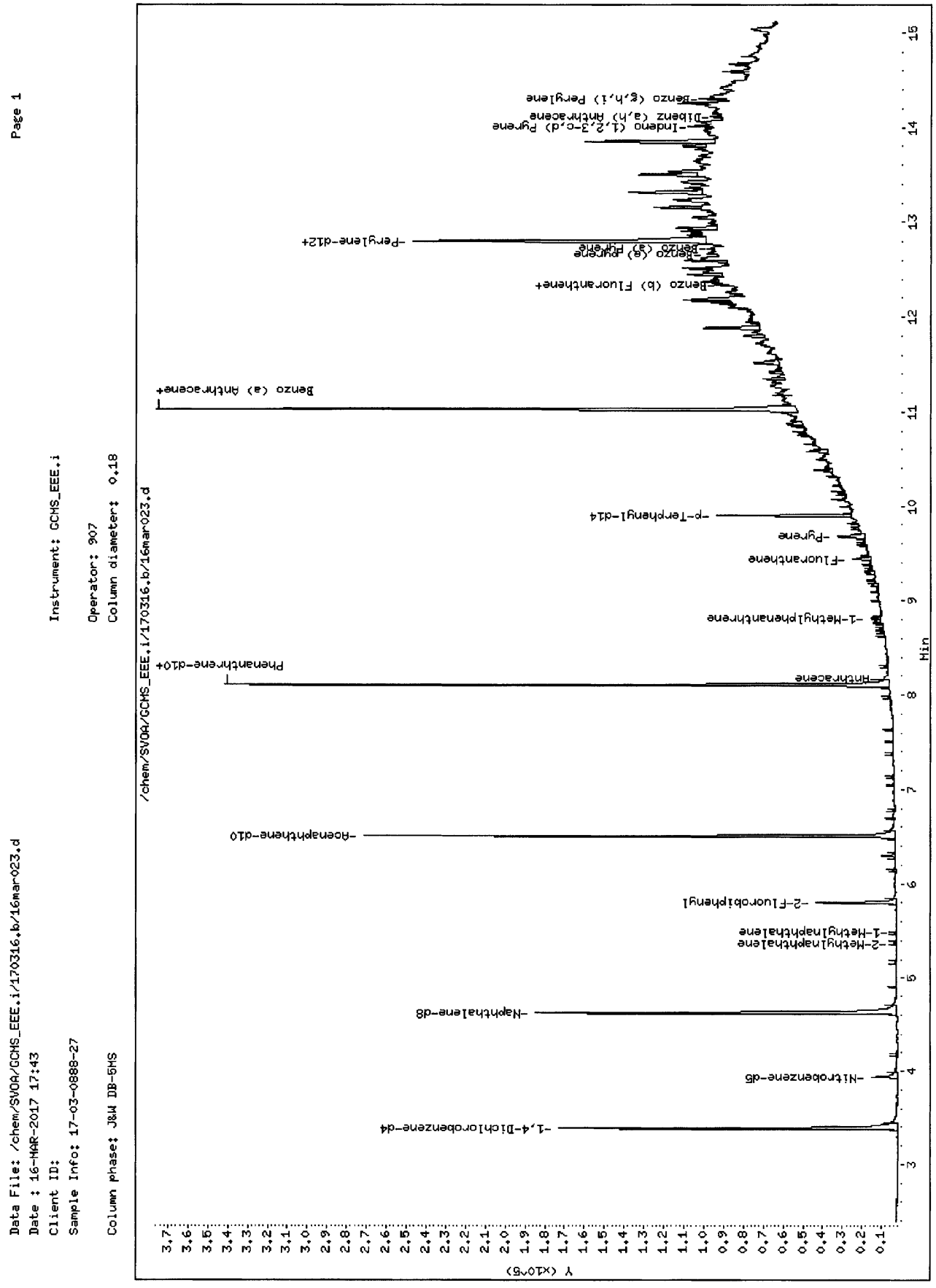


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# EPA METHOD 8270C
# PAHSIM

# Continuing Calibration

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# CCV ASSOCIATION SUMMARY
# FOR METHOD: EPA 8270C SIM PAHs

**BATCH ID:** **170316A019** ANALYZED BY: 907
INSTRUMENT: GC/MS EEE

**WORK ORDER:** **099-06-009** REVIEWED BY: 262
MATRIX: Water D/T REVIEWED: 2017-03-16 16:43

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 4985 | Daily Calibration | 2017-03-16 10:37 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar002.d\16mar002.r |

**WORK ORDER:** **17-03-0889** REVIEWED BY:
MATRIX: Soil D/T REVIEWED:

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 25 | D-DU2-ISM1-8 | 2017-03-16 13:19 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar010.d\16mar010.r |
| 26 | D-DU2-ISM2-8 | 2017-03-16 13:40 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar011.d\16mar011.r |
| 27 | D-DU2-ISM3-8 | 2017-03-16 14:00 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar012.d\16mar012.r |

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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**CCV WORK ORDER:** **099-06-009-4985-4741**
INSTRUMENT: GC/MS EEE
BATCH ID:
INITIAL: 170313I001
CCV: 170316A019

ANALYZED BY: 907
D/T ANALYZED:
INITIAL: 2017-03-13 14:13
CCV: 2017-03-16 10:37
REVIEWED BY: 262
D/T REVIEWED: 2017-03-16 16:43

Data File: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar002.d\16mar002.rr

| COMPOUND | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | | Avg Resp | 0.00 | 1.085 | 1.157 | | | -7 | 0-20 | PASS |
| 2-Methylnaphthalene | | Avg Resp | 0.00 | 0.661 | 0.750 | | | -13 | 0-20 | PASS |
| 1-Methylnaphthalene | | Avg Resp | 0.00 | 0.663 | 0.711 | | | -7 | 0-20 | PASS |
| Acenaphthylene | | Avg Resp | 0.00 | 2.528 | 2.682 | | | -6 | 0-20 | PASS |
| Acenaphthene | C | Avg Resp | 0.00 | 1.517 | 1.575 | | | -4 | 0-20 | PASS |
| Fluorene | | Avg Resp | 0.00 | 1.689 | 1.807 | | | -7 | 0-20 | PASS |
| Phenanthrene | | Avg Resp | 0.00 | 1.061 | 1.097 | | | -3 | 0-20 | PASS |
| Anthracene | | Avg Resp | 0.00 | 1.037 | 1.115 | | | -8 | 0-20 | PASS |
| Fluoranthene | C | Avg Resp | 0.00 | 1.365 | 1.419 | | | -4 | 0-20 | PASS |
| Pyrene | | Avg Resp | 0.00 | 1.362 | 1.461 | | | -7 | 0-20 | PASS |
| Benzo (a) Anthracene | | Avg Resp | 0.00 | 1.317 | 1.332 | | | -1 | 0-20 | PASS |
| Chrysene | | Avg Resp | 0.00 | 1.197 | 1.298 | | | -8 | 0-20 | PASS |
| Benzo (k) Fluoranthene | | Avg Resp | 0.00 | 1.366 | 1.412 | | | -3 | 0-20 | PASS |
| Benzo (b) Fluoranthene | | Avg Resp | 0.00 | 1.303 | 1.341 | | | -3 | 0-20 | PASS |
| Benzo (a) Pyrene | C | Avg Resp | 0.00 | 1.256 | 1.320 | | | -5 | 0-20 | PASS |
| Indeno (1,2,3-c,d) Pyrene | | Avg Resp | 0.00 | 1.502 | 1.525 | | | -2 | 0-20 | PASS |
| Dibenz (a,h) Anthracene | | Avg Resp | 0.00 | 1.139 | 1.193 | | | -5 | 0-20 | PASS |
| Benzo (g,h,i) Perylene | | Avg Resp | 0.00 | 1.207 | 1.239 | | | -3 | 0-20 | PASS |

MIN RF: Method Specified Minimum Response Factor

# INTERNAL STANDARD COMPOUNDS AREA REPORT
# FOR METHOD: EPA 8270C SIM PAHs

**ICAL BATCH ID:** 170313I001 **CCV BATCH ID:** 170316A019

## ICAL MIDPOINT

**SAMPLE ID:** 099-06-009-4979 D/T ANALYZED: 2017-03-13 13:33

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar008.d\13mar008.rr

| COMPOUND | AREA | RETENTION TIME |
|---|---|---|
| 1,4-Dichlorobenzene-d4 | 46489 | 3.41 |
| Naphthalene-d8 | 140022 | 4.66 |
| Acenaphthene-d10 | 63153 | 6.54 |
| Phenanthrene-d10 | 210133 | 8.14 |
| Chrysene-d12 | 220711 | 11.06 |
| Perylene-d12 | 208071 | 12.82 |

## ICV

**SAMPLE ID** 099-06-009-4979 D/T ANALYZED: 2017-03-13 14:34

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170313\13mar011.d\13mar011.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 44664 | 23244 | 92978 | 3.42 | PASS |
| Naphthalene-d8 | 134376 | 70011 | 280044 | 4.65 | PASS |
| Acenaphthene-d10 | 61082 | 31576 | 126306 | 6.54 | PASS |
| Phenanthrene-d10 | 200519 | 105066 | 420266 | 8.14 | PASS |
| Chrysene-d12 | 207148 | 110356 | 441422 | 11.06 | PASS |
| Perylene-d12 | 200860 | 104036 | 416142 | 12.82 | PASS |

## CCV

**SAMPLE ID** 099-06-009-4985 D/T ANALYZED: 2017-03-16 10:37

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar002.d\16mar002.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 51952 | 23244 | 92978 | 3.38 | PASS |
| Naphthalene-d8 | 147069 | 70011 | 280044 | 4.62 | PASS |
| Acenaphthene-d10 | 67618 | 31576 | 126306 | 6.50 | PASS |
| Phenanthrene-d10 | 216846 | 105066 | 420266 | 8.10 | PASS |
| Chrysene-d12 | 220996 | 110356 | 441422 | 11.02 | PASS |
| Perylene-d12 | 214204 | 104036 | 416142 | 12.78 | PASS |

## MB

**SAMPLE ID** 099-14-035-383 D/T ANALYZED: 2017-03-16 10:58

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar003.d\16mar003.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 54973 | 25976 | 103904 | 3.39 | PASS |
| Naphthalene-d8 | 158088 | 73534 | 294138 | 4.62 | PASS |
| Acenaphthene-d10 | 83057 | 33809 | 135236 | 6.50 | PASS |
| Phenanthrene-d10 | 249283 | 108423 | 433692 | 8.10 | PASS |
| Chrysene-d12 | 253373 | 110498 | 441992 | 11.02 | PASS |
| Perylene-d12 | 243191 | 107102 | 428408 | 12.77 | PASS |

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## LCS

**SAMPLE ID** **099-14-035-383** D/T ANALYZED: 2017-03-16 11:18

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar004.d\16mar004.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 54000 | 25976 | 103904 | 3.39 | PASS |
| Naphthalene-d8 | 150008 | 73534 | 294138 | 4.62 | PASS |
| Acenaphthene-d10 | 80901 | 33809 | 135236 | 6.50 | PASS |
| Phenanthrene-d10 | 237962 | 108423 | 433692 | 8.10 | PASS |
| Chrysene-d12 | 248042 | 110498 | 441992 | 11.02 | PASS |
| Perylene-d12 | 238058 | 107102 | 428408 | 12.77 | PASS |

## CS

**SAMPLE ID** **17-03-0889-25** D/T ANALYZED: 2017-03-16 13:19

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar010.d\16mar010.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 62982 | 25976 | 103904 | 3.39 | PASS |
| Naphthalene-d8 | 184539 | 73534 | 294138 | 4.62 | PASS |
| Acenaphthene-d10 | 99771 | 33809 | 135236 | 6.50 | PASS |
| Phenanthrene-d10 | 289799 | 108423 | 433692 | 8.10 | PASS |
| Chrysene-d12 | 270806 | 110498 | 441992 | 11.02 | PASS |
| Perylene-d12 | 261833 | 107102 | 428408 | 12.78 | PASS |

## CS

**SAMPLE ID** **17-03-0889-26** D/T ANALYZED: 2017-03-16 13:40

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar011.d\16mar011.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 60790 | 25976 | 103904 | 3.38 | PASS |
| Naphthalene-d8 | 179951 | 73534 | 294138 | 4.62 | PASS |
| Acenaphthene-d10 | 97226 | 33809 | 135236 | 6.50 | PASS |
| Phenanthrene-d10 | 279265 | 108423 | 433692 | 8.10 | PASS |
| Chrysene-d12 | 265729 | 110498 | 441992 | 11.02 | PASS |
| Perylene-d12 | 252359 | 107102 | 428408 | 12.78 | PASS |

## CS

**SAMPLE ID** **17-03-0889-27** D/T ANALYZED: 2017-03-16 14:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar012.d\16mar012.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 60388 | 25976 | 103904 | 3.38 | PASS |
| Naphthalene-d8 | 174119 | 73534 | 294138 | 4.62 | PASS |
| Acenaphthene-d10 | 94578 | 33809 | 135236 | 6.50 | PASS |
| Phenanthrene-d10 | 273881 | 108423 | 433692 | 8.10 | PASS |
| Chrysene-d12 | 274291 | 110498 | 441992 | 11.02 | PASS |
| Perylene-d12 | 247544 | 107102 | 428408 | 12.78 | PASS |

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## MS

**SAMPLE ID** **17-03-0888-27** D/T ANALYZED: 2017-03-16 16:22

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar019.d\16mar019.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 57445 | 25976 | 103904 | 3.38 | PASS |
| Naphthalene-d8 | 160594 | 73534 | 294138 | 4.62 | PASS |
| Acenaphthene-d10 | 85712 | 33809 | 135236 | 6.50 | PASS |
| Phenanthrene-d10 | 242682 | 108423 | 433692 | 8.10 | PASS |
| Chrysene-d12 | 238130 | 110498 | 441992 | 11.02 | PASS |
| Perylene-d12 | 183720 | 107102 | 428408 | 12.79 | PASS |

## MSD

**SAMPLE ID** **17-03-0888-27** D/T ANALYZED: 2017-03-16 16:42

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170316\16mar020.d\16mar020.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 55900 | 25976 | 103904 | 3.38 | PASS |
| Naphthalene-d8 | 159329 | 73534 | 294138 | 4.62 | PASS |
| Acenaphthene-d10 | 83887 | 33809 | 135236 | 6.50 | PASS |
| Phenanthrene-d10 | 234861 | 108423 | 433692 | 8.10 | PASS |
| Chrysene-d12 | 226213 | 110498 | 441992 | 11.02 | PASS |
| Perylene-d12 | 162505 | 107102 | 428408 | 12.79 | PASS |

Notes:
For all samples including QC, all internal standard area responses must be within 50% to 200% of the mean area response in the initial calibration.

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Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar002.d
Report Date: 03/16/2017 16:20

Eurofins CalScience
Calibration Verification Report

Instrument ID: GCMS_EEE.i
Sample Name: CCV S010317F 1PPM
Sublist used: all.sub
Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m

Injection Date and Time: 16-MAR-2017 10:37
Initial Calibration Date(s): 03-JAN-2017 13-MAR-2017
Initial Calibration Time(s): 11:59 14:13

| Target Compounds | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D/Drift | Curve Type |
|---|---|---|---|---|---|---|
| Naphthalene | 1.085 | 1.157 | 0.00 | -7 | 20 | Averaged |
| 2-Methylnaphthalene | 0.661 | 0.750 | 0.00 | -13 | 20 | Averaged |
| 1-Methylnaphthalene | 0.663 | 0.711 | 0.00 | -7 | 20 | Averaged |
| Acenaphthylene | 2.528 | 2.682 | 0.00 | -6 | 20 | Averaged |
| Acenaphthene | 1.517 | 1.575 | 0.00 | -4 | 20 | Averaged |
| Fluorene | 1.689 | 1.807 | 0.00 | -7 | 20 | Averaged |
| Phenanthrene | 1.061 | 1.097 | 0.00 | -3 | 20 | Averaged |
| Anthracene | 1.037 | 1.115 | 0.00 | -8 | 20 | Averaged |
| Fluoranthene | 1.365 | 1.419 | 0.00 | -4 | 20 | Averaged |
| Pyrene | 1.362 | 1.461 | 0.00 | -7 | 20 | Averaged |
| Benzo (a) Anthracene | 1.317 | 1.332 | 0.00 | -1 | 20 | Averaged |
| Chrysene | 1.197 | 1.298 | 0.00 | -8 | 20 | Averaged |
| Benzo (b) Fluoranthene | 1.303 | 1.341 | 0.00 | -3 | 20 | Averaged |
| Benzo (k) Fluoranthene | 1.366 | 1.412 | 0.00 | -3 | 20 | Averaged |
| Benzo (a) Pyrene | 1.256 | 1.320 | 0.00 | -5 | 20 | Averaged |
| Indeno (1,2,3-c,d) Pyrene | 1.502 | 1.525 | 0.00 | -2 | 20 | Averaged |
| Dibenz (a,h) Anthracene | 1.139 | 1.193 | 0.00 | -5 | 20 | Averaged |
| Benzo (g,h,i) Perylene | 1.207 | 1.239 | 0.00 | -3 | 20 | Averaged |
| Biphenyl | 2.240 | 2.373 | 0.00 | -6 | 20 | Averaged |
| 2,6-Dimethylnaphthalene | 1.572 | 1.668 | 0.00 | -6 | 20 | Averaged |
| 1,6,7-Trimethylnaphthalene | 1.571 | 1.638 | 0.00 | -4 | 20 | Averaged |
| Dibenzothiophene | 4.622 | 4.652 | 0.00 | -1 | 20 | Averaged |
| 1-Methylphenanthrene | 0.997 | 1.064 | 0.00 | -7 | 20 | Averaged |
| Benzo (e) pyrene | 1.557 | 1.602 | 0.00 | -3 | 20 | Averaged |
| Perylene | 1.493 | 1.558 | 0.00 | -4 | 20 | Averaged |
| Dibenzofuran | 2.194 | 2.258 | 0.00 | -3 | 20 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D/Drift | Curve Type |
|---|---|---|---|---|---|---|
| Nitrobenzene-d5 | 0.331 | 0.389 | 0.00 | -18 | 20 | Averaged |
| 2-Fluorobiphenyl | 1.805 | 1.946 | 0.00 | -8 | 20 | Averaged |
| p-Terphenyl-d14 | 0.775 | 0.833 | 0.00 | -7 | 20 | Averaged |



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar002.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 10:37 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 11:01 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170316A019
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | DEV(Min) |
|---|---|---|---|---|---|---|
| Internal Standards | | | | | | |
| 1)*1,4-Dichlorobenzene-d4 | (1) | 3.378 | 152 | 51952 | 5.000 | 0.00 |
| 3)*Naphthalene-d8 | (2) | 4.619 | 136 | 147069 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.504 | 164 | 67618 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.100 | 188 | 216846 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.777 | 264 | 214204 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.017 | 240 | 220996 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.932 | 82 | 11437 | 1.174 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 0.000 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.797 | 172 | 26313 | 1.078 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 0.000 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.896 | 244 | 36819 | 1.075 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 0.000 | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.640 | 128 | 34023 | 1.067 | 100 |
| 5) 2-Methylnaphthalene | (2) | 5.368 | 142 | 22047 | 1.133 | 100 |
| 6) 1-Methylnaphthalene | (2) | 5.482 | 142 | 20916 | 1.072 | 100 |
| 10) Acenaphthylene | (3) | 6.334 | 152 | 36272 | 1.061 | 100 |
| 12) Acenaphthene | (3) | 6.537 | 153 | 21296 | 1.038 | 100 |
| 15) Fluorene | (3) | 7.088 | 166 | 24440 | 1.070 | 100 |
| 18) Phenanthrene | (4) | 8.123 | 178 | 47571 | 1.034 | 100 |
| 19) Anthracene | (4) | 8.173 | 178 | 48373 | 1.075 | 100 |
| 21) Fluoranthene | (4) | 9.433 | 202 | 61547 | 1.040 | 100 |
| 22) Pyrene | (5) | 9.673 | 202 | 64581 | 1.073 | 100 |
| 24) Benzo (a) Anthracene | (5) | 11.000 | 228 | 58881 | 1.011 | 100 |
| 26) Chrysene | (5) | 11.047 | 228 | 57370 | 1.085 | 100 |
| 27) Benzo (b) Fluoranthene | (6) | 12.315 | 252 | 57463 | 1.029 | 100 |
| 28) Benzo (k) Fluoranthene | (6) | 12.345 | 252 | 60509 | 1.034 | 100 |
| 30) Benzo (a) Pyrene | (6) | 12.709 | 252 | 56547 | 1.051 | 100 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.022 | 276 | 65343 | 1.016 | 100 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.046 | 278 | 51090 | 1.047 | 100 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.296 | 276 | 53061 | 1.027 | 100 |
| 8) Biphenyl | (3) | 5.885 | 154 | 32085 | 1.059 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.047 | 156 | 22552 | 1.061 | 100 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.966 | 170 | 22153 | 1.043 | 100 |
| 16) Dibenzothiophene | (3) | 7.989 | 184 | 62909 | 1.006 | 100 |

* = Compound is an internal standard.
$ = Compound is a surrogate standard.



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170316.b/16mar002.d Instrument ID: GCMS_EEE.i
Injection date and time: 16-MAR-2017 10:37 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170316.b/simpah-extra.m Sublist used: all
Calibration date and time: 16-MAR-2017 11:01
Date, time and analyst ID of latest file update: 16-Mar-2017 11:01 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170316A019
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.813 | 192 | 47038 | 1.068 | 100 |
| 29) Benzo (e) pyrene | (6) | 12.644 | 252 | 68636 | 1.029 | 100 |
| 32) Perylene | (6) | 12.806 | 252 | 66752 | 1.043 | 100 |
| 13) Dibenzofuran | (3) | 6.714 | 168 | 30536 | 1.029 | 100 |



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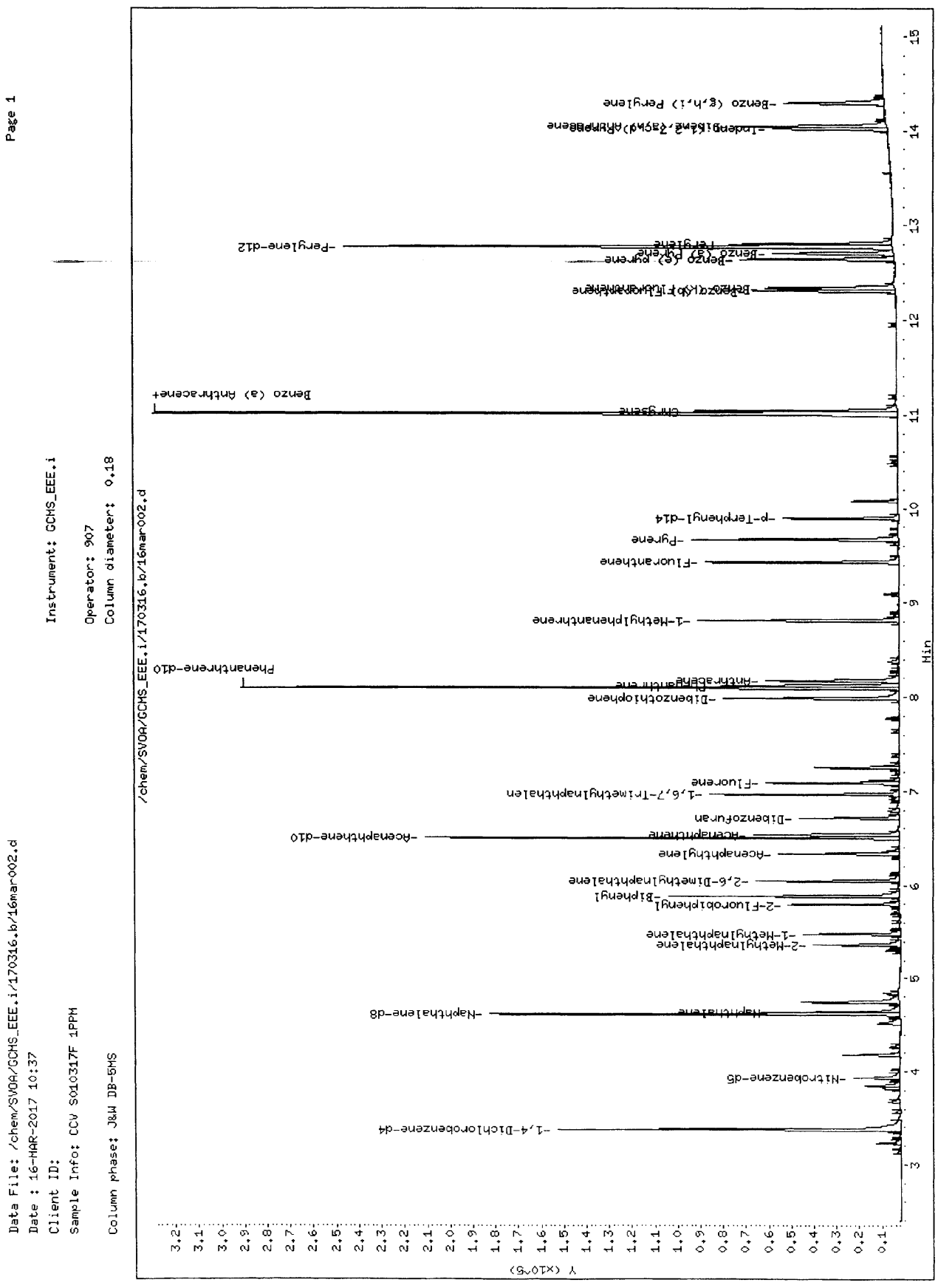


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# EPA METHOD 8270C
# PAHSIM

# Tuning Reports

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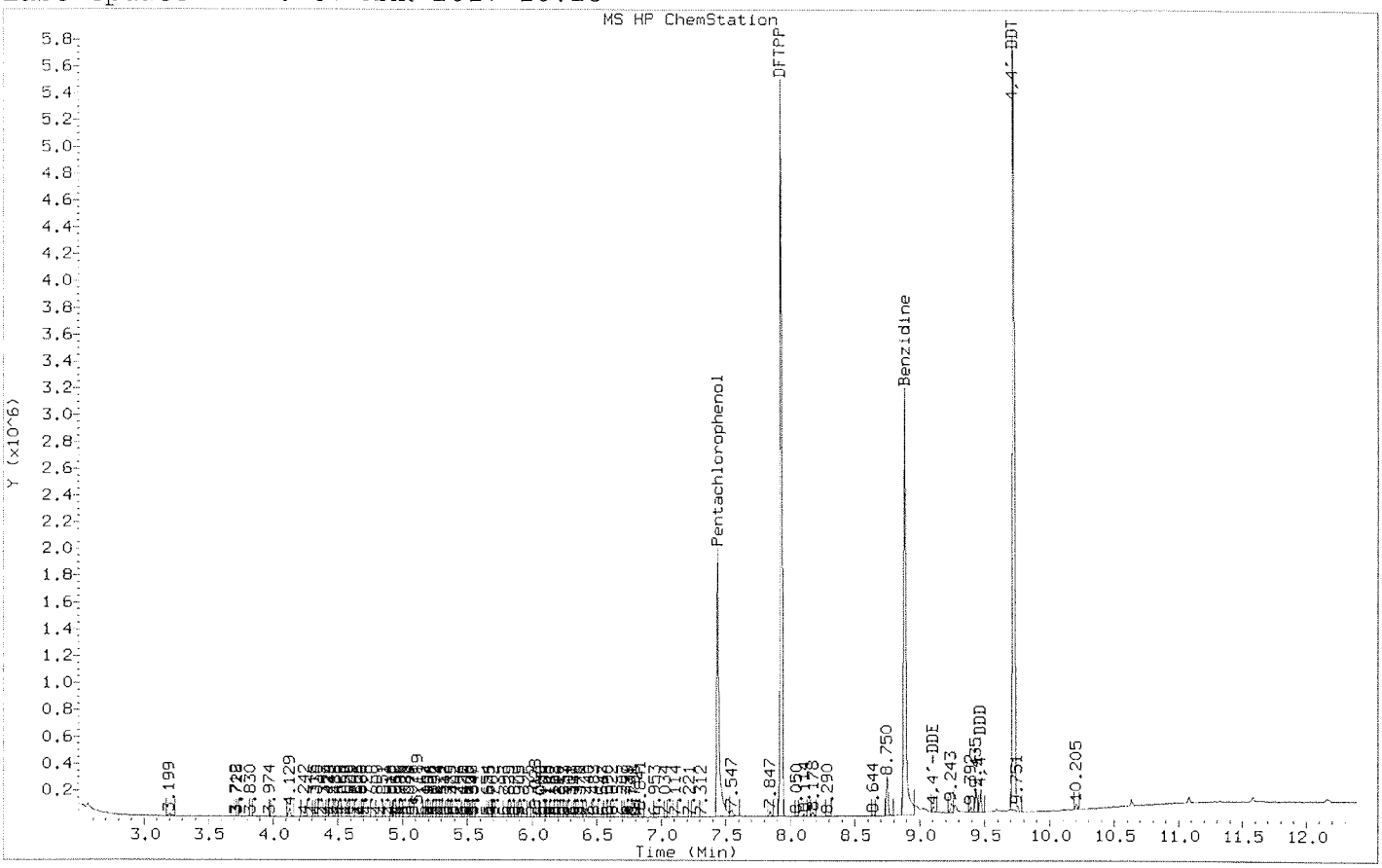
DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 1
Acq on : 13-MAR-2017 11:49 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Last Update : 07-MAR-2017 10:28




| | |
|---|---|
| Tune | *** PASSED *** |
| Pentachlorophenol Tailing | *** PASSED *** |
| Benzidine Tailing | *** PASSED *** |
| DDT degradation | *** PASSED *** |

**Tuning Sample, /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d ,*** PASSED ***

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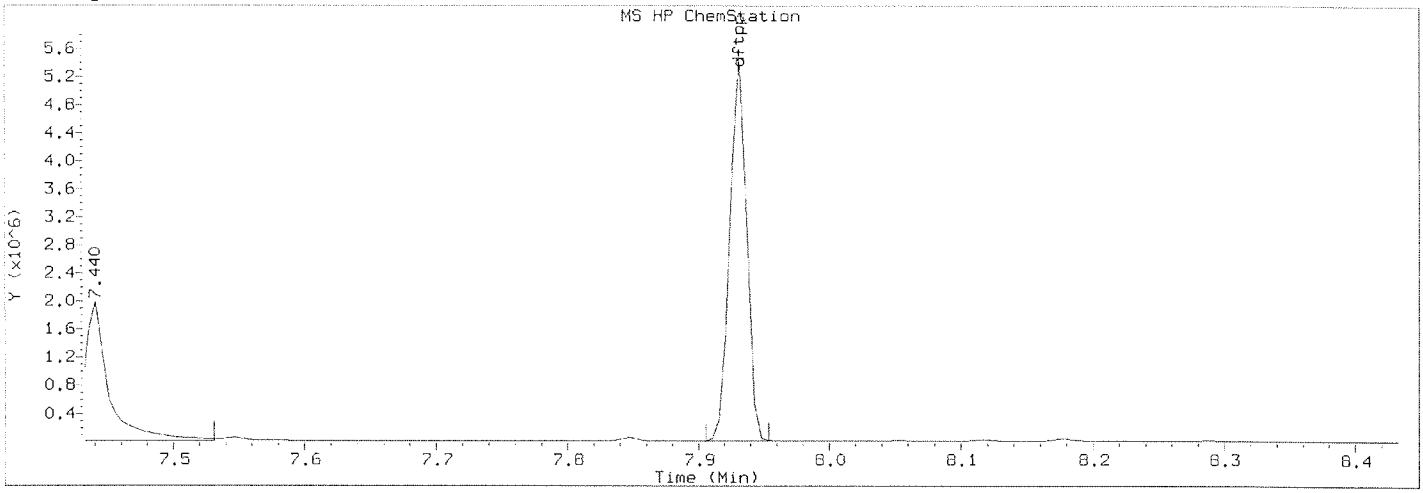
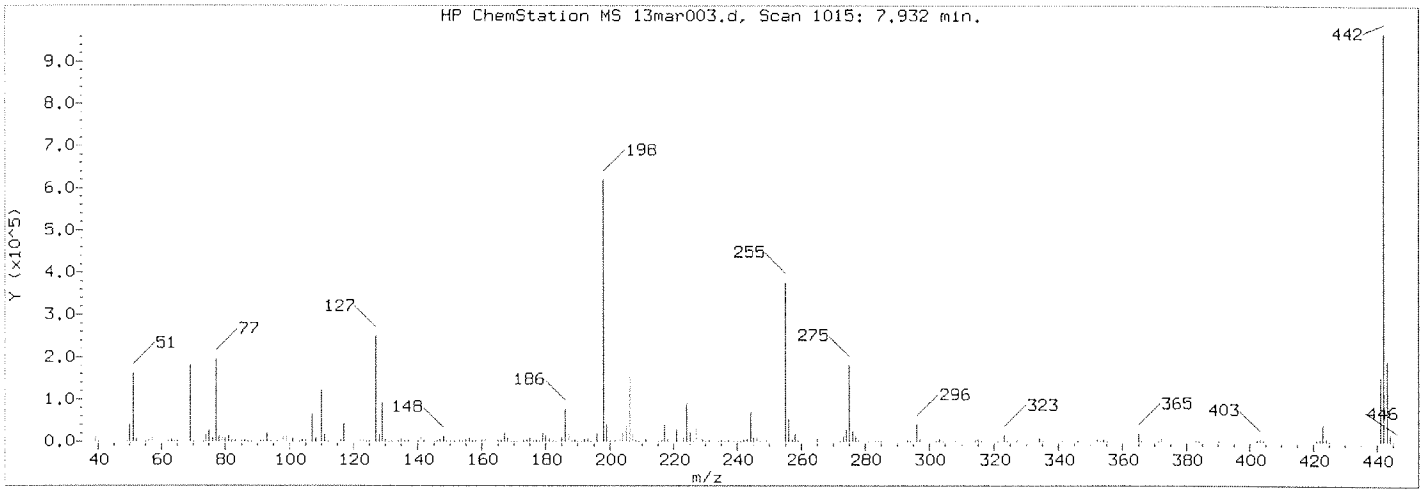
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 1
Acq on : 13-MAR-2017 11:49 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/dftpptune.m
Last Update : 07-MAR-2017 10:28




Spectrum: Avg. Scans 1014-1016 ( 7.93), Background Scan 1009

DFTPP Ion Abundance/Ratio Criteria Chart

| Ion | Abundance Criteria | Base Peak | Response | Test |
|---|---|---|---|---|
| 198 | Base Peak, 100% relative abundance | 100.00 | 461312 | PASS |
| 51 | 30 - 60% of mass 198 | 33.56 | 154816 | PASS |
| 68 | Less than 2% of mass 69 | 0.00 | 0 | PASS |
| 69 | Less than mass 198 | 36.32 | 167552 | PASS |
| 70 | Less than 2% of mass 69 | 0.62 | 1045 | PASS |
| 127 | 40 - 60% of mass 198 | 44.77 | 206528 | PASS |
| 197 | 0 - 1% of mass 198 | 0.00 | 0 | PASS |
| 199 | 5 - 9% of mass 198 | 6.99 | 32256 | PASS |
| 275 | 10 - 30% of mass 198 | 25.66 | 118368 | PASS |
| 365 | 1 - 100% of mass 198 | 2.66 | 12269 | PASS |
| 441 | Present, but less than mass 443 | 74.01 | 76992 | PASS |
| 442 | 40 - 200% of mass 198 | 109.96 | 507264 | PASS |
| 443 | 17 - 23% of mass 442 | 20.51 | 104024 | PASS |

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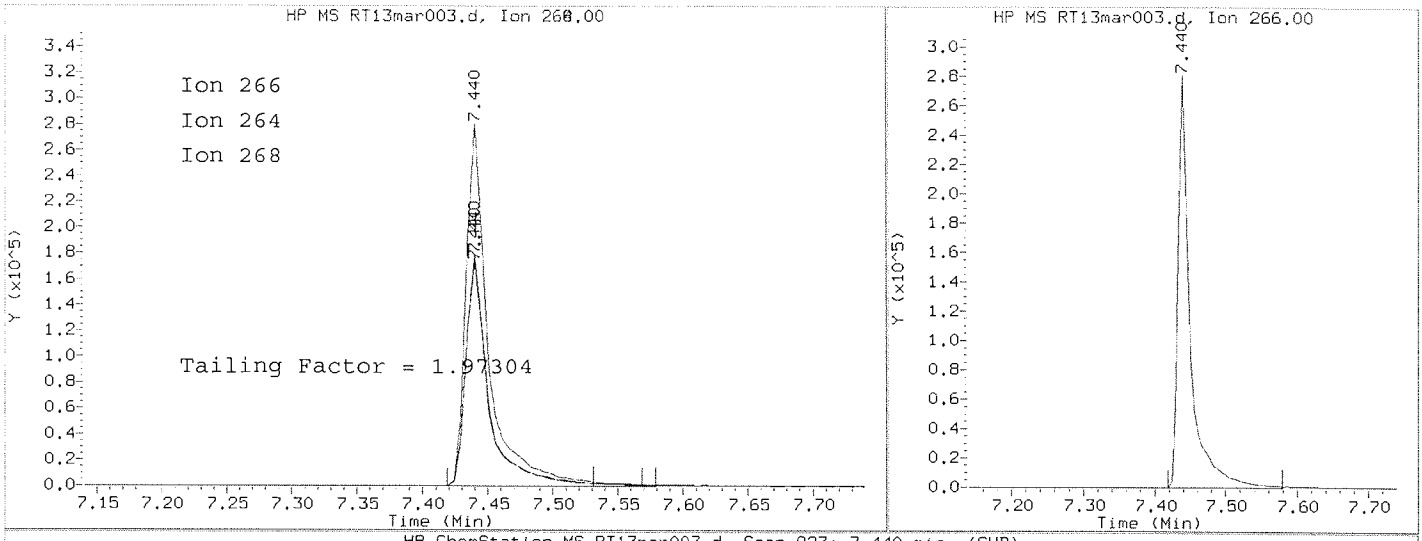
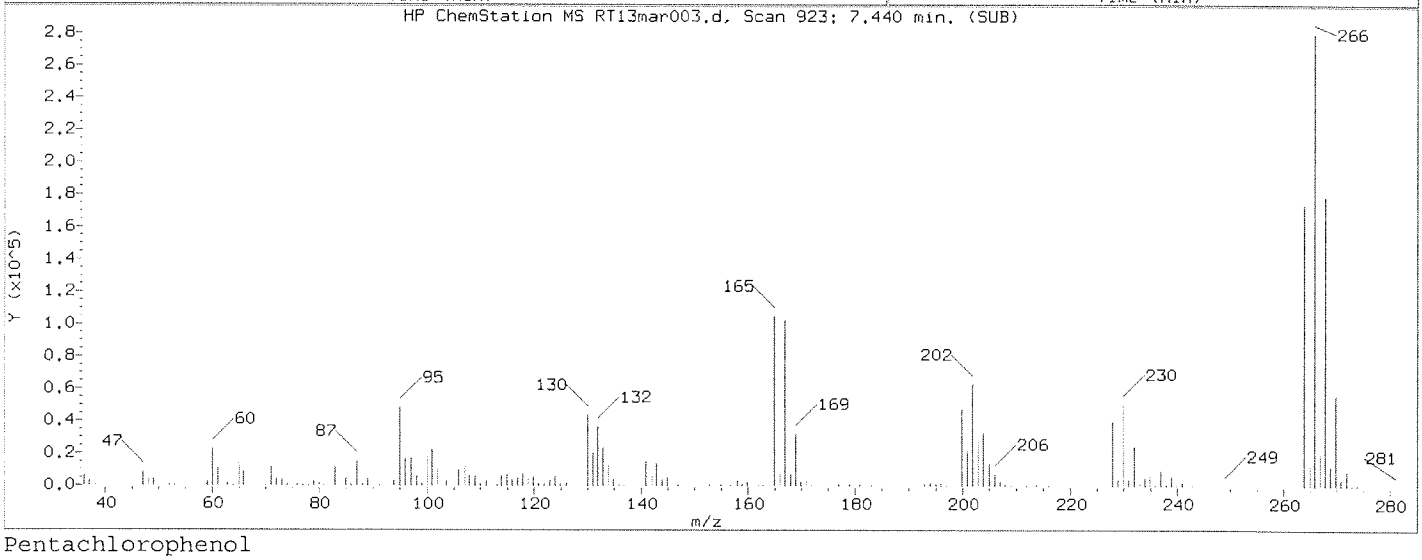
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08




Pentachlorophenol
==========
Exp. RT = 7.467
Found RT = 7.440

| Mass | Area | Ratio |
|---|---|---|
| 266 | 343885 | 100.00 |
| 264 | 216440 | 62.94 |
| 268 | 218874 | 63.65 |

Peak baseline front width (sec) : 0.816
Peak baseline tail width (sec) : 1.610
Tail Factor = 1.610/ 0.816

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.973 Maximum Allowed = 3.0

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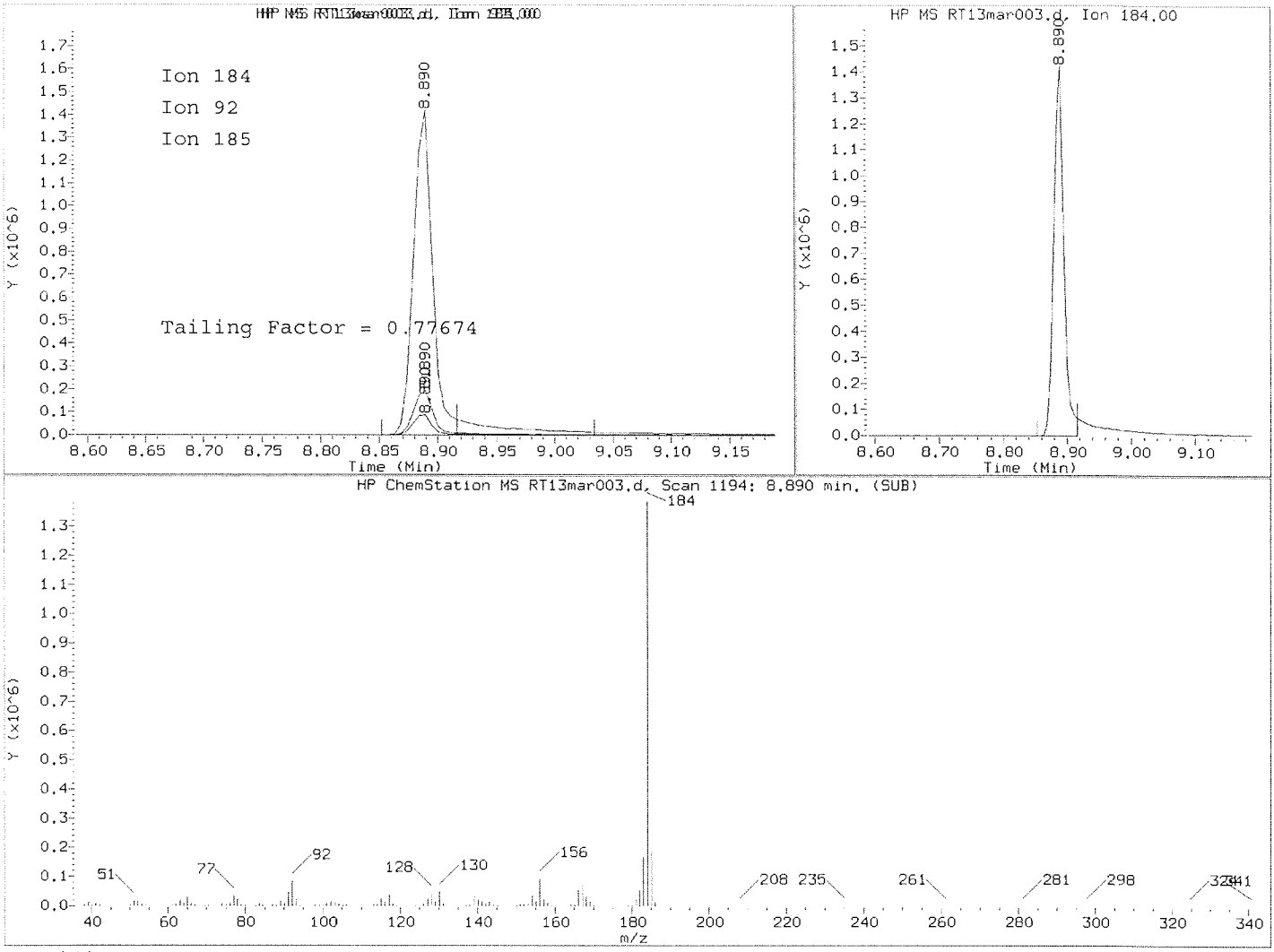
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08




Benzidine
=========
Exp. RT = 8.911
Found RT = 8.890

| Mass | Area | Ratio |
|---|---|---|
| 184 | 1603178 | 100.00 |
| 92 | 113552 | 7.08 |
| 185 | 222697 | 13.89 |

Peak baseline front width (sec) : 1.066
Peak baseline tail width (sec) : 0.828
Tail Factor = 0.828/ 1.066

Tailing factor for Benzidine OK

Tail Factor = 0.777 Maximum Allowed = 3.0

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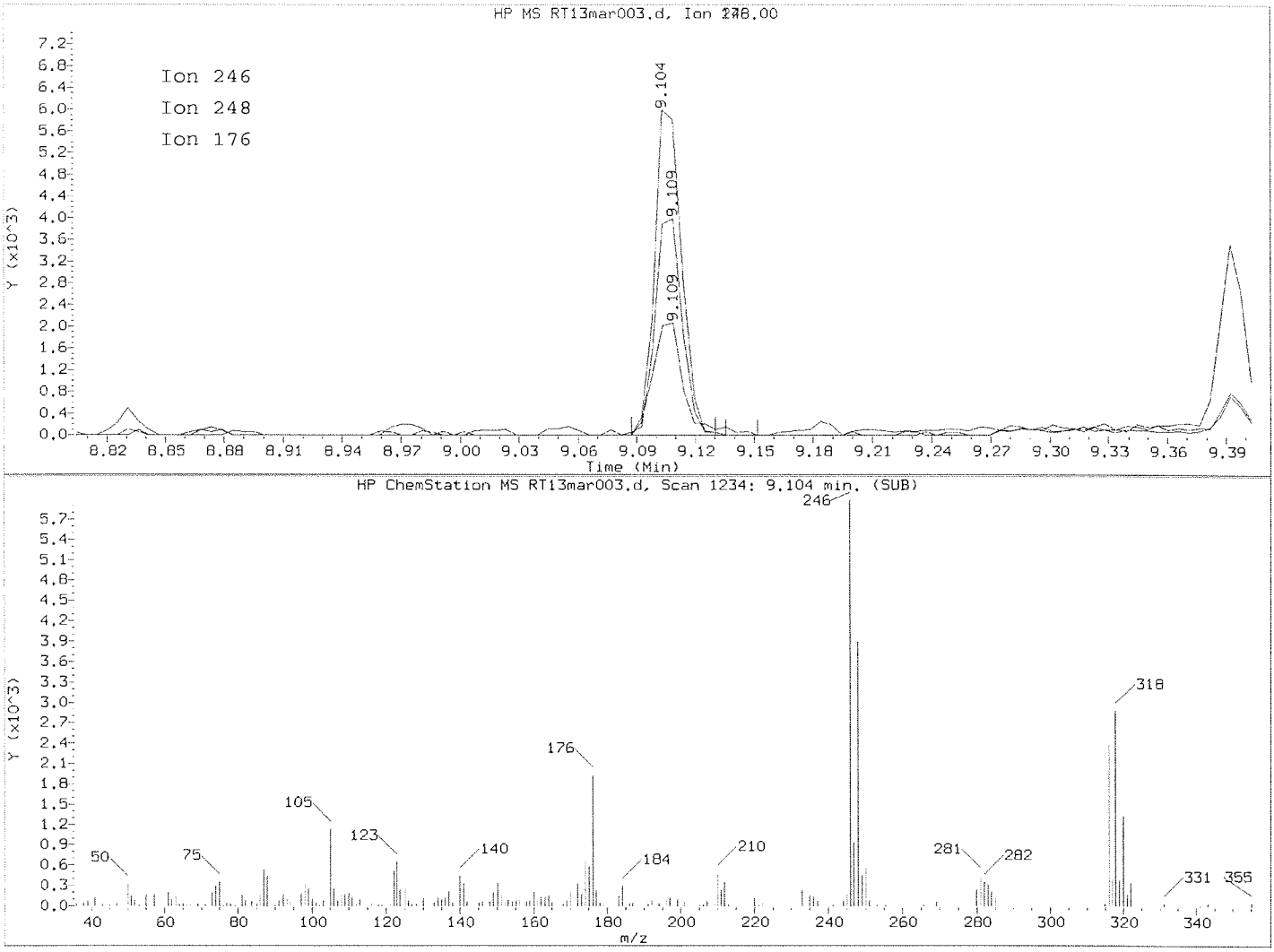
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08




4,4'-DDE
========
Exp. RT = 9.344
Found RT = 9.104

| Mass | Area | Ratio |
|---|---|---|
| 246 | 5722 | 100.00 |
| 248 | 3838 | 67.08 |
| 176 | 2263 | 39.55 |

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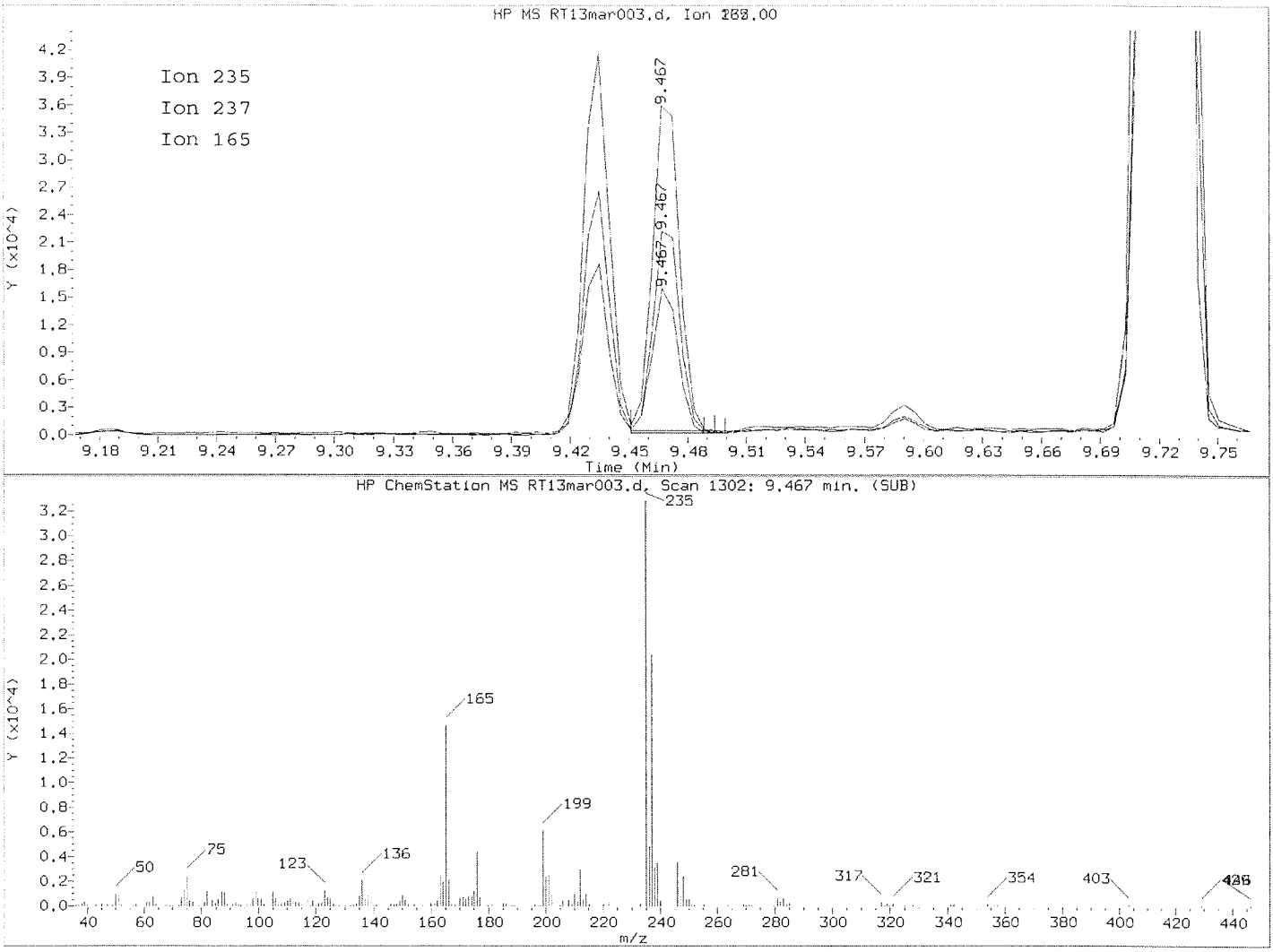
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08




4,4'-DDD
========
Exp. RT = 9.499
Found RT = 9.467

| Mass | Area | Ratio |
|---|---|---|
| 235 | 34099 | 100.00 |
| 237 | 21311 | 62.50 |
| 165 | 14557 | 42.69 |

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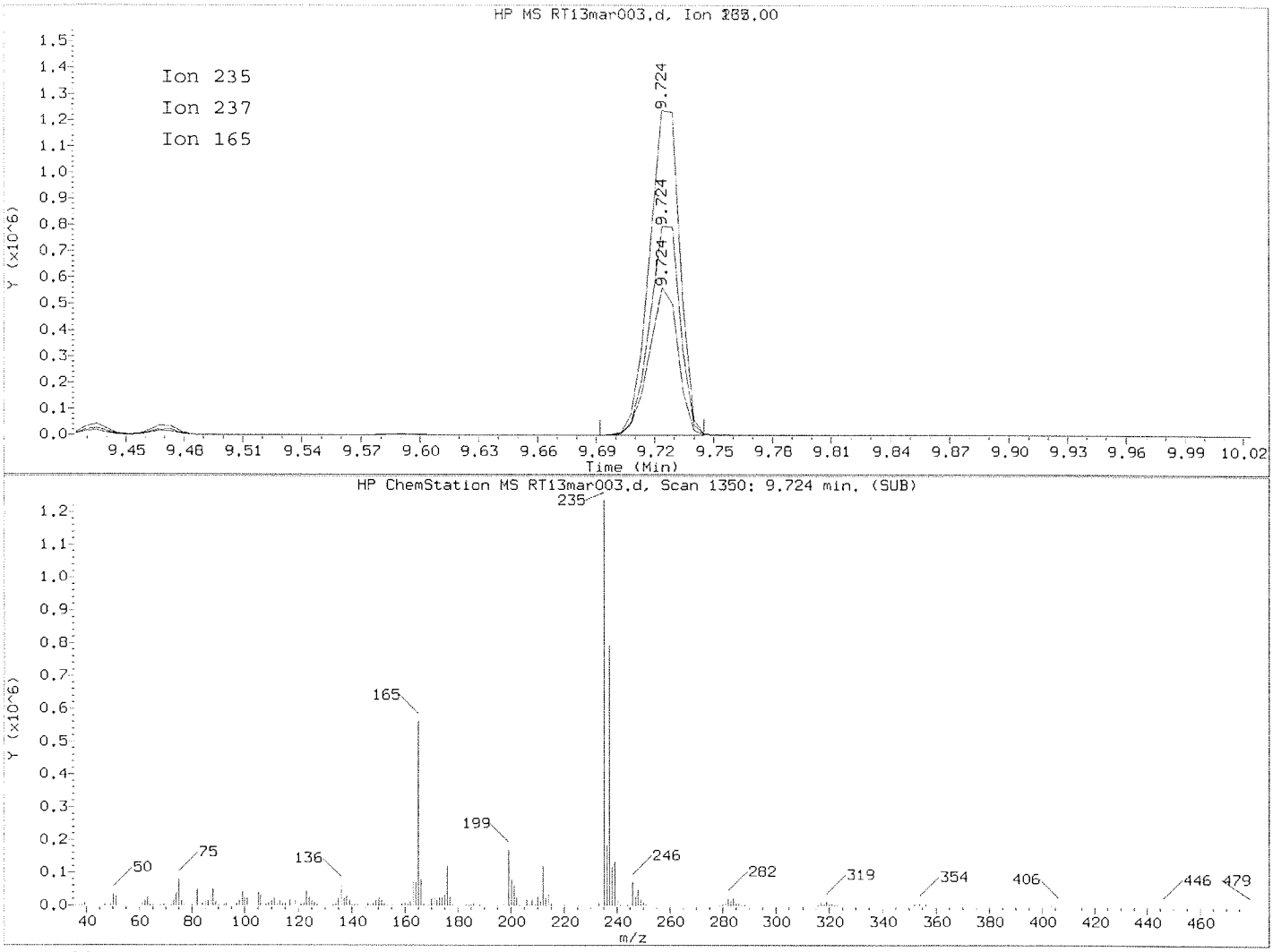
Report Generated Time Mon Mar 13 15:07:34 2017

Data File : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d
ALS Vial : 3
Acq on : 13-MAR-2017 11:49 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170313.b/13mar003.d/resolut.m
Last Update : 13-MAR-2017 12:08




4,4'-DDT
========
Exp. RT = 9.756
Found RT = 9.724

| Mass | Area | Ratio |
|---|---|---|
| 235 | 1352361 | 100.00 |
| 237 | 866214 | 64.05 |
| 165 | 581673 | 43.01 |

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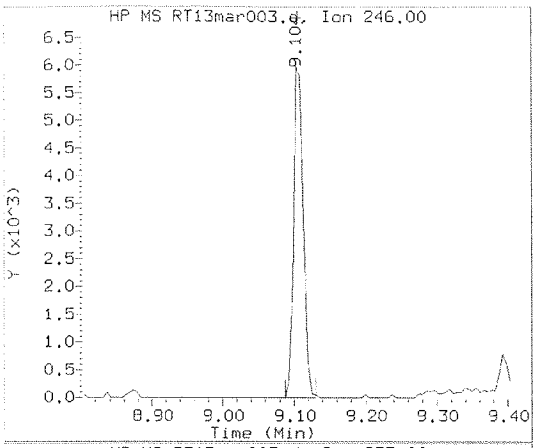
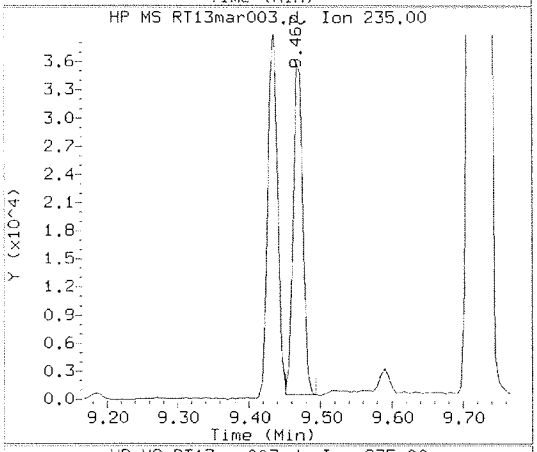
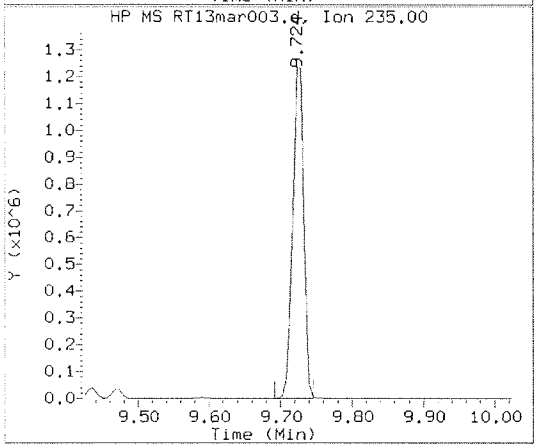



Compound: 4,4'-DDE
Quant Mass: 246
RT: 9.104
Area: 5722




Compound: 4,4'-DDD
Quant Mass: 235
RT: 9.467
Area: 34099




Compound: 4,4'-DDT
Quant Mass: 235
RT: 9.724
Area: 1352361

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

| Compound | Response | %Breakdown | Max Allowed | Test |
|---|---|---|---|---|
| 4,4-DDT | 1352361 | | | N/A |
| 4,4-DDE | 5722 | 0.42 | 20.0 | PASS |
| 4,4-DDD | 34099 | 2.46 | 20.0 | PASS |
| 4,4-DDD + DDE | 39821 | 2.9 | 20.0 | PASS |

**********
TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST
**********

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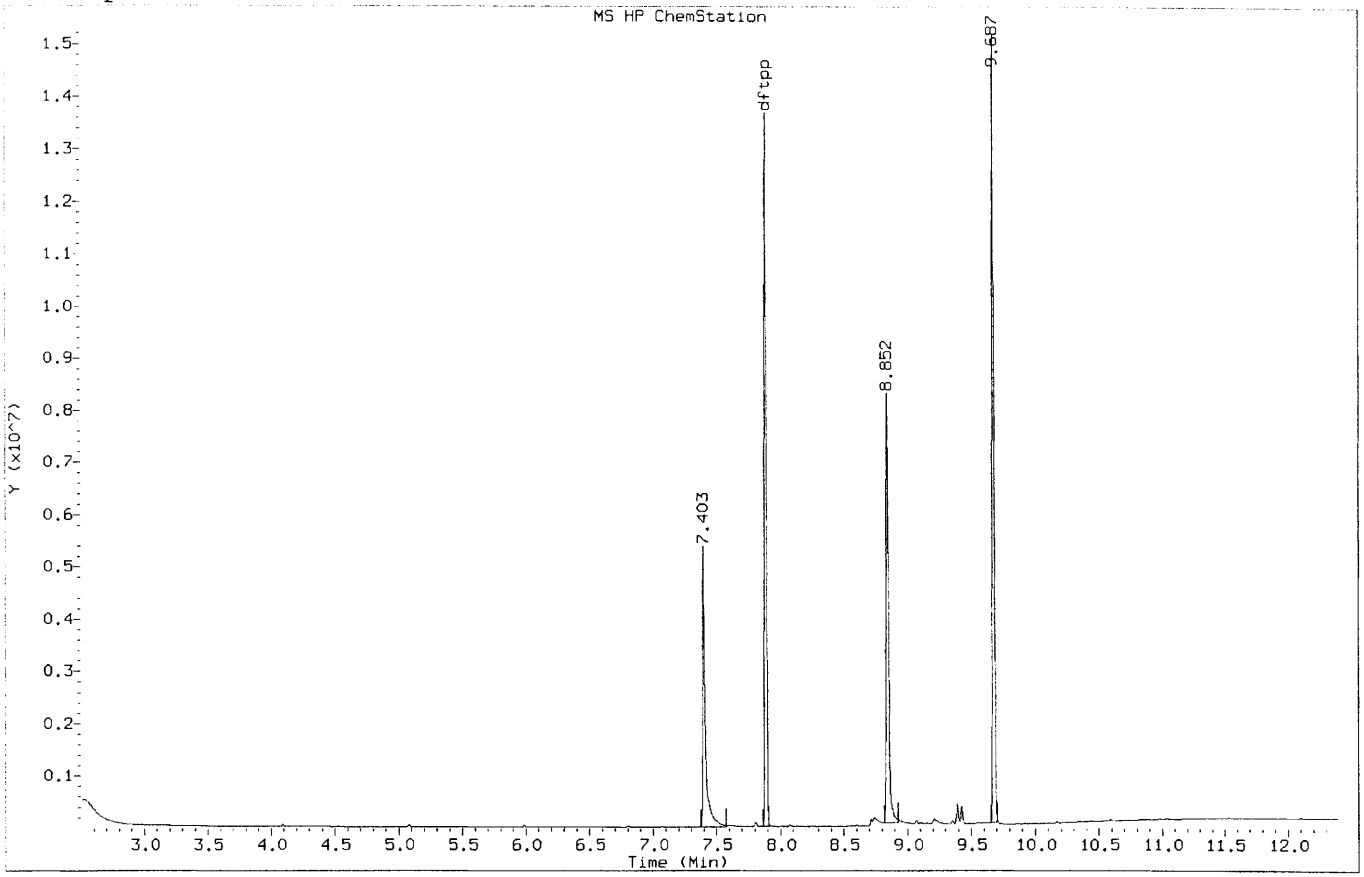
DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Thu Mar 16 10:41:13 2017

Data File : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d
ALS Vial : 91
Acq on : 16-MAR-2017 10:17 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Last Update : 07-MAR-2017 10:28




| | |
|---|---|
| Tune | *** PASSED *** |
| Pentachlorophenol Tailing | *** PASSED *** |
| Benzidine Tailing | *** PASSED *** |
| DDT degradation | *** PASSED *** |

**Tuning Sample, /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d ,*** PASSED ***

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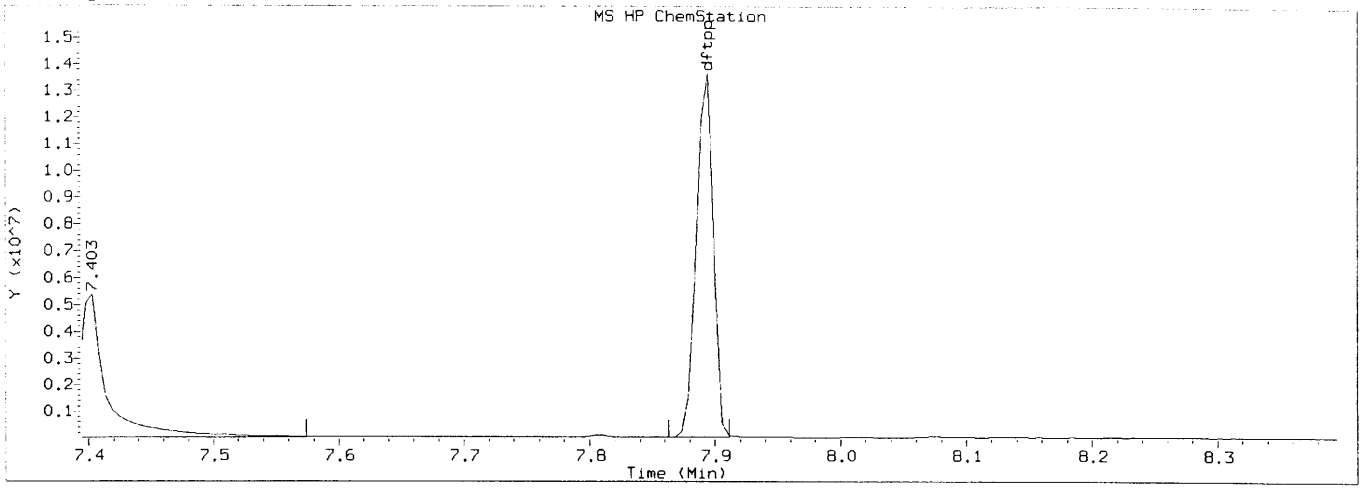
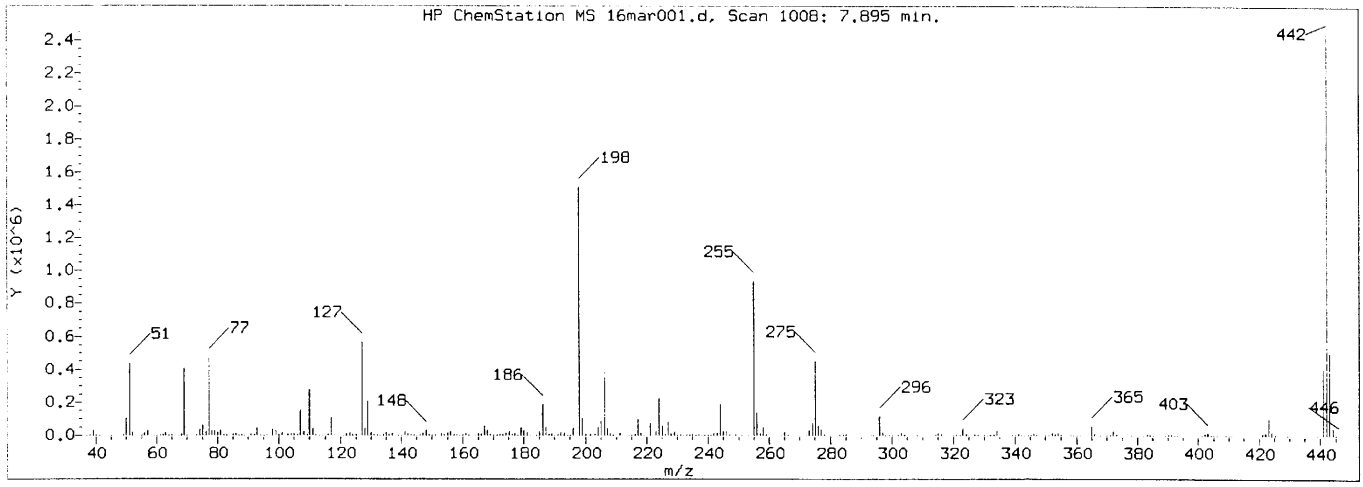
Report Generated Time Thu Mar 16 10:41:13 2017

Data File : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d
ALS Vial : 91
Acq on : 16-MAR-2017 10:17 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170316.b/dftpptune.m
Last Update : 07-MAR-2017 10:28




Spectrum: Avg. Scans 1007-1009 ( 7.89), Background Scan 1001

DFTPP Ion Abundance/Ratio Criteria Chart

| Ion | Abundance Criteria | Base Peak | Response | Test |
|---|---|---|---|---|
| 198 | Base Peak, 100% relative abundance | 100.00 | 1448448 | PASS |
| 51 | 30 - 60% of mass 198 | 33.49 | 485120 | PASS |
| 68 | Less than 2% of mass 69 | 0.00 | 0 | PASS |
| 69 | Less than mass 198 | 31.17 | 451520 | PASS |
| 70 | Less than 2% of mass 69 | 0.54 | 2453 | PASS |
| 127 | 40 - 60% of mass 198 | 40.94 | 592960 | PASS |
| 197 | 0 - 1% of mass 198 | 0.00 | 0 | PASS |
| 199 | 5 - 9% of mass 198 | 7.06 | 102224 | PASS |
| 275 | 10 - 30% of mass 198 | 26.00 | 376640 | PASS |
| 365 | 1 - 100% of mass 198 | 2.83 | 40984 | PASS |
| 441 | Present, but less than mass 443 | 78.49 | 232320 | PASS |
| 442 | 40 - 200% of mass 198 | 97.10 | 1406464 | PASS |
| 443 | 17 - 23% of mass 442 | 21.05 | 296000 | PASS |

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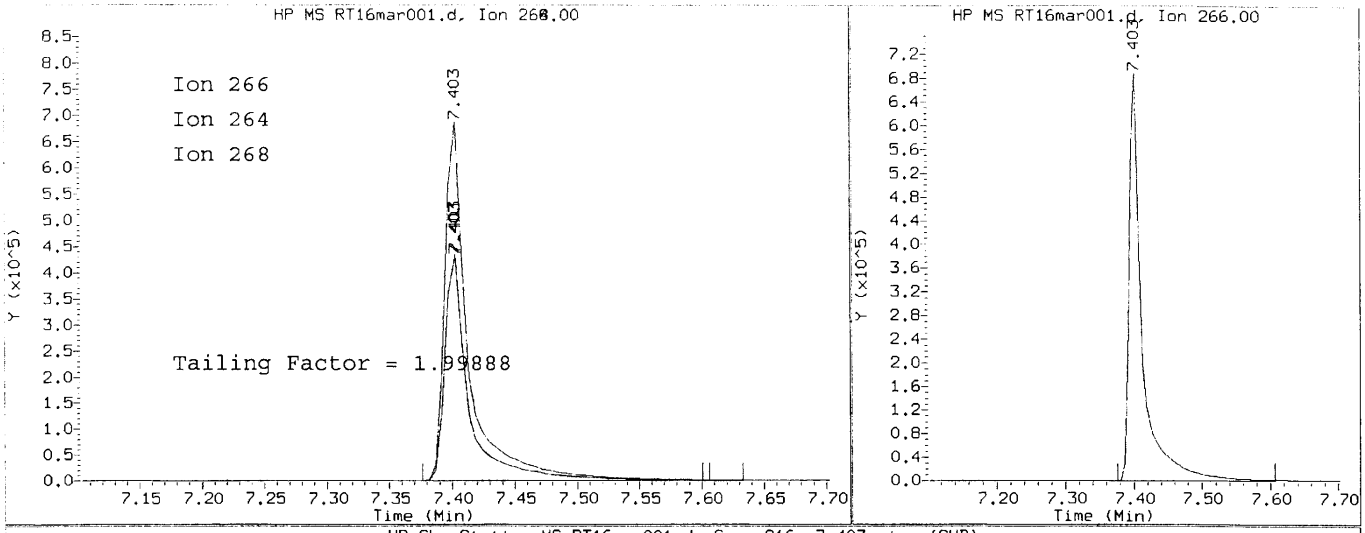
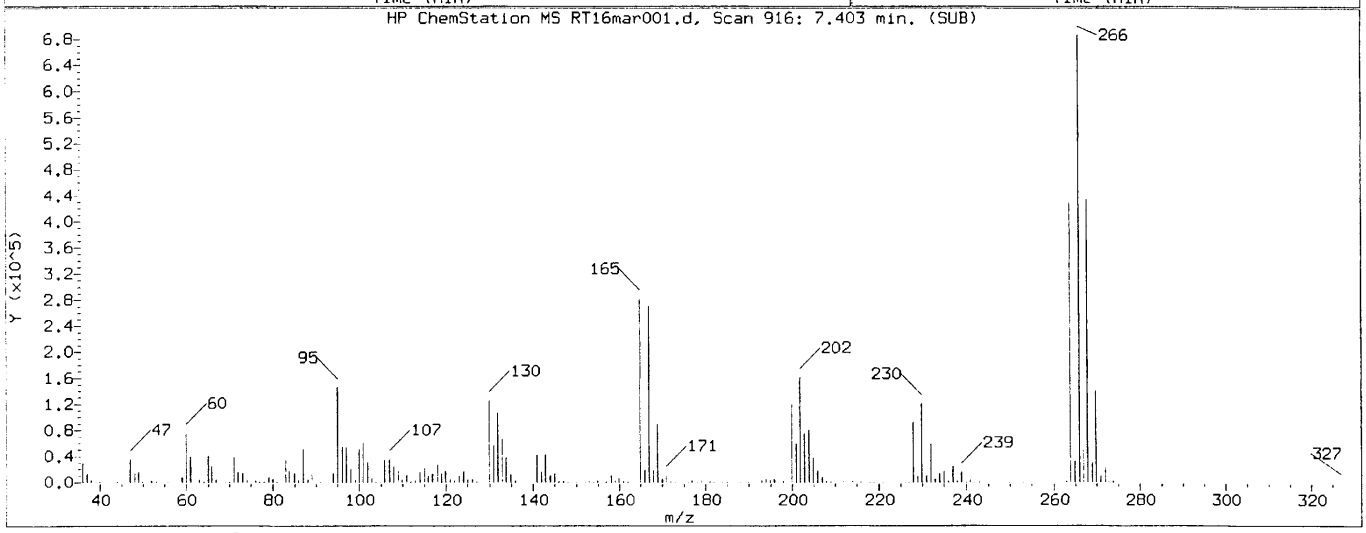
Report Generated Time Thu Mar 16 10:41:13 2017

Data File : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d
ALS Vial : 3
Acq on : 16-MAR-2017 10:17 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d/resolut.m
Last Update : 16-MAR-2017 10:36




Pentachlorophenol
==========
Exp. RT = 7.467
Found RT = 7.403

| Mass | Area | Ratio |
|---|---|---|
| 266 | 929894 | 100.00 |
| 264 | 587068 | 63.13 |
| 268 | 591323 | 63.59 |

Peak baseline front width (sec) : 0.895
Peak baseline tail width (sec) : 1.789
Tail Factor = 1.789/ 0.895

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.999 Maximum Allowed = 3.0

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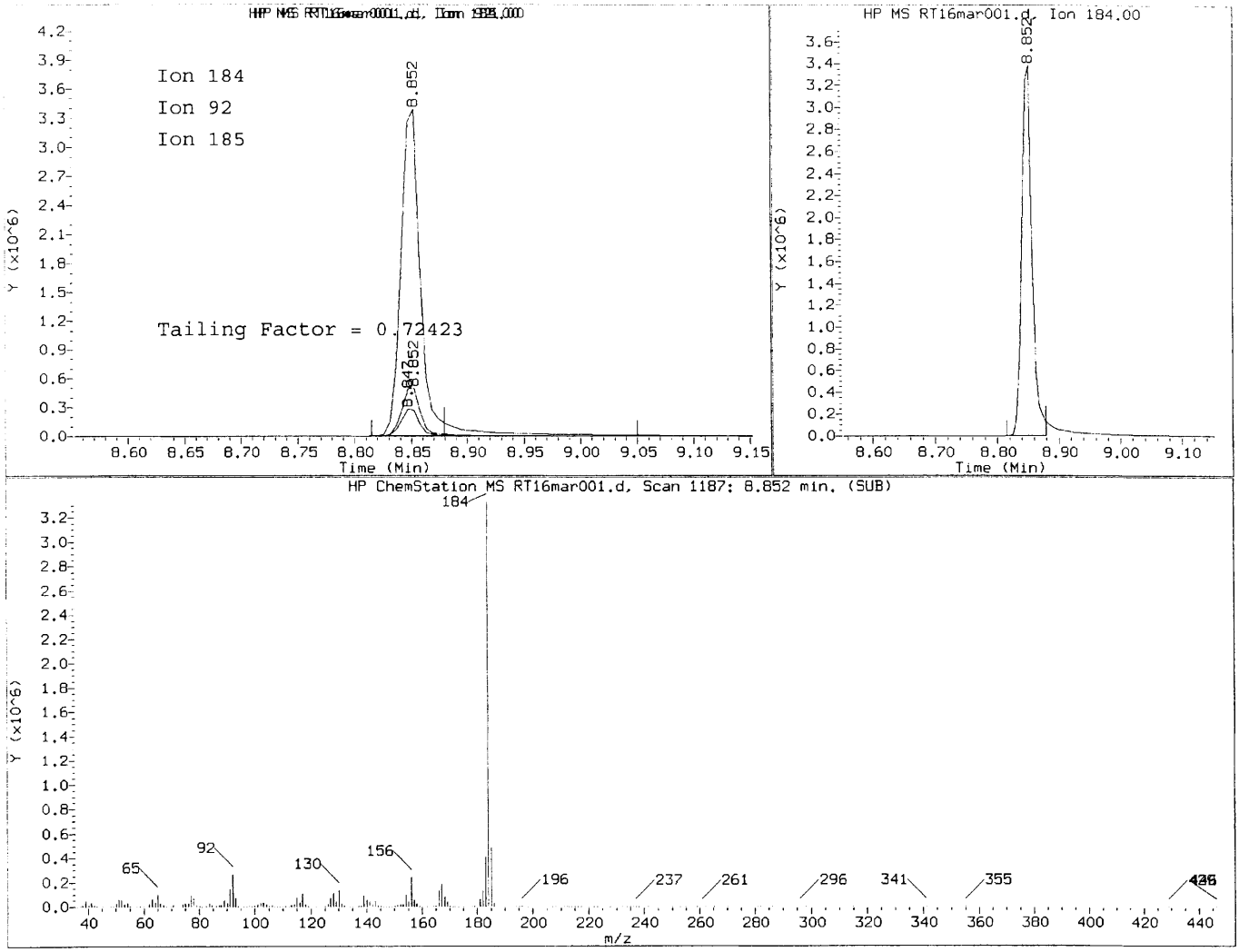
Report Generated Time Thu Mar 16 10:41:13 2017

Data File : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d
ALS Vial : 3
Acq on : 16-MAR-2017 10:17 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d/resolut.m
Last Update : 16-MAR-2017 10:36




Benzidine
=========
Exp. RT = 8.911
Found RT = 8.852

| Mass | Area | Ratio |
|---|---|---|
| 184 | 3986594 | 100.00 |
| 92 | 344033 | 8.63 |
| 185 | 584726 | 14.67 |

Peak baseline front width (sec) : 1.135
Peak baseline tail width (sec) : 0.822
Tail Factor = 0.822/ 1.135

Tailing factor for Benzidine OK

Tail Factor = 0.724 Maximum Allowed = 3.0

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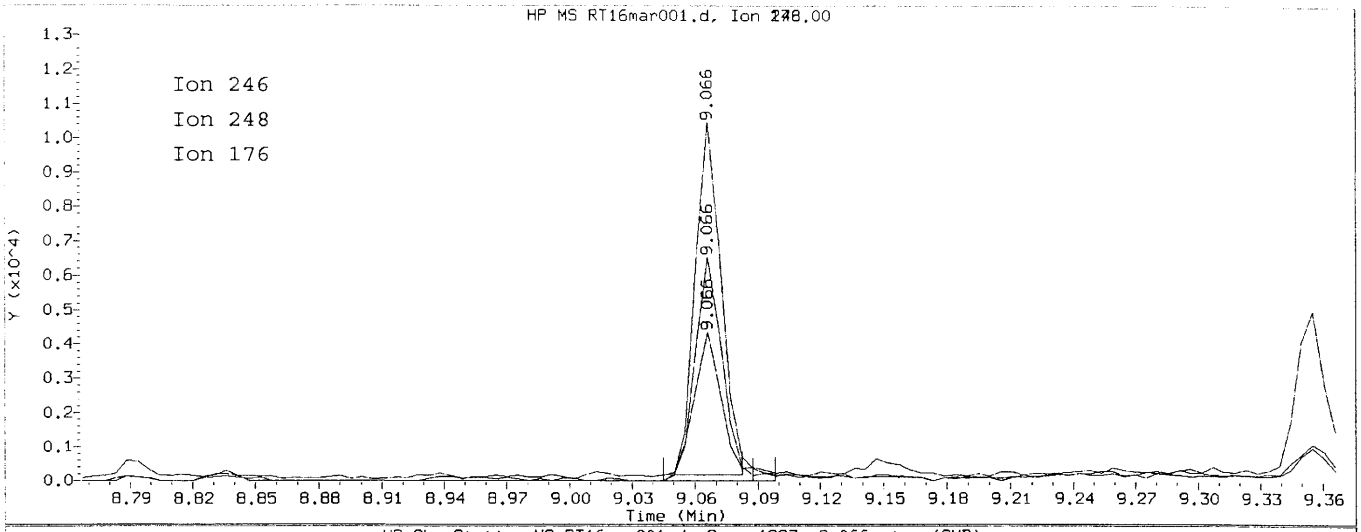
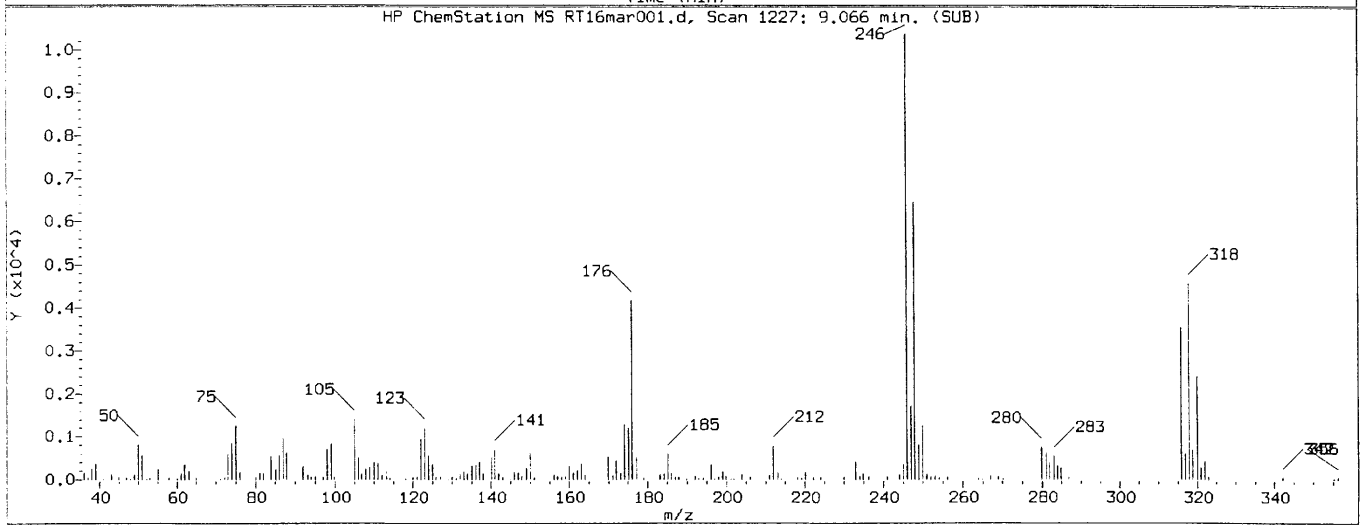
Report Generated Time Thu Mar 16 10:41:13 2017

Data File : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d
ALS Vial : 3
Acq on : 16-MAR-2017 10:17 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d/resolut.m
Last Update : 16-MAR-2017 10:36




4,4'-DDE
========
Exp. RT = 9.029
Found RT = 9.066

| Mass | Area | Ratio |
|---|---|---|
| 246 | 9449 | 100.00 |
| 248 | 5905 | 62.49 |
| 176 | 3672 | 38.87 |

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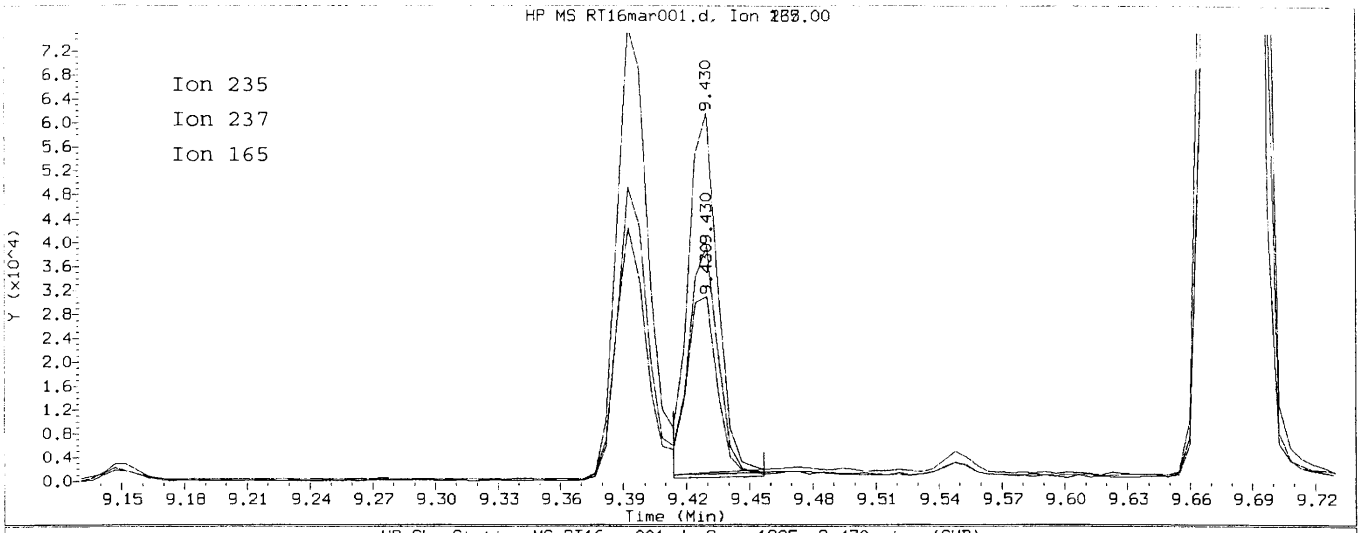
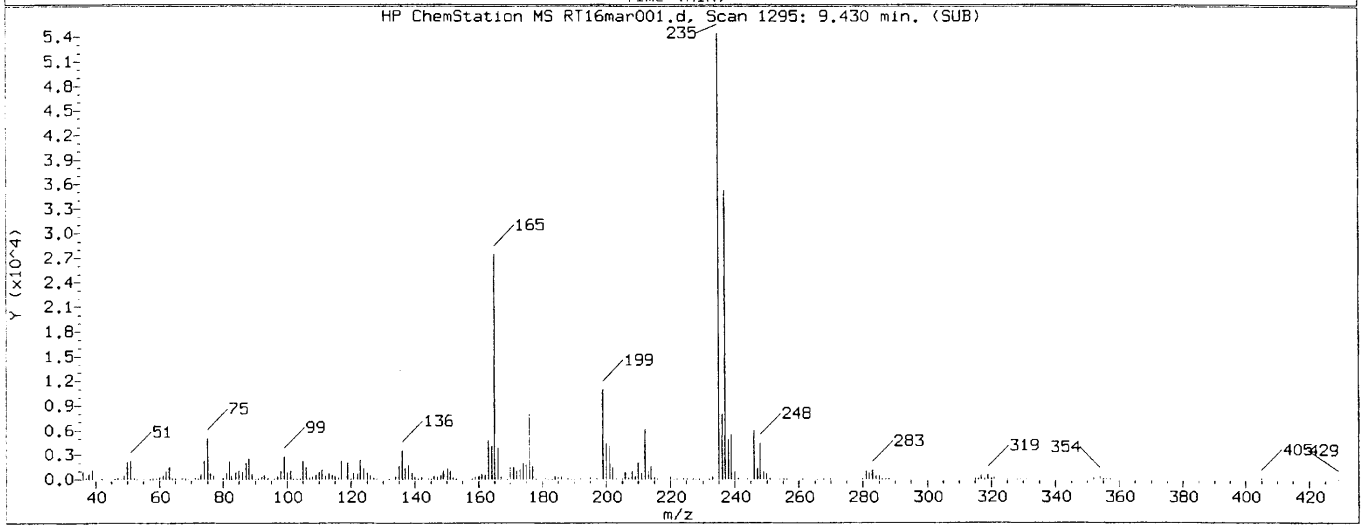
Report Generated Time Thu Mar 16 10:41:13 2017

Data File : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d
ALS Vial : 3
Acq on : 16-MAR-2017 10:17 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d/resolut.m
Last Update : 16-MAR-2017 10:36




4,4'-DDD
========
Exp. RT = 9.380
Found RT = 9.430

| Mass | Area | Ratio |
|---|---|---|
| 235 | 58709 | 100.00 |
| 237 | 38576 | 65.71 |
| 165 | 29876 | 50.89 |

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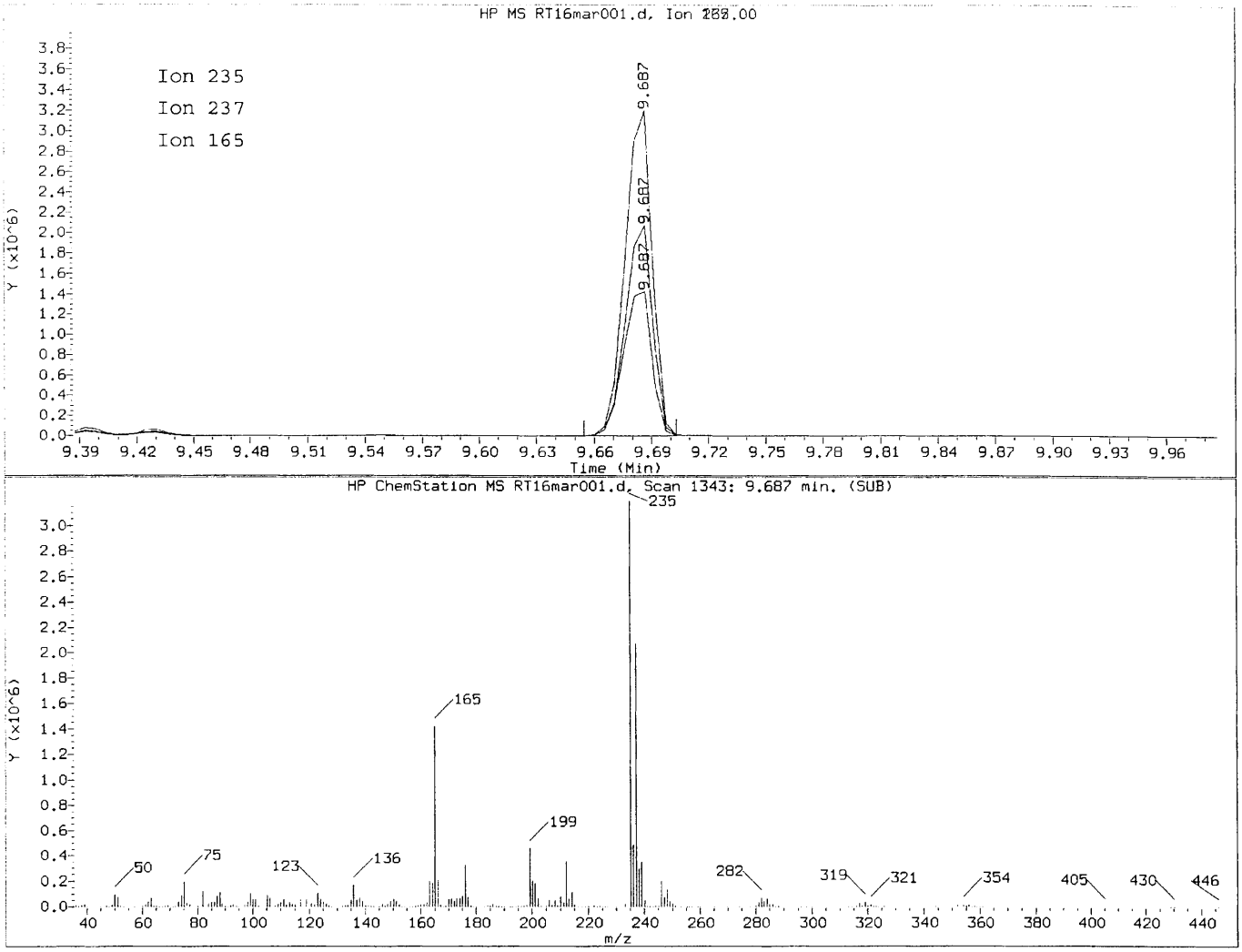
Report Generated Time Thu Mar 16 10:41:13 2017

Data File : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d
ALS Vial : 3
Acq on : 16-MAR-2017 10:17 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170316.b/16mar001.d/resolut.m
Last Update : 16-MAR-2017 10:36




4,4'-DDT
========
Exp. RT = 9.756
Found RT = 9.687

| Mass | Area | Ratio |
|---|---|---|
| 235 | 3139840 | 100.00 |
| 237 | 2037171 | 64.88 |
| 165 | 1474141 | 46.95 |

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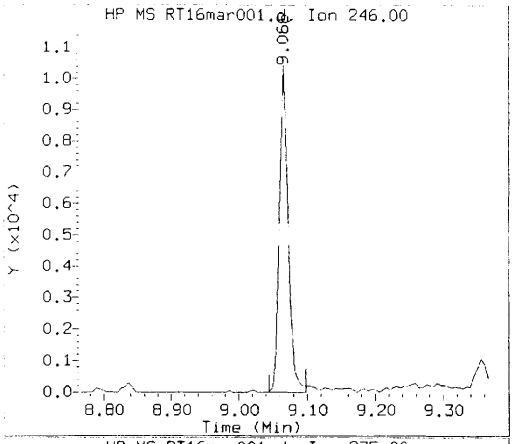
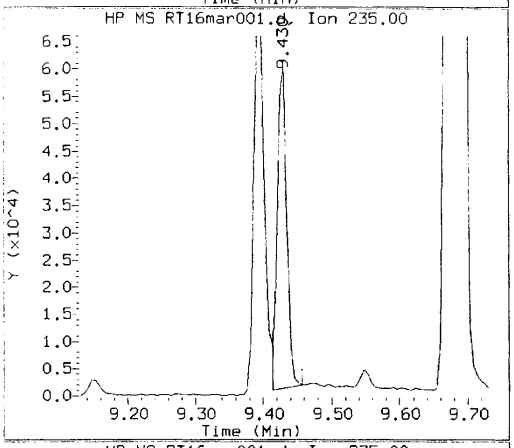
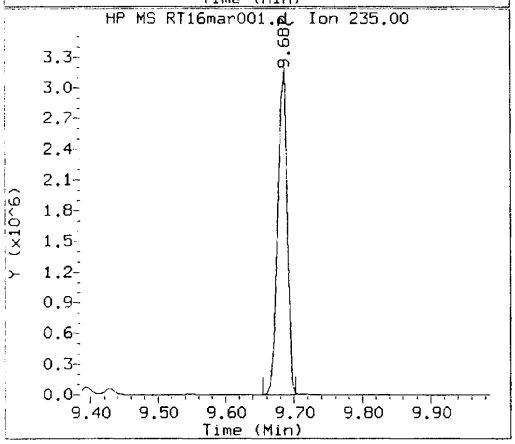



Compound: 4,4'-DDE
Quant Mass: 246
RT: 9.066
Area: 9449




Compound: 4,4'-DDD
Quant Mass: 235
RT: 9.430
Area: 58709




Compound: 4,4'-DDT
Quant Mass: 235
RT: 9.687
Area: 3139840

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

| Compound | Response | %Breakdown | Max Allowed | Test |
|---|---|---|---|---|
| 4,4-DDT | 3139840 | | | N/A |
| 4,4-DDE | 9449 | 0.30 | 20.0 | PASS |
| 4,4-DDD | 58709 | 1.84 | 20.0 | PASS |
| 4,4-DDD + DDE | 68158 | 2.1 | 20.0 | PASS |

**********

TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST

**********

Return to Contents

# EPA METHOD 8270C
# PAHSIM

# Run Logs

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# Injection Log

Directory: W:\GCMS_EEE\GCMS_EEE_DATA\2017\170313

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | 13mar001.d | 1. | TUNE S101716A DFTPP ) leaking change new column | | 13 Mar 2017 09:34 |
| 2 | 1 | 13mar002.d | 1. | TUNE S101716A DFTPP ) | | 13 Mar 2017 10:04 |
| 3 | 1 | 13mar003.d | 1. | TUNE S101716A DFTPP | | 13 Mar 2017 11:49 |
| 4 | 2 | 13mar004.d | 1. | CCV S010317F 1PPM ~ dev > 30% | 170313A001 | 13 Mar 2017 12:10 |
| 5 | 3 | 13mar005.d | 1. | BLANK | S101716B 10UL | 13 Mar 2017 12:32 |
| 6 | 28 | 13mar006.d | 1. | ICAL-1 S010317D 5PPM | 170313I001 | 13 Mar 2017 12:52 |
| 7 | 29 | 13mar007.d | 1. | ICAL-2 S010317E 2PPM | | 13 Mar 2017 13:13 |
| 8 | 30 | 13mar008.d | 1. | ICAL-3 S010317F 1PPM | | 13 Mar 2017 13:33 |
| 9 | 31 | 13mar009.d | 1. | ICAL-4 S010317G 0.5PPM | | 13 Mar 2017 13:53 |
| 10 | 32 | 13mar010.d | 1. | ICAL-5 S010317H 0.1PPM | | 13 Mar 2017 14:13 |
| 11 | 33 | 13mar011.d | 1. | ICV S010317I 1PPM | | 13 Mar 2017 14:34 |
| 12 | 1 | 13mar012.d | 1. | TUNE S101716A DFTPP | | 13 Mar 2017 14:59 |
| 13 | 2 | 13mar013.d | 1. | CCV S010317F 1PPM | 170313A001 | 13 Mar 2017 15:19 |
| 14 | 24 | 13mar014.d | 1. | 17-03-0323-3 10X | S101716B 10UL | 13 Mar 2017 15:40 |
| 15 | | 13mar015.d | 1. | No MS or GC data present | | |

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| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 91 | 16mar001.d | 1. | TUNE S101716A DFTPP | | 16 Mar 2017 10:17 |
| 2 | 92 | 16mar002.d | 1. | CCV S010317F 1PPM | 170316A019 | 16 Mar 2017 10:37 |
| 3 | 93 | 16mar003.d | 1. | MB 170315 L03 | S101716B 10UL | 16 Mar 2017 10:58 |
| 4 | 94 | 16mar004.d | 1. | LCS 170315 L03 | S101716B 10UL | 16 Mar 2017 11:18 |
| 5 | 95 | 16mar005.d | 1. | 17-03-0888-27 MS 5X | S101716B 10UL | 16 Mar 2017 11:38 |
| 6 | 96 | 16mar006.d | 1. | 17-03-0888-27 MSD 5X | S101716B 10UL | 16 Mar 2017 11:58 |
| 7 | 97 | 16mar007.d | 1. | 17-03-0888-25 5X | S101716B 10UL | 16 Mar 2017 12:19 |
| 8 | 98 | 16mar008.d | 1. | 17-03-0888-26 5X | S101716B 10UL | 16 Mar 2017 12:39 |
| 9 | 99 | 16mar009.d | 1. | 17-03-0888-27 5X | S101716B 10UL | 16 Mar 2017 12:59 |
| 10 | 100 | 16mar010.d | 1. | 17-03-0889-25 | S101716B 10UL | 16 Mar 2017 13:19 |
| 11 | 101 | 16mar011.d | 1. | 17-03-0889-26 | S101716B 10UL | 16 Mar 2017 13:40 |
| 12 | 102 | 16mar012.d | 1. | 17-03-0889-27 | S101716B 10UL | 16 Mar 2017 14:00 |
| 13 | 108 | 16mar013.d | 1. | MB 170316 L15 | S101716B 10UL | 16 Mar 2017 14:20 |
| 14 | 109 | 16mar014.d | 1. | LCS 170316 L15 | S101716B 10UL | 16 Mar 2017 14:40 |
| 15 | 110 | 16mar015.d | 1. | 17-03-1172-2 MS | S101716B 10UL | 16 Mar 2017 15:01 |
| 16 | 111 | 16mar016.d | 1. | 17-03-1172-2 MSD | S101716B 10UL | 16 Mar 2017 15:21 |
| 17 | 112 | 16mar017.d | 1. | 17-03-1172-1 | S101716B 10UL | 16 Mar 2017 15:41 |
| 18 | 113 | 16mar018.d | 1. | 17-03-1172-2 | S101716B 10UL | 16 Mar 2017 16:01 |
| 19 | 103 | 16mar019.d | 1. | 17-03-0888-27 MS | S101716B 10UL | 16 Mar 2017 16:22 |
| 20 | 104 | 16mar020.d | 1. | 17-03-0888-27 MSD | S101716B 10UL | 16 Mar 2017 16:42 |
| 21 | 105 | 16mar021.d | 1. | 17-03-0888-25 | S101716B 10UL | 16 Mar 2017 17:02 |
| 22 | 106 | 16mar022.d | 1. | 17-03-0888-26 | S101716B 10UL | 16 Mar 2017 17:22 |
| 23 | 107 | 16mar023.d | 1. | 17-03-0888-27 | S101716B 10UL | 16 Mar 2017 17:43 |

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# EPA METHOD 8270C
# PAHSIM

# Sample Preparation Logs

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Analysis Method (EPA Method): ☐ 608 ☐ 8081 ☐ 8082 ☐ 8141 ☐ 8310 ☐ TO-13 ☐ TO-4
☑ 8270 ( ☑ Soil ☐ Soil SIM SUPER ☐ PAH ☑ SIM PAH ☐ SIM Pest ☐ SIM PCB cong. ☐ SIM FL )

Extraction Method (EPA Method): ☐ 3510 ☐ 3520 ☐ 3540 ☐ 3541 ☑ 3545 ☐ 3550 ☐ 3580

Analyst ID#: Measuring Sample- 707 Start Extraction- 701/785 Blow Down- 1084 Clean Up-

Matrix: ☑ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air

Balance ID#: 53 Filter ID#: 507-17-17 ASE ID#: 7 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:

Ext. Start Date/Time: 3-15-17 11:20 Ext. End Date/Time: 3-15-17 15:20

Sand or Wipe ID#: 507-19-19

Drying Agent: ☑ $Na_2SO_4$ ☐ ☑ Diatomaceous Earth

Drying Agent(s) ID#: 507-44-18 / 507-22-03

Surrogate Std ID# & Volume Added (mL): 5020117C 4ppm/0.5ml

Spike Std ID# & Volume Added (mL): S100716A 4ppm/0.5ml Spike Added to: ☑ LCS ☐ LCSD ☑ MS ☑ MSD

Extraction Solvent: ☐ $MeCl_2$ ☐ 1:1 Hexane-Acetone ☑ 1:1 $MeCl_2$-Acetone ☐ 9:1 Hexane-Diethyl-ether ☐ Acetonitrile

Extraction Solvent ID#: 507-55-01 / 507-44-08 Exchange Solvent (☐ Hexane ☐ Acetonitrile) ID#:

Clean Up Start Date & Time: Clean Up End Date & Time:

Clean Up: ☐ 3620 Florisil ☐ 3630 SGC ☐ 3660 Sulfur ☐ 3665 Acid ☐ Other Cartridge ID#:

Clean Up Reagent ID#: Cartridge Conditioning Column Pre-Elution Reagent ID#:

| MB/LCS/MS Batch #: 170315L003 | Sample W (g) / V (mL) | | Clean Up Performed | Comments |
|---|---|---|---|---|
| Cel ID#: | Initial | Final | | |
| MB | 20.0 | 2 | ☐ | SIM PAH LL |
| LCS | 20.0 | 2 | ☐ | |
| LCSD NA | / | / | ☐ | |
| MS 17-03-0888-27A | 20.0 | 2 | ☐ | |
| MSD 17-03-0888-27A | 20.1 | 2 | ☐ | |
| 17-03-0888-25A | 20.0 | 2 | ☐ | |
| -26A | 20.2 | 2 | ☐ | |
| -27A | 20.1 | 2 | ☐ | |
| 17-03-0889-25A | 20.0 | 2 | ☐ | |
| -26A | 20.2 | 2 | ☐ | |
| -27A | 20.1 | 2 | ☐ | |
| 17-03-0890-25A | 20.2 | 2 | ☐ | Extract & Hold |
| -26A | 20.1 | 2 | ☐ | |
| -27A | 20.2 | 2 | ☐ | |
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Peer Reviewed by: 785 Peer Reviewed Date: 3-15-17 Revision Date: 10/20/16

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