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Supplemental Report 1

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

# WORK ORDER NUMBER: 17-03-0755

*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 04/27/2017 by:
Stephen Nowak
Project Manager

ResultLink

Email your PM

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Work Order Number: 17-03-0755


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# Work Order Narrative



**Condition Upon Receipt:**

Samples were received under Chain-of-Custody (COC) on 03/09/17. They were assigned to Work Order 17-03-0755.

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: | 17-03-0755 |
| | | Project Name: | Burbank Airport / 9836002041 |
| | | PO Number: | |
| | | Date/Time Received: | 03/09/17 17:20 |
| | | Number of Containers: | 20 |
| Attn: | Brian Martasin | | |

| Sample Identification | Lab Number | Collection Date and Time | Number of Containers | Matrix |
|---|---|---|---|---|
| D-DU2-S-01-3 | 17-03-0755-1 | 03/09/17 08:55 | 1 | Solid |
| D-DU2-S-01-8 | 17-03-0755-2 | 03/09/17 09:05 | 1 | Solid |
| D-DU2-S-01-15 | 17-03-0755-3 | 03/09/17 09:30 | 1 | Solid |
| D-DU2-S-02-3 | 17-03-0755-4 | 03/09/17 10:45 | 1 | Solid |
| D-DU2-S-02-8 | 17-03-0755-5 | 03/09/17 10:50 | 1 | Solid |
| D-DU2-S-02-15 | 17-03-0755-6 | 03/09/17 10:55 | 1 | Solid |
| D-DU2-S-03-3 | 17-03-0755-7 | 03/09/17 10:05 | 1 | Solid |
| D-DU2-S-03-8 | 17-03-0755-8 | 03/09/17 10:10 | 1 | Solid |
| D-DU2-S-03-15 | 17-03-0755-9 | 03/09/17 10:15 | 1 | Solid |
| D-DU2-S-04-3 | 17-03-0755-10 | 03/09/17 07:55 | 1 | Solid |
| D-DU2-S-04-8 | 17-03-0755-11 | 03/09/17 08:00 | 1 | Solid |
| D-DU2-S-04-15 | 17-03-0755-12 | 03/09/17 08:25 | 1 | Solid |
| D-DU2-S-SG-08-3S | 17-03-0755-13 | 03/09/17 13:15 | 1 | Solid |
| D-DU2-S-SG-08-8S | 17-03-0755-14 | 03/09/17 13:20 | 1 | Solid |
| D-DU2-S-SG-08-15S | 17-03-0755-15 | 03/09/17 13:40 | 1 | Solid |
| D-DU2-S-SG-08-25S | 17-03-0755-16 | 03/09/17 13:50 | 1 | Solid |
| D-DU2-S-SG-09-3S | 17-03-0755-17 | 03/09/17 14:23 | 1 | Solid |
| D-DU2-S-SG-09-8S | 17-03-0755-18 | 03/09/17 14:27 | 1 | Solid |
| D-DU2-S-SG-09-15S | 17-03-0755-19 | 03/09/17 14:40 | 1 | Solid |
| D-DU2-S-SG-09-25S | 17-03-0755-20 | 03/09/17 14:44 | 1 | Solid |

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# Detections Summary

| | | | |
|---|---|---|---|
| Client: | Andersen Environmental<br>5261 West Imperial Highway<br>Los Angeles, CA 90045-6231 | Work Order:<br>Project Name:<br>Received: | 17-03-0755<br>Burbank Airport / 9836002041<br>03/09/17 |
| Attn: | Brian Martasin | | |



| Client SampleID<br>Analyte | Result | Qualifiers | RL | Units | Method | Extraction |
|---|---|---|---|---|---|---|
| D-DU2-S-SG-08-25S (17-03-0755-16) | | | | | | |
| Moisture | 9.4 | | 0.10 | % | ASTM D-2216 (M) | N/A |
| Barium | 46.3 | | 0.546 | mg/kg | EPA 6010B | EPA 3050B |
| Chromium | 2.12 | | 0.273 | mg/kg | EPA 6010B | EPA 3050B |
| Cobalt | 2.08 | | 0.273 | mg/kg | EPA 6010B | EPA 3050B |
| Copper | 3.13 | | 0.546 | mg/kg | EPA 6010B | EPA 3050B |
| Lead | 0.714 | | 0.546 | mg/kg | EPA 6010B | EPA 3050B |
| Nickel | 2.00 | | 0.273 | mg/kg | EPA 6010B | EPA 3050B |
| Vanadium | 6.57 | | 0.273 | mg/kg | EPA 6010B | EPA 3050B |
| Zinc | 15.2 | | 1.09 | mg/kg | EPA 6010B | EPA 3050B |
| D-DU2-S-SG-09-25S (17-03-0755-20) | | | | | | |
| Moisture | 3.0 | | 0.10 | % | ASTM D-2216 (M) | N/A |
| Barium | 31.0 | | 0.508 | mg/kg | EPA 6010B | EPA 3050B |
| Chromium | 1.79 | | 0.254 | mg/kg | EPA 6010B | EPA 3050B |
| Cobalt | 1.93 | | 0.254 | mg/kg | EPA 6010B | EPA 3050B |
| Copper | 3.41 | | 0.508 | mg/kg | EPA 6010B | EPA 3050B |
| Lead | 0.640 | | 0.508 | mg/kg | EPA 6010B | EPA 3050B |
| Nickel | 1.94 | | 0.254 | mg/kg | EPA 6010B | EPA 3050B |
| Vanadium | 5.89 | | 0.254 | mg/kg | EPA 6010B | EPA 3050B |
| Zinc | 11.1 | | 1.02 | mg/kg | EPA 6010B | EPA 3050B |

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 | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | N/A |
| | | Method: | ASTM D-2216 (M) |
| | | Units: | % |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 1 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-25S** | **17-03-0755-16-A** | **03/09/17 13:50** | **Solid** | **N/A** | **03/16/17** | **03/16/17 22:00** | **H0316MOIB5** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Moisture | 9.4 | 0.10 | 1.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-25S** | **17-03-0755-20-A** | **03/09/17 14:44** | **Solid** | **N/A** | **03/16/17** | **03/16/17 22:00** | **H0316MOIB5** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Moisture | 3.0 | 0.10 | 1.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-05-014-6765** | **N/A** | **Solid** | **N/A** | **03/16/17** | **03/16/17 22:00** | **H0316MOIB5** |

| 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: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3550B |
| | | Method: | EPA 8015B (M) |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 1 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-25S** | **17-03-0755-16-A** | **03/09/17 13:50** | **Solid** | **GC 47** | **03/14/17** | **03/15/17 22:08** | **170314B04A** |

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 | 5.5 | 1.00 | |
| TPH as Motor Oil | ND | 5.5 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| n-Octacosane | 90 | 61-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-25S** | **17-03-0755-20-A** | **03/09/17 14:44** | **Solid** | **GC 47** | **03/14/17** | **03/15/17 22:29** | **170314B04A** |

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 | 88 | 61-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-14-353-8** | **N/A** | **Solid** | **GC 47** | **03/14/17** | **03/14/17 17:16** | **170314B04A** |

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 | 98 | 61-145 | |

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



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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 3 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-25S** | **17-03-0755-16-A** | **03/09/17 13:50** | **Solid** | **ICP 7300** | **03/17/17** | **03/17/17 16:59** | **170317L02** |

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

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.820 | 0.990 | |
| Arsenic | ND | 0.820 | 0.990 | |
| Barium | 46.3 | 0.546 | 0.990 | |
| Beryllium | ND | 0.273 | 0.990 | |
| Cadmium | ND | 0.546 | 0.990 | |
| Chromium | 2.12 | 0.273 | 0.990 | |
| Cobalt | 2.08 | 0.273 | 0.990 | |
| Copper | 3.13 | 0.546 | 0.990 | |
| Lead | 0.714 | 0.546 | 0.990 | |
| Molybdenum | ND | 0.273 | 0.990 | |
| Nickel | 2.00 | 0.273 | 0.990 | |
| Selenium | ND | 0.820 | 0.990 | |
| Silver | ND | 0.273 | 0.990 | |
| Thallium | ND | 0.820 | 0.990 | |
| Vanadium | 6.57 | 0.273 | 0.990 | |
| Zinc | 15.2 | 1.09 | 0.990 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 2 of 3 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-25S** | **17-03-0755-20-A** | **03/09/17 14:44** | **Solid** | **ICP 7300** | **03/17/17** | **03/17/17 16:59** | **170317L02** |

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

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.762 | 0.985 | |
| Arsenic | ND | 0.762 | 0.985 | |
| Barium | 31.0 | 0.508 | 0.985 | |
| Beryllium | ND | 0.254 | 0.985 | |
| Cadmium | ND | 0.508 | 0.985 | |
| Chromium | 1.79 | 0.254 | 0.985 | |
| Cobalt | 1.93 | 0.254 | 0.985 | |
| Copper | 3.41 | 0.508 | 0.985 | |
| Lead | 0.640 | 0.508 | 0.985 | |
| Molybdenum | ND | 0.254 | 0.985 | |
| Nickel | 1.94 | 0.254 | 0.985 | |
| Selenium | ND | 0.762 | 0.985 | |
| Silver | ND | 0.254 | 0.985 | |
| Thallium | ND | 0.762 | 0.985 | |
| Vanadium | 5.89 | 0.254 | 0.985 | |
| Zinc | 11.1 | 1.02 | 0.985 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3050B |
| | | Method: | EPA 6010B |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 3 of 3 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **097-01-002-24453** | **N/A** | **Solid** | **ICP 7300** | **03/17/17** | **03/20/17 12:47** | **170317L02** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Antimony | ND | 0.725 | 0.966 | |
| Arsenic | ND | 0.725 | 0.966 | |
| Barium | ND | 0.483 | 0.966 | |
| Beryllium | ND | 0.242 | 0.966 | |
| Cadmium | ND | 0.483 | 0.966 | |
| Chromium | ND | 0.242 | 0.966 | |
| Cobalt | ND | 0.242 | 0.966 | |
| Copper | ND | 0.483 | 0.966 | |
| Lead | ND | 0.483 | 0.966 | |
| Molybdenum | ND | 0.242 | 0.966 | |
| Nickel | ND | 0.242 | 0.966 | |
| Selenium | ND | 0.725 | 0.966 | |
| Silver | ND | 0.242 | 0.966 | |
| Thallium | ND | 0.725 | 0.966 | |
| Vanadium | ND | 0.242 | 0.966 | |
| Zinc | ND | 0.966 | 0.966 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 7471A Total |
| | | Method: | EPA 7471A |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 1 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-25S** | **17-03-0755-16-A** | **03/09/17 13:50** | **Solid** | **Mercury 08** | **03/16/17** | **03/17/17 14:23** | **170316L01** |

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

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0920 | 1.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-25S** | **17-03-0755-20-A** | **03/09/17 14:44** | **Solid** | **Mercury 08** | **03/16/17** | **03/17/17 14:25** | **170316L01** |

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

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0859 | 1.00 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-16-272-2873** | **N/A** | **Solid** | **Mercury 08** | **03/16/17** | **03/16/17 13:11** | **170316L01** |

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Mercury | ND | 0.0833 | 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: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| | | Units: | ug/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 3 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-15S** | **17-03-0755-15-A** | **03/09/17 13:40** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 03:48** | **170311L02** |

| 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 | 87 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 48 | 25-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-25S** | **17-03-0755-16-A** | **03/09/17 13:50** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 04:06** | **170311L02** |

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

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 55 | 1.00 | |
| Aroclor-1221 | ND | 55 | 1.00 | |
| Aroclor-1232 | ND | 55 | 1.00 | |
| Aroclor-1242 | ND | 55 | 1.00 | |
| Aroclor-1248 | ND | 55 | 1.00 | |
| Aroclor-1254 | ND | 55 | 1.00 | |
| Aroclor-1260 | ND | 55 | 1.00 | |
| Aroclor-1262 | ND | 55 | 1.00 | |
| Aroclor-1268 | ND | 55 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 67 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 46 | 25-145 | |

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



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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| | | Units: | ug/kg |
| Project: Burbank Airport / 9836002041 | | | Page 2 of 3 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-15S** | **17-03-0755-19-A** | **03/09/17 14:40** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 04:24** | **170311L02** |

| 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 | 75 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 46 | 25-145 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-25S** | **17-03-0755-20-A** | **03/09/17 14:44** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 04:42** | **170311L02** |

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

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Aroclor-1016 | ND | 52 | 1.00 | |
| Aroclor-1221 | ND | 52 | 1.00 | |
| Aroclor-1232 | ND | 52 | 1.00 | |
| Aroclor-1242 | ND | 52 | 1.00 | |
| Aroclor-1248 | ND | 52 | 1.00 | |
| Aroclor-1254 | ND | 52 | 1.00 | |
| Aroclor-1260 | ND | 52 | 1.00 | |
| Aroclor-1262 | ND | 52 | 1.00 | |
| Aroclor-1268 | ND | 52 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| Decachlorobiphenyl | 83 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 51 | 25-145 | |

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



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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8082 |
| | | Units: | ug/kg |
| Project: Burbank Airport / 9836002041 | | | Page 3 of 3 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-12-535-4093** | **N/A** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 02:37** | **170311L02** |

| 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 | 77 | 24-168 | |
| 2,4,5,6-Tetrachloro-m-Xylene | 64 | 25-145 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 1 of 5 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-15S** | **17-03-0755-15-A** | **03/09/17 13:40** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 17:01** | **170311L03** |

| 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 | 70 | 13-127 | |
| Nitrobenzene-d5 | 77 | 17-137 | |
| p-Terphenyl-d14 | 81 | 4-160 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 2 of 5 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-08-25S** | **17-03-0755-16-A** | **03/09/17 13:50** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 17:21** | **170311L03** |

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

| Parameter | Result | RL | DF | Qualifiers |
|---|---|---|---|---|
| Naphthalene | ND | 0.011 | 1.00 | |
| 2-Methylnaphthalene | ND | 0.011 | 1.00 | |
| 1-Methylnaphthalene | ND | 0.011 | 1.00 | |
| Acenaphthylene | ND | 0.011 | 1.00 | |
| Acenaphthene | ND | 0.011 | 1.00 | |
| Fluorene | ND | 0.011 | 1.00 | |
| Phenanthrene | ND | 0.011 | 1.00 | |
| Anthracene | ND | 0.011 | 1.00 | |
| Fluoranthene | ND | 0.011 | 1.00 | |
| Pyrene | ND | 0.011 | 1.00 | |
| Benzo (a) Anthracene | ND | 0.011 | 1.00 | |
| Chrysene | ND | 0.011 | 1.00 | |
| Benzo (k) Fluoranthene | ND | 0.011 | 1.00 | |
| Benzo (b) Fluoranthene | ND | 0.011 | 1.00 | |
| Benzo (a) Pyrene | ND | 0.011 | 1.00 | |
| Indeno (1,2,3-c,d) Pyrene | ND | 0.011 | 1.00 | |
| Dibenz (a,h) Anthracene | ND | 0.011 | 1.00 | |
| Benzo (g,h,i) Perylene | ND | 0.011 | 1.00 | |

| Surrogate | Rec. (%) | Control Limits | Qualifiers |
|---|---|---|---|
| 2-Fluorobiphenyl | 58 | 13-127 | |
| Nitrobenzene-d5 | 76 | 17-137 | |
| p-Terphenyl-d14 | 87 | 4-160 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 3 of 5 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-15S** | **17-03-0755-19-A** | **03/09/17 14:40** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 17:41** | **170311L03** |

| 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 | 58 | 13-127 | |
| Nitrobenzene-d5 | 76 | 17-137 | |
| p-Terphenyl-d14 | 101 | 4-160 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 4 of 5 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-25S** | **17-03-0755-20-A** | **03/09/17 14:44** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 18:02** | **170311L03** |

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 | 85 | 13-127 | |
| Nitrobenzene-d5 | 91 | 17-137 | |
| p-Terphenyl-d14 | 123 | 4-160 | |

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

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# Analytical Report

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| Los Angeles, CA 90045-6231 | | Preparation: | EPA 3545 |
| | | Method: | EPA 8270C SIM PAHs |
| | | Units: | mg/kg |
| Project: Burbank Airport / 9836002041 | | | Page 5 of 5 |

| Client Sample Number | Lab Sample Number | Date/Time Collected | Matrix | Instrument | Date Prepared | Date/Time Analyzed | QC Batch ID |
|---|---|---|---|---|---|---|---|
| **Method Blank** | **099-14-035-382** | **N/A** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 15:00** | **170311L03** |

| 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 | 77 | 13-127 | |
| Nitrobenzene-d5 | 95 | 17-137 | |
| p-Terphenyl-d14 | 97 | 4-160 | |

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

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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **17-03-0996-1** | **Sample** | **Solid** | **GC 47** | **03/14/17** | **03/14/17 18:40** | **170314S04** |
| **17-03-0996-1** | **Matrix Spike** | **Solid** | **GC 47** | **03/14/17** | **03/14/17 17:58** | **170314S04** |
| **17-03-0996-1** | **Matrix Spike Duplicate** | **Solid** | **GC 47** | **03/14/17** | **03/14/17 18:18** | **170314S04** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | 18.20 | 400.0 | 420.2 | 101 | 439.1 | 105 | 64-130 | 4 | 0-15 | |

RPD: Relative Percent Difference. CL: Control Limits



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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **17-03-1223-1** | **Sample** | **Solid** | **ICP 7300** | **03/17/17** | **03/20/17 13:38** | **170317S02** |
| **17-03-1223-1** | **Matrix Spike** | **Solid** | **ICP 7300** | **03/17/17** | **03/20/17 13:41** | **170317S02** |
| **17-03-1223-1** | **Matrix Spike Duplicate** | **Solid** | **ICP 7300** | **03/17/17** | **03/20/17 13:42** | **170317S02** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Antimony | ND | 25.00 | 8.304 | 33 | 9.361 | 37 | 50-115 | 12 | 0-20 | 3 |
| Arsenic | ND | 25.00 | 25.93 | 104 | 27.13 | 109 | 75-125 | 5 | 0-20 | |
| Barium | 71.72 | 25.00 | 95.64 | 96 | 96.47 | 99 | 75-125 | 1 | 0-20 | |
| Beryllium | 0.2785 | 25.00 | 26.01 | 103 | 26.29 | 104 | 75-125 | 1 | 0-20 | |
| Cadmium | ND | 25.00 | 26.12 | 104 | 26.42 | 106 | 75-125 | 1 | 0-20 | |
| Chromium | 15.33 | 25.00 | 42.03 | 107 | 40.67 | 101 | 75-125 | 3 | 0-20 | |
| Cobalt | 5.419 | 25.00 | 31.55 | 105 | 31.63 | 105 | 75-125 | 0 | 0-20 | |
| Copper | 6.170 | 25.00 | 32.93 | 107 | 32.77 | 106 | 75-125 | 1 | 0-20 | |
| Lead | 3.158 | 25.00 | 29.33 | 105 | 30.08 | 108 | 75-125 | 3 | 0-20 | |
| Molybdenum | ND | 25.00 | 24.20 | 97 | 24.77 | 99 | 75-125 | 2 | 0-20 | |
| Nickel | 8.394 | 25.00 | 34.02 | 102 | 34.44 | 104 | 75-125 | 1 | 0-20 | |
| Selenium | ND | 25.00 | 25.32 | 101 | 25.96 | 104 | 75-125 | 2 | 0-20 | |
| Silver | ND | 12.50 | 11.84 | 95 | 12.24 | 98 | 75-125 | 3 | 0-20 | |
| Thallium | ND | 25.00 | 24.99 | 100 | 25.33 | 101 | 75-125 | 1 | 0-20 | |
| Vanadium | 25.58 | 25.00 | 51.35 | 103 | 48.83 | 93 | 75-125 | 5 | 0-20 | |
| Zinc | 19.51 | 25.00 | 44.67 | 101 | 45.04 | 102 | 75-125 | 1 | 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: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **17-03-0920-1** | **Sample** | **Solid** | **Mercury 08** | **03/16/17** | **03/16/17 13:15** | **170316S01** |
| **17-03-0920-1** | **Matrix Spike** | **Solid** | **Mercury 08** | **03/16/17** | **03/16/17 13:17** | **170316S01** |
| **17-03-0920-1** | **Matrix Spike Duplicate** | **Solid** | **Mercury 08** | **03/16/17** | **03/16/17 13:20** | **170316S01** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1249 | 0.8350 | 1.011 | 106 | 1.019 | 107 | 71-137 | 1 | 0-14 | |

RPD: Relative Percent Difference. CL: Control Limits



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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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-S-SG-08-15S** | **Sample** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 03:48** | **170311S02** |
| **D-DU2-S-SG-08-15S** | **Matrix Spike** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 03:13** | **170311S02** |
| **D-DU2-S-SG-08-15S** | **Matrix Spike Duplicate** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 03:31** | **170311S02** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Aroclor-1016 | ND | 100.0 | 50.50 | 50 | 64.00 | 64 | 50-135 | 24 | 0-20 | 4 |
| Aroclor-1260 | ND | 100.0 | 61.50 | 62 | 79.50 | 80 | 50-135 | 26 | 0-20 | 4 |

RPD: Relative Percent Difference. CL: Control Limits



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# Quality Control - Spike/Spike Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **17-03-0856-9** | **Sample** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 16:21** | **170311S03** |
| **17-03-0856-9** | **Matrix Spike** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 15:40** | **170311S03** |
| **17-03-0856-9** | **Matrix Spike Duplicate** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 16:00** | **170311S03** |

| Parameter | Sample Conc. | Spike Added | MS Conc. | MS %Rec. | MSD Conc. | MSD %Rec. | %Rec. CL | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| Naphthalene | ND | 0.1000 | 0.09305 | 93 | 0.09131 | 91 | 20-150 | 2 | 0-33 | |
| 2-Methylnaphthalene | ND | 0.1000 | 0.1190 | 119 | 0.1171 | 117 | 29-137 | 2 | 0-31 | |
| 1-Methylnaphthalene | ND | 0.1000 | 0.09396 | 94 | 0.09554 | 96 | 34-136 | 2 | 0-29 | |
| Acenaphthylene | ND | 0.1000 | 0.08104 | 81 | 0.07819 | 78 | 29-131 | 4 | 0-32 | |
| Acenaphthene | ND | 0.1000 | 0.08305 | 83 | 0.08074 | 81 | 29-137 | 3 | 0-28 | |
| Fluorene | ND | 0.1000 | 0.08433 | 84 | 0.08017 | 80 | 36-132 | 5 | 0-27 | |
| Phenanthrene | ND | 0.1000 | 0.09693 | 97 | 0.09180 | 92 | 20-144 | 5 | 0-27 | |
| Anthracene | ND | 0.1000 | 0.09977 | 100 | 0.09590 | 96 | 26-134 | 4 | 0-27 | |
| Fluoranthene | ND | 0.1000 | 0.1008 | 101 | 0.09508 | 95 | 20-151 | 6 | 0-26 | |
| Pyrene | ND | 0.1000 | 0.09815 | 98 | 0.09518 | 95 | 20-150 | 3 | 0-32 | |
| Benzo (a) Anthracene | ND | 0.1000 | 0.09591 | 96 | 0.09180 | 92 | 24-150 | 4 | 0-24 | |
| Chrysene | ND | 0.1000 | 0.09820 | 98 | 0.09538 | 95 | 25-145 | 3 | 0-28 | |
| Benzo (k) Fluoranthene | ND | 0.1000 | 0.09884 | 99 | 0.09486 | 95 | 28-148 | 4 | 0-26 | |
| Benzo (b) Fluoranthene | ND | 0.1000 | 0.09836 | 98 | 0.09521 | 95 | 21-153 | 3 | 0-26 | |
| Benzo (a) Pyrene | ND | 0.1000 | 0.09755 | 98 | 0.09445 | 94 | 29-149 | 3 | 0-22 | |
| Indeno (1,2,3-c,d) Pyrene | ND | 0.1000 | 0.09515 | 95 | 0.08940 | 89 | 20-154 | 6 | 0-25 | |
| Dibenz (a,h) Anthracene | ND | 0.1000 | 0.1004 | 100 | 0.09371 | 94 | 20-132 | 7 | 0-26 | |
| Benzo (g,h,i) Perylene | ND | 0.1000 | 0.09670 | 97 | 0.09361 | 94 | 20-148 | 3 | 0-27 | |

RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - Sample Duplicate

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **D-DU2-S-SG-09-25S** | **Sample** | **Solid** | **N/A** | **03/16/17 00:00** | **03/16/17 22:00** | **G0316MOID5** |
| **D-DU2-S-SG-09-25S** | **Sample Duplicate** | **Solid** | **N/A** | **03/16/17 00:00** | **03/16/17 22:00** | **G0316MOID5** |

| Parameter | Sample Conc. | DUP Conc. | RPD | RPD CL | Qualifiers |
|---|---|---|---|---|---|
| Moisture | 3.000 | 2.900 | 3 | 0-10 | |

RPD: Relative Percent Difference. CL: Control Limits



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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **099-14-353-8** | **LCS** | **Solid** | **GC 47** | **03/14/17** | **03/14/17 17:37** | **170314B04A** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| TPH as Diesel | 400.0 | 422.5 | 106 | 61-145 | |

RPD: Relative Percent Difference. CL: Control Limits



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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **097-01-002-24453** | **LCS** | **Solid** | **ICP 7300** | **03/17/17** | **03/20/17 12:48** | **170317L02** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Antimony | 25.00 | 23.11 | 92 | 80-120 | 73-127 | |
| Arsenic | 25.00 | 23.18 | 93 | 80-120 | 73-127 | |
| Barium | 25.00 | 25.58 | 102 | 80-120 | 73-127 | |
| Beryllium | 25.00 | 23.87 | 95 | 80-120 | 73-127 | |
| Cadmium | 25.00 | 24.43 | 98 | 80-120 | 73-127 | |
| Chromium | 25.00 | 24.89 | 100 | 80-120 | 73-127 | |
| Cobalt | 25.00 | 25.13 | 101 | 80-120 | 73-127 | |
| Copper | 25.00 | 25.19 | 101 | 80-120 | 73-127 | |
| Lead | 25.00 | 24.81 | 99 | 80-120 | 73-127 | |
| Molybdenum | 25.00 | 23.70 | 95 | 80-120 | 73-127 | |
| Nickel | 25.00 | 24.97 | 100 | 80-120 | 73-127 | |
| Selenium | 25.00 | 23.06 | 92 | 80-120 | 73-127 | |
| Silver | 12.50 | 12.10 | 97 | 80-120 | 73-127 | |
| Thallium | 25.00 | 24.85 | 99 | 80-120 | 73-127 | |
| Vanadium | 25.00 | 23.59 | 94 | 80-120 | 73-127 | |
| Zinc | 25.00 | 25.01 | 100 | 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: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **099-16-272-2873** | **LCS** | **Solid** | **Mercury 08** | **03/16/17** | **03/16/17 13:13** | **170316L01** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Mercury | 0.8350 | 0.9138 | 109 | 85-121 | |

RPD: Relative Percent Difference. CL: Control Limits



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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **099-12-535-4093** | **LCS** | **Solid** | **GC 66** | **03/11/17** | **03/15/17 02:55** | **170311L02** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | Qualifiers |
|---|---|---|---|---|---|
| Aroclor-1016 | 100.0 | 81.50 | 82 | 50-135 | |
| Aroclor-1260 | 100.0 | 86.00 | 86 | 50-135 | |

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RPD: Relative Percent Difference. CL: Control Limits

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# Quality Control - LCS

| | | | |
|---|---|---|---|
| Andersen Environmental | | Date Received: | 03/09/17 |
| 5261 West Imperial Highway | | Work Order: | 17-03-0755 |
| 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 |
|---|---|---|---|---|---|---|
| **099-14-035-382** | **LCS** | **Solid** | **GC/MS EEE** | **03/11/17** | **03/14/17 15:20** | **170311L03** |

| Parameter | Spike Added | Conc. Recovered | LCS %Rec. | %Rec. CL | ME CL | Qualifiers |
|---|---|---|---|---|---|---|
| Naphthalene | 0.1000 | 0.1003 | 100 | 51-129 | 38-142 | |
| 2-Methylnaphthalene | 0.1000 | 0.1249 | 125 | 50-127 | 37-140 | |
| 1-Methylnaphthalene | 0.1000 | 0.1036 | 104 | 54-132 | 41-145 | |
| Acenaphthylene | 0.1000 | 0.08675 | 87 | 50-123 | 38-135 | |
| Acenaphthene | 0.1000 | 0.08759 | 88 | 53-125 | 41-137 | |
| Fluorene | 0.1000 | 0.08945 | 89 | 55-127 | 43-139 | |
| Phenanthrene | 0.1000 | 0.1005 | 100 | 50-122 | 38-134 | |
| Anthracene | 0.1000 | 0.1064 | 106 | 50-132 | 36-146 | |
| Fluoranthene | 0.1000 | 0.1023 | 102 | 55-127 | 43-139 | |
| Pyrene | 0.1000 | 0.1026 | 103 | 50-134 | 36-148 | |
| Benzo (a) Anthracene | 0.1000 | 0.1011 | 101 | 50-133 | 36-147 | |
| Chrysene | 0.1000 | 0.1022 | 102 | 51-129 | 38-142 | |
| Benzo (k) Fluoranthene | 0.1000 | 0.1043 | 104 | 49-150 | 32-167 | |
| Benzo (b) Fluoranthene | 0.1000 | 0.1038 | 104 | 50-142 | 35-157 | |
| Benzo (a) Pyrene | 0.1000 | 0.1035 | 104 | 50-134 | 36-148 | |
| Indeno (1,2,3-c,d) Pyrene | 0.1000 | 0.1010 | 101 | 50-148 | 34-164 | |
| Dibenz (a,h) Anthracene | 0.1000 | 0.1063 | 106 | 50-133 | 36-147 | |
| Benzo (g,h,i) Perylene | 0.1000 | 0.1053 | 105 | 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: 17-03-0755



| 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 | 1028 | 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: 17-03-0755 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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EFI Global

EFI Global
5261 West Imperial Highway, Los Angeles [redacted]0045
Tel: (310) 854-6300 Fax: (310) 854-0199 www.AndersenEnviro.com

# 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: 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-DU2-S-01-3 | | | X | | X | | | X | | | | 3/9/17 | 8:55 | | | | | | | | | | | | X | | | | X | | | | X |
| 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 | X | X | | | | | X | | X | | | | | | | | | | | X |
| 16 | -25S | | | | | | | | | | | | | 13:50 | X | X | | | | | X | | X | | | | | | | | | | | X |
| 17 | D-DU2-S-SG-09-3S | | | | | | | | | | | | | 14:23 | | | | | | | | | | | | | | | | | | | | |
| 18 | -8S | | | | | | | | | | | | | 14:27 | | | | | | | | | | | | | | | | | | | | |
| 19 | -15S | | | | | | | | | | | | | 14:40 | X | X | | | | | X | | X | | | | | | | | | | | X |
| 20 | -25S | | | | | | | | | | | | | 14:44 | X | X | | | | | X | | X | | | | | | | | | | | X |

| 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.

3/10

3/10



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# Chain-of-Custody Record

Page 1 of _

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 | 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-DU2-S-01-3 | | | X | | X | | | X | | | | 3/9/17 | 8:55 | | | | | | | | | | | | X | | | | X | | | | X |
| 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-SSG-08-35 | | | | | | | | | | | | | 13:15 | | | | | | | | | | | | | | | | | | | | |
| 14 | -85 | | | | | | | | | | | | | 13:20 | | | | | | | | | | | | | | | | | | | | |
| 15 | -155 | | | | | | | | | | | | | 13:40 | | | | | | | | | | | | | | | | | | | | |
| 16 | -255 | | | | | | | | | | | | | 13:50 | | | | | | | | | | | | | | | | | | | | |
| 17 | D-DU2-SSG-09-35 | | | | | | | | | | | | | 14:23 | | | | | | | | | | | | | | | | | | | | |
| 18 | -85 | | | | | | | | | | | | | 14:27 | | | | | | | | | | | | | | | | | | | | |
| 19 | -155 | | | | | | | | | | | | | 14:40 | | | | | | | | | | | | | | | | | | | | |
| 20 | -255 | | | | | | | | | | | | | 14:44 | | | | | | | | | | | | | | | | | | | | |

| 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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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: 7?? |

**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: 7??

**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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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0755

## CONDITION UPON RECEIPT:

Eurofins Calscience, Inc. received (20) solid samples on March 9th, 2017. A total of (20) containers were received in good condition and at a temperature of 1.8°C, which was within the recommended temperature of 0°C – 6°C.

| Client Sample ID | Lab Sample ID | Date & Time Sampled | Date & Time Received |
|---|---|---|---|
| D-DU2-S-01-3 | 17-03-0755-1 | 03/09/17 08:55 | 03/09/17 17:20 |
| D-DU2-S-01-8 | 17-03-0755-2 | 03/09/17 09:05 | 03/09/17 17:20 |
| D-DU2-S-01-15 | 17-03-0755-3 | 03/09/17 09:30 | 03/09/17 17:20 |
| D-DU2-S-02-3 | 17-03-0755-4 | 03/09/17 10:45 | 03/09/17 17:20 |
| D-DU2-S-02-8 | 17-03-0755-5 | 03/09/17 10:50 | 03/09/17 17:20 |
| D-DU2-S-02-15 | 17-03-0755-6 | 03/09/17 10:55 | 03/09/17 17:20 |
| D-DU2-S-03-3 | 17-03-0755-7 | 03/09/17 10:05 | 03/09/17 17:20 |
| D-DU2-S-03-8 | 17-03-0755-8 | 03/09/17 10:10 | 03/09/17 17:20 |
| D-DU2-S-03-15 | 17-03-0755-9 | 03/09/17 10:15 | 03/09/17 17:20 |
| D-DU2-S-04-3 | 17-03-0755-10 | 03/09/17 07:55 | 03/09/17 17:20 |
| D-DU2-S-04-8 | 17-03-0755-11 | 03/09/17 08:00 | 03/09/17 17:20 |
| D-DU2-S-04-15 | 17-03-0755-12 | 03/09/17 08:25 | 03/09/17 17:20 |
| D-DU2-S-SG-08-3S | 17-03-0755-13 | 03/09/17 13:15 | 03/09/17 17:20 |
| D-DU2-S-SG-08-8S | 17-03-0755-14 | 03/09/17 13:20 | 03/09/17 17:20 |
| D-DU2-S-SG-08-15S | 17-03-0755-15 | 03/09/17 13:40 | 03/09/17 17:20 |
| D-DU2-S-SG-08-25S | 17-03-0755-16 | 03/09/17 13:50 | 03/09/17 17:20 |
| D-DU2-S-SG-09-3S | 17-03-0755-17 | 03/09/17 14:23 | 03/09/17 17:20 |
| D-DU2-S-SG-09-8S | 17-03-0755-18 | 03/09/17 14:27 | 03/09/17 17:20 |
| D-DU2-S-SG-09-15S | 17-03-0755-19 | 03/09/17 14:40 | 03/09/17 17:20 |
| D-DU2-S-SG-09-25S | 17-03-0755-20 | 03/09/17 14:44 | 03/09/17 17:20 |

## 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)



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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0755

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 -16 and -20 were analyzed for % Moisture by ASTM D-2216 (M). The samples were prepared and analyzed on 03/16/17 in batch #s H0316MOIB5 / G0316MOID5.

Balance Calibration/Verification:

All values were within acceptance criteria.

Sample and QC:

Sample -20 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 -16 and -20 were analyzed for Metals by EPA 6010B. The samples were prepared and analyzed on 03/17/17 in batch #s 170317L02 / 170317S02 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.



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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0755

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 -16 and -20 were analyzed for Mercury by EPA 7471A. The samples were prepared on 03/16/17 and analyzed on 03/17/17 in batch #s 170316L01 / 170316S01 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.

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 -16 and -20 were analyzed for Diesel and Motor Oil Ranges by EPA 8015B (M). The samples were prepared on 03/14/17 and analyzed on 03/15/17 in batch #s 170314B04A / 170314S04 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.

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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0755

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 integrations were performed on the MSD and MS/MSD parent sample to correct the peak and/or baseline integration.

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

Samples -15, -16, -19, and -20 were analyzed for Polychlorinated Biphenyls Aroclors by EPA 8082. The samples were prepared on 03/11/17 and analyzed on 03/15/17 in batch #s 170311L02 / 170311S02 on GC 66.

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:

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

Sample -15 was used for the MS/MSD. The MS/MSD RPDs for Aroclors 1016 and 1260 were out of range.

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# Case Narrative

Client Project Name: Burbank Airport / 9836002041
Work Order Number: 17-03-0755

## EPA 8270C SIM PAHs (Solid):

Samples -15, -16, -19, and -20 were analyzed for Polynuclear Aromatic Hydrocarbons by EPA 8270C SIM. The samples were prepared on 03/11/17 and analyzed on 03/14/17 in batch #s 170311L03 / 170311S03 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 a different 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.

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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:** | **17-03-0755** | ANALYZED BY: | 1,009 |
| INSTRUMENT: | N/A | D/T ANALYZED: | 2017-03-16 22:00 |
| EXTRACTION : | N/A | REVIEWED BY: | 1,009 |
| D/T EXTRACTED: | 2017-03-16 00:00 | D/T REVIEWED: | 2017-03-24 10:20 |
| DATA FILE: | NONE | | |

**# 16** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-08-25S**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | H0316MOIB5 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 1.00 g |
| MS/MSD BATCH: | G0316MOID5 | FINAL VOLUME / WEIGHT: | DEFAULT: 1.00 ml |
| UNITS: | % | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Moisture | 9.40 | 1.00 | 9.40 | 0.10 | |

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

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0755** | ANALYZED BY: | 1,009 |
| INSTRUMENT: | N/A | D/T ANALYZED: | 2017-03-16 22:00 |
| EXTRACTION : | N/A | REVIEWED BY: | 1,009 |
| D/T EXTRACTED: | 2017-03-16 00:00 | D/T REVIEWED: | 2017-03-24 10:20 |

DATA FILE: NONE

**# 20** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-25S**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | H0316MOIB5 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 1.00 g |
| MS/MSD BATCH: | G0316MOID5 | FINAL VOLUME / WEIGHT: | DEFAULT: 1.00 ml |
| UNITS: | % | ADJUSTMENT RATIO TO PF: | 1.00 |

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| Moisture | 3.00 | 1.00 | 3.00 | 0.10 | |

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

**MB SAMPLE ID:** **099-05-014-6765**
MB BATCH ID: H0316MOIB5
INSTRUMENT: N/A
EXTRACTION: N/A
D/T EXTRACTED: 2017-03-16 00:00

ANALYZED BY: 1,009
D/T ANALYZED: 2017-03-16 22:00
REVIEWED BY: 1,009
D/T REVIEWED: 2017-03-24 10:20
MATRIX: Soil

DATA FILE: NONE

**CLIENT WORK ORDER: 17-03-0755**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 16 | | D-DU2-S-SG-08-25S | 2017-03-16 22:00 | NONE |
| 20 | | D-DU2-S-SG-09-25S | 2017-03-16 22:00 | 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: | 2017-03-16 22:00 |
| EXTRACTION : | N/A | REVIEWED BY: | 1,009 |
| D/T EXTRACTED: | 2017-03-16 00:00 | D/T REVIEWED: | 2017-03-24 10:20 |

DATA FILE: NONE

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

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | H0316MOIB5 | 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:** **17-03-0755-20**
DUP BATCH : G0316MOID5
INSTRUMENTS:
SAMPLE: N/A
DUP SAMPLE: N/A

EXTRACTION : N/A
D/T EXTRACTED :
SAMPLE: 2017-03-16 00:00
DUP SAMPLE: 2017-03-16 00:00

ANALYZED BY: 1,009
D/T ANALYZED
SAMPLE: 2017-03-16 22:00
DUP SAMPLE: 2017-03-16 22:00
REVIEWED BY: 1,009
D/T REVIEWED 2017-03-24 10:20

| COMPOUND | SAMPLE CONC | DUP CONC | % RPD | CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| Moisture | 3.000 | 2.900 | 3 | 0-10 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| SDP | NONE | |

# Moisture Content Raw Data Logbook

| METHOD | MATRIX | DATE | ANALYST(S) | BATCH NUMBER |
|---|---|---|---|---|
| ASTM D2216(M) | ☑ Solid ☐ Sediment ☐ Other | Preparation: 03/16/17 | 1050/1009 | MB: H0316 H0I B5 |
| | | Analysis: ↓ | ↓ | Sample Duplicate: ↓ D5 |

| CEL ID # | MASS (g) DISH | DRY DISH | MOISTURE | % MOISTURE | RL (%) | COMMENTS | ALUMINUM DISH SUPPLY ID |
|---|---|---|---|---|---|---|---|
| MB | 1.87 | 1.87 | 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 17-03-0755-20A | 3.0 | 3 | 0 – 10 | ☑ IO 07 | ☑ TSS IO7A CF: -2 | Start: 103 | Start: 1400 |
| Duplicate ↓ | 2.9 | | | ☐ IO 08 | ☐ TSS IO8A CF: | End: 103 | End: 2200 |
| 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 | DRY-BASED | BALANCE ID # | RL (%) | QUAL | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Duplicate 17-03-0755-20A | 1.87 | 12.44 | 10.57 | 12.13 | 0.31 | 2.9 | | 63 | 0.10 | | |
| 17-03-0755-16A | 1.87 | 12.25 | 10.38 | 11.27 | 0.98 | 9.4 | | ↓ | ↓ | | |
| ↓ 20A | 1.88 | 12.42 | 10.54 | 12.10 | 0.32 | 3.0 | | ↓ | ↓ | | |

BATCH TIME
Time (24 Hr): 2200
Initials: 1009/1050

# 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): 2200 Initials: 1050/1009 |
| ☐ 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: 03/16/17 | 1050/1009 | MB: H0316 MGI B5 | LCS/LCSD: NA | |
| | Analysis: ↓ | ↓ | Sample Duplicate: ↓ D5 | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| B | 10-07 | 1.87 | 1500 | 1900 | 1.87 | 2000 | 2100 | | | | (Y) N | 63 | |
| CS | | | | | | | | | | | Y N | | |
| CSD | | | | | | | | | | | Y N | | |
| S | | | | | | | | | | | Y N | | |
| SD/Duplicate | | | | | | | | | | | Y N | | |
| uplicate 17-03-0755-20A | 10-07 | 12.13 | 1500 | 1900 | 12.13 | 2000 | 2100 | | | | (Y) N | 63 | |
| 17-03-0755-16A | ↓ | 11.27 | ↓ | ↓ | 11.27 | ↓ | ↓ | | | | (Y) N | ↓ | |
| ↓ 20A | ↓ | 12.10 | ↓ | ↓ | 12.10 | ↓ | ↓ | | | | (Y) N | ↓ | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
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| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |
| | | | | | | | | | | | Y N | | |

# BALANCE CALIBRATION CHECK LOG

**Eurofins Calscience**

Date performed: 3/16/17 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 | 1.01 | 0.98 - 1.02 | Y | N | IO Lab |
| | 100 | 100.005 | 98.00 - 102.00 | Y | N | |
| | 500 | 499.91 | 498.00 - 502.00 | Y | N | |
| 62 | 0.002 | .0018 | 0.00180 - 0.00220 | Y | N | IO Lab |
| | 1 | 0.9992 | 0.99900 - 1.00100 | Y | N | |
| | 100 | 99.9960 | 99.90000 - 100.10000 | Y | N | |
| 26 | 1 | 1.01 | 0.98 - 1.02 | Y | N | IO Lab |
| | 100 | 100.000 | 98.00 - 102.00 | Y | N | |
| 55 | 1 | 1.01 | 0.98 - 1.02 | Y | N | IO Lab |
| | 100 | 99.98 | 98.00 - 102.00 | Y | N | |
| | 500 | 499.91 | 498.00 - 502.00 | Y | N | |
| 11 | 1 | 1.01 | 0.98 - 1.02 | Y | N | IO Lab |
| | 100 | 100.02 | 98.00 - 102.00 | Y | N | |
| 66 | 0.002 | .0018 | 0.00180 - 0.00220 | Y | N | Metals |
| | 1 | .99 | 0.99900 - 1.00100 | Y | N | |
| | 100 | 100.02 | 99.90000 - 100.10000 | Y | N | |
| 53 | 0.1 | .09 | 0.09 - 0.11 | Y | N | Extractions |
| | 1 | .99 | 0.98 - 1.02 | Y | N | |
| | 100 | 100.00 | 98.00 - 102.00 | Y | N | |
| | 500 | 500.01 | 498 - 502 | Y | N | |
| ~~20~~ 70 | 1 | 1.00 | 0.98 - 1.02 | Y | N | Extractions |
| | 100 | 99.83 | 98.00 - 102.00 | Y | N | |
| | 500 | 499.17 | 498.00 - 502.00 | Y | N | |
| 57 | 100 | 100.0 | 98.0-102.0 | Y | N | Extractions |
| | 1000 | 1000.0 | 998.0-1002.0 | Y | N | |
| | 2000 | 2000.0 | 1998.0-2002.0 | Y | N | |
| 52 | 0.002 | .0018 | 0.0018 - 0.0022 | Y | N | Extractions |
| | 1 | .9993 | 0.9990 - 1.0010 | Y | N | |
| | 100 | 99.9964 | 99.9000 - 100.1000 | Y | N | |
| 71 | 0.002 | .0020 | 0.0018 - 0.0022 | Y | N | BOD Room |
| | 1 | .9994 | 0.9990 - 1.0010 | Y | N | |
| | 100 | 99.9967 | 99.9000 - 100.1000 | Y | N | |
| 63 | 0.1 | .09 | 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 | .9995 | 0.9990 - 1.0010 | Y | N | |
| | 100 | 100.0011 | 99.9000 - 100.1000 | Y | N | |
| 30 | 1 | | 0.98 - 1.02 | Y | N | Oil & Grease Room |
| | 100 | | 98.00 - 102.00 | Y | N | Not connected OR In use. |



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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:
D/T REVIEWED:

| OMPOUND | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| H as Diesel | C | Avg RF | 957.840 | 867.749 | 857.547 | 844.399 | 867.606 | | | | | 879.028 | 0.00 | 5 | 0-20 | | | PASS |
| esel Range Organics 10-C28) | | Avg RF | 851,761 | 797,322 | 788,534 | 776,714 | 810,300 | | | | | 804,926 | 0.00 | 4 | 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:
D/T REVIEWED:

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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Report Date : 14-Mar-2017 11:19 Page 2

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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Data File: /chem1/SVOA/GC_47.i/170313.b/17031305.d Page 1
Report Date: 13-Mar-2017 16:38

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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( 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

Page 1

Date : 13-MAR-2017 13:22

Client ID:

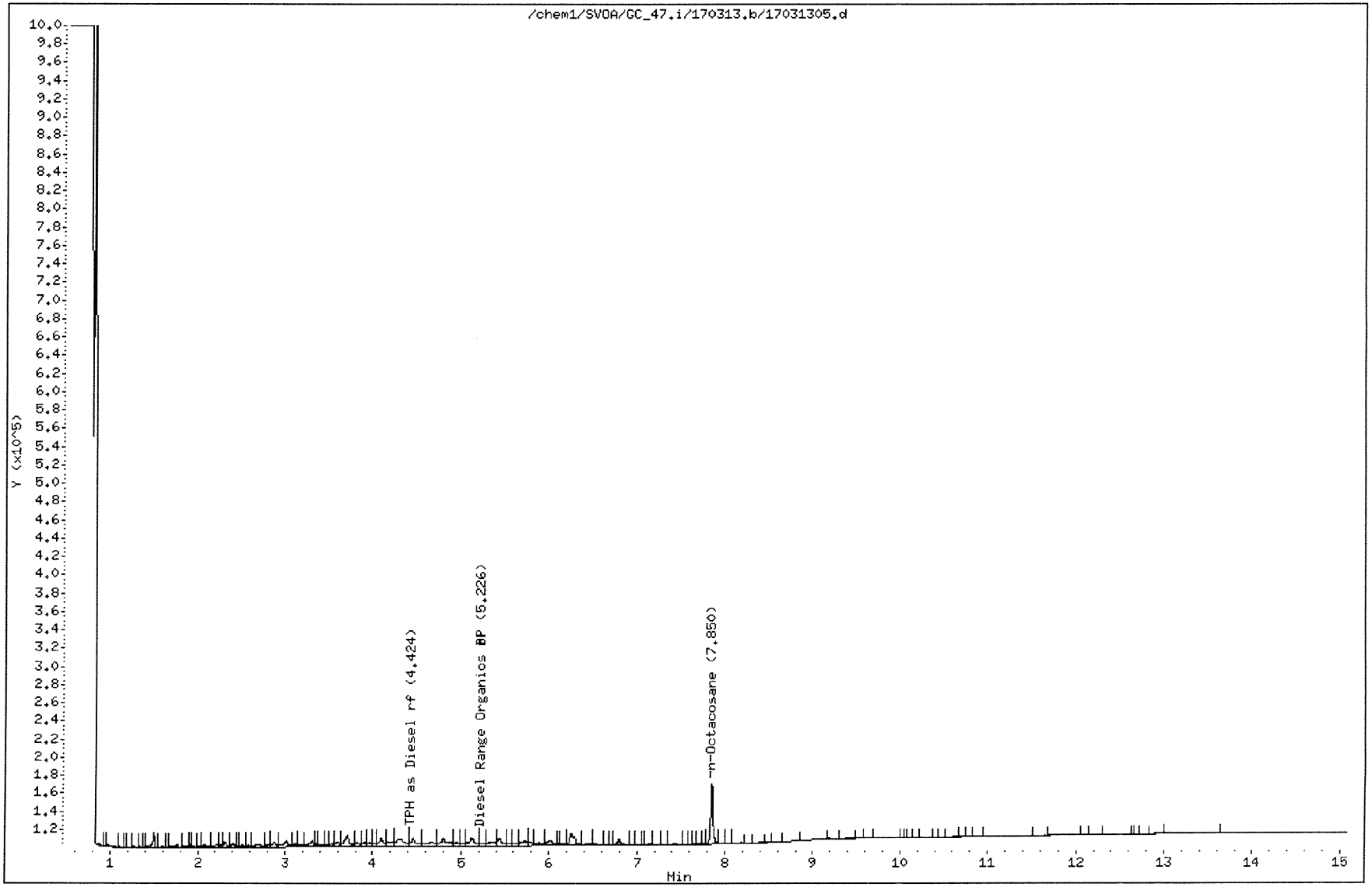
Instrument: GC_47.i

Sample Info: ICAL D5 C28 0.625 L102516B

Operator: 972

Column phase:

Column diameter: 2.00



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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

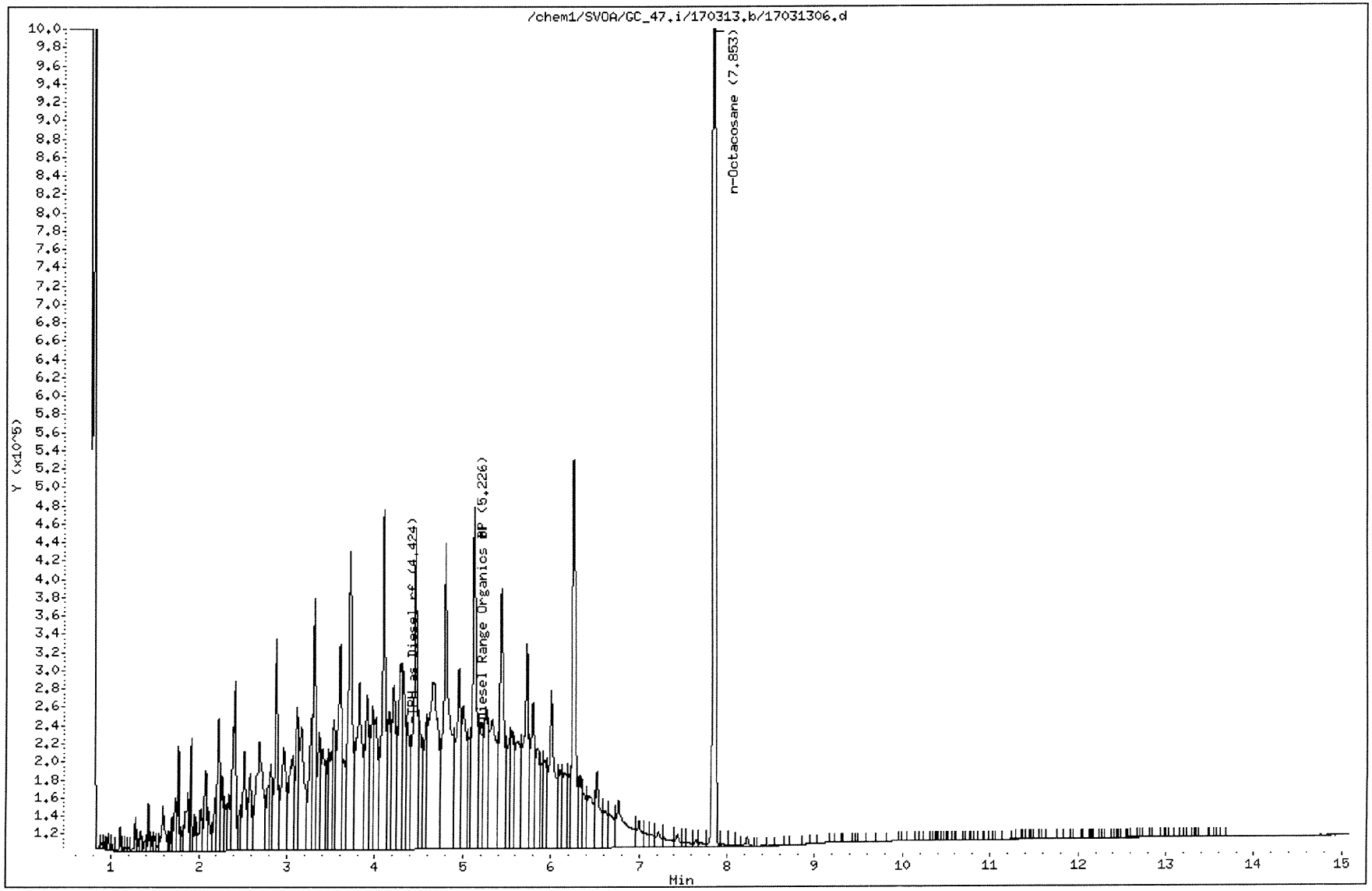
Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00





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Data File: /chem1/SVOA/GC_47.i/170313.b/17031307.d Page 1
Report Date: 13-Mar-2017 16:38

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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( 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 |

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Data File: /chem1/SVOA/GC_47.i/170313.b/17031307.d

Page 1

Date : 13-MAR-2017 14:04

Client ID:

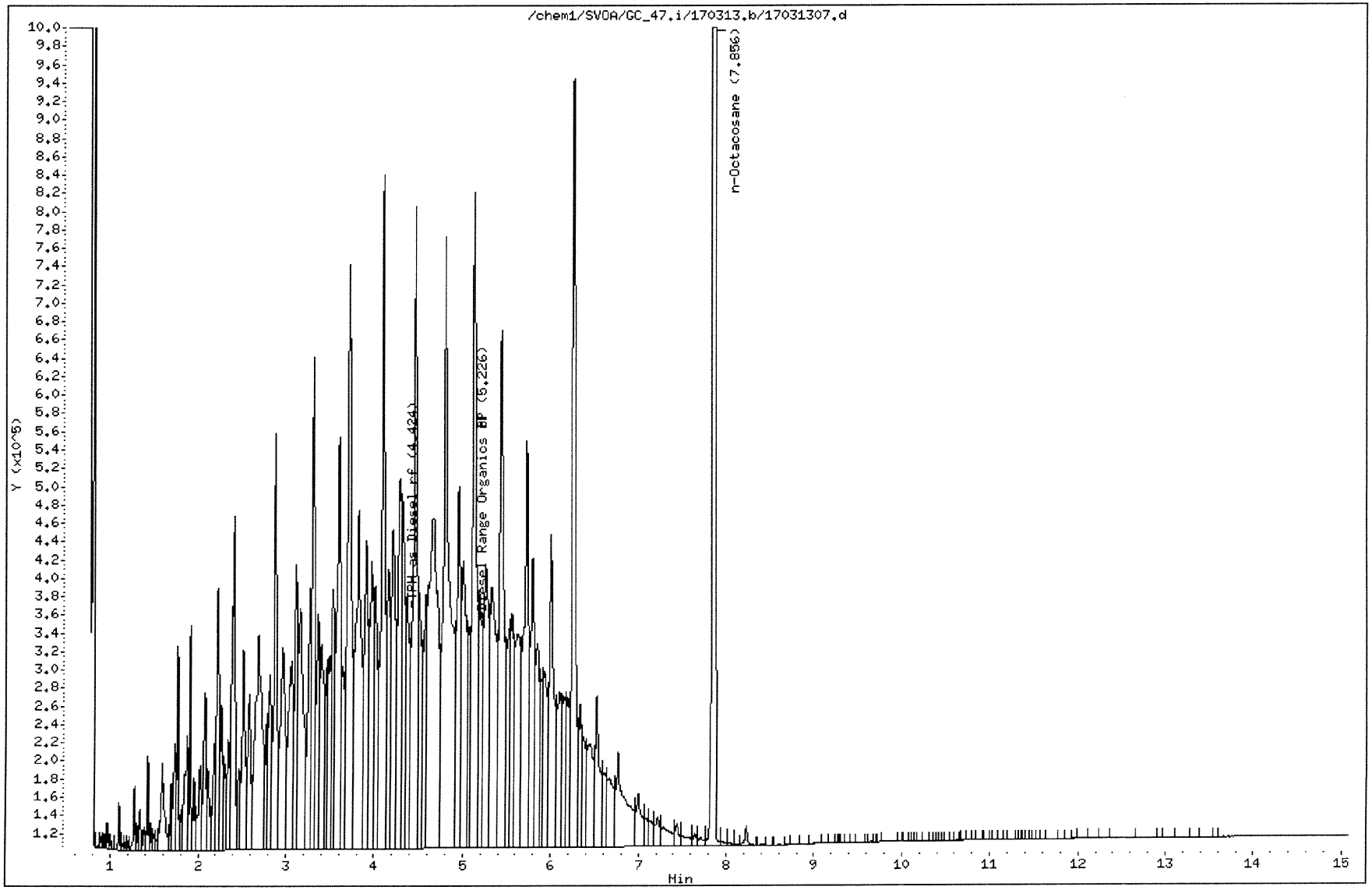
Instrument: GC_47.i

Sample Info: ICAL D400 C28 50 L102516D

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031308.d
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

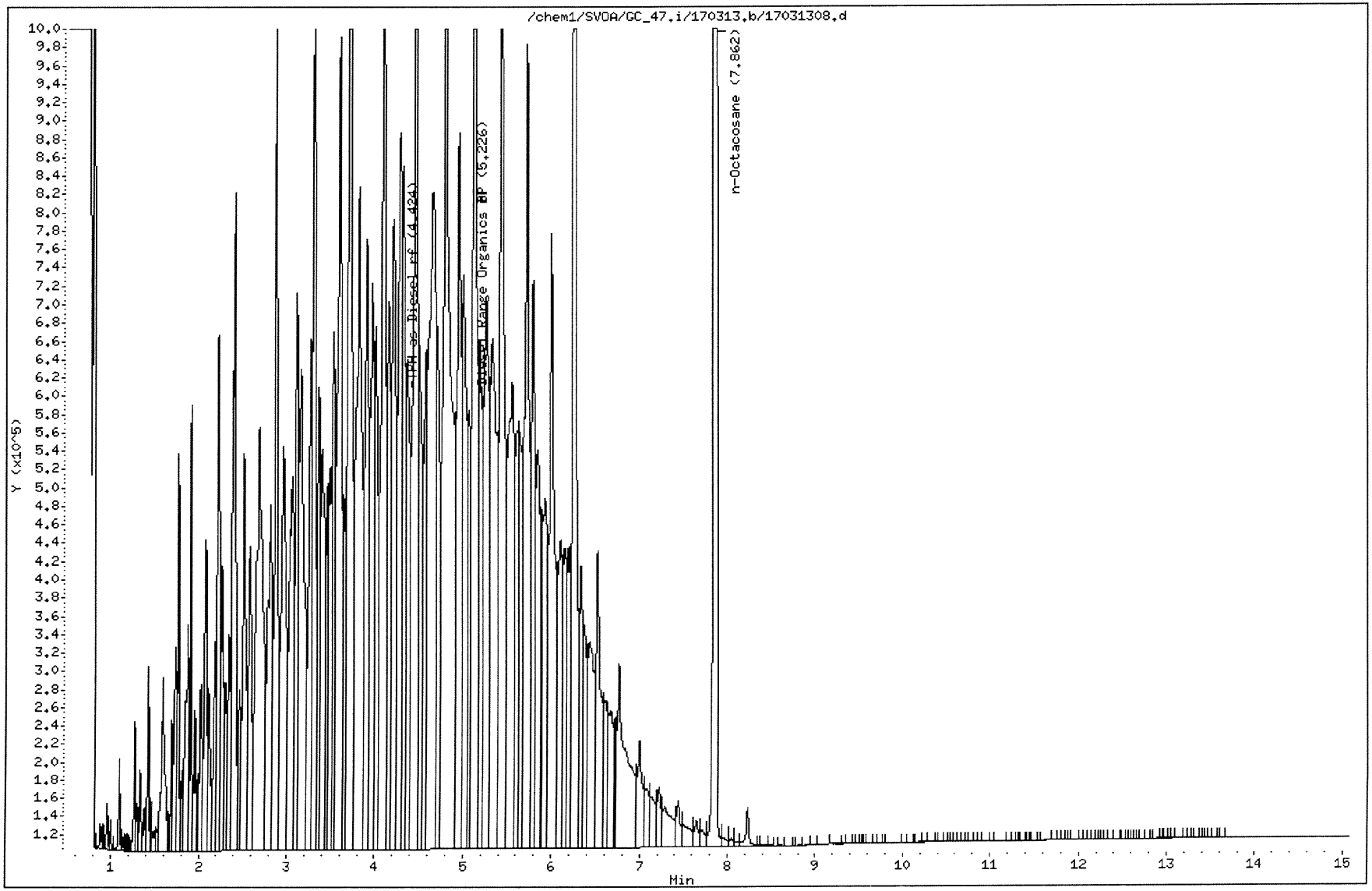
Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00





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Data File: /chem1/SVOA/GC_47.i/170313.b/17031309.d
Report Date: 13-Mar-2017 16:38



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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( 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:

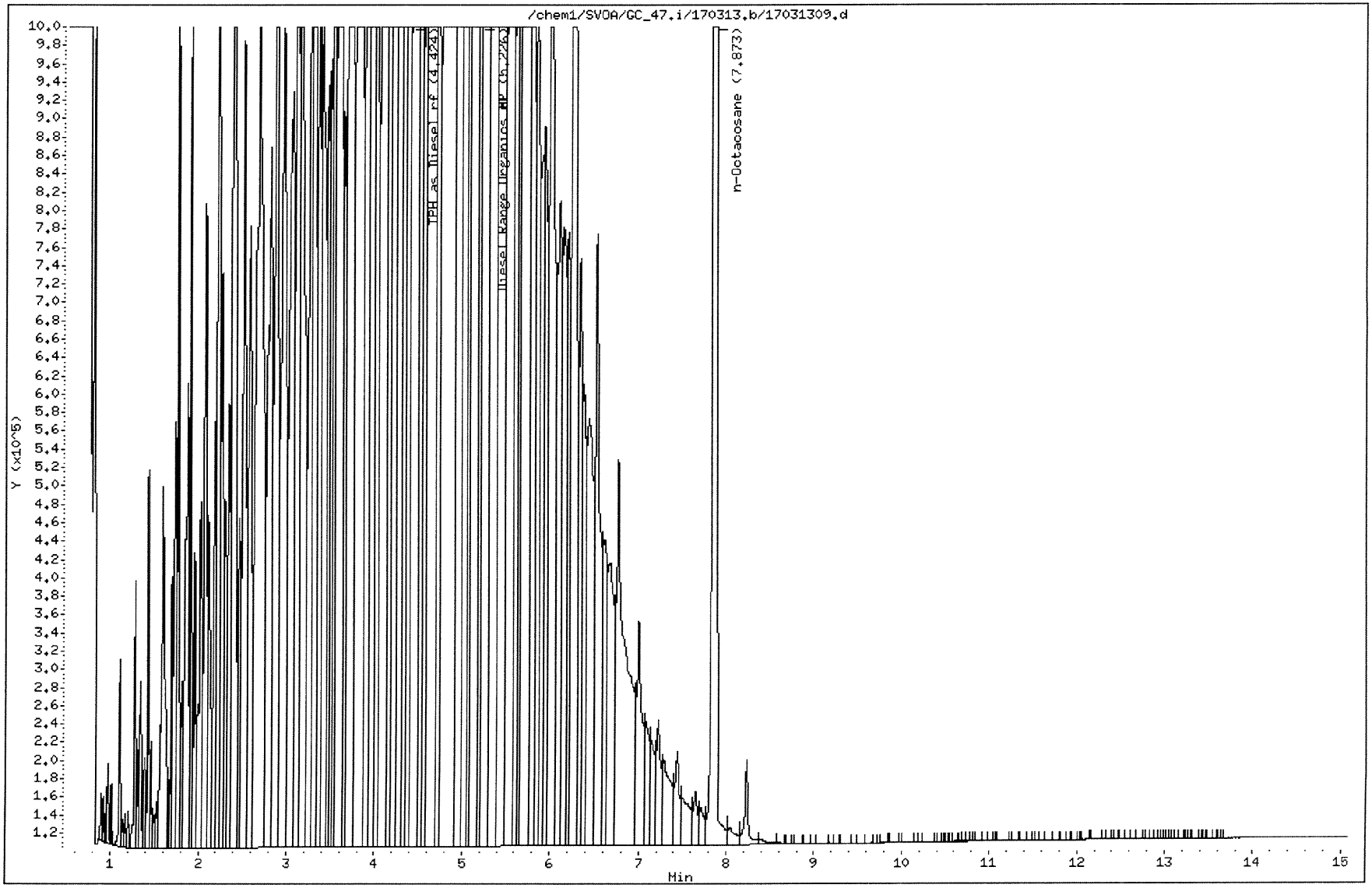
Instrument: GC_47.i

Sample Info: ICAL 1600 C28 200 L102516F

Operator: 972

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_47.i/170313.b/17031310.d Page 1
Report Date: 13-Mar-2017 16:38

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

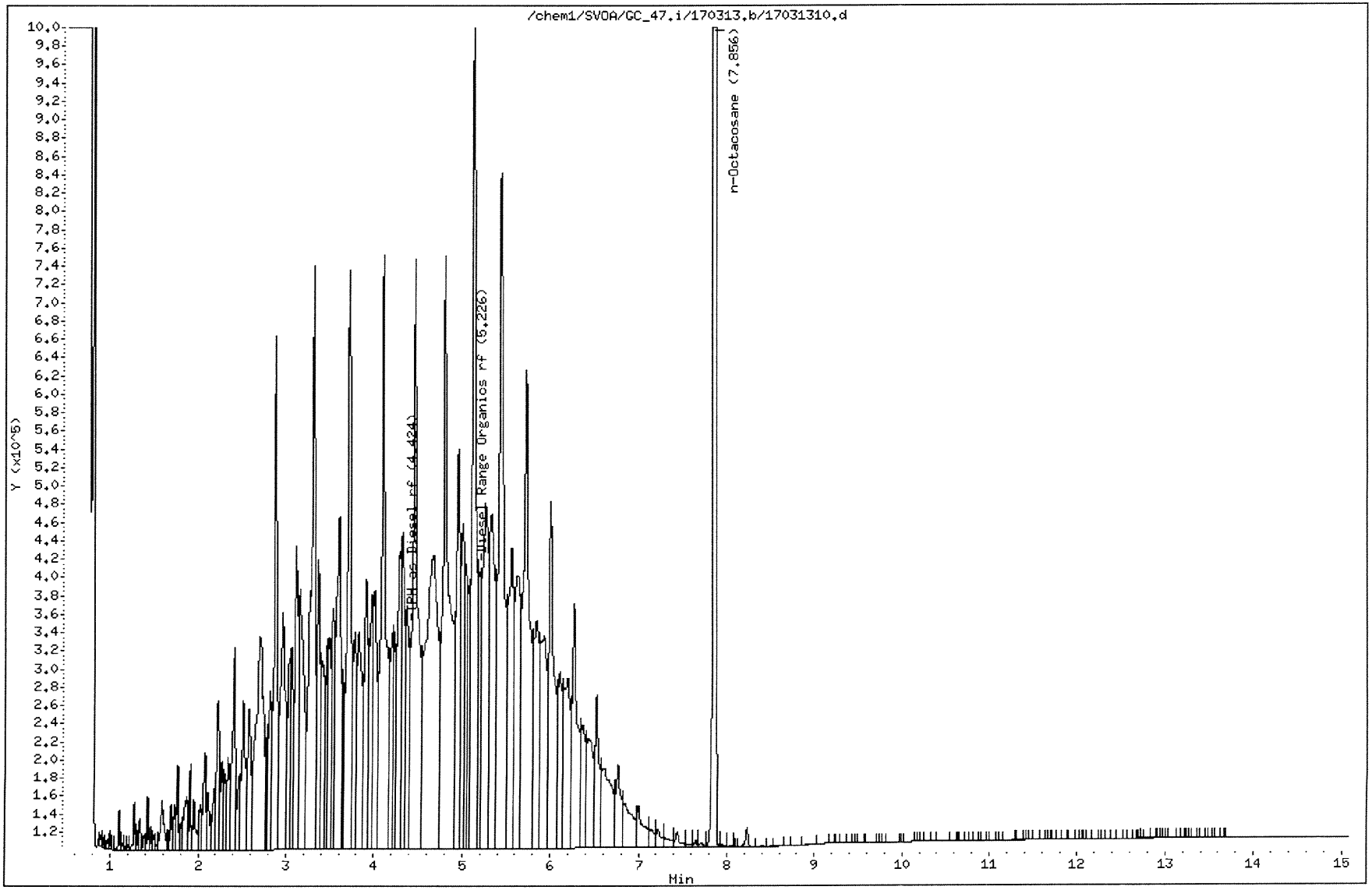
Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00





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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

Acquired on : 13 MAR 17 11:58
Report Created on: 13-MAR-17 17:29
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/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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Data File: /chem1/SVOA/GC_47.i/170313.b/17031302.d

Date : 13-MAR-2017 11:58

Client ID:

Sample Info: C6-C44 L110816A

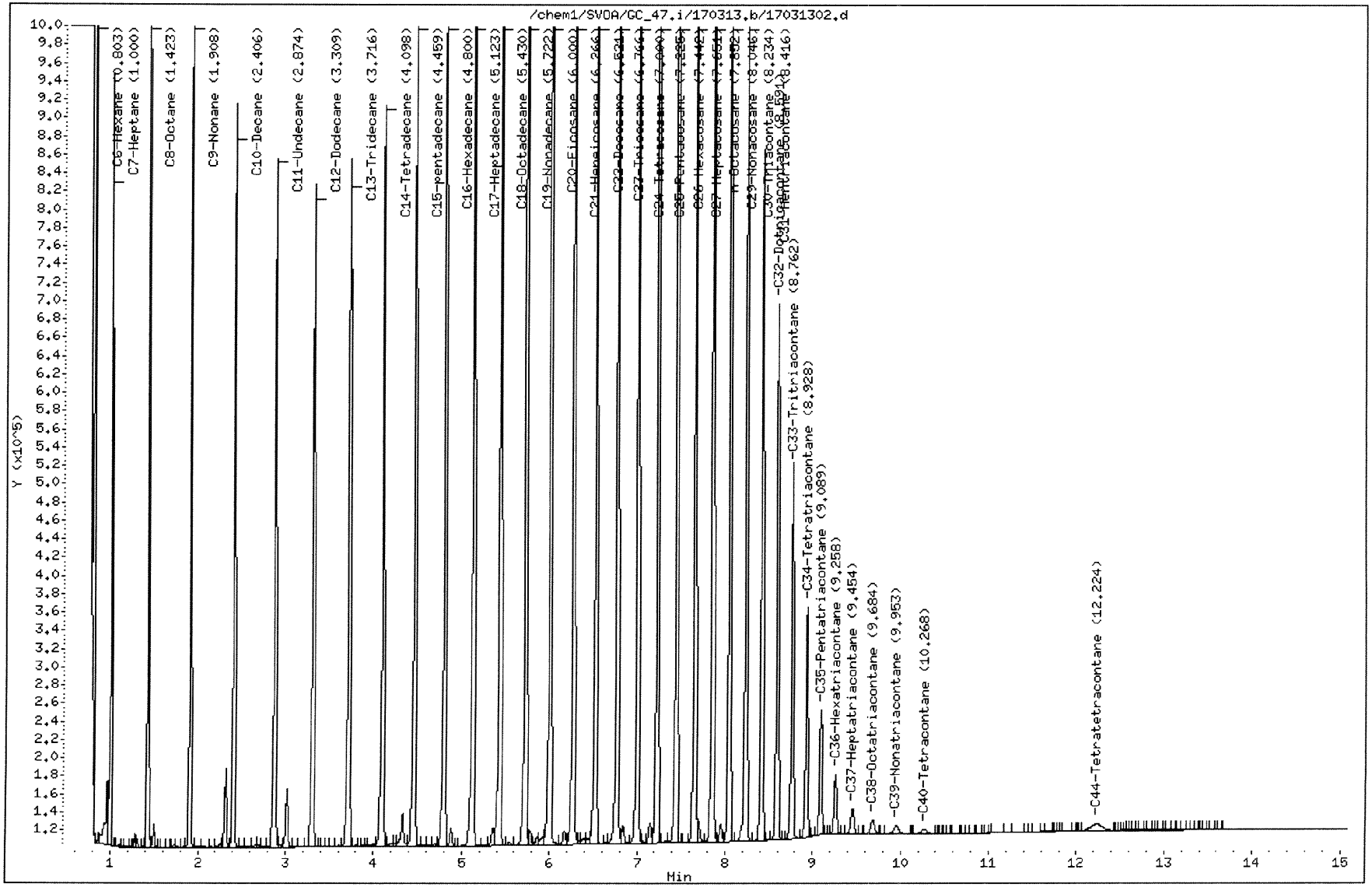
Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00





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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:** **17-03-0755**
INSTRUMENT: GC 47
EXTRACTION : EPA 3550B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 1,027
D/T ANALYZED: 2017-03-15 22:08
REVIEWED BY:
D/T REVIEWED: m

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031505.d\Report.txt17031505

**# 16** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-08-25S**

LCS/MB BATCH: 170314B04A
MS/MSD BATCH: 170314S04
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 10.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 1.00

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| TPH as Diesel | 0.970 | 1.00 | ND | 5.0 | |
| TPH as Motor Oil | 0.560 | 1.00 | ND | 5.0 | |

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

Data File Name    : /chem1/SVOA/GC_47/170315/17031505.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 5
Instrument        : GC 47                        Injection Number : 5
Sample Name       : 17-03-0755-16                Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 15 MAR 17  22:08
Report Created on: 16-MAR-17  14:06              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031505.d
RT Range       Exp RT    DLT RT    Response           ppm                Compound
|-------------|---------|---------|------------------|----------------|---------------------|
        7.854     8.706     0.852        38393410.00           45.09  n-Octacosane
 2.404- 8.045                              851169.00            0.97  TPH as Diesel
 5.122-12.224                              496094.34            0.56  TPH as Motor Oil
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031505.d

Page 1

Date : 15-MAR-2017 22:08

Client ID:

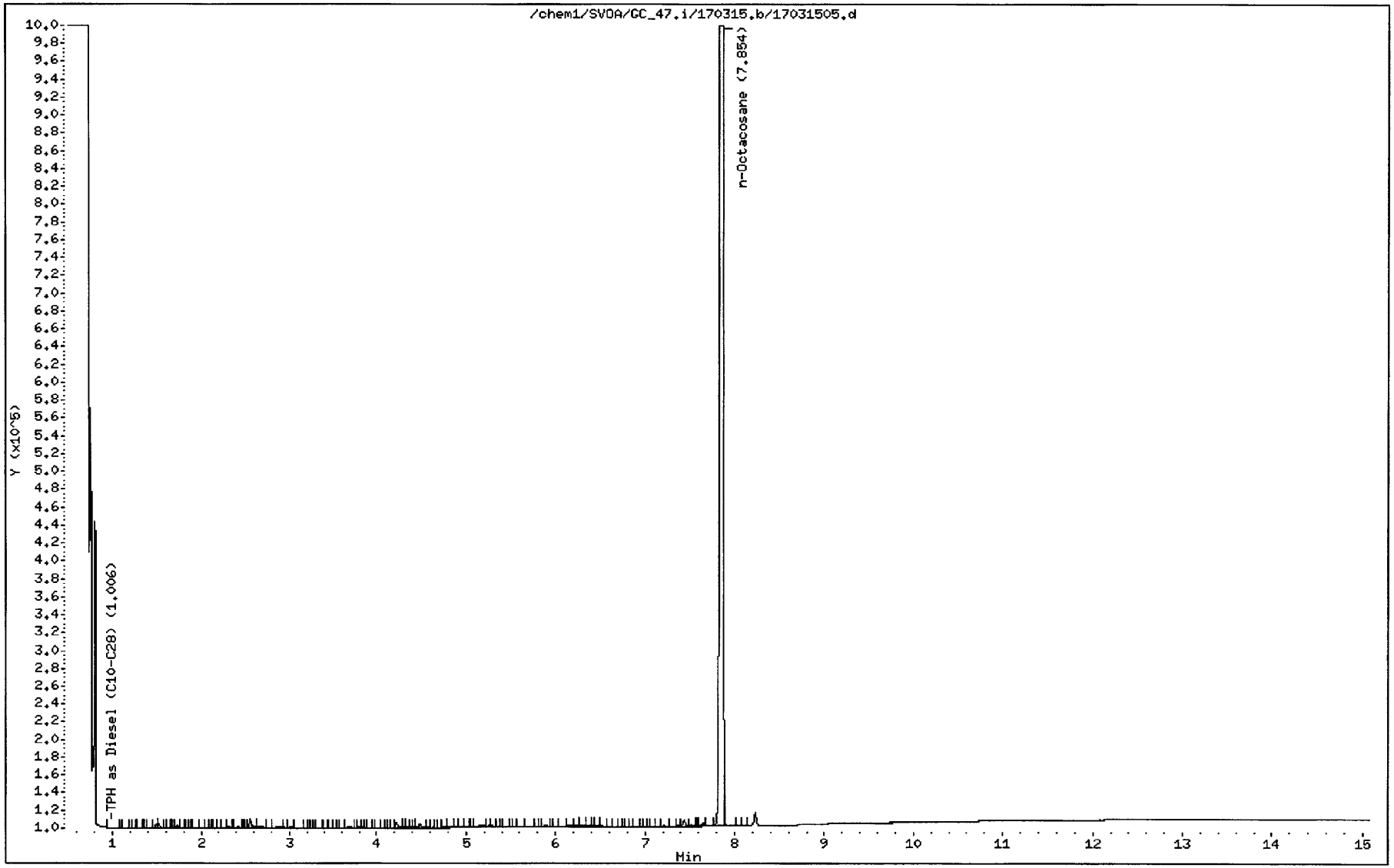
Instrument: GC_47.i

Sample Info: 17-03-0755-16

Operator: 972

Column phase:

Column diameter: 2.00



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

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC 47
EXTRACTION : EPA 3550B
D/T EXTRACTED: 2017-03-14 00:00

ANALYZED BY: 1,027
D/T ANALYZED: 2017-03-15 22:29
REVIEWED BY:
D/T REVIEWED:

DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031506.d\Report.txt17031506

**# 20** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-25S**

LCS/MB BATCH: 170314B04A
MS/MSD BATCH: 170314S04
UNITS: mg/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 10.00 g / ACTUAL: 9.83 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 1.02

COMMENT:

| COMPOUND | ON COL CONC | DF | CONC | RL | QUAL |
|---|---|---|---|---|---|
| TPH as Diesel | 1.73 | 1.00 | ND | 5.1 | |
| TPH as Motor Oil | 0.970 | 1.00 | ND | 5.1 | |

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

Data File Name    : /chem1/SVOA/GC_47/170315/17031506.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 6
Instrument        : GC 47                        Injection Number : 6
Sample Name       : 17-03-0755-20                Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 15 MAR 17  22:29
Report Created on: 16-MAR-17  14:07              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170315.b/17031506.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|---------------|---------------------|
        7.853     8.706     0.853        37545633.00           44.10  n-Octacosane
 2.404- 8.045                             1517619.73            1.73  TPH as Diesel
 5.122-12.224                              850550.69            0.97  TPH as Motor Oil
End of File
```

Return to Contents

Data File: /chem1/SVOA/GC_47.i/170315.b/17031506.d

Page 1

Date : 15-MAR-2017 22:29

Client ID:

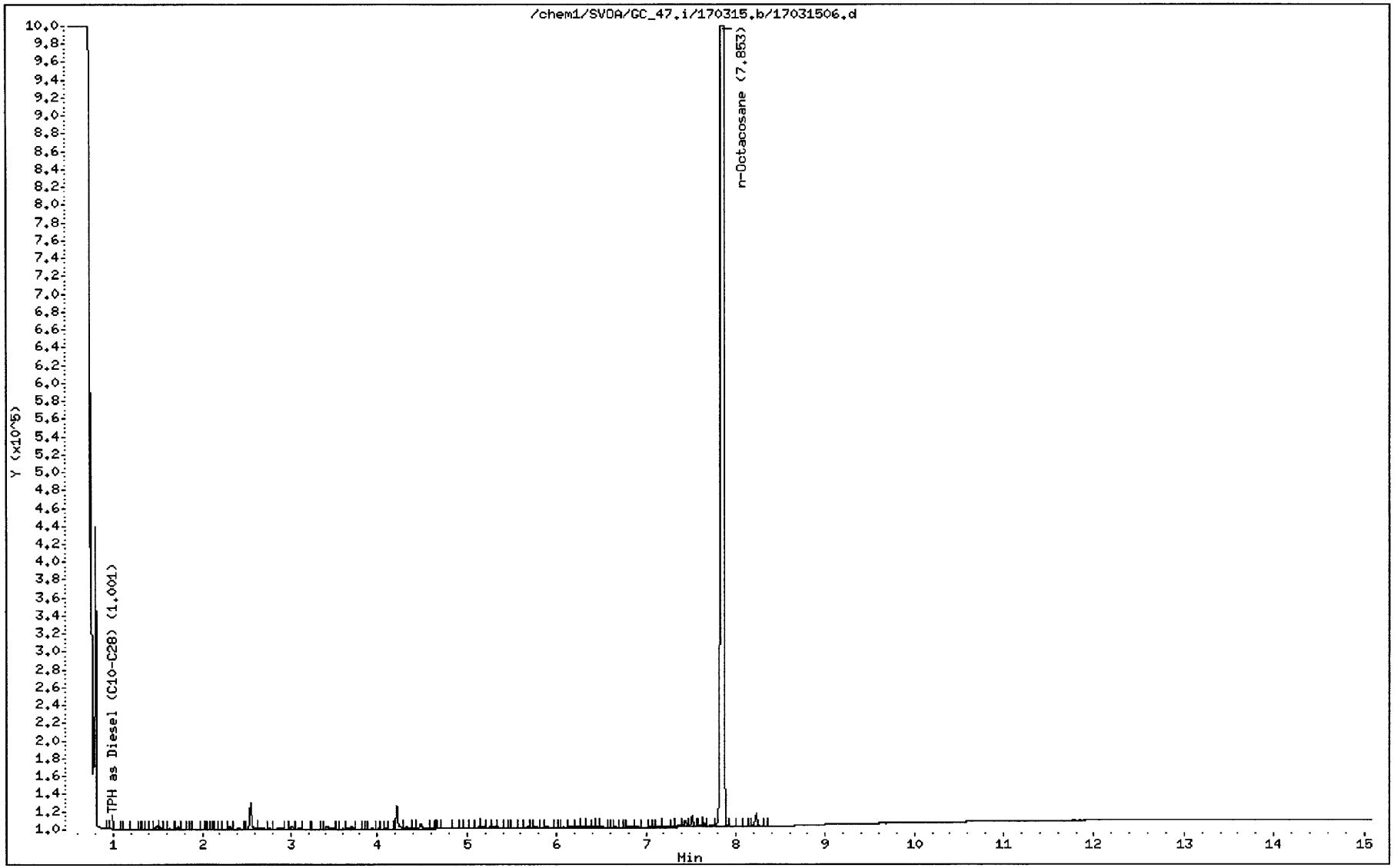
Instrument: GC_47.i

Sample Info: 17-03-0755-20

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:** | **099-14-353-8** | ANALYZED BY: | 1,027 |
| MB BATCH ID: | 170314B04A | D/T ANALYZED: | 2017-03-14 17:16 |
| INSTRUMENT: | GC 47 | REVIEWED BY: | |
| EXTRACTION: | EPA 3550B | D/T REVIEWED: | |
| D/T EXTRACTED: | 2017-03-14 00:00 | MATRIX: | Soil |

DATA FILE: T:\GC_47\GC_47_data\2017\170314\17031432.d\Report_D+MO.txt17031432

**CLIENT WORK ORDER: 17-03-0755**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 16 | | D-DU2-S-SG-08-25S | 2017-03-15 22:08 | T:\GC_47\GC_47_data\2017\170315\17031505.d\Report.txt17031505 |
| 20 | | D-DU2-S-SG-09-25S | 2017-03-15 22:29 | T:\GC_47\GC_47_data\2017\170315\17031506.d\Report.txt17031506 |

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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: | 2017-03-14 17:16 |
| EXTRACTION : | EPA 3550B | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-14 00:00 | D/T REVIEWED: | |

DATA FILE: T:\GC_47\GC_47_data\2017\170314\17031432.d\Report_D+MO.txt17031432

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

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170314B04A | 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 | 0.570 | 1.00 | ND | 5.0 | |
| TPH as Motor Oil | 0.400 | 1.00 | ND | 5.0 | |

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

| | | | | | |
|---|---|---|---|---|---|
| **LCS SAMPLE ID:** | **099-14-353- 8** | EXTRACTION : | EPA 3550B | ANALYZED BY: | 1,027 |
| LCS/MB BATCH ID: | 170314B04A | D/T EXTRACTED: | 2017-03-14 00:00 | D/T ANALYZED: | 2017-03-14 17:37 |
| INSTRUMENT: | GC 47 | | | REVIEWED BY: | |
| | | | | D/T REVIEWED: | 3 |

DATA FILE: T:\GC_47\GC_47_data\2017\170314\17031433.d\Report.txt17031433

| OMPOUND NAME | CONC ADDED | CONC REC | %RECOVERY | %REC CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| PH as Diesel | 400.0 | 422.5 | 106 | 61-145 | PASS | |

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

**SPIKED SAMPLE ID:** **17-03-0996-1**
MS/MSD BATCH: 170314S04
INSTRUMENTS:
SAMPLE: GC 47
MS: GC 47
MSD: GC 47

EXTRACTION: EPA 3550B
D/T EXTRACTED:
SAMPLE: 2017-03-14 00:00
MS: 2017-03-14 00:00
MSD: 2017-03-14 00:00

ANALYZED BY: 682
D/T ANALYZED:
SAMPLE: 2017-03-14 18:40
MS: 2017-03-14 17:58
MSD: 2017-03-14 18:18
REVIEWED BY: 27
D/T REVIEWED: 2017-03-15 10:56

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TPH as Diesel | 18.20 | 400.0 | 400.0 | 420.2 | 101 | 439.1 | 105 | 64-130 | 4 | 0-15 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17031434 | S:\GC_47\GC_47_data\2017\170314\17031434.d\Report.txt |
| MSD | 17031435 | S:\GC_47\GC_47_data\2017\170314\17031435.d\Report.txt |

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

WORK ORDER: 17-03-0755
BATCH ID:
**LCS/MB: 170314B04A**
**MS: 170314S04**
EXTRACTION : EPA 3550B

REVIEWED BY: M
D/T REVIEWED:

## # 16 CLIENT SAMPLE NUMBER : D-DU2-S-SG-08-25S

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-14 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031505.d\Report.txt17031505

ANALYZED BY: 1,027
D/T ANALYZED 2017-03-15 22:08

COMMENT:

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

## # 20 CLIENT SAMPLE NUMBER : D-DU2-S-SG-09-25S

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-14 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170315\17031506.d\Report.txt17031506

ANALYZED BY: 1,027
D/T ANALYZED 2017-03-15 22:29

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 88 | 61-145 | PASS | |

## # MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-14 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170314\17031432.d\Report_D+MO.txt17031432

ANALYZED BY: 1,027
D/T ANALYZED 2017-03-14 17:16

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 98 | 61-145 | PASS | |

## # LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-14 00:00
DATA FILE: T:\GC_47\GC_47_data\2017\170314\17031433.d\Report.txt17031433

ANALYZED BY: 1,027
D/T ANALYZED 2017-03-14 17:37

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 106 | 61-145 | PASS | |

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

WORK ORDER: 17-03-0755
BATCH ID:
**LCS/MB:**
**MS: 170314S04**
EXTRACTION : EPA 3550B

REVIEWED BY: 27
D/T REVIEWED: 2017-03-15 10:56

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

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-14 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170314\17031434.d\Report.txt17031434

ANALYZED BY: 682
D/T ANALYZED 2017-03-14 17:58

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 105 | 61-145 | PASS | |

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

INSTRUMENT: GC 47
D/T EXTRACTED: 2017-03-14 00:00
DATA FILE: S:\GC_47\GC_47_data\2017\170314\17031435.d\Report.txt17031435

ANALYZED BY: 682
D/T ANALYZED 2017-03-14 18:18

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| n-Octacosane | 109 | 61-145 | PASS | |

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

Data File Name    : /chem1/SVOA/GC_47/170314/17031432.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 32
Instrument        : GC 47                        Injection Number : 32
Sample Name       : MB 17031404                  Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 14 MAR 17  17:16
Report Created on: 16-MAR-17  14:23              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170314.b/17031432.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|---------------|---------------------|
        7.855     8.706     0.851        41819817.00           49.12  n-Octacosane
 2.404- 8.044                              505026.90            0.57  TPH as Diesel
 5.121-12.227                              355798.01            0.40  TPH as Motor Oil
End of File
```

Return to Contents

Data File: /chem1/SVOA/GC_47.i/170314.b/17031432.d

Page 1

Date : 14-MAR-2017 17:16

Client ID:

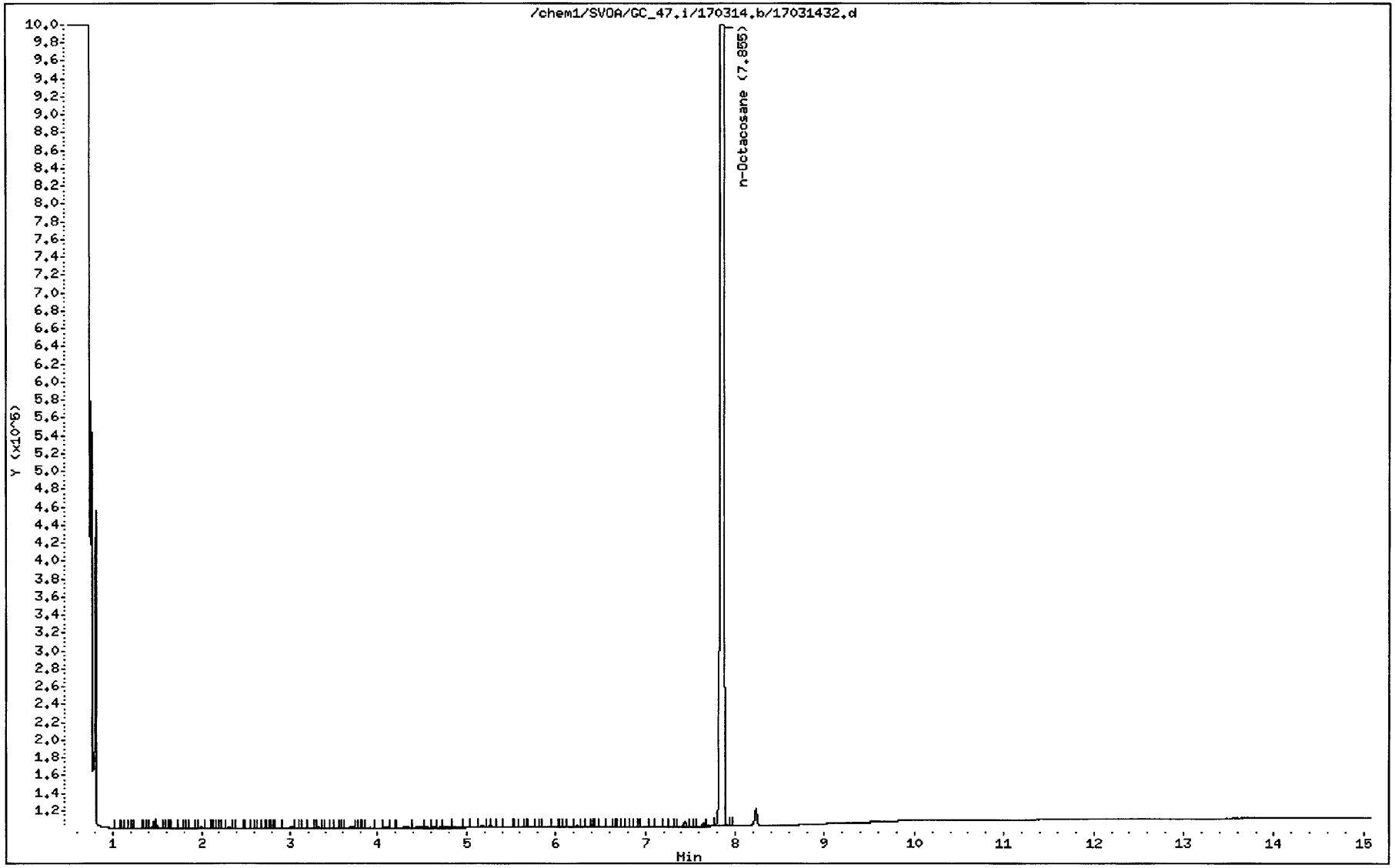
Instrument: GC_47.i

Sample Info: MB 17031404

Operator: 972

Column phase:

Column diameter: 2.00



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

Data File Name    : /chem1/SVOA/GC_47/170314/17031433.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 33
Instrument        : GC 47                        Injection Number : 33
Sample Name       : LCS 17031404                 Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 14 MAR 17  17:37
Report Created on: 14-MAR-17  20:36              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170314.b/17031433.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|---------------|--------------------|
        7.855     8.706     0.851        45055010.00           52.92  n-Octacosane
 0.803- 8.044                          371408860.50          422.52  TPH as Diesel
 2.404- 8.044                          356320121.81          442.67  Diesel Range Organics
End of File
```

Return to Contents

Data File: /chem1/SVOA/GC_47.i/170314.b/17031433.d

Page 1

Date : 14-MAR-2017 17:37

Client ID:

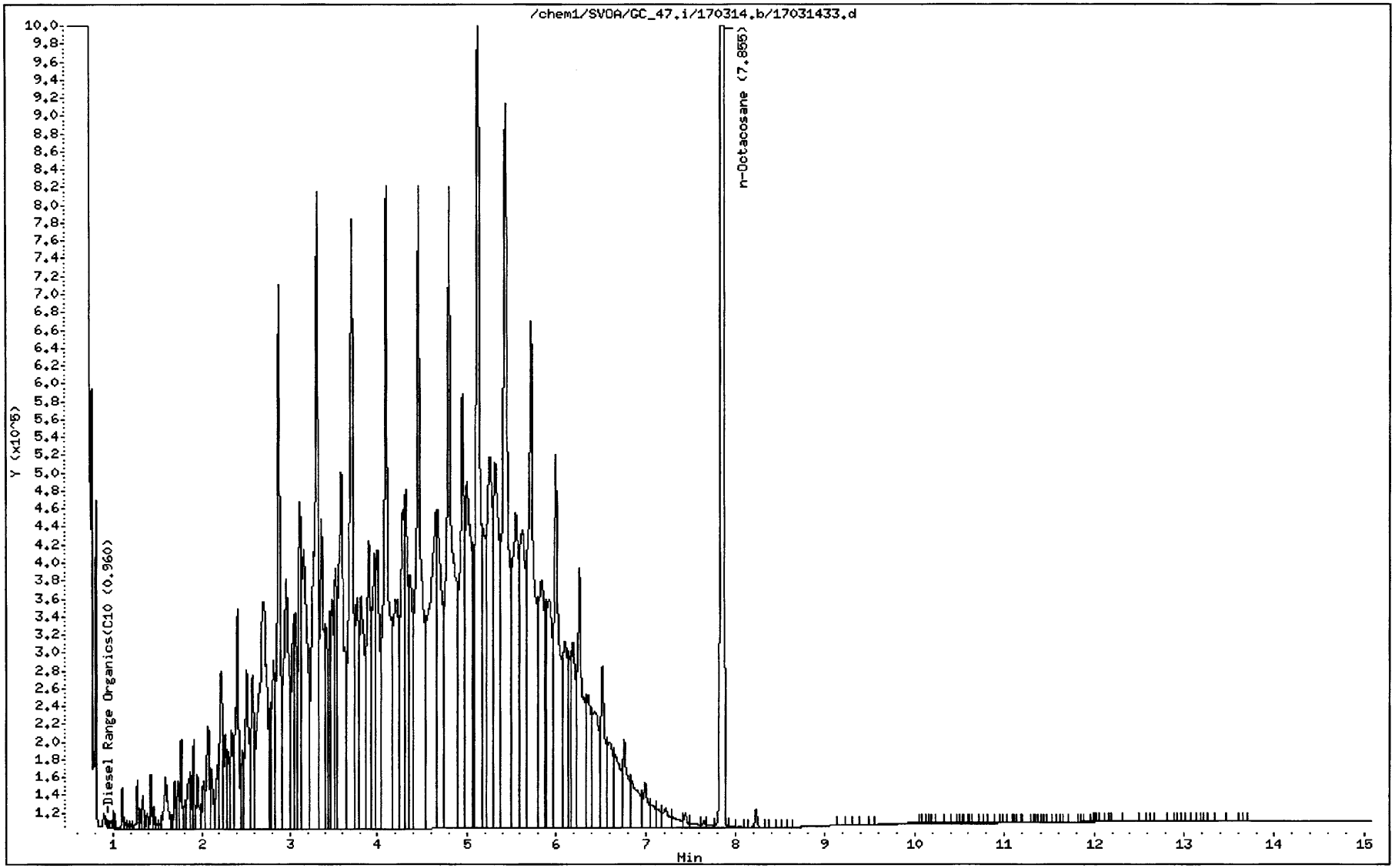
Instrument: GC_47.i

Sample Info: LCS 17031404

Operator: 972

Column phase:

Column diameter: 2.00






Return to Contents

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

Data File Name    : /chem1/SVOA/GC_47/170314/17031434.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 34
Instrument        : GC 47                        Injection Number : 34
Sample Name       : MS 17-03-0996-1              Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 14 MAR 17  17:58
Report Created on: 15-MAR-17  10:52              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170314.b/17031434.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|---------------|---------------------|
        7.856     8.706     0.850        44885274.00           52.72  n-Octacosane
 0.803-12.221                          376765522.21          428.62  TPH as Diesel
End of File
```

Return to Contents

Data File: /chem1/SVOA/GC_47.i/170314.b/17031434.d

Page 1

Date : 14-MAR-2017 17:58

Client ID:

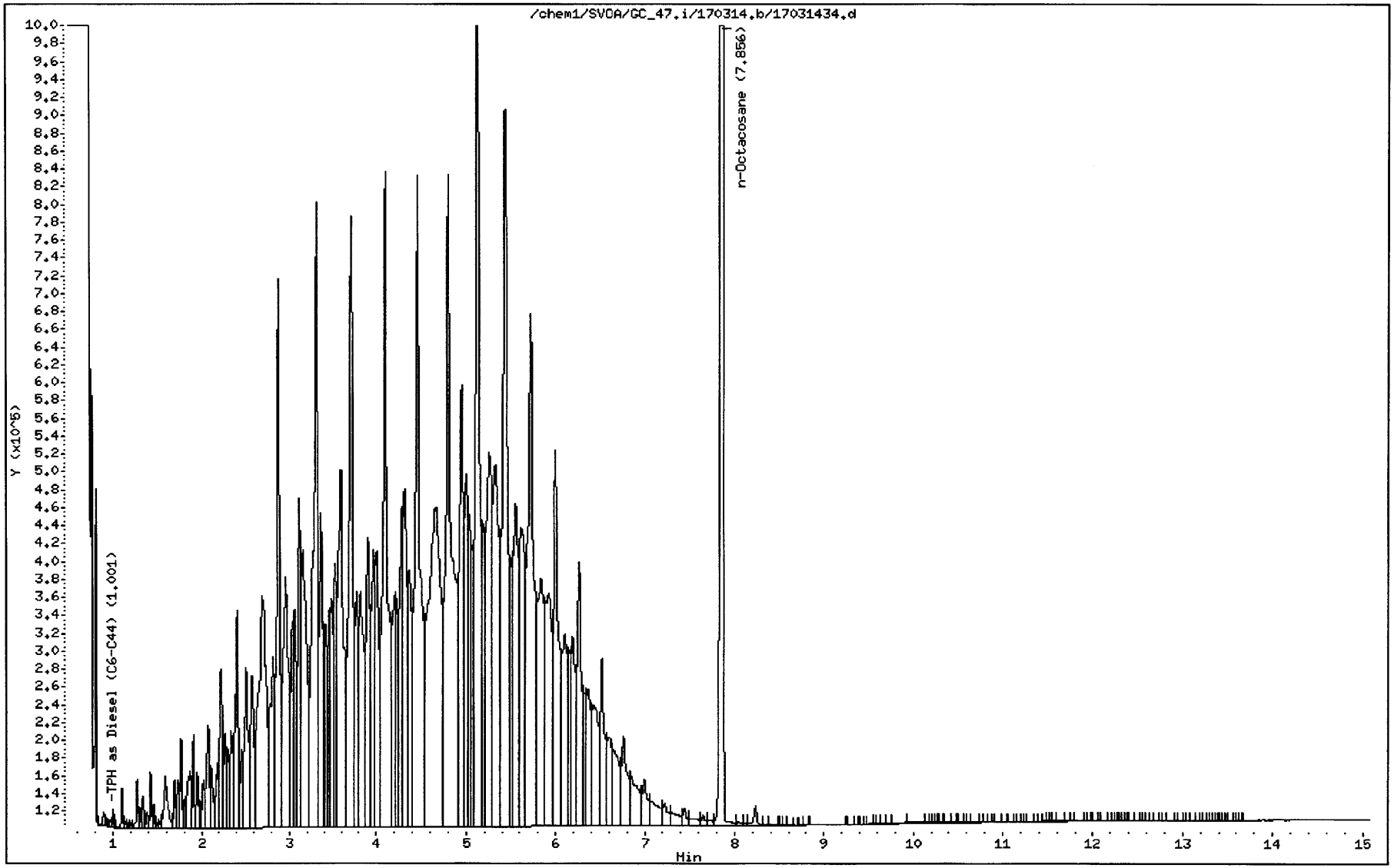
Instrument: GC_47.i

Sample Info: MS 17-03-0996-1

Operator: 972

Column phase:

Column diameter: 2.00



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

Data File Name    : /chem1/SVOA/GC_47/170314/17031435.d
Page Number       :
Operator          : 972                          Vial Number       : Vial 35
Instrument        : GC 47                        Injection Number  : 35
Sample Name       : MSD 17-03-0996-1             Sequence Line     : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 14 MAR 17  18:18
Report Created on: 15-MAR-17  10:52              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170314.b/17031435.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|----------------|---------------------|
        7.857     8.706     0.849        46516929.00           54.63  n-Octacosane
 0.803-12.221                          381374327.77          433.86  TPH as Diesel
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170314.b/17031435.d

Date : 14-MAR-2017 18:18

Client ID:

Sample Info: MSD 17-03-0996-1

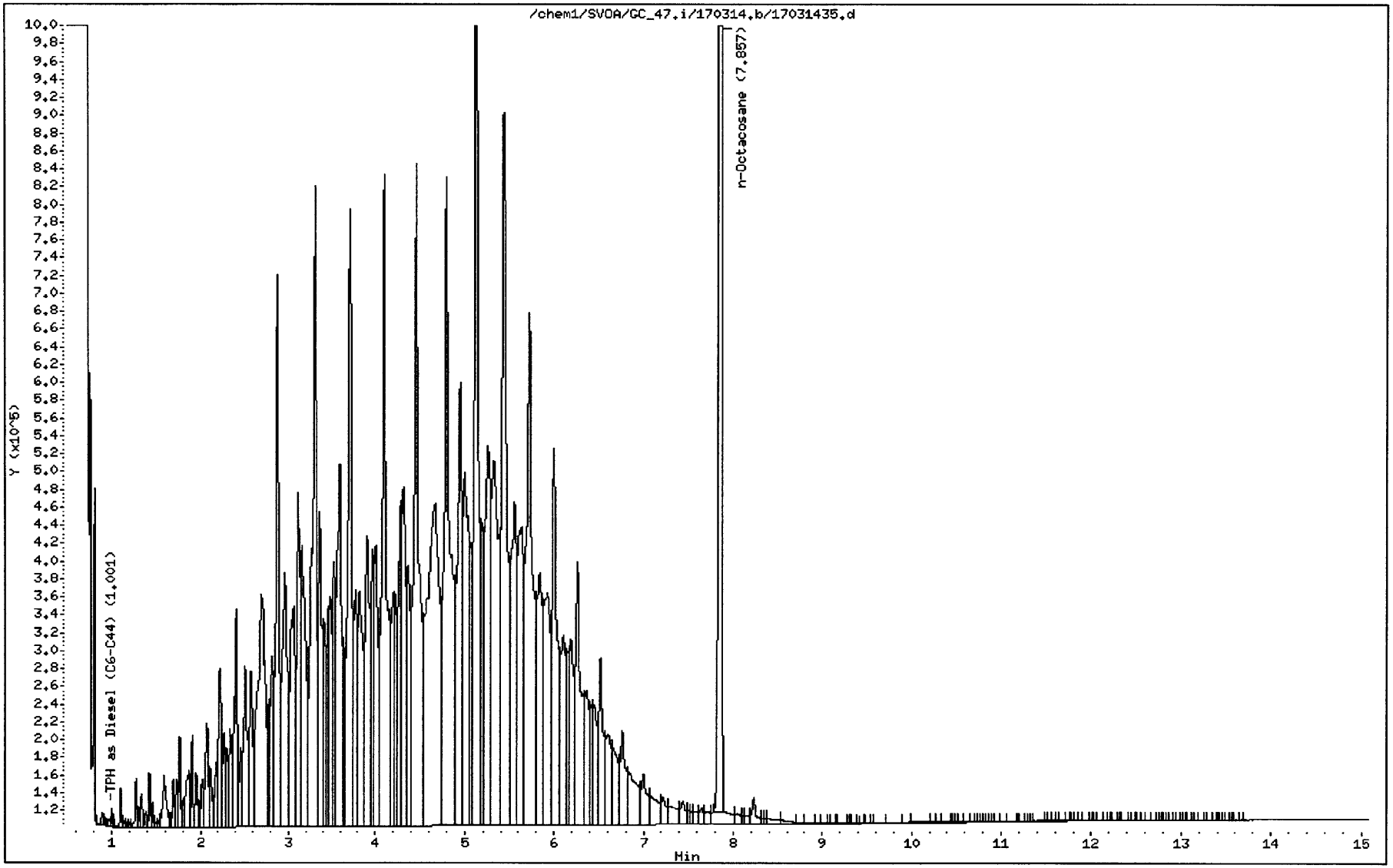
Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00





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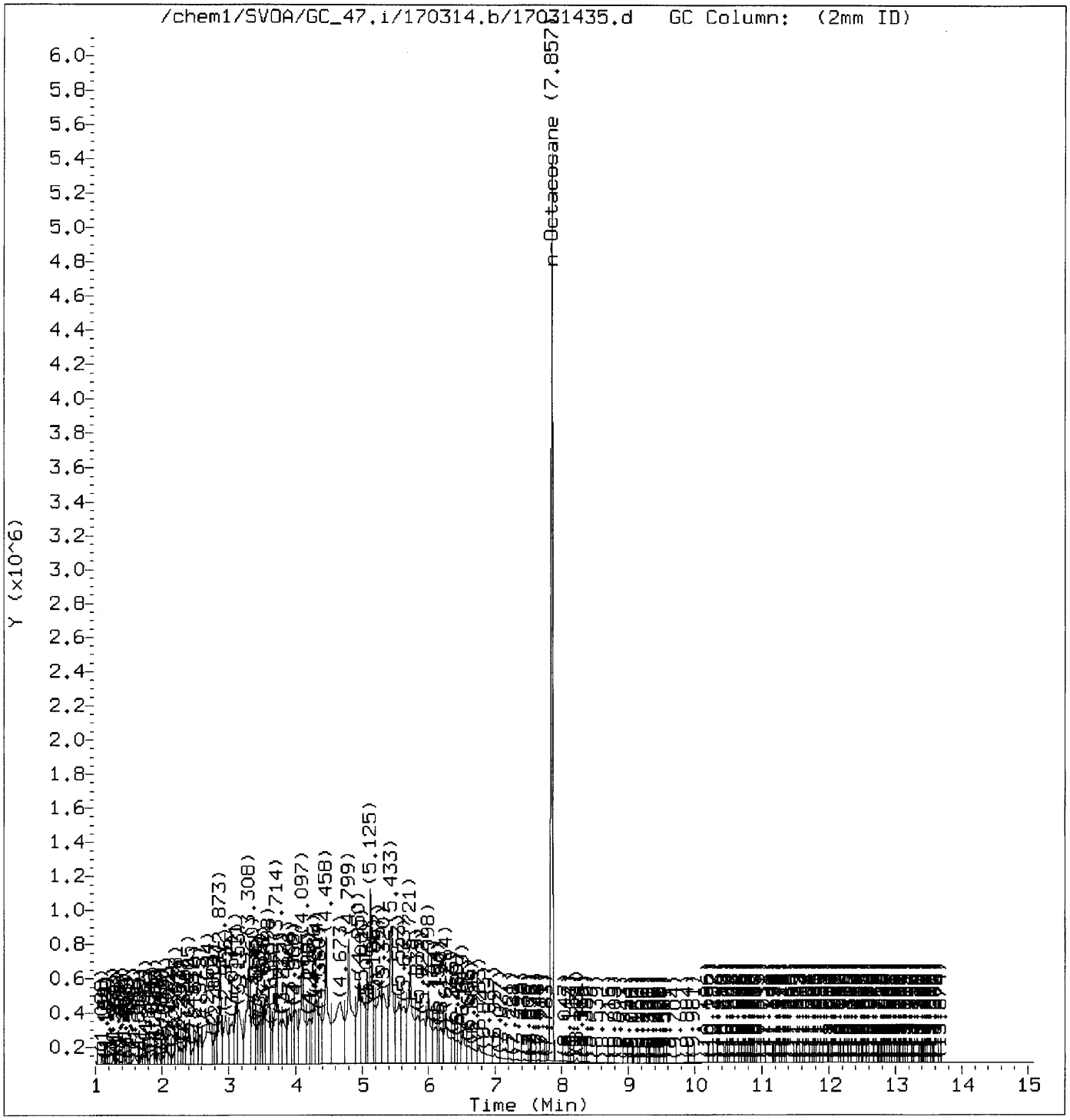
Manually Integrated Data File

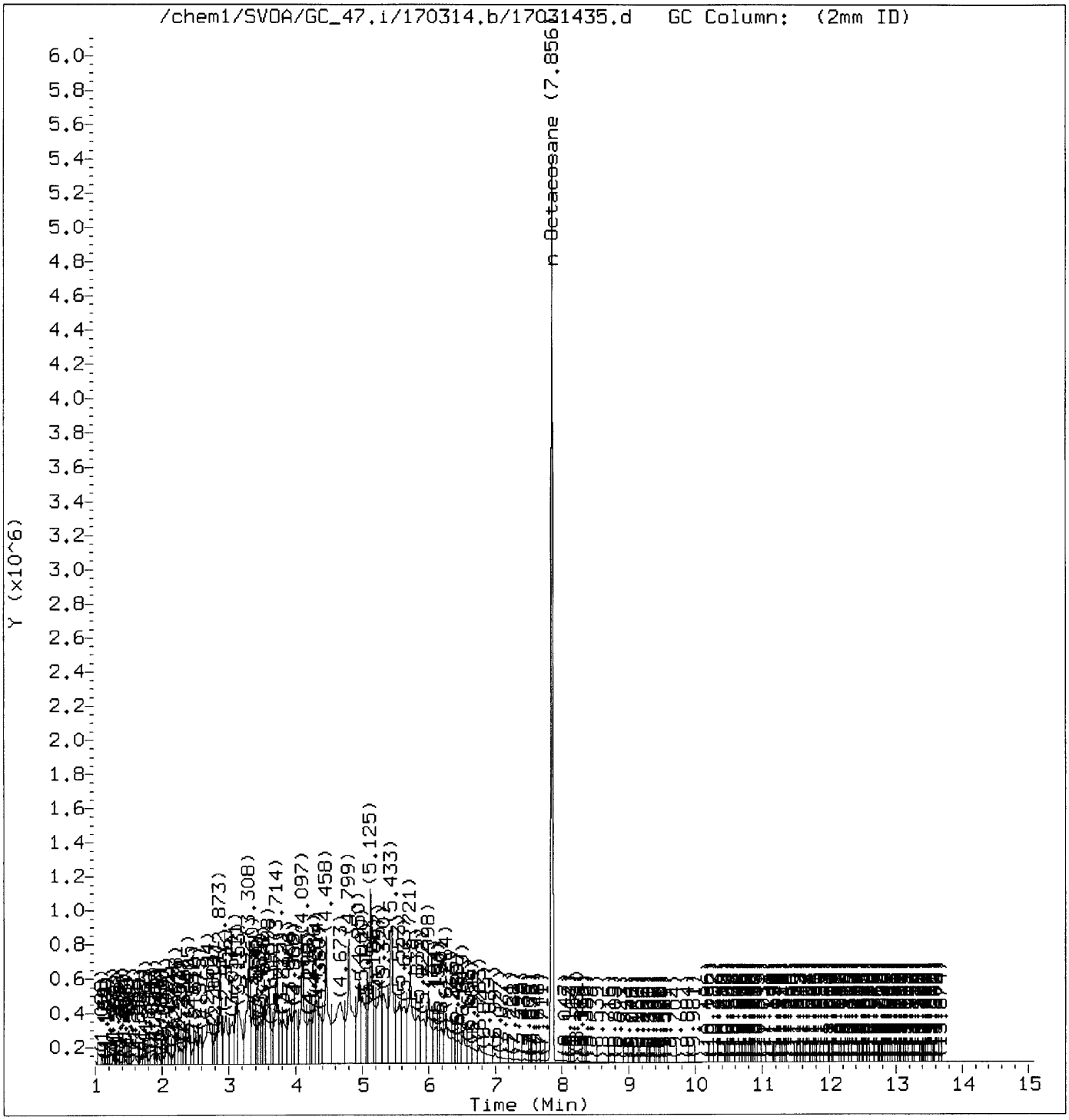



Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Minhchi Doan on 03/15/2017 at 10:52. Target 3.5 esignature user ID: umd6

Audit/management approval: JD

Original Data File

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

Data File Name    : /chem1/SVOA/GC_47/170314/17031436.d
Page Number       :
Operator          : 972                          Vial Number      : Vial 36
Instrument        : GC 47                        Injection Number : 36
Sample Name       : 17-03-0996-1                 Sequence Line    : 0
                                                 Instrument Method: 8015d.m
Acquired on       : 14 MAR 17  18:40
Report Created on: 15-MAR-17  10:52              Compound Sublist : all
Software Revision: Target 3.50

Sig. 1 in  /chem1/SVOA/GC_47.i/170314.b/17031436.d
RT Range       Exp RT    DLT RT    Response            ppm                Compound
|-------------|---------|---------|------------------|---------------|--------------------|
        7.857     8.706     0.849        42593705.00           50.03  n-Octacosane
 0.803-12.221                            16158504.94           18.38  TPH as Diesel
End of File
```

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Data File: /chem1/SVOA/GC_47.i/170314.b/17031436.d

Page 1

Date : 14-MAR-2017 18:40

Client ID:

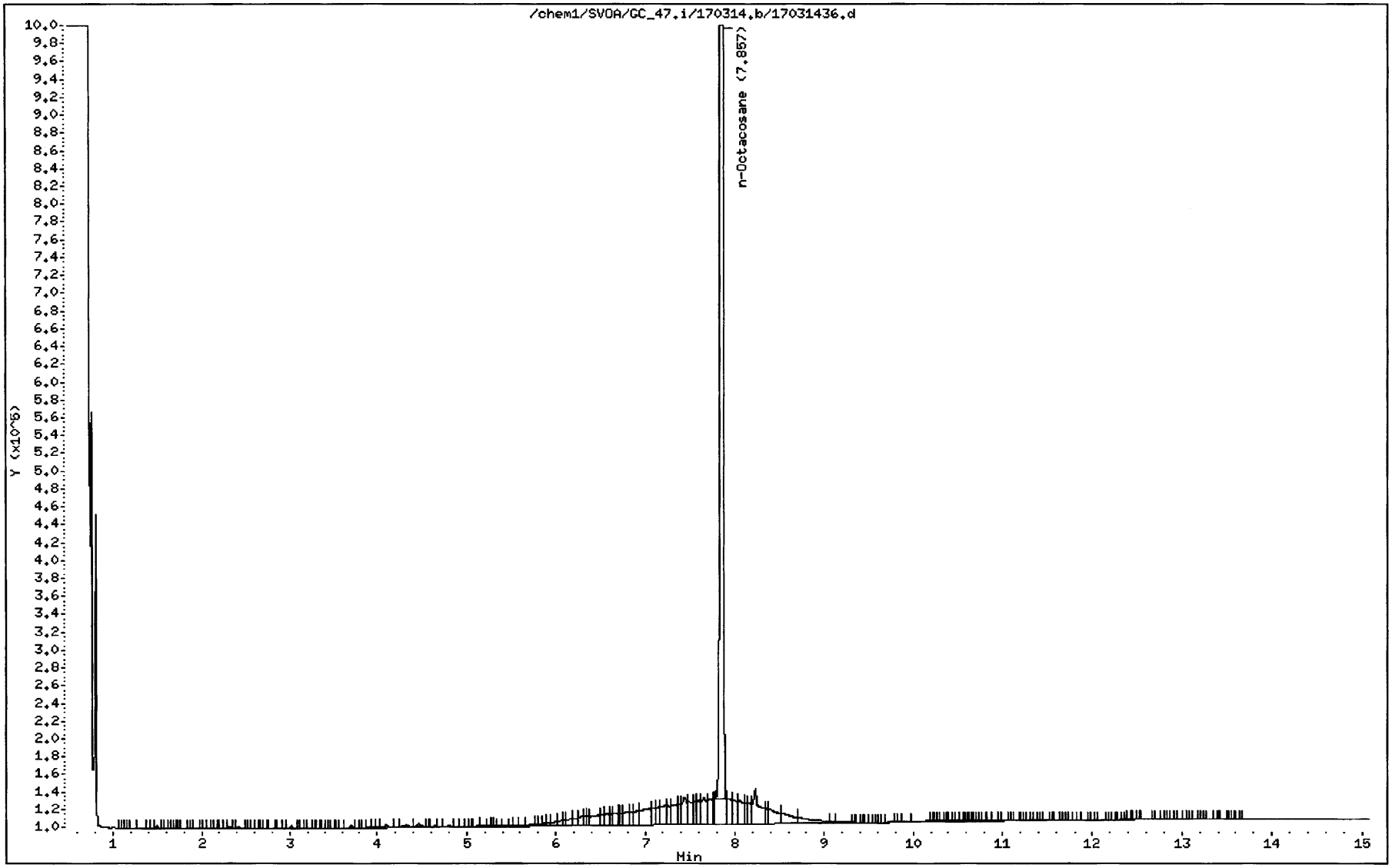
Instrument: GC_47.i

Sample Info: 17-03-0996-1

Operator: 972

Column phase:

Column diameter: 2.00



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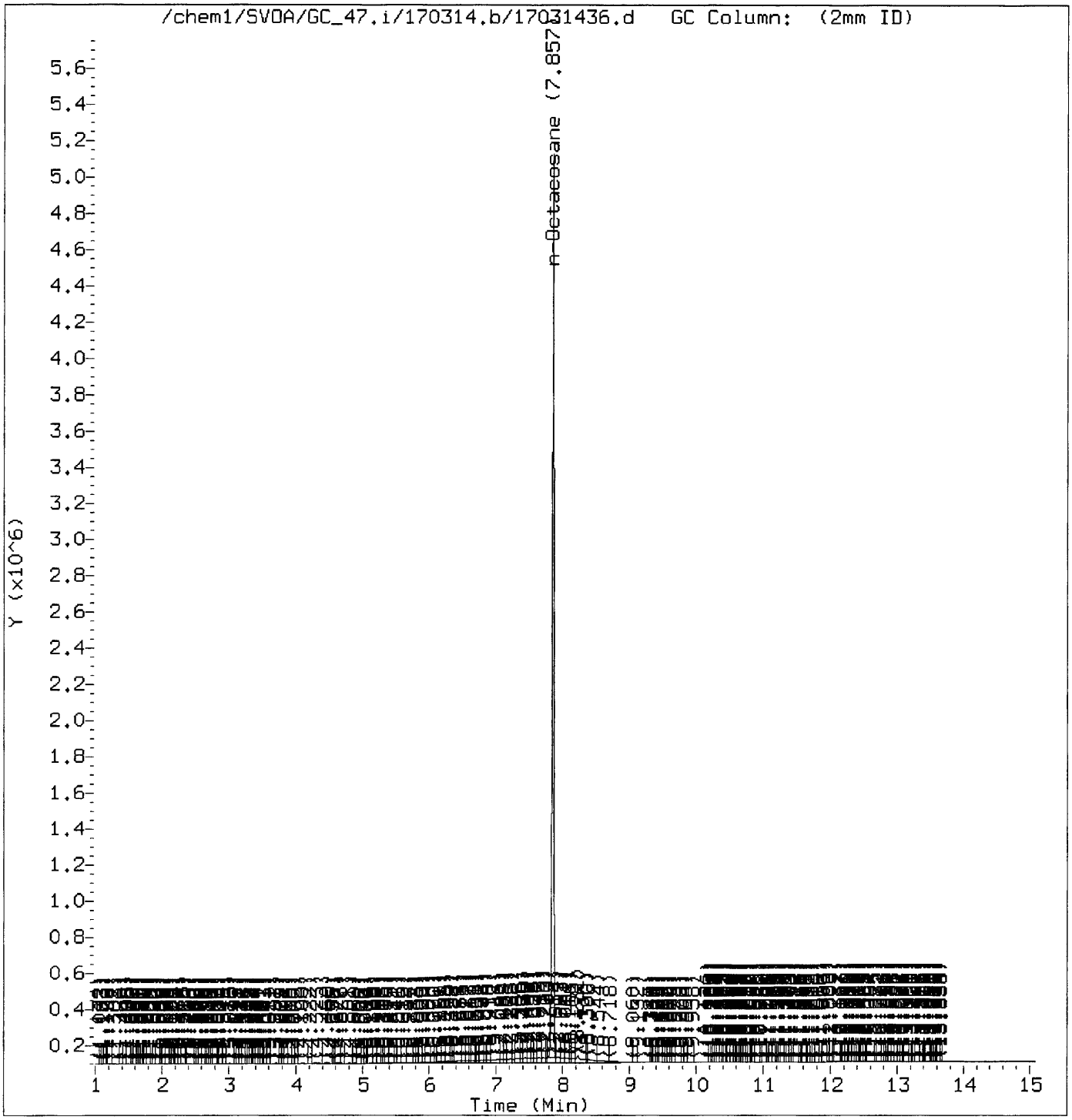
Manually Integrated Data File

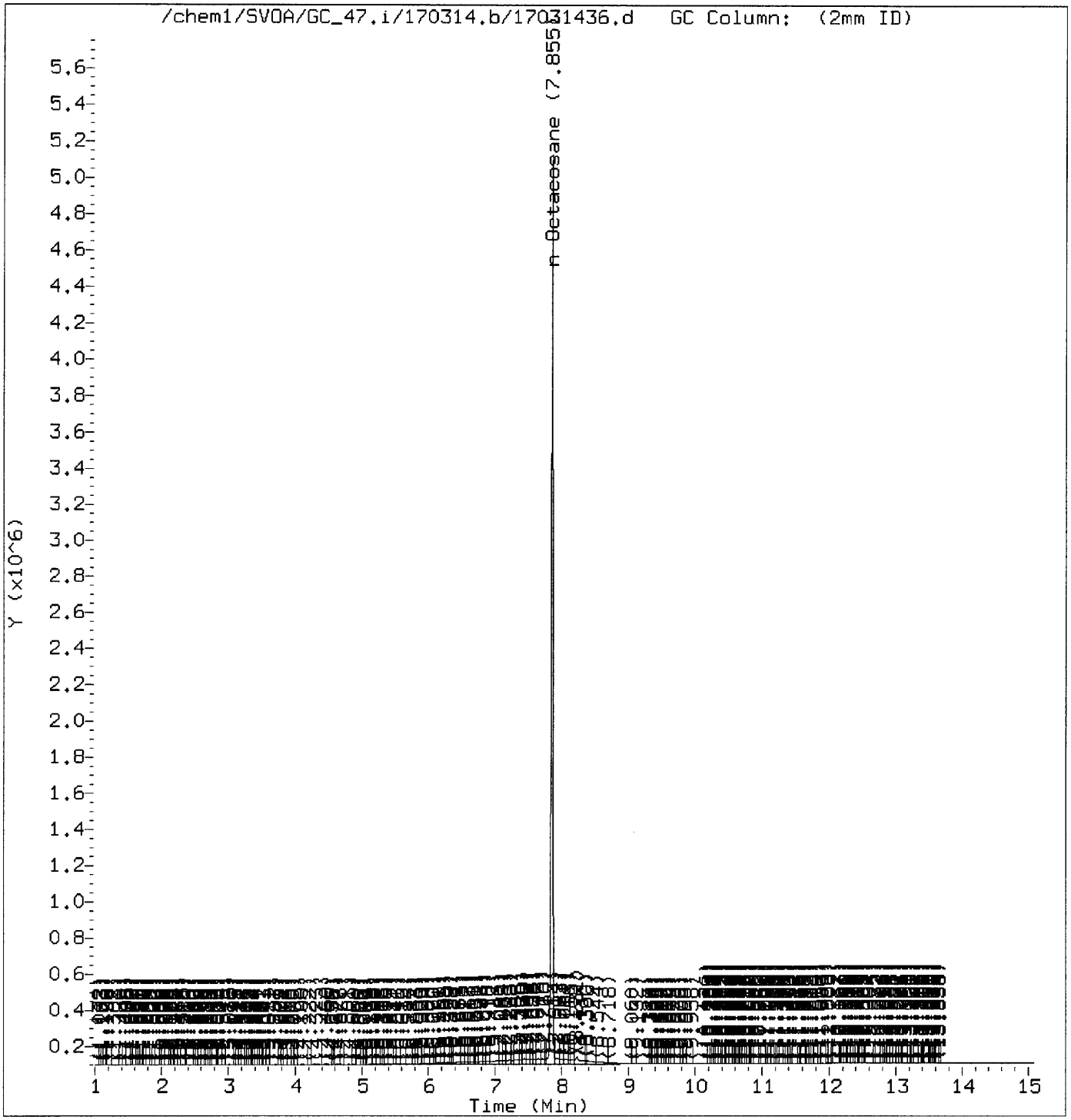



Reason for manual integration: Signal not integrated by automation

Analyst responsible for change: Digitally signed by Minhchi Doan on 03/15/2017 at 10:52. Target 3.5 esignature user ID: umd6

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: 099-14-354-37-5901**

BATCH ID:
INITIAL: 170313I008
CCV: 170314A059
INSTRUMENT: GC 47

DATA FILE: T:\GC_47\GC_47_data\2017\170314\17031415.d\Report.txt17031415

ANALYZED BY: 1027
D/T ANALYZED:
INITIAL: 2017-03-13 13:22
CCV: 2017-03-14 15:32
REVIEWED BY: 3
D/T REVIEWED:

| COMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| H as Diesel | C | Avg Resp | 0.00 | 879.028 | 845.510 | | | 4 | 0-20 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_47.i/170314.b/17031415.d
Report Date: 03/14/2017 20:36

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/170314.b/8015d.m

Injection Date and Time: 14-MAR-2017 15:32
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 | 845509.840 | 0.00 | 4 | 15 | Averaged |
| Diesel Range Organics | 804926.336 | 777728.723 | 0.00 | 3 | 15 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| n-Octacosane | 851421.884 | 836950.800 | 0.00 | 2 | 20 | Averaged |



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Data File: /chem1/SVOA/GC_47.i/170314.b/17031415.d Page 1
Report Date: 14-Mar-2017 20:09

Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170314.b/17031415.d
Lab Smp Id:
Inj Date : 14-MAR-2017 15:32
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170314.b/8015d.m
Meth Date : 14-Mar-2017 20:09 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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( ppm) |
|---|---|---|---|---|---|---|
| S 15 TPH as Diesel | 0.803 | -8.044 | | 338203936 | 400.000 | 384.747 |
| S 27 Diesel Range Organics | 2.404 | -8.044 | | 311091489 | 400.000 | 386.484 |
| $ 93 n-Octacosane | 7.855 | 7.855 | 0.000 | 41847540 | 50.0000 | 49.150 |

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Data File: /chem1/SVOA/GC_47.i/170314.b/17031415.d

Page 1

Date : 14-MAR-2017 15:32

Client ID:

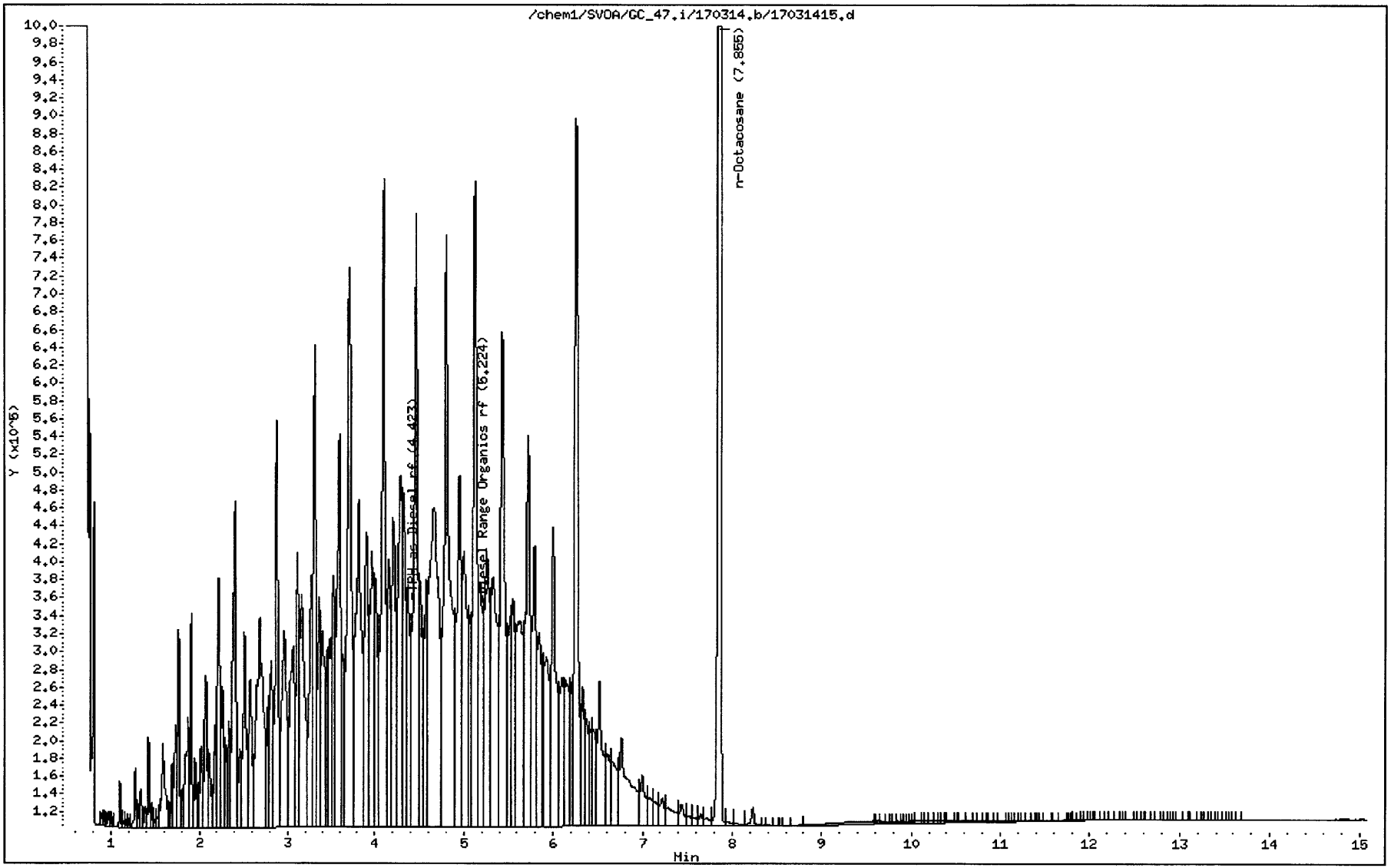
Instrument: GC_47.i

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/170314.b/17031438.d
Report Date: 03/15/2017 12:23

Eurofins CalScience
Calibration Verification Report

Instrument ID: GC_47.i
Sample Name: CCV D400 C28 50 L102516D
Sublist used: CCV_D-DRO-BP.sub
Method used: /chem1/SVOA/GC_47.i/170314.b/8015d.m

Injection Date and Time: 14-MAR-2017 19:21
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 | 876824.925 | 0.00 | 0 | 15 | Averaged |
| Diesel Range Organics (C10-C28) | 804926.336 | 807137.933 | 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 | 863011.080 | 0.00 | -1 | 20 | Averaged |



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Data File: /chem1/SVOA/GC_47.i/170314.b/17031438.d
Report Date: 15-Mar-2017 12:08



Eurofins Calscience

EPA 8015B(M)

Data file : /chem1/SVOA/GC_47.i/170314.b/17031438.d
Lab Smp Id:
Inj Date : 14-MAR-2017 19:21
Operator : 972 Inst ID: GC_47.i
Smp Info : CCV D400 C28 50 L102516D
Misc Info :
Comment :
Method : /chem1/SVOA/GC_47.i/170314.b/8015d.m
Meth Date : 15-Mar-2017 12:08 umd6 Quant Type: ESTD
Cal Date : 01-MAR-2017 03:45 Cal File: 17022833.d
Als bottle: 38 Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP Genie Compound Sublist: CCV_D-DRO-BP.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 | 8.044 | | 350729970 | 400.000 | 398.997 |
| S 276 Diesel Range Organics (C10-C28 | 2.406 | 8.046 | | 322855173 | 400.000 | 401.099 |
| $ 93 n-Octacosane | 7.855 | 7.855 | 0.000 | 43150554 | 50.0000 | 50.680 |

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Data File: /chem1/SVOA/GC_47.i/170314.b/17031438.d

Date : 14-MAR-2017 19:21

Client ID:

Sample Info: CCV D400 C28 50 L102516D

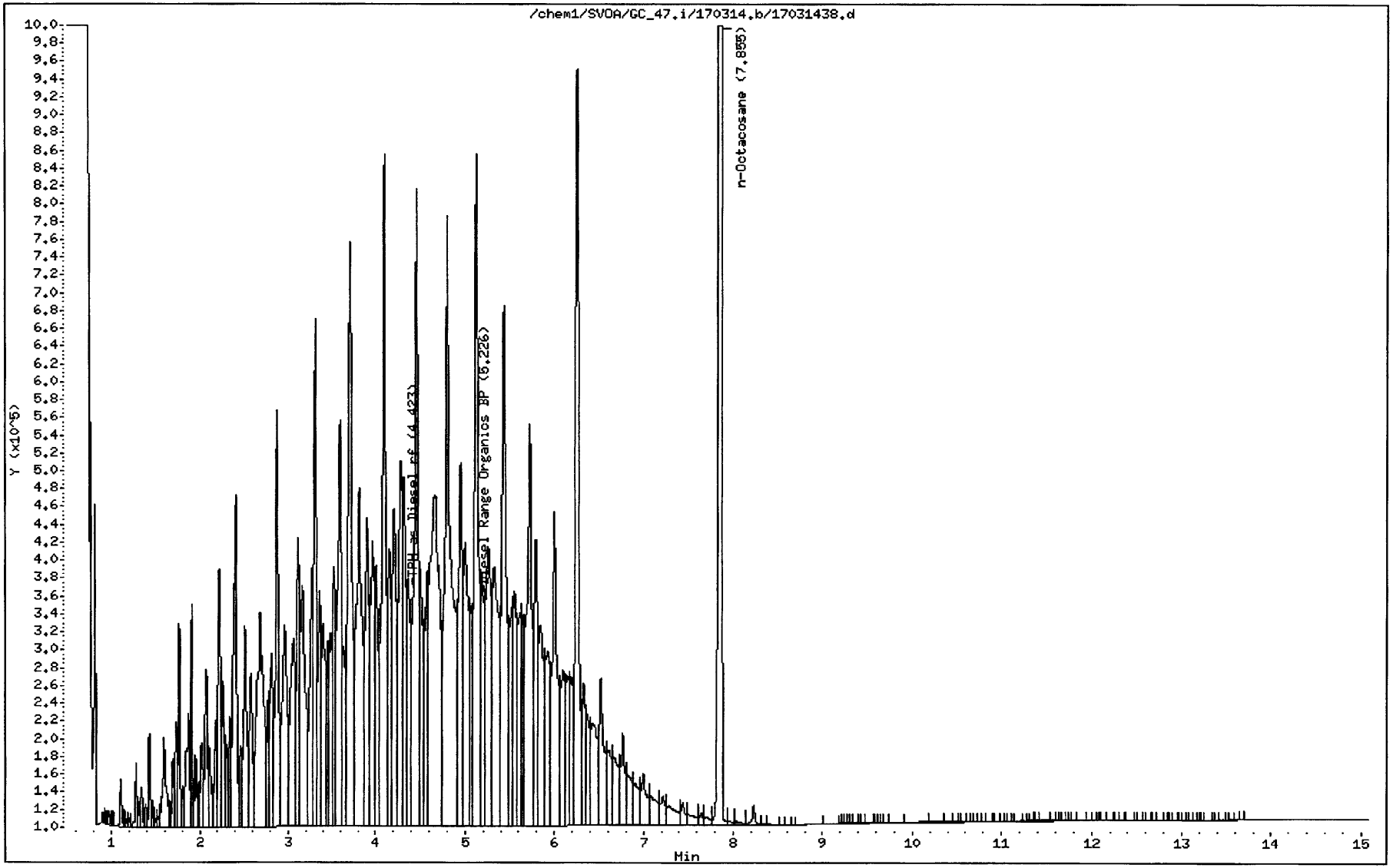
Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00





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External Standard Report

Data File Name : /chem1/SVOA/GC_47/170314/17031402.d
Page Number :
Operator : 972
Instrument : GC 47
Sample Name : C6-C44 L110816A

Acquired on : 14 MAR 17 11:01
Report Created on: 14-MAR-17 13:31
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/170314.b/17031402.d

| RT Range | Exp RT | DLT RT | Response | ppm | Compound |
|---|---|---|---|---|---|
| 0.803 | 8.706 | 7.903 | 1831667.00 | 0.00 | C6-Hexane |
| 1.000 | 8.706 | 7.706 | 3971958.00 | 0.00 | C7-Heptane |
| 1.422 | 8.706 | 7.284 | 6232252.00 | 0.00 | C8-Octane |
| 1.906 | 8.706 | 6.800 | 6382914.00 | 0.00 | C9-Nonane |
| 2.404 | 8.706 | 6.302 | 6800406.00 | 0.00 | C10-Decane |
| 2.872 | 8.706 | 5.834 | 6981361.00 | 0.00 | C11-Undecane |
| 3.307 | 8.706 | 5.399 | 6976907.00 | 0.00 | C12-Dodecane |
| 3.713 | 8.706 | 4.993 | 7696364.00 | 0.00 | C13-Tridecane |
| 4.096 | 8.706 | 4.610 | 7851415.00 | 0.00 | C14-Tetradecane |
| 4.457 | 8.706 | 4.249 | 9309963.00 | 0.00 | C15-pentadecane |
| 4.798 | 8.706 | 3.908 | 10273833.00 | 0.00 | C16-Hexadecane |
| 5.121 | 8.706 | 3.585 | 10833320.00 | 0.00 | C17-Heptadecane |
| 5.427 | 8.706 | 3.279 | 10951652.00 | 0.00 | C18-Octadecane |
| 5.720 | 8.706 | 2.986 | 11142898.00 | 0.00 | C19-Nonadecane |
| 5.998 | 8.706 | 2.708 | 11425907.00 | 0.00 | C20-Eicosane |
| 6.264 | 8.706 | 2.442 | 11329190.00 | 0.00 | C21-Heneicosane |
| 6.519 | 8.706 | 2.187 | 11602079.00 | 0.00 | C22-Docosane |
| 6.763 | 8.706 | 1.943 | 11526440.00 | 0.00 | C23-Tricosane |
| 6.997 | 8.706 | 1.709 | 11527644.00 | 0.00 | C24-Tetracosane |
| 7.222 | 8.706 | 1.484 | 11359743.00 | 0.00 | C25-Pentacosane |
| 7.438 | 8.706 | 1.268 | 11743429.00 | 0.00 | C26-Hexacosane |
| 7.648 | 8.706 | 1.058 | 11111930.00 | 0.00 | C27-Heptacosane |
| 7.849 | 8.706 | 0.857 | 11138768.00 | 13.08 | n-Octacosane |
| 8.044 | 8.706 | 0.662 | 10674432.00 | 0.00 | C29-Nonacosane |
| 8.232 | 8.706 | 0.474 | 10235010.00 | 0.00 | C30-Triacontane |
| 8.413 | 8.706 | 0.293 | 9073152.00 | 0.00 | C31-Hentriacontane |
| 8.590 | 8.706 | 0.116 | 7702008.00 | 0.00 | C32-Dotricacontane |
| 8.760 | 8.706 | -0.054 | 5940051.00 | 0.00 | C33-Tritriacontane |
| 8.925 | 8.706 | -0.220 | 3995304.00 | 0.00 | C34-Tetratriacontane |
| 9.086 | 8.706 | -0.380 | 2388444.00 | 0.00 | C35-Pentatriacontane |
| 9.255 | 8.706 | -0.549 | 1425765.00 | 0.00 | C36-Hexatriacontane |
| 9.452 | 8.706 | -0.746 | 736525.00 | 0.00 | C37-Heptatriacontane |
| 9.680 | 8.706 | -0.974 | 444319.00 | 0.00 | C38-Octatriacontane |
| 9.947 | 8.706 | -1.241 | 326350.00 | 0.00 | C39-Nonatriacontane |
| 10.264 | 8.706 | -1.558 | 225872.00 | 0.00 | C40-Tetracontane |
| 12.221 | 8.706 | -3.515 | 457964.00 | 0.00 | C44-Tetratetracontane |

End of File

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Data File: /chem1/SVOA/GC_47.i/170314.b/17031402.d

Date : 14-MAR-2017 11:01

Client ID:

Sample Info: C6-C44 L110816A

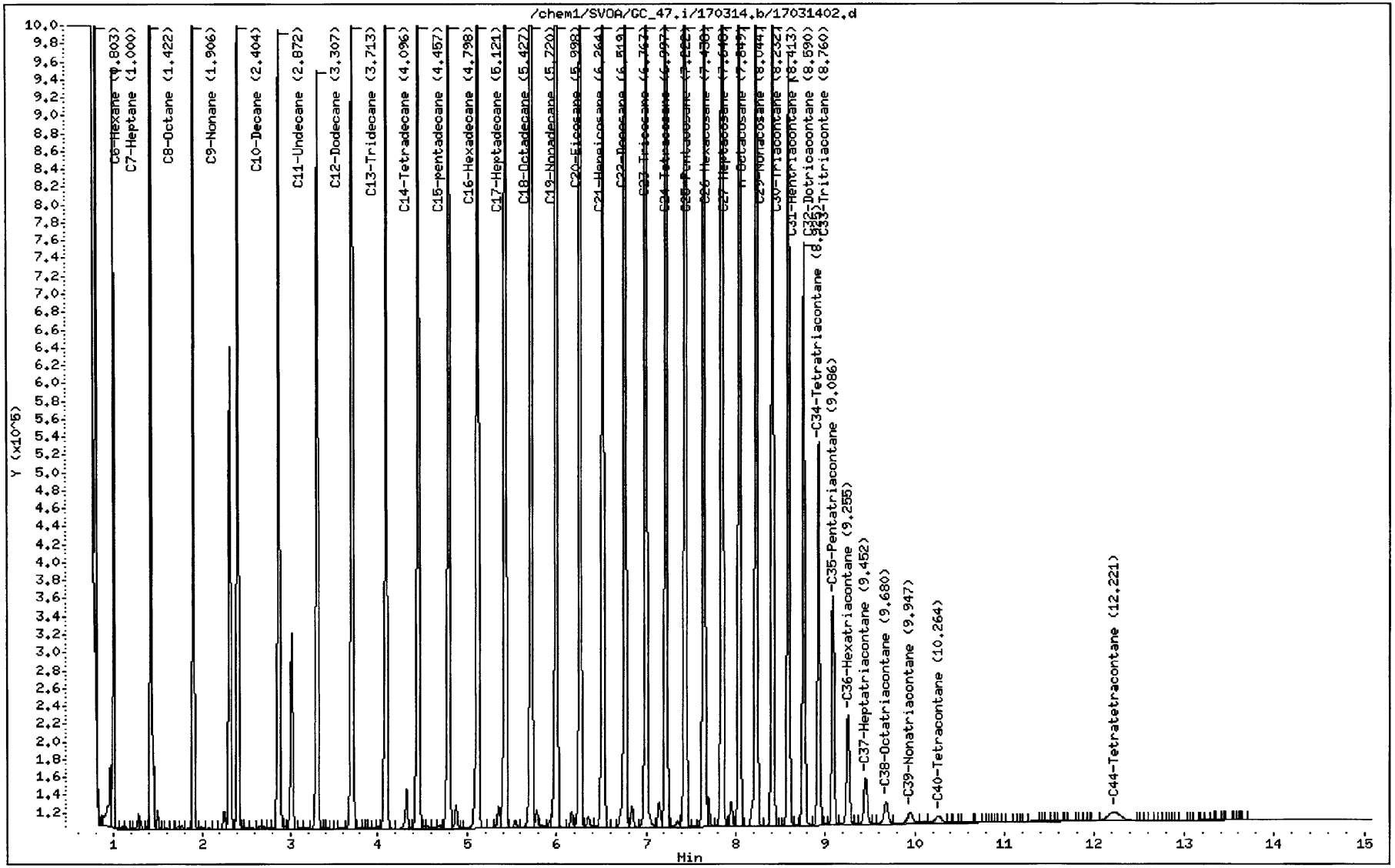
Column phase:

Instrument: GC_47.i

Operator: 972

Column diameter: 2.00





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

**BATCH ID:** **170315A058** 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 |
|---|---|---|---|
| 35 | Daily Calibration | 2017-03-15 21:27 | T:\GC_47\GC_47_data\2017\170315\17031503.d\Report.txt17031503 |

**WORK ORDER:** **17-03-0755** REVIEWED BY: 27
MATRIX: Soil D/T REVIEWED: 2017-03-17 14:33

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 16 | D-DU2-S-SG-08-25S | 2017-03-15 22:08 | T:\GC_47\GC_47_data\2017\170315\17031505.d\Report.txt17031505 |
| 20 | D-DU2-S-SG-09-25S | 2017-03-15 22:29 | T:\GC_47\GC_47_data\2017\170315\17031506.d\Report.txt17031506 |

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

**CCV WORK ORDER: 099-14-354-35-5901**
BATCH ID:
INITIAL: 170313I008
CCV: 170315A058
NSTRUMENT: 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:
D/T REVIEWED:

| OMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| H as Diesel | C | Avg Resp | 0.00 | 879.028 | 857.278 | | | 2 | 0-20 | 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
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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( 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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Data File: /chem1/SVOA/GC_47.i/170315.b/17031503.d

Page 1

Date : 15-MAR-2017 21:27

Client ID:

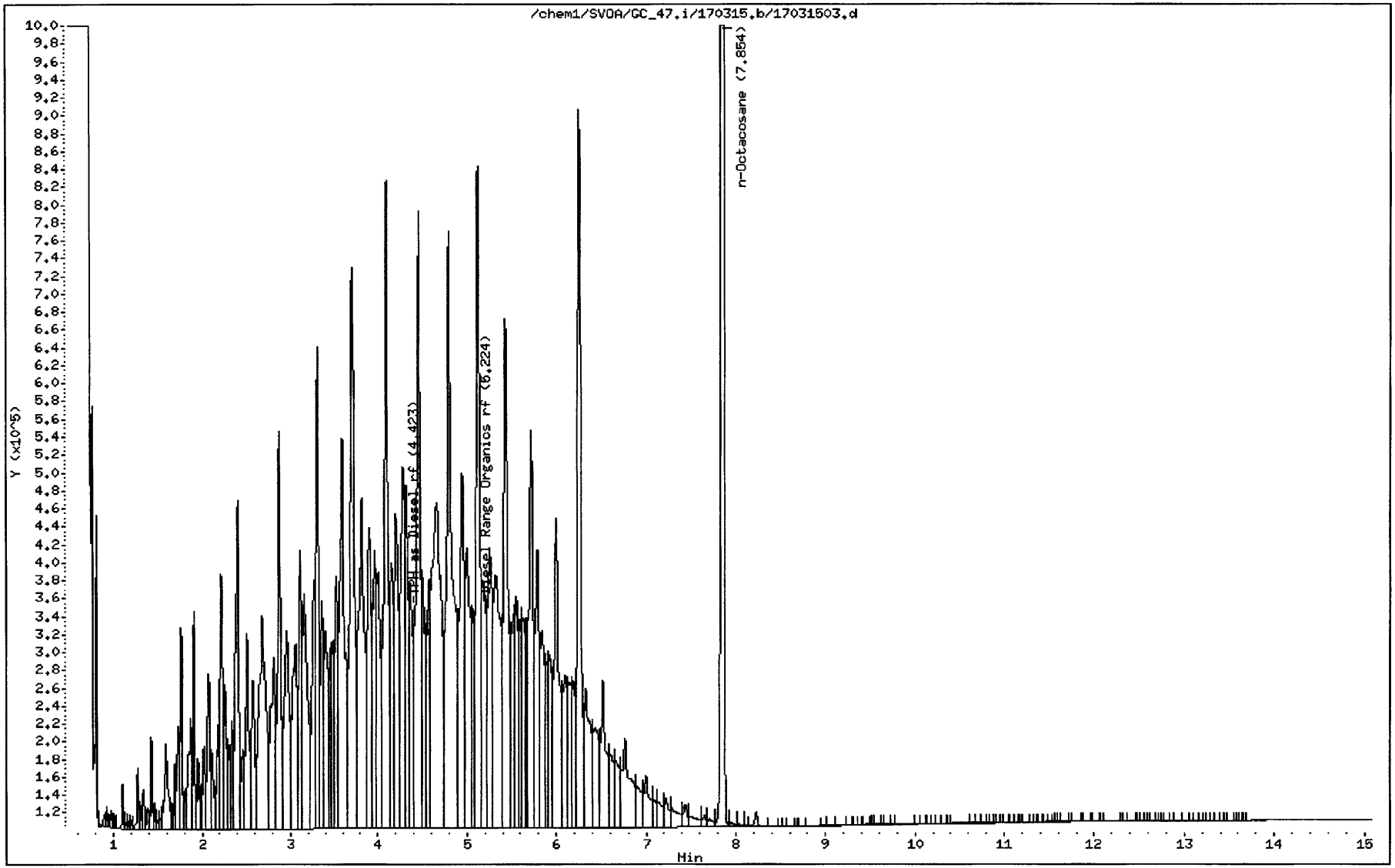
Instrument: GC_47.i

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/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
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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppm) | AMOUNTS ON-COL ( 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:

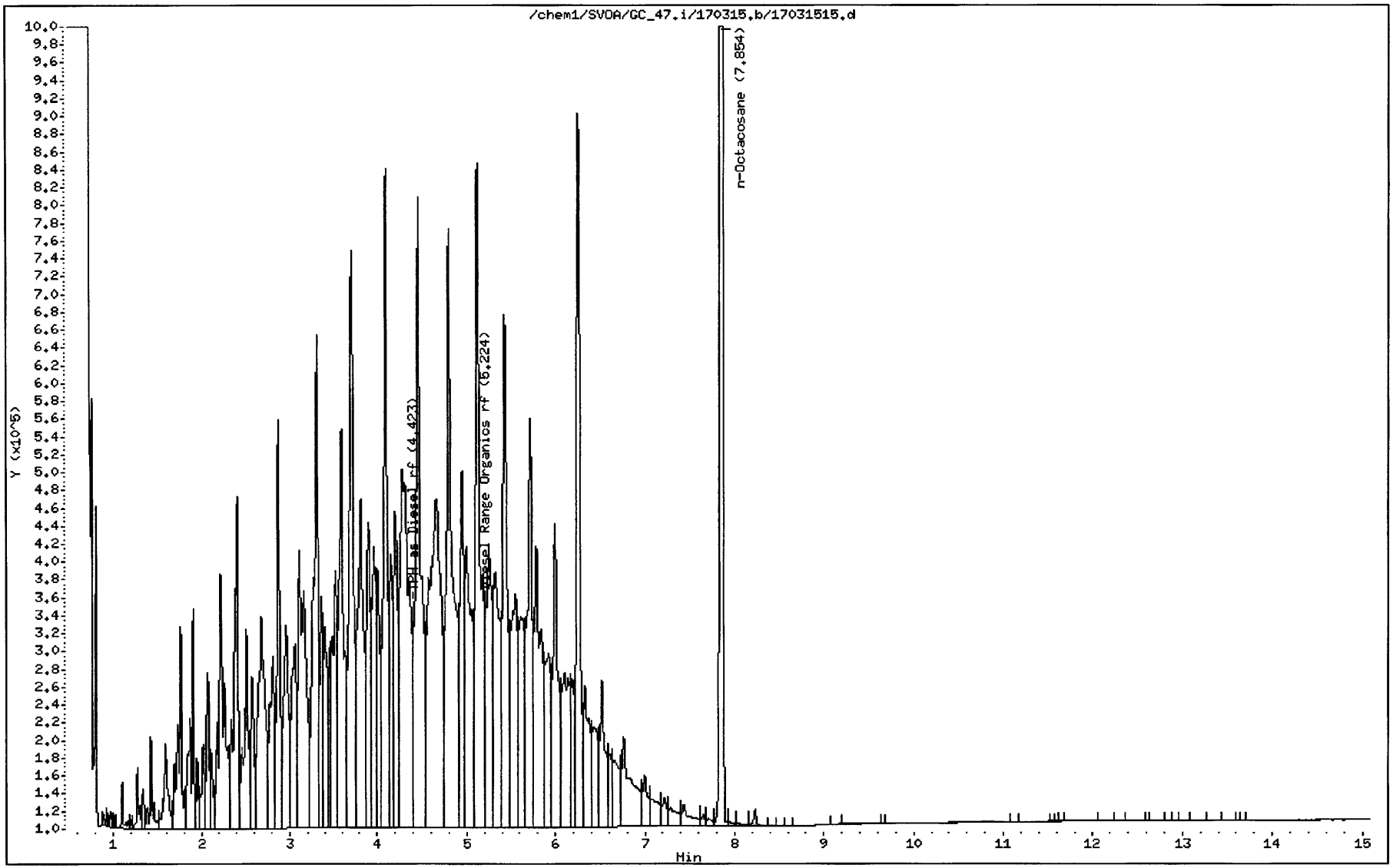
Instrument: GC_47.i

Sample Info: CCV D400 C28 50 L102516D

Operator: 972

Column phase:

Column diameter: 2.00



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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 |

End of File

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Data File: /chem1/SVOA/GC_47.i/170315.b/17031502.d

Page 1

Date : 15-MAR-2017 21:06

Client ID:

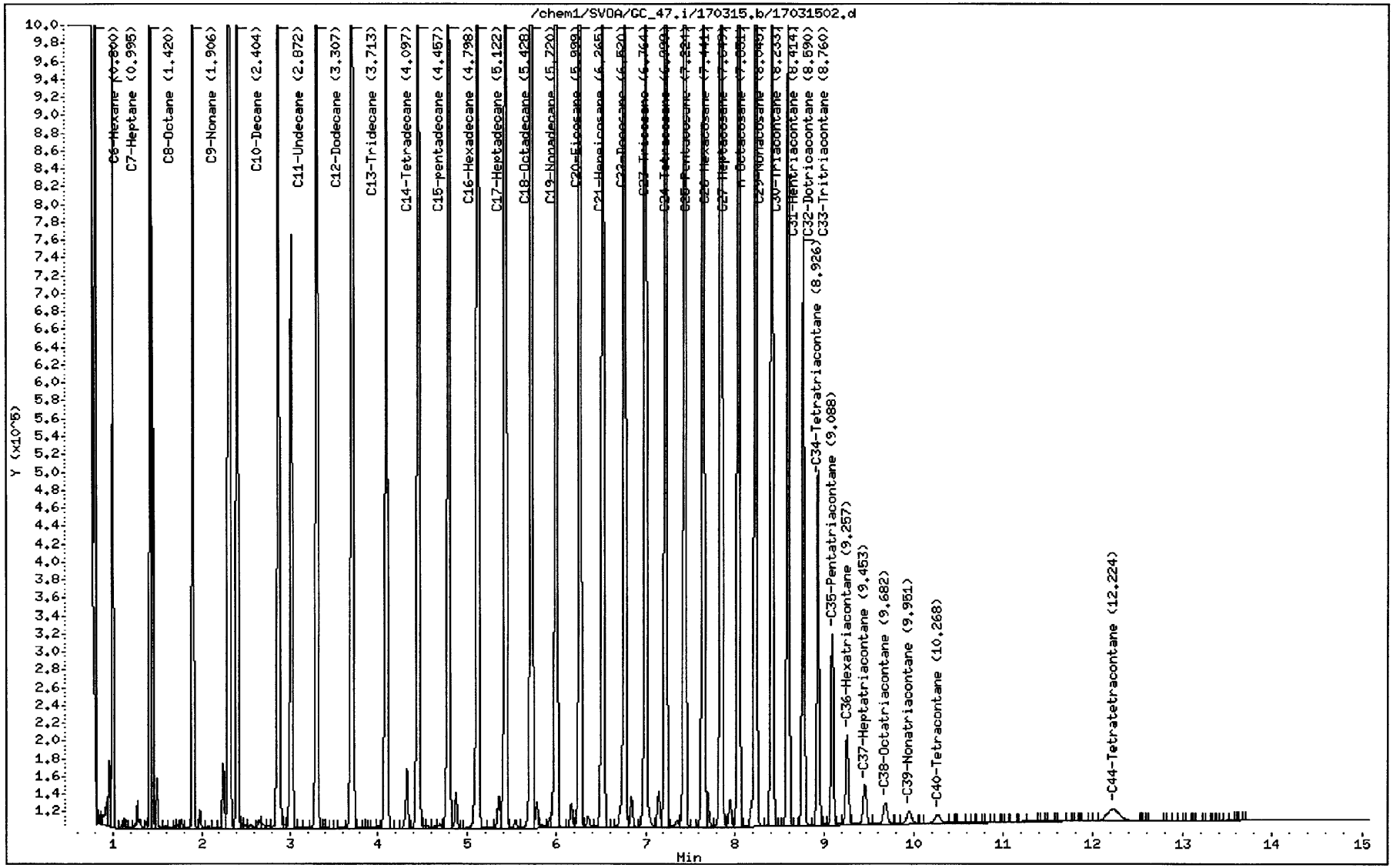
Instrument: GC_47.i

Sample Info: C6-C44 L110816A

Operator: 972

Column phase:

Column diameter: 2.00



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# EPA 8015B (M)

# Diesel + Motor Oil

# RUN LOGS

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|---|---|---|---|---|---|
| 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 | 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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| 4 | 3 | 17031403 | CCV D400 C28 50 L102516D A026 | 8015D | 14-Mar-17, 11:22:24 |
| 5 | 4 | 17031404 | CCV MO400 L030317D | 8015D | 14-Mar-17, 11:43:13 |
| 6 | 5 | 17031405 | MB 17031101 | 8015D | 14-Mar-17, 12:03:58 |
| 7 | 6 | 17031406 | LCS 17031101 | 8015D | 14-Mar-17, 12:25:03 |
| 8 | 7 | 17031407 | MS 17-03-0757-1 | 8015D | 14-Mar-17, 12:46:14 |
| 9 | 8 | 17031408 | MSD 17-03-0757-1 | 8015D | 14-Mar-17, 13:07:01 |
| 10 | 9 | 17031409 | 17-03-0757-1 | 8015D | 14-Mar-17, 13:27:44 |
| 11 | 10 | 17031410 | 17-03-0821-1 | 8015D | 14-Mar-17, 13:48:25 |
| 12 | 11 | 17031411 | 17-03-0838-1 5X @ conf. sur. | 8015D | 14-Mar-17, 14:09:16 |
| 13 | 12 | 17031412 | 17-03-0865-1 25X | 8015D | 14-Mar-17, 14:30:27 |
| 14 | 13 | 17031413 | 17-03-0865-2 | 8015D | 14-Mar-17, 14:51:21 |
| 15 | 14 | 17031414 | 17-03-0865-3 | 8015D | 14-Mar-17, 15:11:57 |
| 16 | 15 | 17031415 | CCV D400 C28 50 L102516D A059 | 8015D | 14-Mar-17, 15:32:34 |
| 17 | 16 | 17031416 | 17-03-0865-4 | 8015D | 14-Mar-17, 15:53:19 |
| 18 | 17 | 17031417 | 17-03-0865-5 | 8015D | 14-Mar-17, 16:14:16 |
| 19 | 18 | 17031418 | 17-03-0865-6 | 8015D | 14-Mar-17, 16:35:07 |
| 20 | 19 | 17031419 | 17-03-0865-7 | 8015D | 14-Mar-17, 16:55:46 |
| 21 | 32 | 17031432 | MB 17031404 | 8015D | 14-Mar-17, 17:16:19 |
| 22 | 33 | 17031433 | LCS 17031404 | 8015D | 14-Mar-17, 17:37:16 |
| 23 | 34 | 17031434 | MS 17-03-0996-1 | 8015D | 14-Mar-17, 17:58:15 |
| 24 | 35 | 17031435 | MSD 17-03-0996-1 | 8015D | 14-Mar-17, 18:18:57 |
| 25 | 36 | 17031436 | 17-03-0996-1 | 8015D | 14-Mar-17, 18:40:01 |
| 26 | 37 | 17031437 | 17-03-0906-2 50X | 8015D | 14-Mar-17, 19:00:53 |
| 27 | 38 | 17031438 | CCV D400 C28 50 L102516D A060 | 8015D | 14-Mar-17, 19:21:29 |
| 28 | 39 | 17031439 | MB 17031008 S | 8015D | 14-Mar-17, 19:42:28 |
| 29 | 40 | 17031440 | LCS 17031008 S | 8015D | 14-Mar-17, 20:03:36 |
| 30 | 41 | 17031441 | LCSD 17031008 S | 8015D | 14-Mar-17, 20:24:16 |
| 31 | 42 | 17031442 | 17-03-0677-1 S | 8015D | 14-Mar-17, 20:45:10 |
| 32 | 43 | 17031443 | 17-03-0677-2 S | 8015D | 14-Mar-17, 21:06:24 |
| 33 | 44 | 17031444 | 17-03-0677-3 S | 8015D | 14-Mar-17, 21:27:00 |
| 34 | 45 | 17031445 | 17-03-0677-4 S | 8015D | 14-Mar-17, 21:47:48 |
| 35 | 46 | 17031446 | 17-03-0677-5 2X S | 8015D | 14-Mar-17, 22:08:54 |
| 36 | 47 | 17031447 | 17-03-0677-6 S | 8015D | 14-Mar-17, 22:29:52 |
| 37 | 48 | 17031448 | 17-03-0677-7 S | 8015D | 14-Mar-17, 22:50:30 |
| 38 | 52 | 17031452 | CCV D400 C28 50 L102516D A061 | 8015D | 14-Mar-17, 23:11:38 |
| 39 | 49 | 17031449 | 17-03-0677-8 S | 8015D | 14-Mar-17, 23:32:24 |
| 40 | 50 | 17031450 | 17-03-0677-9 S | 8015D | 14-Mar-17, 23:53:03 |
| 41 | 51 | 17031451 | 17-03-0677-10 S | 8015D | 15-Mar-17, 00:13:37 |
| 42 | 53 | 17031453 | 17-03-0677-11 S | 8015D | 15-Mar-17, 00:34:20 |
| 43 | 54 | 17031454 | 17-03-0677-12 S | 8015D | 15-Mar-17, 00:55:18 |
| 44 | 55 | 17031455 | 17-03-0677-13 S | 8015D | 15-Mar-17, 01:16:18 |
| 45 | 56 | 17031456 | 17-03-0677-14 S | 8015D | 15-Mar-17, 01:36:54 |
| 46 | 57 | 17031457 | 17-03-0677-15 S | 8015D | 15-Mar-17, 01:57:30 |
| 47 | 58 | 17031458 | 17-03-0677-16 S | 8015D | 15-Mar-17, 02:18:20 |
| 48 | 59 | 17031459 | 17-03-0677-17 S @ syrine prob. | 8015D | 15-Mar-17, 02:39:20 |
| 49 | 2 | 1703140201 | C6-C44 L110816A | 8015D | 15-Mar-17, 03:00:12 |
| 50 | 60 | 17031460 | CCV D400 C28 50 L102516D A062 | 8015D | 15-Mar-17, 03:20:43 |
| 51 | 61 | 17031461 | 17-03-0677-18 S | 8015D | 15-Mar-17, 03:41:18 |
| 52 | 62 | 17031462 | 17-03-0677-19 S | 8015D | 15-Mar-17, 04:02:04 |
| 53 | 63 | 17031463 | 17-03-0677-20 S | 8015D | 15-Mar-17, 04:22:57 |
| 54 | 64 | 17031464 | MB 17031405 | 8015D | 15-Mar-17, 04:44:00 |
| 55 | 65 | 17031465 | LCS 17031405 | 8015D | 15-Mar-17, 05:04:43 |
| 56 | 66 | 17031466 | MS 17-03-0968-19 | 8015D | 15-Mar-17, 05:25:10 |
| 57 | 67 | 17031467 | MSD 17-03-0968-19 | 8015D | 15-Mar-17, 05:45:41 |
| 58 | 68 | 17031468 | 17-03-0968-19 | 8015D | 15-Mar-17, 06:06:23 |
| 59 | 69 | 17031469 | 17-03-0968-1 2X | 8015D | 15-Mar-17, 06:27:18 |
| 60 | 70 | 17031470 | 17-03-0968-2 | 8015D | |

Reviewed/Reason to Lock Date 3/16/17
Analysis 8015 Chemist ID 082
Lockout Prep 88 Lockout Prep ID 47

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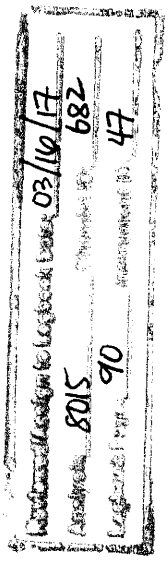
| 4 | 3 | 17031503 | CCV D400 C28 50 L102516D A058 | 8015D | 15-Mar-17, 21:27:01 |
| 5 | 4 | 17031504 | CCV MO400 L030317D | 8015D | 15-Mar-17, 21:47:48 |
| 6 | 5 | 17031505 | 17-03-0755-16 | 8015D | 15-Mar-17, 22:08:49 |
| 7 | 6 | 17031506 | 17-03-0755-20 | 8015D | 15-Mar-17, 22:29:57 |
| 8 | 7 | 17031507 | 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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# 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- 1108 Start Extraction- 1108 Blow Down- Clean Up-

Matrix: ☒ Solid ☐ Aqueous ☐ Oil ☐ Wipe / Filter | Balance ID#: 15 Sand or Filter ID#: ~~L6-2~~ 1108 03/14 L6-19-20

Extraction Start Date & Time: 03/14/2017 12:00 Extractions End Date & Time: 03/14/2017 20:00

Drying Agent & ID#: ☒ $Na_2SO_4$ L6-23-20 | Spike Added to: ☒ LCS ☐ LCSD ☒ MS ☒ MSD

Surrogate Std ID# & Volume Added (mL): L011717-A 0.5

Spike Std ID# & Volume Added (mL): ☒ D: L102416 B 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 #: 17031404 Cel ID#: | Test Analyte | Sample W (g) / V (mL) Initial | Final | SCG Clean Up | Comments |
|---|---|---|---|---|---|
| MB | D/D+MO | 10.0 | 10.0 | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| LCS 1A | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| MS 17-03-0996-~~1A~~ 2A 1108 03/14 | | 10.2 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| MSD | | 9.88 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-0906-~~1A~~ 2A 1108 03/14 | D | 9.94 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-0996-1A | D | 10.1 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-0755-15 | D+MO | — | 172 3/14/17 | ☐ NA ☐ 1 ☐ 2 ☐ 3 | no more sample |
| 16A | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 19 | | — | 172 3/14/17 | ☐ NA ☐ 1 ☐ 2 ☐ 3 | no more sample |
| 20A | | 9.83 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |
| 17-03-0856-9 | | — | 172 3/14/17 | ☐ NA ☐ 1 ☐ 2 ☐ 3 | no more sample |
| 10A | | 10.0 | | ☐ NA ☐ 1 ☐ 2 ☐ 3 | |

Peer Reviewed by: 172 Peer Reviewed Date: 3/14/17 Revision Date: 10/24/16

# 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

Work Order No: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte Name | Initial Calibration Verification | | | | |
|---|---|---|---|---|---|
| | True | ICV-1 | | Control Limit | Comment |
| | | Observed | %D | | |
| Silver | 0.500000 | 0.499423 | 0 | +/-10 | |
| Arsenic | 5.000000 | 4.787395 | 4 | +/-10 | |
| Barium | 1.000000 | 0.991595 | 1 | +/-10 | |
| Beryllium | 0.500000 | 0.477751 | 4 | +/-10 | |
| Cadmium | 1.500000 | 1.493032 | 0 | +/-10 | |
| Cobalt | 1.000000 | 1.037637 | -4 | +/-10 | |
| Chromium | 0.400000 | 0.398846 | 0 | +/-10 | |
| Copper | 1.000000 | 1.006620 | -1 | +/-10 | |
| Molybdenum | 2.500000 | 2.371777 | 5 | +/-10 | |
| Nickel | 0.400000 | 0.405480 | -1 | +/-10 | |
| Lead | 5.000000 | 5.104641 | -2 | +/-10 | |
| Antimony | 2.000000 | 1.905643 | 5 | +/-10 | |
| Selenium | 2.000000 | 1.902069 | 5 | +/-10 | |
| Thallium | 2.000000 | 1.927847 | 4 | +/-10 | |
| Vanadium | 1.000000 | 0.988194 | 1 | +/-10 | |
| Zinc | 1.500000 | 1.528093 | -2 | +/-10 | |

Report Time: 3/27/2017 10:47:28 AM

ICV-1 File: ICV-M072816C Analysis Time: 3/17/2017 9:56:51 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: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Initial Calibration Blank | | |
|---|---|---|---|
| Analyte | ICB-1 | RL | Comment |
| Silver | -0.000574 | 0.005000 | |
| Arsenic | -0.004056 | 0.010000 | |
| Barium | 0.000389 | 0.010000 | |
| Beryllium | 0.000007 | 0.010000 | |
| Cadmium | 0.000063 | 0.010000 | |
| Cobalt | 0.000029 | 0.010000 | |
| Chromium | -0.000286 | 0.010000 | |
| Copper | -0.000616 | 0.010000 | |
| Molybdenum | -0.000382 | 0.010000 | |
| Nickel | 0.000517 | 0.010000 | |
| Lead | 0.002053 | 0.010000 | |
| Antimony | 0.000469 | 0.015000 | |
| Selenium | 0.003101 | 0.015000 | |
| Thallium | 0.000864 | 0.015000 | |
| Vanadium | 0.000845 | 0.010000 | |
| Zinc | -0.006636 | 0.010000 | |

Report Time: 3/27/2017 10:47:28 AM

ICB-1 File: ICB-R12091601 Analysis Time: 3/17/2017 10:01:57 AM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Interference Check

Work Order No: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Interference Check | | | | | | |
|---|---|---|---|---|---|---|---|
| | ICS-A-1 | | ICS-AB-1 | | | | Comment |
| | Observed | Control Limit | True | Observed | %D | Control Limit | |
| Silver | -0.001280 | 0.005000 | 0.300000 | 0.313246 | -4 | +/-20 | |
| Arsenic | 0.004429 | 0.010000 | 1.000000 | 0.998523 | 0 | +/-20 | |
| Barium | 0.002569 | 0.010000 | 0.300000 | 0.304878 | -2 | +/-20 | |
| Beryllium | -0.000064 | 0.010000 | 0.100000 | 0.102879 | -3 | +/-20 | |
| Cadmium | 0.002178 | 0.010000 | 0.300000 | 0.299136 | 0 | +/-20 | |
| Cobalt | 0.001048 | 0.010000 | 0.300000 | 0.309594 | -3 | +/-20 | |
| Chromium | -0.001112 | 0.010000 | 0.300000 | 0.307366 | -2 | +/-20 | |
| Copper | 0.004306 | 0.010000 | 0.300000 | 0.321472 | -7 | +/-20 | |
| Molybdenum | 0.001079 | 0.010000 | 0.300000 | 0.301202 | 0 | +/-20 | |
| Nickel | 0.000590 | 0.010000 | 0.300000 | 0.310479 | -3 | +/-20 | |
| Lead | -0.004357 | 0.010000 | 1.000000 | 1.005631 | -1 | +/-20 | |
| Antimony | -0.008503 | 0.015000 | 1.000000 | 0.964634 | 4 | +/-20 | |
| Selenium | -0.007409 | 0.015000 | 0.500000 | 0.513984 | -3 | +/-20 | |
| Thallium | -0.001729 | 0.015000 | 1.000000 | 0.989485 | 1 | +/-20 | |
| Vanadium | 0.001333 | 0.010000 | 0.300000 | 0.304507 | -2 | +/-20 | |
| Zinc | 0.000760 | 0.010000 | 0.300000 | 0.315504 | -5 | +/-20 | |

Report Time: 3/27/2017 10:47:28 AM

ICS-A-1 File: ICS_A - M110116B Analysis Time: 3/17/2017 10:02:57 AM

ICS-AB-1 File: ICS_AB - M110116A Analysis Time: 3/17/2017 10:03:46 AM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Initial Calibration Verification

Work Order No: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte Name | Initial Calibration Verification | | | | |
|---|---|---|---|---|---|
| | True | ICV-1 | | Control Limit | Comment |
| | | Observed | %D | | |
| Silver | 0.500000 | 0.505895 | -1 | +/-10 | |
| Arsenic | 5.000000 | 4.877639 | 2 | +/-10 | |
| Barium | 1.000000 | 1.038924 | -4 | +/-10 | |
| Beryllium | 0.500000 | 0.491869 | 2 | +/-10 | |
| Cadmium | 1.500000 | 1.529323 | -2 | +/-10 | |
| Cobalt | 1.000000 | 1.055611 | -6 | +/-10 | |
| Chromium | 0.400000 | 0.406955 | -2 | +/-10 | |
| Copper | 1.000000 | 1.025066 | -3 | +/-10 | |
| Molybdenum | 2.500000 | 2.414895 | 3 | +/-10 | |
| Nickel | 0.400000 | 0.395822 | 1 | +/-10 | |
| Lead | 5.000000 | 5.162383 | -3 | +/-10 | |
| Antimony | 2.000000 | 1.933149 | 3 | +/-10 | |
| Selenium | 2.000000 | 1.945446 | 3 | +/-10 | |
| Thallium | 2.000000 | 1.965403 | 2 | +/-10 | |
| Vanadium | 1.000000 | 1.013657 | -1 | +/-10 | |
| Zinc | 1.500000 | 1.556183 | -4 | +/-10 | |

Report Time: 3/27/2017 10:49:51 AM

ICV-1 File: ICV-M072816C Analysis Time: 3/17/2017 11:54:19 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: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Initial Calibration Blank | | |
|---|---|---|---|
| Analyte | ICB-1 | RL | Comment |
| Silver | -0.000977 | 0.005000 | |
| Arsenic | -0.001818 | 0.010000 | |
| Barium | 0.000360 | 0.010000 | |
| Beryllium | 0.000106 | 0.010000 | |
| Cadmium | 0.000377 | 0.010000 | |
| Cobalt | -0.000019 | 0.010000 | |
| Chromium | -0.000160 | 0.010000 | |
| Copper | 0.000642 | 0.010000 | |
| Molybdenum | 0.002804 | 0.010000 | |
| Nickel | -0.000407 | 0.010000 | |
| Lead | 0.002168 | 0.010000 | |
| Antimony | -0.002511 | 0.015000 | |
| Selenium | 0.002547 | 0.015000 | |
| Thallium | 0.004872 | 0.015000 | |
| Vanadium | 0.001490 | 0.010000 | |
| Zinc | -0.000949 | 0.010000 | |

Report Time: 3/27/2017 10:49:51 AM

ICB-1 File: ICB-R12091601 Analysis Time: 3/17/2017 11:56:38 AM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Continuing Calibration Verification

Work Order No: 17-03-0755

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 | 0.367751 | 2 | 0.369083 | 2 | +/-10 | |
| Arsenic | 3.750000 | 3.871411 | -3 | 3.914343 | -4 | +/-10 | |
| Barium | 7.500000 | 7.752236 | -3 | 7.867390 | -5 | +/-10 | |
| Beryllium | 0.562500 | 0.583253 | -4 | 0.589151 | -5 | +/-10 | |
| Cadmium | 0.750000 | 0.748040 | 0 | 0.758170 | -1 | +/-10 | |
| Cobalt | 1.875000 | 1.864756 | 1 | 1.896151 | -1 | +/-10 | |
| Chromium | 0.600000 | 0.599251 | 0 | 0.603676 | -1 | +/-10 | |
| Copper | 0.937500 | 0.936160 | 0 | 0.947082 | -1 | +/-10 | |
| Molybdenum | 0.600000 | 0.618389 | -3 | 0.620116 | -3 | +/-10 | |
| Nickel | 0.600000 | 0.626492 | -4 | 0.633675 | -6 | +/-10 | |
| Lead | 3.750000 | 3.771822 | -1 | 3.835294 | -2 | +/-10 | |
| Antimony | 4.500000 | 4.647765 | -3 | 4.675347 | -4 | +/-10 | |
| Selenium | 1.500000 | 1.549715 | -3 | 1.565637 | -4 | +/-10 | |
| Thallium | 1.500000 | 1.563353 | -4 | 1.580818 | -5 | +/-10 | |
| Vanadium | 1.875000 | 1.875964 | 0 | 1.888824 | -1 | +/-10 | |
| Zinc | 2.500000 | 2.514700 | -1 | 2.574750 | -3 | +/-10 | |

Report Time: 3/27/2017 10:49:51 AM

CCV-1 File: CCV= STD3x0.5 Analysis Time: 3/17/2017 4:50:34 PM

CCV-2 File: CCV= STD3x0.5 Analysis Time: 3/17/2017 5:00:47 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

Work Order No: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-1 | CCB-2 | RL | Qualifier |
| Silver | -0.000806 | -0.001084 | 0.005000 | |
| Arsenic | -0.002764 | -0.002832 | 0.010000 | |
| Barium | -0.002001 | -0.001227 | 0.010000 | |
| Beryllium | -0.000124 | -0.000068 | 0.010000 | |
| Cadmium | -0.000496 | -0.000428 | 0.010000 | |
| Cobalt | -0.000561 | -0.000861 | 0.010000 | |
| Chromium | -0.000941 | -0.000654 | 0.010000 | |
| Copper | -0.001619 | -0.000889 | 0.010000 | |
| Molybdenum | 0.000578 | 0.000579 | 0.010000 | |
| Nickel | -0.000181 | -0.000304 | 0.010000 | |
| Lead | -0.002356 | -0.002140 | 0.010000 | |
| Antimony | 0.002025 | 0.001484 | 0.015000 | |
| Selenium | 0.004195 | -0.002991 | 0.015000 | |
| Thallium | 0.003129 | 0.002816 | 0.015000 | |
| Vanadium | 0.000464 | 0.001325 | 0.010000 | |
| Zinc | -0.010323 | -0.006162 | 0.010000 | |

Report Time: 3/27/2017 10:49:51 AM

CCB-1 File: CCB-R12091601 Analysis Time: 3/17/2017 4:51:28 PM

CCB-2 File: CCB-R12091601 Analysis Time: 3/17/2017 5:01:40 PM

01/22/2014 Revision



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Method: iCal-6010b+200.7 EPA Page 1 Date: 3/17/2017 5:16:36 PM

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: 3/17/2017 9:54:49 AM
Data Type: Reprocessed on 3/17/2017 5:16:35 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: Cal blankR12091601_935

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Tb 384 | 76408.2 | 564.51 | 0.74% | 100.0 | % |
| Tb 350 | 122684.1 | 2178.86 | 1.78% | 100.0 | % |
| Ag 328.068*† | -1070.2 | 92.07 | 8.60% | [0.00] | mg/L |
| Al 308.215*† | -2329.8 | 52.40 | 2.25% | [0.00] | mg/L |
| As 188.979† | 3.8 | 1.26 | 32.93% | [0.00] | mg/L |
| As 193.696*† | 9.1 | 11.27 | 123.28% | [0.00] | mg/L |
| B 249.677*† | -1000.3 | 1.88 | 0.19% | [0.00] | mg/L |
| Ba 233.527*† | -302.3 | 11.19 | 3.70% | [0.00] | mg/L |
| Be 313.042*† | -665.5 | 93.44 | 14.04% | [0.00] | mg/L |
| Ca 317.933*† | 30.5 | 3.18 | 10.42% | [0.00] | mg/L |
| Cd 226.502*† | 91.7 | 11.46 | 12.51% | [0.00] | mg/L |
| Cd 228.802† | 51.3 | 16.85 | 32.86% | [0.00] | mg/L |
| Co 228.616*† | -95.4 | 5.77 | 6.04% | [0.00] | mg/L |
| Cr 267.716*† | 480.1 | 12.02 | 2.50% | [0.00] | mg/L |
| Cu 324.752*† | 4165.0 | 174.39 | 4.19% | [0.00] | mg/L |
| Fe 273.955*† | -273.4 | 41.15 | 15.05% | [0.00] | mg/L |
| K 766.490*† | 2002.5 | 159.93 | 7.99% | [0.00] | mg/L |
| Mg 279.077*† | -7482.5 | 98.48 | 1.32% | [0.00] | mg/L |
| Mn 257.610*† | -247.6 | 45.10 | 18.21% | [0.00] | mg/L |
| Mo 202.031*† | -47.8 | 2.17 | 4.55% | [0.00] | mg/L |
| Na 589.592*† | 4519.2 | 116.52 | 2.58% | [0.00] | mg/L |
| Ni 231.604*† | -72.5 | 11.40 | 15.73% | [0.00] | mg/L |
| P 213.617*† | -170.5 | 14.59 | 8.56% | [0.00] | mg/L |
| P 214.914† | -47.4 | 18.81 | 39.68% | [0.00] | mg/L |
| Pb 220.353*† | 38.4 | 16.68 | 43.49% | [0.00] | mg/L |
| Sb 206.836† | 16.5 | 0.19 | 1.13% | [0.00] | mg/L |
| Sb 217.582*† | -1.9 | 10.67 | 576.63% | [0.00] | mg/L |
| Se 196.026*† | 5.0 | 13.18 | 264.86% | [0.00] | mg/L |
| Si 251.611*† | 1258.9 | 35.07 | 2.79% | [0.00] | mg/L |
| Sn 189.927*† | -98.8 | 9.12 | 9.22% | [0.00] | mg/L |
| Sn 242.170† | -421.1 | 5.05 | 1.20% | [0.00] | mg/L |
| Sr 407.771*† | 123.2 | 3.07 | 2.49% | [0.00] | mg/L |
| Ti 334.940† | 28104.5 | 120.59 | 0.43% | [0.00] | mg/L |
| Ti 336.121*† | -1203.1 | 192.84 | 16.03% | [0.00] | mg/L |
| Tl 190.801*† | -0.1 | 1.53 | >999.9% | [0.00] | mg/L |
| V 292.402*† | 153.1 | 27.90 | 18.22% | [0.00] | mg/L |
| Zn 206.200*† | 2580.0 | 30.41 | 1.18% | [0.00] | mg/L |
| Zn 213.857*† | 4553.2 | 67.04 | 1.47% | [0.00] | mg/L |

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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: 3/17/2017 9:55:55 AM
Data Type: Reprocessed on 3/17/2017 5:16:36 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD3-M111116A_935_ICP7300

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Tb 384 | 67211.0 | 267.67 | 0.40% | 87.96 | % |
| Tb 350 | 109886.8 | 676.42 | 0.62% | 89.57 | % |
| Ag 328.068*† | 140796.1 | 408.52 | 0.29% | [0.75] | mg/L |
| Al 308.215*† | 468203.2 | 1087.53 | 0.23% | [27.0] | mg/L |
| As 188.979† | 15791.2 | 46.93 | 0.30% | [7.50] | mg/L |
| As 193.696*† | 11038.0 | 15.45 | 0.14% | [7.50] | mg/L |
| B 249.677*† | 359541.0 | 5685.41 | 1.58% | [7.50] | mg/L |
| Ba 233.527*† | 2298906.0 | 44973.45 | 1.96% | [15.0] | mg/L |
| Be 313.042*† | 4337052.1 | 89381.03 | 2.06% | [1.125] | mg/L |
| Ca 317.933*† | 124400.3 | 663.61 | 0.53% | [60.0] | mg/L |
| Cd 226.502*† | 113994.2 | 765.34 | 0.67% | [1.50] | mg/L |
| Cd 228.802† | 56666.3 | 298.31 | 0.53% | [1.50] | mg/L |
| Co 228.616*† | 102371.1 | 618.92 | 0.60% | [3.75] | mg/L |
| Cr 267.716*† | 133452.1 | 106.79 | 0.08% | [1.20] | mg/L |
| Cu 324.752*† | 466693.9 | 625.96 | 0.13% | [1.875] | mg/L |
| Fe 273.955*† | 173303.6 | 1022.40 | 0.59% | [7.50] | mg/L |
| K 766.490*† | 169848.6 | 961.02 | 0.57% | [54.0] | mg/L |
| Mg 279.077*† | 279410.4 | 1850.04 | 0.66% | [15.0] | mg/L |
| Mn 257.610*† | 980464.8 | 20127.58 | 2.05% | [1.50] | mg/L |
| Mo 202.031*† | 11210.6 | 11.69 | 0.10% | [1.20] | mg/L |
| Na 589.592*† | 329690.3 | 1780.62 | 0.54% | [72.0] | mg/L |
| Ni 231.604*† | 29318.3 | 14.29 | 0.05% | [1.20] | mg/L |
| P 213.617*† | 24231.9 | 160.00 | 0.66% | [12.0] | mg/L |
| P 214.914† | 14949.5 | 27.68 | 0.19% | [12.0] | mg/L |
| Pb 220.353*† | 58504.0 | 209.75 | 0.36% | [7.50] | mg/L |
| Sb 206.836† | 17213.1 | 74.95 | 0.44% | [9.0] | mg/L |
| Sb 217.582*† | 17124.9 | 47.52 | 0.28% | [9.0] | mg/L |
| Se 196.026*† | 6622.1 | 4.44 | 0.07% | [3.0] | mg/L |
| Si 251.611*† | 468426.8 | 6655.47 | 1.42% | [12.0] | mg/L |
| Sn 189.927*† | 35960.8 | 378.98 | 1.05% | [6.0] | mg/L |
| Sn 242.170† | 10596.3 | 8.76 | 0.08% | [6.0] | mg/L |
| Sr 407.771*† | 200432.5 | 1083.03 | 0.54% | [0.60] | mg/L |
| Ti 334.940† | 1019251.9 | 20209.27 | 1.98% | [1.20] | mg/L |
| Ti 336.121*† | 702772.9 | 1896.69 | 0.27% | [1.20] | mg/L |
| Tl 190.801*† | 5555.3 | 10.17 | 0.18% | [3.0] | mg/L |
| V 292.402*† | 500610.8 | 335.80 | 0.07% | [3.75] | mg/L |
| Zn 206.200*† | 201777.4 | 1507.67 | 0.75% | [5.0] | mg/L |
| Zn 213.857*† | 343384.6 | 1150.56 | 0.34% | [5.0] | mg/L |

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Method: iCal-6010b+200.7 EPA  Page 3  Date: 3/17/2017 5:16:38 PM

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: 3/17/2017 9:56:51 AM
Data Type: Reprocessed on 3/17/2017 5:16:38 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICV-M072816C

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 70714.6 | 92.55 | % | 0.627 | | | | 0.68% |
| Tb 350 | 116502.3 | 94.96 | % | 0.521 | | | | 0.55% |
| Ag 328.068*† | 93755.8 | 0.4994 | mg/L | 0.00307 | 0.4994 | mg/L | 0.00307 | 0.61% |
| QC value within limits for Ag 328.068* Recovery = 99.88% | | | | | | | | |
| Al 308.215*† | 72701.8 | 4.193 | mg/L | 0.0074 | 4.193 | mg/L | 0.0074 | 0.18% |
| QC value within limits for Al 308.215* Recovery = 104.81% | | | | | | | | |
| As 188.979† | 10082.6 | 4.789 | mg/L | 0.0481 | 4.789 | mg/L | 0.0481 | 1.00% |
| QC value within limits for As 188.979 Recovery = 95.77% | | | | | | | | |
| As 193.696*† | 7045.8 | 4.787 | mg/L | 0.0559 | 4.787 | mg/L | 0.0559 | 1.17% |
| QC value within limits for As 193.696* Recovery = 95.75% | | | | | | | | |
| B 249.677*† | 123101.7 | 2.568 | mg/L | 0.0370 | 2.568 | mg/L | 0.0370 | 1.44% |
| QC value within limits for B 249.677* Recovery = 102.72% | | | | | | | | |
| Ba 233.527*† | 151972.3 | 0.9916 | mg/L | 0.00475 | 0.9916 | mg/L | 0.00475 | 0.48% |
| QC value within limits for Ba 233.527* Recovery = 99.16% | | | | | | | | |
| Be 313.042*† | 1841806.8 | 0.4778 | mg/L | 0.00193 | 0.4778 | mg/L | 0.00193 | 0.40% |
| QC value within limits for Be 313.042* Recovery = 95.55% | | | | | | | | |
| Ca 317.933*† | 37775.6 | 18.22 | mg/L | 0.842 | 18.22 | mg/L | 0.842 | 4.62% |
| QC value within limits for Ca 317.933* Recovery = 91.10% | | | | | | | | |
| Cd 226.502*† | 113464.6 | 1.493 | mg/L | 0.0189 | 1.493 | mg/L | 0.0189 | 1.27% |
| QC value within limits for Cd 226.502* Recovery = 99.54% | | | | | | | | |
| Cd 228.802† | 56114.1 | 1.485 | mg/L | 0.0106 | 1.485 | mg/L | 0.0106 | 0.71% |
| Co 228.616*† | 28326.4 | 1.038 | mg/L | 0.0076 | 1.038 | mg/L | 0.0076 | 0.74% |
| QC value within limits for Co 228.616* Recovery = 103.76% | | | | | | | | |
| Cr 267.716*† | 44355.7 | 0.3988 | mg/L | 0.00005 | 0.3988 | mg/L | 0.00005 | 0.01% |
| QC value within limits for Cr 267.716* Recovery = 99.71% | | | | | | | | |
| Cu 324.752*† | 250551.2 | 1.007 | mg/L | 0.0005 | 1.007 | mg/L | 0.0005 | 0.05% |
| QC value within limits for Cu 324.752* Recovery = 100.66% | | | | | | | | |
| Fe 273.955*† | 2327290.8 | 100.7 | mg/L | 1.13 | 100.7 | mg/L | 1.13 | 1.12% |
| QC value within limits for Fe 273.955* Recovery = 100.72% | | | | | | | | |
| K 766.490*† | 23518.1 | 7.477 | mg/L | 0.2184 | 7.477 | mg/L | 0.2184 | 2.92% |
| QC value within limits for K 766.490* Recovery = 93.46% | | | | | | | | |
| Mg 279.077*† | 186912.8 | 10.03 | mg/L | 0.091 | 10.03 | mg/L | 0.091 | 0.91% |
| QC value within limits for Mg 279.077* Recovery = 100.34% | | | | | | | | |
| Mn 257.610*† | 644950.1 | 0.9867 | mg/L | 0.00575 | 0.9867 | mg/L | 0.00575 | 0.58% |
| QC value within limits for Mn 257.610* Recovery = 98.67% | | | | | | | | |
| Mo 202.031*† | 22157.6 | 2.372 | mg/L | 0.0217 | 2.372 | mg/L | 0.0217 | 0.91% |
| QC value within limits for Mo 202.031* Recovery = 94.87% | | | | | | | | |
| Na 589.592*† | 233902.4 | 51.08 | mg/L | 1.750 | 51.08 | mg/L | 1.750 | 3.43% |
| QC value within limits for Na 589.592* Recovery = 94.59% | | | | | | | | |
| Ni 231.604*† | 9906.7 | 0.4055 | mg/L | 0.00196 | 0.4055 | mg/L | 0.00196 | 0.48% |
| QC value within limits for Ni 231.604* Recovery = 101.37% | | | | | | | | |
| P 213.617*† | 9579.7 | 4.744 | mg/L | 0.0364 | 4.744 | mg/L | 0.0364 | 0.77% |
| QC value within limits for P 213.617* Recovery = 94.88% | | | | | | | | |
| P 214.914† | 6086.4 | 4.886 | mg/L | 0.0260 | 4.886 | mg/L | 0.0260 | 0.53% |
| Pb 220.353*† | 39818.9 | 5.105 | mg/L | 0.0332 | 5.105 | mg/L | 0.0332 | 0.65% |
| QC value within limits for Pb 220.353* Recovery = 102.09% | | | | | | | | |
| Sb 206.836† | 3615.8 | 1.891 | mg/L | 0.0228 | 1.891 | mg/L | 0.0228 | 1.21% |
| QC value within limits for Sb 206.836 Recovery = 94.53% | | | | | | | | |
| Sb 217.582*† | 3626.0 | 1.906 | mg/L | 0.0328 | 1.906 | mg/L | 0.0328 | 1.72% |
| QC value within limits for Sb 217.582* Recovery = 95.28% | | | | | | | | |
| Se 196.026*† | 4198.6 | 1.902 | mg/L | 0.0261 | 1.902 | mg/L | 0.0261 | 1.37% |
| QC value within limits for Se 196.026* Recovery = 95.10% | | | | | | | | |
| Si 251.611*† | 373052.9 | 9.557 | mg/L | 0.0682 | 9.557 | mg/L | 0.0682 | 0.71% |
| QC value within limits for Si 251.611* Recovery = 95.57% | | | | | | | | |
| Sn 189.927*† | 14951.4 | 2.495 | mg/L | 0.0224 | 2.495 | mg/L | 0.0224 | 0.90% |
| QC value within limits for Sn 189.927* Recovery = 99.79% | | | | | | | | |
| Sn 242.170† | 4857.2 | 2.750 | mg/L | 0.0544 | 2.750 | mg/L | 0.0544 | 1.98% |
| Sr 407.771*† | 62502.7 | 0.1871 | mg/L | 0.00655 | 0.1871 | mg/L | 0.00655 | 3.50% |

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QC value within limits for Sr 407.771* Recovery = 93.55%

| | | | | | | |
|---|---|---|---|---|---|---|
| Ti 334.940† | 3973962.1 | 4.679 mg/L | 0.0271 | 4.679 mg/L | 0.0271 | 0.58% |
| Ti 336.121*† | 2805305.6 | 4.790 mg/L | 0.0307 | 4.790 mg/L | 0.0307 | 0.64% |

QC value within limits for Ti 336.121* Recovery = 95.80%

| | | | | | | |
|---|---|---|---|---|---|---|
| Tl 190.801*† | 3570.0 | 1.928 mg/L | 0.0012 | 1.928 mg/L | 0.0012 | 0.06% |

QC value within limits for Tl 190.801* Recovery = 96.39%

| | | | | | | |
|---|---|---|---|---|---|---|
| V 292.402*† | 132140.7 | 0.9882 mg/L | 0.00318 | 0.9882 mg/L | 0.00318 | 0.32% |

QC value within limits for V 292.402* Recovery = 98.82%

| | | | | | | |
|---|---|---|---|---|---|---|
| Zn 206.200*† | 61666.9 | 1.528 mg/L | 0.0153 | 1.528 mg/L | 0.0153 | 1.00% |

QC value within limits for Zn 206.200* Recovery = 101.87%

| | | | | | | |
|---|---|---|---|---|---|---|
| Zn 213.857*† | 105044.9 | 1.521 mg/L | 0.0145 | 1.521 mg/L | 0.0145 | 0.95% |

QC value within limits for Zn 213.857* Recovery = 101.41%

All analyte(s) passed QC.

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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: 3/17/2017 10:01:57 AM
Data Type: Reprocessed on 3/17/2017 5:16:40 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICB-R12091601

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 76592.5 | 100.2 | % | 0.59 | | | | 0.59% |
| Tb 350 | 122137.2 | 99.55 | % | 0.885 | | | | 0.89% |
| Ag 328.068*† | -107.8 | -0.0006 | mg/L | 0.00061 | -0.0006 | mg/L | 0.00061 | 106.81% |
| Al 308.215*† | 122.9 | 0.0071 | mg/L | 0.00018 | 0.0071 | mg/L | 0.00018 | 2.49% |
| As 188.979† | -0.8 | -0.0004 | mg/L | 0.00168 | -0.0004 | mg/L | 0.00168 | 455.27% |
| As 193.696*† | -6.0 | -0.0041 | mg/L | 0.00144 | -0.0041 | mg/L | 0.00144 | 35.44% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 862.1 | 0.0180 | mg/L | 0.00096 | 0.0180 | mg/L | 0.00096 | 5.36% |
| QC value within limits for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | 59.6 | 0.0004 | mg/L | 0.00004 | 0.0004 | mg/L | 0.00004 | 9.40% |
| Be 313.042*† | 28.3 | 0.0000 | mg/L | 0.00002 | 0.0000 | mg/L | 0.00002 | 233.85% |
| Ca 317.933*† | 7.8 | 0.0037 | mg/L | 0.00515 | 0.0037 | mg/L | 0.00515 | 137.46% |
| Cd 226.502*† | 4.8 | 0.0001 | mg/L | 0.00003 | 0.0001 | mg/L | 0.00003 | 48.94% |
| Cd 228.802† | -2.6 | -0.0001 | mg/L | 0.00022 | -0.0001 | mg/L | 0.00022 | 326.16% |
| Co 228.616*† | 0.8 | 0.0000 | mg/L | 0.00059 | 0.0000 | mg/L | 0.00059 | >999.9% |
| Cr 267.716*† | -31.9 | -0.0003 | mg/L | 0.00105 | -0.0003 | mg/L | 0.00105 | 365.32% |
| Cu 324.752*† | -153.3 | -0.0006 | mg/L | 0.00043 | -0.0006 | mg/L | 0.00043 | 70.04% |
| Fe 273.955*† | 257.4 | 0.0111 | mg/L | 0.00073 | 0.0111 | mg/L | 0.00073 | 6.53% |
| K 766.490*† | -155.2 | -0.0493 | mg/L | 0.02811 | -0.0493 | mg/L | 0.02811 | 56.98% |
| Mg 279.077*† | 124.9 | 0.0067 | mg/L | 0.00278 | 0.0067 | mg/L | 0.00278 | 41.53% |
| Mn 257.610*† | 128.7 | 0.0002 | mg/L | 0.00006 | 0.0002 | mg/L | 0.00006 | 30.85% |
| Mo 202.031*† | -3.6 | -0.0004 | mg/L | 0.00099 | -0.0004 | mg/L | 0.00099 | 258.80% |
| Na 589.592*† | -217.3 | -0.0475 | mg/L | 0.02930 | -0.0475 | mg/L | 0.02930 | 61.74% |
| Ni 231.604*† | 12.6 | 0.0005 | mg/L | 0.00040 | 0.0005 | mg/L | 0.00040 | 76.56% |
| P 213.617*† | 15.8 | 0.0078 | mg/L | 0.00664 | 0.0078 | mg/L | 0.00664 | 84.81% |
| P 214.914† | 13.9 | 0.0112 | mg/L | 0.00343 | 0.0112 | mg/L | 0.00343 | 30.72% |
| Pb 220.353*† | 16.0 | 0.0021 | mg/L | 0.00003 | 0.0021 | mg/L | 0.00003 | 1.50% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | | |
| Sb 206.836† | 5.7 | 0.0030 | mg/L | 0.00341 | 0.0030 | mg/L | 0.00341 | 113.63% |
| Sb 217.582*† | 0.9 | 0.0005 | mg/L | 0.00024 | 0.0005 | mg/L | 0.00024 | 50.14% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 6.8 | 0.0031 | mg/L | 0.00252 | 0.0031 | mg/L | 0.00252 | 81.34% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 33.5 | 0.0009 | mg/L | 0.00205 | 0.0009 | mg/L | 0.00205 | 239.11% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | | |
| Sn 189.927*† | 24.0 | 0.0040 | mg/L | 0.00052 | 0.0040 | mg/L | 0.00052 | 12.93% |
| Sn 242.170† | 34.6 | 0.0196 | mg/L | 0.01367 | 0.0196 | mg/L | 0.01367 | 69.73% |
| Sr 407.771*† | 7.7 | 0.0000 | mg/L | 0.00004 | 0.0000 | mg/L | 0.00004 | 180.14% |
| Ti 334.940† | 23.3 | 0.0000 | mg/L | 0.00001 | 0.0000 | mg/L | 0.00001 | 22.65% |
| Ti 336.121*† | 36.1 | 0.0001 | mg/L | 0.00003 | 0.0001 | mg/L | 0.00003 | 47.54% |
| Tl 190.801*† | 1.6 | 0.0009 | mg/L | 0.00710 | 0.0009 | mg/L | 0.00710 | 822.14% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 112.8 | 0.0008 | mg/L | 0.00032 | 0.0008 | mg/L | 0.00032 | 37.69% |
| Zn 206.200*† | -267.8 | -0.0066 | mg/L | 0.00040 | -0.0066 | mg/L | 0.00040 | 5.97% |
| Zn 213.857*† | -400.5 | -0.0058 | mg/L | 0.00031 | -0.0058 | mg/L | 0.00031 | 5.33% |

All analyte(s) passed QC.

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Method: iCal-6010b+200.7 EPA  Page 1  Date: 3/17/2017 5:19:06 PM

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: 3/17/2017 10:02:57 AM
Data Type: Reprocessed on 3/17/2017 5:19:06 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS_A - M110116B

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 63772.9 | 83.46 | % | 0.375 | | | | 0.45% |
| Tb 350 | 104655.8 | 85.31 | % | 0.171 | | | | 0.20% |
| Ag 328.068*† | -240.2 | -0.0013 | mg/L | 0.00049 | -0.0013 | mg/L | 0.00049 | 38.29% |
| Al 308.215*† | 439533.2 | 25.35 | mg/L | 0.179 | 25.35 | mg/L | 0.179 | 0.71% |
| As 188.979† | 15.9 | 0.0075 | mg/L | 0.00009 | 0.0075 | mg/L | 0.00009 | 1.14% |
| As 193.696*† | 6.5 | 0.0044 | mg/L | 0.00321 | 0.0044 | mg/L | 0.00321 | 72.43% |
| B 249.677*† | 790.0 | 0.0165 | mg/L | 0.00480 | 0.0165 | mg/L | 0.00480 | 29.12% |
| Ba 233.527*† | 393.8 | 0.0026 | mg/L | 0.00017 | 0.0026 | mg/L | 0.00017 | 6.57% |
| Be 313.042*† | -245.4 | -0.0001 | mg/L | 0.00002 | -0.0001 | mg/L | 0.00002 | 31.29% |
| Ca 317.933*† | 244600.5 | 118.0 | mg/L | 2.61 | 118.0 | mg/L | 2.61 | 2.22% |
| Cd 226.502*† | 165.5 | 0.0022 | mg/L | 0.00012 | 0.0022 | mg/L | 0.00012 | 5.45% |
| Cd 228.802† | 9.7 | 0.0003 | mg/L | 0.00039 | 0.0003 | mg/L | 0.00039 | 152.75% |
| Co 228.616*† | 28.6 | 0.0010 | mg/L | 0.00066 | 0.0010 | mg/L | 0.00066 | 63.38% |
| Cr 267.716*† | -123.7 | -0.0011 | mg/L | 0.00035 | -0.0011 | mg/L | 0.00035 | 31.22% |
| Cu 324.752*† | 1071.7 | 0.0043 | mg/L | 0.00049 | 0.0043 | mg/L | 0.00049 | 11.30% |
| Fe 273.955*† | 2255804.8 | 97.62 | mg/L | 0.703 | 97.62 | mg/L | 0.703 | 0.72% |
| K 766.490*† | 417.3 | 0.1327 | mg/L | 0.00914 | 0.1327 | mg/L | 0.00914 | 6.89% |
| Mg 279.077*† | 1125394.9 | 60.42 | mg/L | 0.853 | 60.42 | mg/L | 0.853 | 1.41% |
| Mn 257.610*† | -54.3 | -0.0001 | mg/L | 0.00006 | -0.0001 | mg/L | 0.00006 | 77.90% |
| Mo 202.031*† | 10.1 | 0.0011 | mg/L | 0.00124 | 0.0011 | mg/L | 0.00124 | 114.99% |
| Na 589.592*† | 97129.0 | 21.21 | mg/L | 0.292 | 21.21 | mg/L | 0.292 | 1.38% |
| Ni 231.604*† | 14.4 | 0.0006 | mg/L | 0.00022 | 0.0006 | mg/L | 0.00022 | 37.18% |
| P 213.617*† | -223.5 | -0.1107 | mg/L | 0.01972 | -0.1107 | mg/L | 0.01972 | 17.82% |
| P 214.914† | 55.9 | 0.0449 | mg/L | 0.00135 | 0.0449 | mg/L | 0.00135 | 3.01% |
| Pb 220.353*† | -34.0 | -0.0044 | mg/L | 0.00029 | -0.0044 | mg/L | 0.00029 | 6.58% |
| Sb 206.836† | 22.4 | 0.0117 | mg/L | 0.00640 | 0.0117 | mg/L | 0.00640 | 54.67% |
| Sb 217.582*† | -16.2 | -0.0085 | mg/L | 0.00599 | -0.0085 | mg/L | 0.00599 | 70.42% |
| Se 196.026*† | -16.4 | -0.0074 | mg/L | 0.00274 | -0.0074 | mg/L | 0.00274 | 36.97% |
| Si 251.611*† | 198.1 | 0.0051 | mg/L | 0.00168 | 0.0051 | mg/L | 0.00168 | 33.02% |
| Sn 189.927*† | 2.2 | 0.0004 | mg/L | 0.00460 | 0.0004 | mg/L | 0.00460 | >999.9% |
| Sn 242.170† | 507.9 | 0.2876 | mg/L | 0.02531 | 0.2876 | mg/L | 0.02531 | 8.80% |
| Sr 407.771*† | 1119.9 | 0.0034 | mg/L | 0.00018 | 0.0034 | mg/L | 0.00018 | 5.37% |
| Ti 334.940† | -2475.3 | -0.0029 | mg/L | 0.00041 | -0.0029 | mg/L | 0.00041 | 14.04% |
| Ti 336.121*† | -1230.8 | -0.0021 | mg/L | 0.00034 | -0.0021 | mg/L | 0.00034 | 16.24% |
| Tl 190.801*† | -3.2 | -0.0017 | mg/L | 0.00013 | -0.0017 | mg/L | 0.00013 | 7.69% |
| V 292.402*† | 391.7 | 0.0013 | mg/L | 0.00010 | 0.0013 | mg/L | 0.00010 | 7.36% |
| Zn 206.200*† | 30.7 | 0.0008 | mg/L | 0.00088 | 0.0008 | mg/L | 0.00088 | 115.43% |
| Zn 213.857*† | 551.7 | -0.0001 | mg/L | 0.00141 | -0.0001 | mg/L | 0.00141 | >999.9% |

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Method: iCal-6010b+200.7 EPA  Page 1  Date: 3/17/2017 5:19:41 PM

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: 3/17/2017 10:03:46 AM
Data Type: Reprocessed on 3/17/2017 5:19:41 PM

Initial Sample Vol:
Sample Prep Vol:

Mean Data: ICS_AB - M110116A

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 65261.7 | 85.41 | % | 0.920 | | | | 1.08% |
| Tb 350 | 106819.9 | 87.07 | % | 0.285 | | | | 0.33% |
| Ag 328.068*† | 58805.1 | 0.3132 | mg/L | 0.00004 | 0.3132 | mg/L | 0.00004 | 0.01% |
| Al 308.215*† | 431145.1 | 24.86 | mg/L | 0.061 | 24.86 | mg/L | 0.061 | 0.25% |
| As 188.979† | 2126.0 | 1.010 | mg/L | 0.0217 | 1.010 | mg/L | 0.0217 | 2.15% |
| As 193.696*† | 1469.6 | 0.9985 | mg/L | 0.02059 | 0.9985 | mg/L | 0.02059 | 2.06% |
| B 249.677*† | 23798.1 | 0.4964 | mg/L | 0.00293 | 0.4964 | mg/L | 0.00293 | 0.59% |
| Ba 233.527*† | 46725.7 | 0.3049 | mg/L | 0.00133 | 0.3049 | mg/L | 0.00133 | 0.44% |
| Be 313.042*† | 396616.1 | 0.1029 | mg/L | 0.00049 | 0.1029 | mg/L | 0.00049 | 0.48% |
| Ca 317.933*† | 241131.0 | 116.3 | mg/L | 1.36 | 116.3 | mg/L | 1.36 | 1.17% |
| Cd 226.502*† | 22733.2 | 0.2991 | mg/L | 0.00387 | 0.2991 | mg/L | 0.00387 | 1.29% |
| Cd 228.802† | 11366.4 | 0.3009 | mg/L | 0.00394 | 0.3009 | mg/L | 0.00394 | 1.31% |
| Co 228.616*† | 8451.6 | 0.3096 | mg/L | 0.00353 | 0.3096 | mg/L | 0.00353 | 1.14% |
| Cr 267.716*† | 34182.2 | 0.3074 | mg/L | 0.00025 | 0.3074 | mg/L | 0.00025 | 0.08% |
| Cu 324.752*† | 80015.4 | 0.3215 | mg/L | 0.00051 | 0.3215 | mg/L | 0.00051 | 0.16% |
| Fe 273.955*† | 2215607.8 | 95.88 | mg/L | 0.553 | 95.88 | mg/L | 0.553 | 0.58% |
| K 766.490*† | 65570.1 | 20.85 | mg/L | 0.231 | 20.85 | mg/L | 0.231 | 1.11% |
| Mg 279.077*† | 1100036.2 | 59.05 | mg/L | 0.534 | 59.05 | mg/L | 0.534 | 0.90% |
| Mn 257.610*† | 130803.6 | 0.2001 | mg/L | 0.00073 | 0.2001 | mg/L | 0.00073 | 0.37% |
| Mo 202.031*† | 2813.9 | 0.3012 | mg/L | 0.00168 | 0.3012 | mg/L | 0.00168 | 0.56% |
| Na 589.592*† | 94241.5 | 20.58 | mg/L | 0.228 | 20.58 | mg/L | 0.228 | 1.11% |
| Ni 231.604*† | 7585.6 | 0.3105 | mg/L | 0.00340 | 0.3105 | mg/L | 0.00340 | 1.09% |
| P 213.617*† | -183.7 | -0.0910 | mg/L | 0.00707 | -0.0910 | mg/L | 0.00707 | 7.78% |
| P 214.914† | 65.5 | 0.0526 | mg/L | 0.00159 | 0.0526 | mg/L | 0.00159 | 3.03% |
| Pb 220.353*† | 7844.5 | 1.006 | mg/L | 0.0162 | 1.006 | mg/L | 0.0162 | 1.61% |
| Sb 206.836† | 1871.4 | 0.9785 | mg/L | 0.01326 | 0.9785 | mg/L | 0.01326 | 1.36% |
| Sb 217.582*† | 1835.5 | 0.9646 | mg/L | 0.00004 | 0.9646 | mg/L | 0.00004 | 0.00% |
| Se 196.026*† | 1134.6 | 0.5140 | mg/L | 0.01536 | 0.5140 | mg/L | 0.01536 | 2.99% |
| Si 251.611*† | 8136.0 | 0.2084 | mg/L | 0.00110 | 0.2084 | mg/L | 0.00110 | 0.53% |
| Sn 189.927*† | -52.3 | -0.0087 | mg/L | 0.00059 | -0.0087 | mg/L | 0.00059 | 6.80% |
| Sn 242.170† | 441.3 | 0.2499 | mg/L | 0.01341 | 0.2499 | mg/L | 0.01341 | 5.37% |
| Sr 407.771*† | 841.9 | 0.0025 | mg/L | 0.00011 | 0.0025 | mg/L | 0.00011 | 4.21% |
| Ti 334.940† | 843987.6 | 0.9937 | mg/L | 0.00409 | 0.9937 | mg/L | 0.00409 | 0.41% |
| Ti 336.121*† | 593408.8 | 1.013 | mg/L | 0.0020 | 1.013 | mg/L | 0.0020 | 0.19% |
| Tl 190.801*† | 1832.3 | 0.9895 | mg/L | 0.00908 | 0.9895 | mg/L | 0.00908 | 0.92% |
| V 292.402*† | 40860.5 | 0.3045 | mg/L | 0.00144 | 0.3045 | mg/L | 0.00144 | 0.47% |
| Zn 206.200*† | 12732.3 | 0.3155 | mg/L | 0.00409 | 0.3155 | mg/L | 0.00409 | 1.30% |
| Zn 213.857*† | 22429.1 | 0.3186 | mg/L | 0.00410 | 0.3186 | mg/L | 0.00410 | 1.29% |

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Analysis Begun

Start Time: 3/17/2017 11:50:40 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/17/2017 9:19:04 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17031701.sif
Batch ID:
Results Data Set: 170317C1
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: 3/17/2017 11:50:51 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 | 78525.4 | 275.65 | 0.35% | 100.0 | % |
| Tb 350 | 126778.9 | 196.16 | 0.15% | 100.0 | % |
| Ag 328.068*† | -892.8 | 142.26 | 15.93% | [0.00] | mg/L |
| Al 308.215*† | -2502.8 | 26.87 | 1.07% | [0.00] | mg/L |
| As 188.979† | 9.3 | 4.59 | 49.28% | [0.00] | mg/L |
| As 193.696*† | 6.6 | 7.07 | 106.82% | [0.00] | mg/L |
| B 249.677*† | -587.9 | 29.08 | 4.95% | [0.00] | mg/L |
| Ba 233.527*† | 291.0 | 3.05 | 1.05% | [0.00] | mg/L |
| Be 313.042*† | 112.7 | 103.25 | 91.64% | [0.00] | mg/L |
| Ca 317.933*† | 68.3 | 1.21 | 1.78% | [0.00] | mg/L |
| Cd 226.502*† | 63.4 | 7.90 | 12.45% | [0.00] | mg/L |
| Cd 228.802† | 26.6 | 5.31 | 19.97% | [0.00] | mg/L |
| Co 228.616*† | -50.4 | 6.19 | 12.29% | [0.00] | mg/L |
| Cr 267.716*† | 574.3 | 164.42 | 28.63% | [0.00] | mg/L |
| Cu 324.752*† | 2539.9 | 98.04 | 3.86% | [0.00] | mg/L |
| Fe 273.955*† | -262.8 | 21.91 | 8.34% | [0.00] | mg/L |
| K 766.490*† | 1890.5 | 95.41 | 5.05% | [0.00] | mg/L |
| Mg 279.077*† | -7591.4 | 44.49 | 0.59% | [0.00] | mg/L |
| Mn 257.610*† | 19.4 | 11.04 | 56.87% | [0.00] | mg/L |
| Mo 202.031*† | -43.6 | 8.36 | 19.18% | [0.00] | mg/L |
| Na 589.592*† | 2788.4 | 30.80 | 1.10% | [0.00] | mg/L |
| Ni 231.604*† | -42.9 | 9.27 | 21.60% | [0.00] | mg/L |
| P 213.617*† | -131.5 | 26.36 | 20.05% | [0.00] | mg/L |
| P 214.914† | -40.9 | 5.76 | 14.09% | [0.00] | mg/L |
| Pb 220.353*† | -0.3 | 8.06 | >999.9% | [0.00] | mg/L |
| Sb 206.836† | 28.6 | 7.87 | 27.52% | [0.00] | mg/L |
| Sb 217.582*† | -4.9 | 5.39 | 109.33% | [0.00] | mg/L |
| Se 196.026*† | 8.9 | 21.92 | 245.83% | [0.00] | mg/L |
| Si 251.611*† | 1472.0 | 21.19 | 1.44% | [0.00] | mg/L |
| Sn 189.927*† | -82.7 | 0.15 | 0.19% | [0.00] | mg/L |
| Sn 242.170† | -426.3 | 43.81 | 10.28% | [0.00] | mg/L |
| Sr 407.771*† | 174.1 | 18.30 | 10.51% | [0.00] | mg/L |
| Ti 334.940† | 29405.7 | 399.66 | 1.36% | [0.00] | mg/L |
| Ti 336.121*† | -1051.2 | 342.88 | 32.62% | [0.00] | mg/L |
| Tl 190.801*† | -11.4 | 0.72 | 6.28% | [0.00] | mg/L |
| V 292.402*† | 242.1 | 28.00 | 11.56% | [0.00] | mg/L |
| Zn 206.200*† | 490.0 | 8.93 | 1.82% | [0.00] | mg/L |
| Zn 213.857*† | 1216.4 | 12.51 | 1.03% | [0.00] | mg/L |

Return to Contents

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

Autosampler Location: 2
Date Collected: 3/17/2017 11:51:57 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 | 69650.3 | 828.97 | 1.19% | 88.70 | % |
| Tb 350 | 117308.5 | 1888.65 | 1.61% | 92.53 | % |
| Ag 328.068*† | 144401.5 | 648.95 | 0.45% | [0.75] | mg/L |
| Al 308.215*† | 477816.1 | 546.00 | 0.11% | [27.0] | mg/L |
| As 188.979† | 15500.7 | 234.06 | 1.51% | [7.50] | mg/L |
| As 193.696*† | 10811.8 | 164.70 | 1.52% | [7.50] | mg/L |
| B 249.677*† | 376427.8 | 7398.08 | 1.97% | [7.50] | mg/L |
| Ba 233.527*† | 2270101.2 | 2763.87 | 0.12% | [15.0] | mg/L |
| Be 313.042*† | 4189544.3 | 8595.66 | 0.21% | [1.125] | mg/L |
| Ca 317.933*† | 116731.7 | 2504.86 | 2.15% | [60.0] | mg/L |
| Cd 226.502*† | 118068.7 | 380.15 | 0.32% | [1.50] | mg/L |
| Cd 228.802† | 59924.0 | 524.69 | 0.88% | [1.50] | mg/L |
| Co 228.616*† | 107612.5 | 1048.00 | 0.97% | [3.75] | mg/L |
| Cr 267.716*† | 138182.7 | 39.38 | 0.03% | [1.20] | mg/L |
| Cu 324.752*† | 473282.7 | 1330.64 | 0.28% | [1.875] | mg/L |
| Fe 273.955*† | 178898.6 | 1304.35 | 0.73% | [7.50] | mg/L |
| K 766.490*† | 160935.6 | 3797.60 | 2.36% | [54.0] | mg/L |
| Mg 279.077*† | 288958.3 | 1489.04 | 0.52% | [15.0] | mg/L |
| Mn 257.610*† | 961154.3 | 436.63 | 0.05% | [1.50] | mg/L |
| Mo 202.031*† | 11215.1 | 151.65 | 1.35% | [1.20] | mg/L |
| Na 589.592*† | 315902.3 | 7237.48 | 2.29% | [72.0] | mg/L |
| Ni 231.604*† | 29197.8 | 110.27 | 0.38% | [1.20] | mg/L |
| P 213.617*† | 22665.4 | 322.70 | 1.42% | [12.0] | mg/L |
| P 214.914† | 14741.2 | 214.60 | 1.46% | [12.0] | mg/L |
| Pb 220.353*† | 60571.2 | 378.95 | 0.63% | [7.50] | mg/L |
| Sb 206.836† | 16946.4 | 252.02 | 1.49% | [9.0] | mg/L |
| Sb 217.582*† | 16904.1 | 215.48 | 1.27% | [9.0] | mg/L |
| Se 196.026*† | 6545.7 | 131.37 | 2.01% | [3.0] | mg/L |
| Si 251.611*† | 464762.3 | 4763.90 | 1.03% | [12.0] | mg/L |
| Sn 189.927*† | 36070.4 | 549.27 | 1.52% | [6.0] | mg/L |
| Sn 242.170† | 10578.0 | 156.99 | 1.48% | [6.0] | mg/L |
| Sr 407.771*† | 194110.5 | 4042.09 | 2.08% | [0.60] | mg/L |
| Ti 334.940† | 996689.3 | 1419.04 | 0.14% | [1.20] | mg/L |
| Ti 336.121*† | 720293.1 | 1176.74 | 0.16% | [1.20] | mg/L |
| Tl 190.801*† | 5550.5 | 83.51 | 1.50% | [3.0] | mg/L |
| V 292.402*† | 518041.6 | 1040.14 | 0.20% | [3.75] | mg/L |
| Zn 206.200*† | 205016.9 | 1771.27 | 0.86% | [5.0] | mg/L |
| Zn 213.857*† | 359744.4 | 2266.71 | 0.63% | [5.0] | mg/L |

Return to Contents

Sequence No.: 4
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15
User canceled analysis.

Autosampler Location: 1
Date Collected: 3/17/2017 11:53:45 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Analysis Begun

Start Time: 3/17/2017 11:54:18 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/17/2017 9:19:04 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17031701.sif
Batch ID:
Results Data Set: 170317C1
Results Library: W:\pe\7300\Results\results.mdb

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

Autosampler Location: 10
Date Collected: 3/17/2017 11:54:19 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICV-M072816C

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 74797.1 | 95.25 | % | 0.139 | | | | 0.15% |
| Tb 350 | 124523.0 | 98.22 | % | 0.339 | | | | 0.34% |
| Ag 328.068*† | 97402.7 | 0.5059 | mg/L | 0.00008 | 0.5059 | mg/L | 0.00008 | 0.01% |
| QC value within limits for Ag 328.068* Recovery = 101.18% | | | | | | | | |
| Al 308.215*† | 74451.7 | 4.207 | mg/L | 0.0297 | 4.207 | mg/L | 0.0297 | 0.71% |
| QC value within limits for Al 308.215* Recovery = 105.18% | | | | | | | | |
| As 188.979† | 10087.0 | 4.881 | mg/L | 0.0069 | 4.881 | mg/L | 0.0069 | 0.14% |
| QC value within limits for As 188.979 Recovery = 97.61% | | | | | | | | |
| As 193.696*† | 7031.5 | 4.878 | mg/L | 0.0042 | 4.878 | mg/L | 0.0042 | 0.09% |
| QC value within limits for As 193.696* Recovery = 97.55% | | | | | | | | |
| B 249.677*† | 127790.0 | 2.546 | mg/L | 0.0323 | 2.546 | mg/L | 0.0323 | 1.27% |
| QC value within limits for B 249.677* Recovery = 101.84% | | | | | | | | |
| Ba 233.527*† | 157230.8 | 1.039 | mg/L | 0.0045 | 1.039 | mg/L | 0.0045 | 0.43% |
| QC value within limits for Ba 233.527* Recovery = 103.89% | | | | | | | | |
| Be 313.042*† | 1831740.9 | 0.4919 | mg/L | 0.00020 | 0.4919 | mg/L | 0.00020 | 0.04% |
| QC value within limits for Be 313.042* Recovery = 98.37% | | | | | | | | |
| Ca 317.933*† | 37083.0 | 19.06 | mg/L | 0.379 | 19.06 | mg/L | 0.379 | 1.99% |
| QC value within limits for Ca 317.933* Recovery = 95.30% | | | | | | | | |
| Cd 226.502*† | 120376.7 | 1.529 | mg/L | 0.0056 | 1.529 | mg/L | 0.0056 | 0.37% |
| QC value within limits for Cd 226.502* Recovery = 101.95% | | | | | | | | |
| Cd 228.802† | 60468.0 | 1.514 | mg/L | 0.0087 | 1.514 | mg/L | 0.0087 | 0.57% |
| Co 228.616*† | 30292.5 | 1.056 | mg/L | 0.0038 | 1.056 | mg/L | 0.0038 | 0.36% |
| QC value within limits for Co 228.616* Recovery = 105.56% | | | | | | | | |
| Cr 267.716*† | 46861.7 | 0.4070 | mg/L | 0.00084 | 0.4070 | mg/L | 0.00084 | 0.21% |
| QC value within limits for Cr 267.716* Recovery = 101.74% | | | | | | | | |
| Cu 324.752*† | 258744.6 | 1.025 | mg/L | 0.0005 | 1.025 | mg/L | 0.0005 | 0.05% |
| QC value within limits for Cu 324.752* Recovery = 102.51% | | | | | | | | |
| Fe 273.955*† | 2359660.0 | 98.92 | mg/L | 0.803 | 98.92 | mg/L | 0.803 | 0.81% |
| QC value within limits for Fe 273.955* Recovery = 98.92% | | | | | | | | |
| K 766.490*† | 23288.8 | 7.814 | mg/L | 0.0298 | 7.814 | mg/L | 0.0298 | 0.38% |
| QC value within limits for K 766.490* Recovery = 97.68% | | | | | | | | |
| Mg 279.077*† | 196675.5 | 10.21 | mg/L | 0.061 | 10.21 | mg/L | 0.061 | 0.59% |
| QC value within limits for Mg 279.077* Recovery = 102.10% | | | | | | | | |
| Mn 257.610*† | 666783.3 | 1.041 | mg/L | 0.0022 | 1.041 | mg/L | 0.0022 | 0.21% |
| QC value within limits for Mn 257.610* Recovery = 104.06% | | | | | | | | |
| Mo 202.031*† | 22569.3 | 2.415 | mg/L | 0.0043 | 2.415 | mg/L | 0.0043 | 0.18% |
| QC value within limits for Mo 202.031* Recovery = 96.60% | | | | | | | | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Na 589.592*† | 235724.4 | 53.73 | mg/L | 0.660 | 53.73 | mg/L | 0.660 | 1.23% |
| QC value within limits for Na 589.592* Recovery = 99.49% | | | | | | | | |
| Ni 231.604*† | 9630.9 | 0.3958 | mg/L | 0.00109 | 0.3958 | mg/L | 0.00109 | 0.28% |
| QC value within limits for Ni 231.604* Recovery = 98.96% | | | | | | | | |
| P 213.617*† | 9014.4 | 4.773 | mg/L | 0.0010 | 4.773 | mg/L | 0.0010 | 0.02% |
| QC value within limits for P 213.617* Recovery = 95.45% | | | | | | | | |
| P 214.914† | 6098.1 | 4.964 | mg/L | 0.0119 | 4.964 | mg/L | 0.0119 | 0.24% |
| Pb 220.353*† | 41692.2 | 5.162 | mg/L | 0.0021 | 5.162 | mg/L | 0.0021 | 0.04% |
| QC value within limits for Pb 220.353* Recovery = 103.25% | | | | | | | | |
| Sb 206.836† | 3614.9 | 1.920 | mg/L | 0.0095 | 1.920 | mg/L | 0.0095 | 0.49% |
| QC value within limits for Sb 206.836 Recovery = 95.99% | | | | | | | | |
| Sb 217.582*† | 3630.9 | 1.933 | mg/L | 0.0073 | 1.933 | mg/L | 0.0073 | 0.38% |
| QC value within limits for Sb 217.582* Recovery = 96.66% | | | | | | | | |
| Se 196.026*† | 4244.8 | 1.945 | mg/L | 0.0028 | 1.945 | mg/L | 0.0028 | 0.14% |
| QC value within limits for Se 196.026* Recovery = 97.27% | | | | | | | | |
| Si 251.611*† | 381553.6 | 9.852 | mg/L | 0.0395 | 9.852 | mg/L | 0.0395 | 0.40% |
| QC value within limits for Si 251.611* Recovery = 98.52% | | | | | | | | |
| Sn 189.927*† | 14903.6 | 2.479 | mg/L | 0.0022 | 2.479 | mg/L | 0.0022 | 0.09% |
| QC value within limits for Sn 189.927* Recovery = 99.16% | | | | | | | | |
| Sn 242.170† | 4874.5 | 2.765 | mg/L | 0.0327 | 2.765 | mg/L | 0.0327 | 1.18% |
| Sr 407.771*† | 63761.0 | 0.1971 | mg/L | 0.00347 | 0.1971 | mg/L | 0.00347 | 1.76% |
| QC value within limits for Sr 407.771* Recovery = 98.54% | | | | | | | | |
| Ti 334.940† | 3955419.5 | 4.762 | mg/L | 0.0256 | 4.762 | mg/L | 0.0256 | 0.54% |
| Ti 336.121*† | 2826826.2 | 4.709 | mg/L | 0.0266 | 4.709 | mg/L | 0.0266 | 0.56% |
| QC value within limits for Ti 336.121* Recovery = 94.19% | | | | | | | | |
| Tl 190.801*† | 3636.3 | 1.965 | mg/L | 0.0031 | 1.965 | mg/L | 0.0031 | 0.16% |
| QC value within limits for Tl 190.801* Recovery = 98.27% | | | | | | | | |
| V 292.402*† | 140255.2 | 1.014 | mg/L | 0.0002 | 1.014 | mg/L | 0.0002 | 0.02% |
| QC value within limits for V 292.402* Recovery = 101.37% | | | | | | | | |
| Zn 206.200*† | 63808.8 | 1.556 | mg/L | 0.0025 | 1.556 | mg/L | 0.0025 | 0.16% |
| QC value within limits for Zn 206.200* Recovery = 103.75% | | | | | | | | |
| Zn 213.857*† | 111543.1 | 1.542 | mg/L | 0.0010 | 1.542 | mg/L | 0.0010 | 0.06% |
| QC value within limits for Zn 213.857* Recovery = 102.81% | | | | | | | | |

All analyte(s) passed QC.

Return to Contents

User canceled analysis.

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Analysis Begun

Start Time: 3/17/2017 11:56:35 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/17/2017 9:19:04 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17031701.sif
Batch ID:
Results Data Set: 170317C1
Results Library: W:\pe\7300\Results\results.mdb

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Sequence No.: 4
Sample ID: ICB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/17/2017 11:56:38 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

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Mean Data: ICB-R12091601

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 79446.3 | 101.2 | % | 2.03 | | | | 2.00% |
| Tb 350 | 129738.5 | 102.3 | % | 1.24 | | | | 1.22% |
| Ag 328.068*† | -188.0 | -0.0010 | mg/L | 0.00013 | -0.0010 | mg/L | 0.00013 | 13.40% |
| Al 308.215*† | -63.8 | -0.0036 | mg/L | 0.00073 | -0.0036 | mg/L | 0.00073 | 20.16% |
| As 188.979† | 4.2 | 0.0020 | mg/L | 0.00296 | 0.0020 | mg/L | 0.00296 | 146.78% |
| As 193.696*† | -2.6 | -0.0018 | mg/L | 0.00212 | -0.0018 | mg/L | 0.00212 | 116.69% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1202.1 | 0.0240 | mg/L | 0.00026 | 0.0240 | mg/L | 0.00026 | 1.09% |
| QC value greater than the upper limit for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | 54.6 | 0.0004 | mg/L | 0.00007 | 0.0004 | mg/L | 0.00007 | 19.44% |
| Be 313.042*† | 393.4 | 0.0001 | mg/L | 0.00002 | 0.0001 | mg/L | 0.00002 | 15.56% |
| Ca 317.933*† | -12.3 | -0.0063 | mg/L | 0.00402 | -0.0063 | mg/L | 0.00402 | 63.81% |
| Cd 226.502*† | 29.7 | 0.0004 | mg/L | 0.00005 | 0.0004 | mg/L | 0.00005 | 12.85% |
| Cd 228.802† | 20.3 | 0.0005 | mg/L | 0.00005 | 0.0005 | mg/L | 0.00005 | 10.17% |
| Co 228.616*† | -0.5 | -0.0000 | mg/L | 0.00024 | -0.0000 | mg/L | 0.00024 | >999.9% |
| Cr 267.716*† | -18.4 | -0.0002 | mg/L | 0.00062 | -0.0002 | mg/L | 0.00062 | 388.26% |
| Cu 324.752*† | 162.0 | 0.0006 | mg/L | 0.00014 | 0.0006 | mg/L | 0.00014 | 21.66% |
| Fe 273.955*† | 612.7 | 0.0257 | mg/L | 0.00266 | 0.0257 | mg/L | 0.00266 | 10.36% |
| K 766.490*† | -205.2 | -0.0689 | mg/L | 0.00044 | -0.0689 | mg/L | 0.00044 | 0.64% |
| Mg 279.077*† | 184.9 | 0.0096 | mg/L | 0.00250 | 0.0096 | mg/L | 0.00250 | 26.02% |
| Mn 257.610*† | 118.9 | 0.0002 | mg/L | 0.00012 | 0.0002 | mg/L | 0.00012 | 64.37% |
| Mo 202.031*† | 26.2 | 0.0028 | mg/L | 0.00110 | 0.0028 | mg/L | 0.00110 | 39.36% |
| Na 589.592*† | -68.1 | -0.0155 | mg/L | 0.01017 | -0.0155 | mg/L | 0.01017 | 65.48% |
| Ni 231.604*† | -9.9 | -0.0004 | mg/L | 0.00044 | -0.0004 | mg/L | 0.00044 | 108.45% |
| P 213.617*† | 0.8 | 0.0004 | mg/L | 0.00295 | 0.0004 | mg/L | 0.00295 | 713.67% |
| P 214.914† | -1.2 | -0.0009 | mg/L | 0.00285 | -0.0009 | mg/L | 0.00285 | 301.65% |
| Pb 220.353*† | 17.5 | 0.0022 | mg/L | 0.00121 | 0.0022 | mg/L | 0.00121 | 55.60% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | | |
| Sb 206.836† | 11.0 | 0.0059 | mg/L | 0.00522 | 0.0059 | mg/L | 0.00522 | 89.12% |
| Sb 217.582*† | -4.7 | -0.0025 | mg/L | 0.00252 | -0.0025 | mg/L | 0.00252 | 100.50% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 5.6 | 0.0025 | mg/L | 0.01284 | 0.0025 | mg/L | 0.01284 | 504.14% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 241.9 | 0.0062 | mg/L | 0.00215 | 0.0062 | mg/L | 0.00215 | 34.41% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | | |
| Sn 189.927*† | 20.5 | 0.0034 | mg/L | 0.00093 | 0.0034 | mg/L | 0.00093 | 27.45% |
| Sn 242.170† | 42.9 | 0.0243 | mg/L | 0.00635 | 0.0243 | mg/L | 0.00635 | 26.10% |
| Sr 407.771*† | -8.2 | -0.0000 | mg/L | 0.00002 | -0.0000 | mg/L | 0.00002 | 68.59% |
| Ti 334.940† | 2826.8 | 0.0034 | mg/L | 0.00079 | 0.0034 | mg/L | 0.00079 | 23.11% |
| Ti 336.121*† | 2207.4 | 0.0037 | mg/L | 0.00027 | 0.0037 | mg/L | 0.00027 | 7.27% |
| Tl 190.801*† | 9.0 | 0.0049 | mg/L | 0.00630 | 0.0049 | mg/L | 0.00630 | 129.28% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 205.9 | 0.0015 | mg/L | 0.00046 | 0.0015 | mg/L | 0.00046 | 31.12% |
| Zn 206.200*† | -38.9 | -0.0009 | mg/L | 0.00009 | -0.0009 | mg/L | 0.00009 | 9.58% |
| Zn 213.857*† | -41.0 | -0.0006 | mg/L | 0.00005 | -0.0006 | mg/L | 0.00005 | 8.64% |

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Sequence No.: 11
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/17/2017 4:50:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 75620.1 | 96.30 | % | 1.710 | | | | 1.78% |
| Tb 350 | 124809.4 | 98.45 | % | 1.911 | | | | 1.94% |
| Ag 328.068*† | 70805.0 | 0.3678 | mg/L | 0.00473 | 0.3678 | mg/L | 0.00473 | 1.29% |
| QC value within limits for Ag 328.068* Recovery = 98.07% | | | | | | | | |
| Al 308.215*† | 241393.9 | 13.64 | mg/L | 0.019 | 13.64 | mg/L | 0.019 | 0.14% |
| QC value within limits for Al 308.215* Recovery = 101.04% | | | | | | | | |
| As 188.979† | 8057.9 | 3.899 | mg/L | 0.0742 | 3.899 | mg/L | 0.0742 | 1.90% |
| QC value within limits for As 188.979 Recovery = 103.97% | | | | | | | | |
| As 193.696*† | 5580.9 | 3.871 | mg/L | 0.0539 | 3.871 | mg/L | 0.0539 | 1.39% |
| QC value within limits for As 193.696* Recovery = 103.24% | | | | | | | | |
| B 249.677*† | 185276.0 | 3.691 | mg/L | 0.0021 | 3.691 | mg/L | 0.0021 | 0.06% |
| QC value within limits for B 249.677* Recovery = 98.44% | | | | | | | | |
| Ba 233.527*† | 1173224.0 | 7.752 | mg/L | 0.0161 | 7.752 | mg/L | 0.0161 | 0.21% |
| QC value within limits for Ba 233.527* Recovery = 103.36% | | | | | | | | |
| Be 313.042*† | 2172056.3 | 0.5833 | mg/L | 0.00163 | 0.5833 | mg/L | 0.00163 | 0.28% |
| QC value within limits for Be 313.042* Recovery = 103.69% | | | | | | | | |
| Ca 317.933*† | 61885.6 | 31.81 | mg/L | 0.456 | 31.81 | mg/L | 0.456 | 1.43% |
| QC value within limits for Ca 317.933* Recovery = 106.03% | | | | | | | | |
| Cd 226.502*† | 58880.1 | 0.7480 | mg/L | 0.00342 | 0.7480 | mg/L | 0.00342 | 0.46% |
| QC value within limits for Cd 226.502* Recovery = 99.74% | | | | | | | | |
| Cd 228.802† | 29148.8 | 0.7296 | mg/L | 0.00031 | 0.7296 | mg/L | 0.00031 | 0.04% |
| Co 228.616*† | 53512.3 | 1.865 | mg/L | 0.0063 | 1.865 | mg/L | 0.0063 | 0.34% |
| QC value within limits for Co 228.616* Recovery = 99.45% | | | | | | | | |
| Cr 267.716*† | 69005.1 | 0.5993 | mg/L | 0.00377 | 0.5993 | mg/L | 0.00377 | 0.63% |
| QC value within limits for Cr 267.716* Recovery = 99.88% | | | | | | | | |
| Cu 324.752*† | 236303.1 | 0.9362 | mg/L | 0.00375 | 0.9362 | mg/L | 0.00375 | 0.40% |
| QC value within limits for Cu 324.752* Recovery = 99.86% | | | | | | | | |
| Fe 273.955*† | 91769.0 | 3.847 | mg/L | 0.0124 | 3.847 | mg/L | 0.0124 | 0.32% |
| QC value within limits for Fe 273.955* Recovery = 102.59% | | | | | | | | |
| K 766.490*† | 81746.2 | 27.43 | mg/L | 0.169 | 27.43 | mg/L | 0.169 | 0.62% |
| QC value within limits for K 766.490* Recovery = 101.59% | | | | | | | | |
| Mg 279.077*† | 145727.7 | 7.565 | mg/L | 0.0359 | 7.565 | mg/L | 0.0359 | 0.48% |
| QC value within limits for Mg 279.077* Recovery = 100.86% | | | | | | | | |
| Mn 257.610*† | 497091.0 | 0.7758 | mg/L | 0.00208 | 0.7758 | mg/L | 0.00208 | 0.27% |
| QC value within limits for Mn 257.610* Recovery = 103.44% | | | | | | | | |
| Mo 202.031*† | 5779.4 | 0.6184 | mg/L | 0.01177 | 0.6184 | mg/L | 0.01177 | 1.90% |
| QC value within limits for Mo 202.031* Recovery = 103.06% | | | | | | | | |
| Na 589.592*† | 160747.4 | 36.64 | mg/L | 0.148 | 36.64 | mg/L | 0.148 | 0.40% |
| QC value within limits for Na 589.592* Recovery = 101.77% | | | | | | | | |
| Ni 231.604*† | 15243.5 | 0.6265 | mg/L | 0.01052 | 0.6265 | mg/L | 0.01052 | 1.68% |
| QC value within limits for Ni 231.604* Recovery = 104.42% | | | | | | | | |
| P 213.617*† | 11911.0 | 6.306 | mg/L | 0.0976 | 6.306 | mg/L | 0.0976 | 1.55% |
| QC value within limits for P 213.617* Recovery = 105.10% | | | | | | | | |
| P 214.914† | 7630.6 | 6.212 | mg/L | 0.1202 | 6.212 | mg/L | 0.1202 | 1.94% |
| Pb 220.353*† | 30461.8 | 3.772 | mg/L | 0.0278 | 3.772 | mg/L | 0.0278 | 0.74% |
| QC value within limits for Pb 220.353* Recovery = 100.58% | | | | | | | | |
| Sb 206.836† | 8794.3 | 4.671 | mg/L | 0.0772 | 4.671 | mg/L | 0.0772 | 1.65% |
| QC value within limits for Sb 206.836 Recovery = 103.79% | | | | | | | | |
| Sb 217.582*† | 8729.6 | 4.648 | mg/L | 0.0883 | 4.648 | mg/L | 0.0883 | 1.90% |
| QC value within limits for Sb 217.582* Recovery = 103.28% | | | | | | | | |
| Se 196.026*† | 3381.3 | 1.550 | mg/L | 0.0329 | 1.550 | mg/L | 0.0329 | 2.12% |
| QC value within limits for Se 196.026* Recovery = 103.31% | | | | | | | | |
| Si 251.611*† | 235447.0 | 6.079 | mg/L | 0.0160 | 6.079 | mg/L | 0.0160 | 0.26% |
| QC value within limits for Si 251.611* Recovery = 101.32% | | | | | | | | |
| Sn 189.927*† | 18846.8 | 3.135 | mg/L | 0.0532 | 3.135 | mg/L | 0.0532 | 1.70% |
| QC value within limits for Sn 189.927* Recovery = 104.50% | | | | | | | | |
| Sn 242.170† | 5471.9 | 3.104 | mg/L | 0.0741 | 3.104 | mg/L | 0.0741 | 2.39% |
| Sr 407.771*† | 101096.6 | 0.3125 | mg/L | 0.00062 | 0.3125 | mg/L | 0.00062 | 0.20% |
| QC value within limits for Sr 407.771* Recovery = 104.16% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 514930.3 | 0.6200 | mg/L | 0.00163 | 0.6200 | mg/L | 0.00163 | 0.26% |
| Ti 336.121*† | 362715.2 | 0.6043 | mg/L | 0.00049 | 0.6043 | mg/L | 0.00049 | 0.08% |
| QC value within limits for Ti 336.121* Recovery = 100.71% | | | | | | | | |
| Tl 190.801*† | 2892.5 | 1.563 | mg/L | 0.0245 | 1.563 | mg/L | 0.0245 | 1.57% |
| QC value within limits for Tl 190.801* Recovery = 104.22% | | | | | | | | |
| V 292.402*† | 259162.8 | 1.876 | mg/L | 0.0105 | 1.876 | mg/L | 0.0105 | 0.56% |
| QC value within limits for V 292.402* Recovery = 100.05% | | | | | | | | |
| Zn 206.200*† | 103111.2 | 2.515 | mg/L | 0.0136 | 2.515 | mg/L | 0.0136 | 0.54% |
| QC value within limits for Zn 206.200* Recovery = 100.59% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 12
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/17/2017 4:51:28 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 | 82509.7 | 105.1 | % | 1.52 | | | | 1.44% |
| Tb 350 | 133747.2 | 105.5 | % | 0.07 | | | | 0.06% |
| Ag 328.068*† | -155.1 | -0.0008 | mg/L | 0.00129 | -0.0008 | mg/L | 0.00129 | 159.93% |
| Al 308.215*† | 174.7 | 0.0099 | mg/L | 0.00238 | 0.0099 | mg/L | 0.00238 | 24.12% |
| As 188.979† | -4.2 | -0.0020 | mg/L | 0.00342 | -0.0020 | mg/L | 0.00342 | 167.35% |
| As 193.696*† | -4.0 | -0.0028 | mg/L | 0.00013 | -0.0028 | mg/L | 0.00013 | 4.65% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1678.4 | 0.0334 | mg/L | 0.00168 | 0.0334 | mg/L | 0.00168 | 5.02% |
| Ba 233.527*† | -302.8 | -0.0020 | mg/L | 0.00006 | -0.0020 | mg/L | 0.00006 | 2.84% |
| Be 313.042*† | -463.7 | -0.0001 | mg/L | 0.00003 | -0.0001 | mg/L | 0.00003 | 22.58% |
| Ca 317.933*† | -1.5 | -0.0008 | mg/L | 0.00434 | -0.0008 | mg/L | 0.00434 | 564.71% |
| Cd 226.502*† | -39.0 | -0.0005 | mg/L | 0.00010 | -0.0005 | mg/L | 0.00010 | 20.40% |
| Cd 228.802† | -9.5 | -0.0002 | mg/L | 0.00002 | -0.0002 | mg/L | 0.00002 | 8.24% |
| Co 228.616*† | -16.1 | -0.0006 | mg/L | 0.00003 | -0.0006 | mg/L | 0.00003 | 5.59% |
| Cr 267.716*† | -108.3 | -0.0009 | mg/L | 0.00006 | -0.0009 | mg/L | 0.00006 | 6.08% |
| Cu 324.752*† | -408.6 | -0.0016 | mg/L | 0.00022 | -0.0016 | mg/L | 0.00022 | 13.80% |
| Fe 273.955*† | 85.1 | 0.0036 | mg/L | 0.00012 | 0.0036 | mg/L | 0.00012 | 3.48% |
| K 766.490*† | -1137.3 | -0.3816 | mg/L | 0.01981 | -0.3816 | mg/L | 0.01981 | 5.19% |
| Mg 279.077*† | 367.7 | 0.0191 | mg/L | 0.00371 | 0.0191 | mg/L | 0.00371 | 19.44% |
| Mn 257.610*† | -49.0 | -0.0001 | mg/L | 0.00010 | -0.0001 | mg/L | 0.00010 | 132.92% |
| Mo 202.031*† | 5.4 | 0.0006 | mg/L | 0.00055 | 0.0006 | mg/L | 0.00055 | 95.09% |
| Na 589.592*† | -2040.6 | -0.4651 | mg/L | 0.00841 | -0.4651 | mg/L | 0.00841 | 1.81% |
| Ni 231.604*† | -4.4 | -0.0002 | mg/L | 0.00012 | -0.0002 | mg/L | 0.00012 | 68.80% |
| P 213.617*† | -7.1 | -0.0037 | mg/L | 0.00384 | -0.0037 | mg/L | 0.00384 | 102.68% |
| P 214.914† | 5.9 | 0.0048 | mg/L | 0.00073 | 0.0048 | mg/L | 0.00073 | 15.19% |
| Pb 220.353*† | -19.0 | -0.0024 | mg/L | 0.00275 | -0.0024 | mg/L | 0.00275 | 116.62% |
| Sb 206.836† | 1.3 | 0.0007 | mg/L | 0.00080 | 0.0007 | mg/L | 0.00080 | 114.01% |
| Sb 217.582*† | 3.8 | 0.0020 | mg/L | 0.00204 | 0.0020 | mg/L | 0.00204 | 100.91% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 9.2 | 0.0042 | mg/L | 0.00006 | 0.0042 | mg/L | 0.00006 | 1.49% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | -54.1 | -0.0014 | mg/L | 0.00287 | -0.0014 | mg/L | 0.00287 | 205.74% |
| Sn 189.927*† | 26.7 | 0.0044 | mg/L | 0.00042 | 0.0044 | mg/L | 0.00042 | 9.40% |
| Sn 242.170† | 35.4 | 0.0201 | mg/L | 0.01522 | 0.0201 | mg/L | 0.01522 | 75.85% |
| Sr 407.771*† | -37.0 | -0.0001 | mg/L | 0.00006 | -0.0001 | mg/L | 0.00006 | 50.02% |
| Ti 334.940† | -177.1 | -0.0002 | mg/L | 0.00018 | -0.0002 | mg/L | 0.00018 | 85.75% |
| Ti 336.121*† | 208.5 | 0.0003 | mg/L | 0.00009 | 0.0003 | mg/L | 0.00009 | 24.99% |
| Tl 190.801*† | 5.8 | 0.0031 | mg/L | 0.00551 | 0.0031 | mg/L | 0.00551 | 176.15% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 64.1 | 0.0005 | mg/L | 0.00056 | 0.0005 | mg/L | 0.00056 | 120.93% |
| Zn 206.200*† | -423.3 | -0.0103 | mg/L | 0.00021 | -0.0103 | mg/L | 0.00021 | 2.00% |
| QC value within limits for Zn 206.200* Recovery = Not calculated | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 23
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/17/2017 5:00:47 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 75988.0 | 96.77 | % | 1.054 | | | | 1.09% |
| Tb 350 | 126414.5 | 99.71 | % | 1.375 | | | | 1.38% |
| Ag 328.068*† | 71061.5 | 0.3691 | mg/L | 0.00167 | 0.3691 | mg/L | 0.00167 | 0.45% |
| QC value within limits for Ag 328.068* Recovery = 98.42% | | | | | | | | |
| Al 308.215*† | 244979.2 | 13.84 | mg/L | 0.066 | 13.84 | mg/L | 0.066 | 0.48% |
| QC value within limits for Al 308.215* Recovery = 102.54% | | | | | | | | |
| As 188.979† | 8134.8 | 3.936 | mg/L | 0.0390 | 3.936 | mg/L | 0.0390 | 0.99% |
| QC value within limits for As 188.979 Recovery = 104.96% | | | | | | | | |
| As 193.696*† | 5642.8 | 3.914 | mg/L | 0.0341 | 3.914 | mg/L | 0.0341 | 0.87% |
| QC value within limits for As 193.696* Recovery = 104.38% | | | | | | | | |
| B 249.677*† | 188110.3 | 3.748 | mg/L | 0.0834 | 3.748 | mg/L | 0.0834 | 2.23% |
| QC value within limits for B 249.677* Recovery = 99.94% | | | | | | | | |
| Ba 233.527*† | 1190651.5 | 7.867 | mg/L | 0.0435 | 7.867 | mg/L | 0.0435 | 0.55% |
| QC value within limits for Ba 233.527* Recovery = 104.90% | | | | | | | | |
| Be 313.042*† | 2194020.5 | 0.5892 | mg/L | 0.00418 | 0.5892 | mg/L | 0.00418 | 0.71% |
| QC value within limits for Be 313.042* Recovery = 104.74% | | | | | | | | |
| Ca 317.933*† | 60908.7 | 31.31 | mg/L | 0.340 | 31.31 | mg/L | 0.340 | 1.09% |
| QC value within limits for Ca 317.933* Recovery = 104.36% | | | | | | | | |
| Cd 226.502*† | 59677.4 | 0.7582 | mg/L | 0.00589 | 0.7582 | mg/L | 0.00589 | 0.78% |
| QC value within limits for Cd 226.502* Recovery = 101.09% | | | | | | | | |
| Cd 228.802† | 29679.3 | 0.7429 | mg/L | 0.00545 | 0.7429 | mg/L | 0.00545 | 0.73% |
| Co 228.616*† | 54413.2 | 1.896 | mg/L | 0.0168 | 1.896 | mg/L | 0.0168 | 0.89% |
| QC value within limits for Co 228.616* Recovery = 101.13% | | | | | | | | |
| Cr 267.716*† | 69514.6 | 0.6037 | mg/L | 0.00222 | 0.6037 | mg/L | 0.00222 | 0.37% |
| QC value within limits for Cr 267.716* Recovery = 100.61% | | | | | | | | |
| Cu 324.752*† | 239060.1 | 0.9471 | mg/L | 0.00706 | 0.9471 | mg/L | 0.00706 | 0.75% |
| QC value within limits for Cu 324.752* Recovery = 101.02% | | | | | | | | |
| Fe 273.955*† | 92175.9 | 3.864 | mg/L | 0.0418 | 3.864 | mg/L | 0.0418 | 1.08% |
| QC value within limits for Fe 273.955* Recovery = 103.05% | | | | | | | | |
| K 766.490*† | 80466.1 | 27.00 | mg/L | 0.376 | 27.00 | mg/L | 0.376 | 1.39% |
| QC value within limits for K 766.490* Recovery = 100.00% | | | | | | | | |
| Mg 279.077*† | 148558.4 | 7.712 | mg/L | 0.0713 | 7.712 | mg/L | 0.0713 | 0.92% |
| QC value within limits for Mg 279.077* Recovery = 102.82% | | | | | | | | |
| Mn 257.610*† | 505253.7 | 0.7885 | mg/L | 0.00622 | 0.7885 | mg/L | 0.00622 | 0.79% |
| QC value within limits for Mn 257.610* Recovery = 105.13% | | | | | | | | |
| Mo 202.031*† | 5795.5 | 0.6201 | mg/L | 0.00575 | 0.6201 | mg/L | 0.00575 | 0.93% |
| QC value within limits for Mo 202.031* Recovery = 103.35% | | | | | | | | |
| Na 589.592*† | 158827.4 | 36.20 | mg/L | 0.310 | 36.20 | mg/L | 0.310 | 0.86% |
| QC value within limits for Na 589.592* Recovery = 100.55% | | | | | | | | |
| Ni 231.604*† | 15418.3 | 0.6337 | mg/L | 0.00535 | 0.6337 | mg/L | 0.00535 | 0.84% |
| QC value within limits for Ni 231.604* Recovery = 105.61% | | | | | | | | |
| P 213.617*† | 12151.1 | 6.433 | mg/L | 0.0547 | 6.433 | mg/L | 0.0547 | 0.85% |
| QC value within limits for P 213.617* Recovery = 107.22% | | | | | | | | |
| P 214.914† | 7705.0 | 6.272 | mg/L | 0.0707 | 6.272 | mg/L | 0.0707 | 1.13% |
| Pb 220.353*† | 30974.4 | 3.835 | mg/L | 0.0368 | 3.835 | mg/L | 0.0368 | 0.96% |
| QC value within limits for Pb 220.353* Recovery = 102.27% | | | | | | | | |
| Sb 206.836† | 8828.9 | 4.689 | mg/L | 0.0608 | 4.689 | mg/L | 0.0608 | 1.30% |
| QC value within limits for Sb 206.836 Recovery = 104.20% | | | | | | | | |
| Sb 217.582*† | 8781.4 | 4.675 | mg/L | 0.0377 | 4.675 | mg/L | 0.0377 | 0.81% |
| QC value within limits for Sb 217.582* Recovery = 103.90% | | | | | | | | |
| Se 196.026*† | 3416.1 | 1.566 | mg/L | 0.0256 | 1.566 | mg/L | 0.0256 | 1.64% |
| QC value within limits for Se 196.026* Recovery = 104.38% | | | | | | | | |
| Si 251.611*† | 241530.5 | 6.236 | mg/L | 0.0951 | 6.236 | mg/L | 0.0951 | 1.53% |
| QC value within limits for Si 251.611* Recovery = 103.94% | | | | | | | | |
| Sn 189.927*† | 19070.0 | 3.172 | mg/L | 0.0233 | 3.172 | mg/L | 0.0233 | 0.73% |
| QC value within limits for Sn 189.927* Recovery = 105.74% | | | | | | | | |
| Sn 242.170† | 5496.8 | 3.118 | mg/L | 0.0284 | 3.118 | mg/L | 0.0284 | 0.91% |
| Sr 407.771*† | 99467.9 | 0.3075 | mg/L | 0.00291 | 0.3075 | mg/L | 0.00291 | 0.95% |
| QC value within limits for Sr 407.771* Recovery = 102.49% | | | | | | | | |

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Ti 334.940† | 522646.5 | 0.6293 | mg/L | 0.00367 | 0.6293 | mg/L | 0.00367 | 0.58% |
| Ti 336.121*† | 368905.3 | 0.6146 | mg/L | 0.00255 | 0.6146 | mg/L | 0.00255 | 0.41% |
| QC value within limits for Ti 336.121* Recovery = 102.43% | | | | | | | | |
| Tl 190.801*† | 2924.8 | 1.581 | mg/L | 0.0146 | 1.581 | mg/L | 0.0146 | 0.92% |
| QC value within limits for Tl 190.801* Recovery = 105.39% | | | | | | | | |
| V 292.402*† | 260939.2 | 1.889 | mg/L | 0.0075 | 1.889 | mg/L | 0.0075 | 0.40% |
| QC value within limits for V 292.402* Recovery = 100.74% | | | | | | | | |
| Zn 206.200*† | 105573.4 | 2.575 | mg/L | 0.0349 | 2.575 | mg/L | 0.0349 | 1.36% |
| QC value within limits for Zn 206.200* Recovery = 102.99% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 24
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/17/2017 5:01:40 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 | 84379.8 | 107.5 | % | 0.83 | | | | 0.77% |
| Tb 350 | 137984.7 | 108.8 | % | 1.60 | | | | 1.47% |
| Ag 328.068*† | -208.8 | -0.0011 | mg/L | 0.00136 | -0.0011 | mg/L | 0.00136 | 125.38% |
| Al 308.215*† | 97.2 | 0.0055 | mg/L | 0.00779 | 0.0055 | mg/L | 0.00779 | 141.86% |
| As 188.979† | -0.3 | -0.0001 | mg/L | 0.00271 | -0.0001 | mg/L | 0.00271 | >999.9% |
| As 193.696*† | -4.1 | -0.0028 | mg/L | 0.00014 | -0.0028 | mg/L | 0.00014 | 4.82% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1581.0 | 0.0315 | mg/L | 0.00257 | 0.0315 | mg/L | 0.00257 | 8.15% |
| Ba 233.527*† | -185.6 | -0.0012 | mg/L | 0.00008 | -0.0012 | mg/L | 0.00008 | 6.28% |
| Be 313.042*† | -254.7 | -0.0001 | mg/L | 0.00001 | -0.0001 | mg/L | 0.00001 | 15.21% |
| Ca 317.933*† | 23.5 | 0.0121 | mg/L | 0.00017 | 0.0121 | mg/L | 0.00017 | 1.37% |
| Cd 226.502*† | -33.7 | -0.0004 | mg/L | 0.00001 | -0.0004 | mg/L | 0.00001 | 1.96% |
| Cd 228.802† | -12.4 | -0.0003 | mg/L | 0.00010 | -0.0003 | mg/L | 0.00010 | 32.79% |
| Co 228.616*† | -24.7 | -0.0009 | mg/L | 0.00018 | -0.0009 | mg/L | 0.00018 | 21.40% |
| Cr 267.716*† | -75.3 | -0.0007 | mg/L | 0.00081 | -0.0007 | mg/L | 0.00081 | 123.07% |
| Cu 324.752*† | -224.4 | -0.0009 | mg/L | 0.00012 | -0.0009 | mg/L | 0.00012 | 13.57% |
| Fe 273.955*† | 76.0 | 0.0032 | mg/L | 0.00127 | 0.0032 | mg/L | 0.00127 | 39.78% |
| K 766.490*† | -1014.1 | -0.3403 | mg/L | 0.02254 | -0.3403 | mg/L | 0.02254 | 6.63% |
| Mg 279.077*† | 403.5 | 0.0209 | mg/L | 0.00052 | 0.0209 | mg/L | 0.00052 | 2.48% |
| Mn 257.610*† | -22.9 | -0.0000 | mg/L | 0.00000 | -0.0000 | mg/L | 0.00000 | 0.16% |
| Mo 202.031*† | 5.4 | 0.0006 | mg/L | 0.00056 | 0.0006 | mg/L | 0.00056 | 97.32% |
| Na 589.592*† | -2195.1 | -0.5003 | mg/L | 0.03390 | -0.5003 | mg/L | 0.03390 | 6.78% |
| Ni 231.604*† | -7.4 | -0.0003 | mg/L | 0.00016 | -0.0003 | mg/L | 0.00016 | 51.73% |
| P 213.617*† | -7.4 | -0.0039 | mg/L | 0.00033 | -0.0039 | mg/L | 0.00033 | 8.55% |
| P 214.914† | 4.2 | 0.0034 | mg/L | 0.00311 | 0.0034 | mg/L | 0.00311 | 90.52% |
| Pb 220.353*† | -17.3 | -0.0021 | mg/L | 0.00073 | -0.0021 | mg/L | 0.00073 | 34.11% |
| Sb 206.836† | -3.3 | -0.0018 | mg/L | 0.00205 | -0.0018 | mg/L | 0.00205 | 115.31% |
| Sb 217.582*† | 2.8 | 0.0015 | mg/L | 0.00311 | 0.0015 | mg/L | 0.00311 | 209.96% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | -6.5 | -0.0030 | mg/L | 0.00624 | -0.0030 | mg/L | 0.00624 | 208.58% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 300.6 | 0.0078 | mg/L | 0.00233 | 0.0078 | mg/L | 0.00233 | 30.08% |
| Sn 189.927*† | 25.1 | 0.0042 | mg/L | 0.00373 | 0.0042 | mg/L | 0.00373 | 89.45% |
| Sn 242.170† | 46.2 | 0.0262 | mg/L | 0.01540 | 0.0262 | mg/L | 0.01540 | 58.76% |
| Sr 407.771*† | -11.1 | -0.0000 | mg/L | 0.00000 | -0.0000 | mg/L | 0.00000 | 13.35% |
| Ti 334.940† | 461.3 | 0.0006 | mg/L | 0.00009 | 0.0006 | mg/L | 0.00009 | 15.68% |
| Ti 336.121*† | 342.5 | 0.0006 | mg/L | 0.00052 | 0.0006 | mg/L | 0.00052 | 90.96% |
| Tl 190.801*† | 5.2 | 0.0028 | mg/L | 0.00360 | 0.0028 | mg/L | 0.00360 | 127.76% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 183.0 | 0.0013 | mg/L | 0.00041 | 0.0013 | mg/L | 0.00041 | 31.00% |
| Zn 206.200*† | -252.6 | -0.0062 | mg/L | 0.00006 | -0.0062 | mg/L | 0.00006 | 0.89% |
| 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: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte Name | Initial Calibration Verification | | | | |
|---|---|---|---|---|---|
| | True | ICV-1 | | Control | Comment |
| | | Observed | %D | Limit | |
| Silver | 0.500000 | 0.507193 | -1 | +/-10 | |
| Arsenic | 5.000000 | 4.769165 | 5 | +/-10 | |
| Barium | 1.000000 | 0.999533 | 0 | +/-10 | |
| Beryllium | 0.500000 | 0.487585 | 2 | +/-10 | |
| Cadmium | 1.500000 | 1.546304 | -3 | +/-10 | |
| Cobalt | 1.000000 | 1.065456 | -7 | +/-10 | |
| Chromium | 0.400000 | 0.408967 | -2 | +/-10 | |
| Copper | 1.000000 | 1.025621 | -3 | +/-10 | |
| Molybdenum | 2.500000 | 2.383715 | 5 | +/-10 | |
| Nickel | 0.400000 | 0.418948 | -5 | +/-10 | |
| Lead | 5.000000 | 5.205077 | -4 | +/-10 | |
| Antimony | 2.000000 | 1.901992 | 5 | +/-10 | |
| Selenium | 2.000000 | 1.906362 | 5 | +/-10 | |
| Thallium | 2.000000 | 1.924998 | 4 | +/-10 | |
| Vanadium | 1.000000 | 1.015628 | -2 | +/-10 | |
| Zinc | 1.500000 | 1.566558 | -4 | +/-10 | |

Report Time: 3/27/2017 8:41:11 AM

ICV-1 File: ICV-M072816C Analysis Time: 3/20/2017 10:11:01 AM

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

01/22/2014 Revision



Return to Contents

Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Initial Calibration Blank

Work Order No: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Initial Calibration Blank | | |
|---|---|---|---|
| Analyte | ICB-1 | RL | Comment |
| Silver | -0.000888 | 0.005000 | |
| Arsenic | 0.001707 | 0.010000 | |
| Barium | 0.000341 | 0.010000 | |
| Beryllium | -0.000005 | 0.010000 | |
| Cadmium | -0.000070 | 0.010000 | |
| Cobalt | 0.000379 | 0.010000 | |
| Chromium | 0.000639 | 0.010000 | |
| Copper | -0.000514 | 0.010000 | |
| Molybdenum | -0.000268 | 0.010000 | |
| Nickel | 0.000219 | 0.010000 | |
| Lead | -0.001554 | 0.010000 | |
| Antimony | -0.006114 | 0.015000 | |
| Selenium | -0.000990 | 0.015000 | |
| Thallium | 0.002485 | 0.015000 | |
| Vanadium | 0.000371 | 0.010000 | |
| Zinc | -0.003204 | 0.010000 | |

Report Time: 3/27/2017 8:41:11 AM

ICB-1 File: ICB-R12091601 Analysis Time: 3/20/2017 10:13:31 AM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Interference Check

Work Order No: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte | Interference Check | | | | | | |
|---|---|---|---|---|---|---|---|
| | ICS-A-1 | | ICS-AB-1 | | | | Comment |
| | Observed | Control Limit | True | Observed | %D | Control Limit | |
| Silver | -0.000369 | 0.005000 | 0.300000 | 0.311146 | -4 | +/-20 | |
| Arsenic | 0.005414 | 0.010000 | 1.000000 | 0.990938 | 1 | +/-20 | |
| Barium | 0.002865 | 0.010000 | 0.300000 | 0.299460 | 0 | +/-20 | |
| Beryllium | -0.000122 | 0.010000 | 0.100000 | 0.101754 | -2 | +/-20 | |
| Cadmium | 0.001829 | 0.010000 | 0.300000 | 0.303771 | -1 | +/-20 | |
| Cobalt | 0.001128 | 0.010000 | 0.300000 | 0.309671 | -3 | +/-20 | |
| Chromium | -0.000546 | 0.010000 | 0.300000 | 0.306295 | -2 | +/-20 | |
| Copper | 0.002198 | 0.010000 | 0.300000 | 0.315768 | -5 | +/-20 | |
| Molybdenum | 0.000461 | 0.010000 | 0.300000 | 0.291059 | 3 | +/-20 | |
| Nickel | 0.000180 | 0.010000 | 0.300000 | 0.311197 | -4 | +/-20 | |
| Lead | -0.007802 | 0.010000 | 1.000000 | 1.005781 | -1 | +/-20 | |
| Antimony | -0.011962 | 0.015000 | 1.000000 | 0.940184 | 6 | +/-20 | |
| Selenium | -0.004081 | 0.015000 | 0.500000 | 0.495416 | 1 | +/-20 | |
| Thallium | -0.001133 | 0.015000 | 1.000000 | 0.986393 | 1 | +/-20 | |
| Vanadium | 0.001677 | 0.010000 | 0.300000 | 0.303227 | -1 | +/-20 | |
| Zinc | 0.003566 | 0.010000 | 0.300000 | 0.310764 | -4 | +/-20 | |

Report Time: 3/27/2017 8:41:11 AM

ICS-A-1 File: ICS_A - M110116B Analysis Time: 3/20/2017 10:14:33 AM

ICS-AB-1 File: ICS_AB - M110116A Analysis Time: 3/20/2017 10:15:24 AM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Initial Calibration Verification

Work Order No: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| Analyte Name | Initial Calibration Verification | | | | |
|---|---|---|---|---|---|
| | True | ICV-2 | | Control Limit | Comment |
| | | Observed | %D | | |
| Silver | 0.500000 | 0.504151 | -1 | +/-10 | |
| Arsenic | 5.000000 | 4.957393 | 1 | +/-10 | |
| Barium | 1.000000 | 1.009081 | -1 | +/-10 | |
| Beryllium | 0.500000 | 0.488166 | 2 | +/-10 | |
| Cadmium | 1.500000 | 1.498254 | 0 | +/-10 | |
| Cobalt | 1.000000 | 1.038514 | -4 | +/-10 | |
| Chromium | 0.400000 | 0.400496 | 0 | +/-10 | |
| Copper | 1.000000 | 1.012781 | -1 | +/-10 | |
| Molybdenum | 2.500000 | 2.472724 | 1 | +/-10 | |
| Nickel | 0.400000 | 0.409625 | -2 | +/-10 | |
| Lead | 5.000000 | 5.046648 | -1 | +/-10 | |
| Antimony | 2.000000 | 1.968797 | 2 | +/-10 | |
| Selenium | 2.000000 | 1.970893 | 1 | +/-10 | |
| Thallium | 2.000000 | 2.014137 | -1 | +/-10 | |
| Vanadium | 1.000000 | 1.000755 | 0 | +/-10 | |
| Zinc | 1.500000 | 1.516011 | -1 | +/-10 | |

Report Time: 3/27/2017 8:41:11 AM

ICV-2 File: ICV-M072816C Analysis Time: 3/20/2017 11:47:48 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: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Initial Calibration Blank | | |
|---|---|---|---|
| Analyte | ICB-2 | RL | Comment |
| Silver | 0.001042 | 0.005000 | |
| Arsenic | -0.005858 | 0.010000 | |
| Barium | 0.000123 | 0.010000 | |
| Beryllium | -0.000008 | 0.010000 | |
| Cadmium | 0.000062 | 0.010000 | |
| Cobalt | -0.000231 | 0.010000 | |
| Chromium | -0.000393 | 0.010000 | |
| Copper | -0.000630 | 0.010000 | |
| Molybdenum | 0.000437 | 0.010000 | |
| Nickel | 0.000226 | 0.010000 | |
| Lead | 0.000065 | 0.010000 | |
| Antimony | -0.001470 | 0.015000 | |
| Selenium | 0.001740 | 0.015000 | |
| Thallium | -0.004410 | 0.015000 | |
| Vanadium | 0.000687 | 0.010000 | |
| Zinc | 0.000010 | 0.010000 | |

Report Time: 3/27/2017 8:41:11 AM

ICB-2 File: ICB-R12091601 Analysis Time: 3/20/2017 11:50:19 AM

01/22/2014 Revision



Return to Contents

Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Continuing Calibration Verification

Work Order No: 17-03-0755

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 | 0.366467 | 2 | 0.368649 | 2 | +/-10 | |
| Arsenic | 3.750000 | 3.597419 | 4 | 3.758799 | 0 | +/-10 | |
| Barium | 7.500000 | 7.417075 | 1 | 7.483802 | 0 | +/-10 | |
| Beryllium | 0.562500 | 0.548464 | 2 | 0.550510 | 2 | +/-10 | |
| Cadmium | 0.750000 | 0.732598 | 2 | 0.734914 | 2 | +/-10 | |
| Cobalt | 1.875000 | 1.840319 | 2 | 1.850574 | 1 | +/-10 | |
| Chromium | 0.600000 | 0.589306 | 2 | 0.598006 | 0 | +/-10 | |
| Copper | 0.937500 | 0.917658 | 2 | 0.920447 | 2 | +/-10 | |
| Molybdenum | 0.600000 | 0.585386 | 2 | 0.610407 | -2 | +/-10 | |
| Nickel | 0.600000 | 0.585625 | 2 | 0.610085 | -2 | +/-10 | |
| Lead | 3.750000 | 3.679753 | 2 | 3.711727 | 1 | +/-10 | |
| Antimony | 4.500000 | 4.338013 | 4 | 4.526875 | -1 | +/-10 | |
| Selenium | 1.500000 | 1.432219 | 5 | 1.507565 | -1 | +/-10 | |
| Thallium | 1.500000 | 1.484508 | 1 | 1.550956 | -3 | +/-10 | |
| Vanadium | 1.875000 | 1.839968 | 2 | 1.860459 | 1 | +/-10 | |
| Zinc | 2.500000 | 2.422115 | 3 | 2.434289 | 3 | +/-10 | |

Report Time: 3/27/2017 8:41:11 AM

CCV-1 File: CCV= STD3x0.5 Analysis Time: 3/20/2017 12:44:37 PM

CCV-2 File: CCV= STD3x0.5 Analysis Time: 3/20/2017 12:56:35 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: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-1 | CCB-2 | RL | Qualifier |
| Silver | -0.000921 | -0.000860 | 0.005000 | |
| Arsenic | -0.000320 | 0.004920 | 0.010000 | |
| Barium | 0.001710 | 0.002442 | 0.010000 | |
| Beryllium | 0.000159 | 0.000234 | 0.010000 | |
| Cadmium | 0.000158 | 0.000419 | 0.010000 | |
| Cobalt | 0.000096 | 0.000441 | 0.010000 | |
| Chromium | 0.000026 | -0.000498 | 0.010000 | |
| Copper | -0.001760 | -0.000479 | 0.010000 | |
| Molybdenum | 0.001541 | 0.002207 | 0.010000 | |
| Nickel | 0.000353 | 0.000669 | 0.010000 | |
| Lead | 0.000408 | 0.000382 | 0.010000 | |
| Antimony | 0.006225 | 0.001808 | 0.015000 | |
| Selenium | 0.011417 | 0.003451 | 0.015000 | |
| Thallium | 0.008749 | 0.008318 | 0.015000 | |
| Vanadium | 0.000549 | 0.000941 | 0.010000 | |
| Zinc | -0.003433 | -0.003560 | 0.010000 | |

Report Time: 3/27/2017 8:41:11 AM

CCB-1 File: CCB-R12091601 Analysis Time: 3/20/2017 12:45:28 PM

CCB-2 File: CCB-R12091601 Analysis Time: 3/20/2017 12:57:28 PM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Continuing Calibration Verification

Work Order No: 17-03-0755

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 | 0.372538 | 1 | 0.373133 | 1 | +/-10 | |
| Arsenic | 3.750000 | 3.651550 | 3 | 3.699463 | 1 | +/-10 | |
| Barium | 7.500000 | 7.580981 | -1 | 7.568500 | -1 | +/-10 | |
| Beryllium | 0.562500 | 0.560850 | 0 | 0.560264 | 0 | +/-10 | |
| Cadmium | 0.750000 | 0.755864 | -1 | 0.748384 | 0 | +/-10 | |
| Cobalt | 1.875000 | 1.890762 | -1 | 1.882134 | 0 | +/-10 | |
| Chromium | 0.600000 | 0.603124 | -1 | 0.601528 | 0 | +/-10 | |
| Copper | 0.937500 | 0.932663 | 1 | 0.932121 | 1 | +/-10 | |
| Molybdenum | 0.600000 | 0.591926 | 1 | 0.598317 | 0 | +/-10 | |
| Nickel | 0.600000 | 0.592658 | 1 | 0.599255 | 0 | +/-10 | |
| Lead | 3.750000 | 3.777710 | -1 | 3.770854 | -1 | +/-10 | |
| Antimony | 4.500000 | 4.388977 | 2 | 4.425650 | 2 | +/-10 | |
| Selenium | 1.500000 | 1.465948 | 2 | 1.469280 | 2 | +/-10 | |
| Thallium | 1.500000 | 1.507538 | -1 | 1.521713 | -1 | +/-10 | |
| Vanadium | 1.875000 | 1.874779 | 0 | 1.878976 | 0 | +/-10 | |
| Zinc | 2.500000 | 2.509724 | 0 | 2.493354 | 0 | +/-10 | |

Report Time: 3/27/2017 8:41:11 AM

CCV-3 File: CCV= STD3x0.5 Analysis Time: 3/20/2017 1:28:51 PM

CCV-4 File: CCV= STD3x0.5 Analysis Time: 3/20/2017 1:39:18 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: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-3 | CCB-4 | RL | Qualifier |
| Silver | 0.000198 | -0.000442 | 0.005000 | |
| Arsenic | 0.004991 | -0.002626 | 0.010000 | |
| Barium | 0.004975 | 0.004594 | 0.010000 | |
| Beryllium | 0.000351 | 0.000330 | 0.010000 | |
| Cadmium | 0.000437 | 0.000292 | 0.010000 | |
| Cobalt | 0.001278 | 0.001049 | 0.010000 | |
| Chromium | 0.000884 | -0.000082 | 0.010000 | |
| Copper | -0.000842 | -0.000529 | 0.010000 | |
| Molybdenum | 0.000494 | 0.001153 | 0.010000 | |
| Nickel | 0.000219 | 0.000081 | 0.010000 | |
| Lead | 0.001027 | 0.003126 | 0.010000 | |
| Antimony | -0.000134 | -0.001257 | 0.015000 | |
| Selenium | -0.001230 | 0.002963 | 0.015000 | |
| Thallium | 0.003638 | 0.000518 | 0.015000 | |
| Vanadium | 0.002360 | 0.002226 | 0.010000 | |
| Zinc | -0.003960 | -0.004243 | 0.010000 | |

Report Time: 3/27/2017 8:41:11 AM

CCB-3 File: CCB-R12091601 Analysis Time: 3/20/2017 1:29:43 PM

CCB-4 File: CCB-R12091601 Analysis Time: 3/20/2017 1:40:11 PM

01/22/2014 Revision



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Calscience Environmental Laboratories, Inc.

# EPA Method 6010B

## Continuing Calibration Verification

Work Order No: 17-03-0755

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 | 0.370022 | 1 | | | +/-10 | |
| Arsenic | 3.750000 | 3.642877 | 3 | | | +/-10 | |
| Barium | 7.500000 | 7.542273 | -1 | | | +/-10 | |
| Beryllium | 0.562500 | 0.556138 | 1 | | | +/-10 | |
| Cadmium | 0.750000 | 0.745150 | 1 | | | +/-10 | |
| Cobalt | 1.875000 | 1.879096 | 0 | | | +/-10 | |
| Chromium | 0.600000 | 0.597811 | 0 | | | +/-10 | |
| Copper | 0.937500 | 0.931674 | 1 | | | +/-10 | |
| Molybdenum | 0.600000 | 0.592157 | 1 | | | +/-10 | |
| Nickel | 0.600000 | 0.592199 | 1 | | | +/-10 | |
| Lead | 3.750000 | 3.735520 | 0 | | | +/-10 | |
| Antimony | 4.500000 | 4.385546 | 3 | | | +/-10 | |
| Selenium | 1.500000 | 1.458863 | 3 | | | +/-10 | |
| Thallium | 1.500000 | 1.503644 | 0 | | | +/-10 | |
| Vanadium | 1.875000 | 1.858716 | 1 | | | +/-10 | |
| Zinc | 2.500000 | 2.490379 | 0 | | | +/-10 | |

Report Time: 3/27/2017 8:41:11 AM

CCV-5 File: CCV= STD3x0.5 Analysis Time: 3/20/2017 1:49:15 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: 17-03-0755

Instrument ID: ICP 7300

Concentration Unit: mg/L

| | Continuing Calibration Blank | | | |
|---|---|---|---|---|
| Analyte | CCB-5 | | RL | Qualifier |
| Silver | -0.000317 | | 0.005000 | |
| Arsenic | -0.000042 | | 0.010000 | |
| Barium | 0.005521 | | 0.010000 | |
| Beryllium | 0.000340 | | 0.010000 | |
| Cadmium | 0.000499 | | 0.010000 | |
| Cobalt | 0.001341 | | 0.010000 | |
| Chromium | -0.000252 | | 0.010000 | |
| Copper | -0.000692 | | 0.010000 | |
| Molybdenum | 0.000592 | | 0.010000 | |
| Nickel | 0.001886 | | 0.010000 | |
| Lead | 0.003750 | | 0.010000 | |
| Antimony | 0.004881 | | 0.015000 | |
| Selenium | 0.004179 | | 0.015000 | |
| Thallium | 0.005565 | | 0.015000 | |
| Vanadium | 0.000380 | | 0.010000 | |
| Zinc | -0.002862 | | 0.010000 | |

Report Time: 3/27/2017 8:41:11 AM

CCB-5 File: CCB-R12091601 Analysis Time: 3/20/2017 1:50:07 PM

01/22/2014 Revision



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Analysis Begun

Start Time: 3/20/2017 10:08:48 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/20/2017 9:11:12 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032001.sif

Batch ID:
Results Data Set: 170320C1
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: 3/20/2017 10:08:59 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 | 77967.7 | 643.24 | 0.83% | 100.00 | % |
| Tb 350 | 126426.2 | 1641.44 | 1.30% | 100.0 | % |
| Ag 328.068*† | -1016.5 | 26.40 | 2.60% | [0.00] | mg/L |
| Al 308.215*† | -2553.8 | 32.92 | 1.29% | [0.00] | mg/L |
| As 188.979† | 4.0 | 8.10 | 201.72% | [0.00] | mg/L |
| As 193.696*† | 1.9 | 4.27 | 220.13% | [0.00] | mg/L |
| B 249.677*† | 370.9 | 10.49 | 2.83% | [0.00] | mg/L |
| Ba 233.527*† | -305.9 | 17.70 | 5.79% | [0.00] | mg/L |
| Be 313.042*† | -914.9 | 39.48 | 4.32% | [0.00] | mg/L |
| Ca 317.933*† | 47.3 | 11.67 | 24.65% | [0.00] | mg/L |
| Cd 226.502*† | 45.3 | 14.32 | 31.63% | [0.00] | mg/L |
| Cd 228.802† | 23.1 | 2.85 | 12.37% | [0.00] | mg/L |
| Co 228.616*† | -93.0 | 7.92 | 8.51% | [0.00] | mg/L |
| Cr 267.716*† | 418.7 | 87.35 | 20.86% | [0.00] | mg/L |
| Cu 324.752*† | 3379.1 | 141.21 | 4.18% | [0.00] | mg/L |
| Fe 273.955*† | -384.6 | 6.59 | 1.71% | [0.00] | mg/L |
| K 766.490*† | 993.7 | 298.97 | 30.09% | [0.00] | mg/L |
| Mg 279.077*† | -7739.1 | 91.89 | 1.19% | [0.00] | mg/L |
| Mn 257.610*† | -307.2 | 4.08 | 1.33% | [0.00] | mg/L |
| Mo 202.031*† | -48.1 | 5.85 | 12.16% | [0.00] | mg/L |
| Na 589.592*† | 504.1 | 132.49 | 26.28% | [0.00] | mg/L |
| Ni 231.604*† | -69.4 | 4.30 | 6.19% | [0.00] | mg/L |
| P 213.617*† | -145.7 | 27.05 | 18.57% | [0.00] | mg/L |
| P 214.914† | -33.8 | 9.05 | 26.73% | [0.00] | mg/L |
| Pb 220.353*† | 15.6 | 5.93 | 38.13% | [0.00] | mg/L |
| Sb 206.836† | 24.6 | 2.66 | 10.82% | [0.00] | mg/L |
| Sb 217.582*† | 1.7 | 3.48 | 202.87% | [0.00] | mg/L |
| Se 196.026*† | 4.2 | 6.09 | 146.66% | [0.00] | mg/L |
| Si 251.611*† | 1355.9 | 63.01 | 4.65% | [0.00] | mg/L |
| Sn 189.927*† | -96.0 | 7.67 | 7.99% | [0.00] | mg/L |
| Sn 242.170† | -402.6 | 20.68 | 5.14% | [0.00] | mg/L |
| Sr 407.771*† | 153.8 | 20.02 | 13.01% | [0.00] | mg/L |
| Ti 334.940† | 28816.2 | 95.81 | 0.33% | [0.00] | mg/L |
| Ti 336.121*† | -1266.7 | 30.32 | 2.39% | [0.00] | mg/L |
| Tl 190.801*† | -6.5 | 6.38 | 97.78% | [0.00] | mg/L |
| V 292.402*† | 166.1 | 37.21 | 22.40% | [0.00] | mg/L |
| Zn 206.200*† | 1031.2 | 11.70 | 1.13% | [0.00] | mg/L |
| Zn 213.857*† | 2098.8 | 20.60 | 0.98% | [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: 3/20/2017 10:10:05 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 | 66726.0 | 225.47 | 0.34% | 85.58 | % |
| Tb 350 | 111418.3 | 1323.73 | 1.19% | 88.13 | % |
| Ag 328.068*† | 136531.0 | 235.87 | 0.17% | [0.75] | mg/L |
| Al 308.215*† | 458632.6 | 603.82 | 0.13% | [27.0] | mg/L |
| As 188.979† | 15798.6 | 376.51 | 2.38% | [7.50] | mg/L |
| As 193.696*† | 10991.9 | 246.41 | 2.24% | [7.50] | mg/L |
| B 249.677*† | 345596.0 | 5027.35 | 1.45% | [7.50] | mg/L |
| Ba 233.527*† | 2258715.7 | 42790.12 | 1.89% | [15.0] | mg/L |
| Be 313.042*† | 4209385.1 | 71883.33 | 1.71% | [1.125] | mg/L |
| Ca 317.933*† | 117176.5 | 2373.27 | 2.03% | [60.0] | mg/L |
| Cd 226.502*† | 110246.7 | 110.93 | 0.10% | [1.50] | mg/L |
| Cd 228.802† | 56324.2 | 151.09 | 0.27% | [1.50] | mg/L |
| Co 228.616*† | 100604.9 | 662.77 | 0.66% | [3.75] | mg/L |
| Cr 267.716*† | 130599.7 | 224.24 | 0.17% | [1.20] | mg/L |
| Cu 324.752*† | 452629.6 | 66.62 | 0.01% | [1.875] | mg/L |
| Fe 273.955*† | 170018.1 | 670.48 | 0.39% | [7.50] | mg/L |
| K 766.490*† | 158982.4 | 2584.41 | 1.63% | [54.0] | mg/L |
| Mg 279.077*† | 273567.8 | 379.26 | 0.14% | [15.0] | mg/L |
| Mn 257.610*† | 962216.3 | 18873.82 | 1.96% | [1.50] | mg/L |
| Mo 202.031*† | 11175.5 | 249.52 | 2.23% | [1.20] | mg/L |
| Na 589.592*† | 307201.5 | 5891.74 | 1.92% | [72.0] | mg/L |
| Ni 231.604*† | 27831.3 | 177.08 | 0.64% | [1.20] | mg/L |
| P 213.617*† | 23648.2 | 492.77 | 2.08% | [12.0] | mg/L |
| P 214.914† | 15020.6 | 359.02 | 2.39% | [12.0] | mg/L |
| Pb 220.353*† | 56907.7 | 234.52 | 0.41% | [7.50] | mg/L |
| Sb 206.836† | 17078.1 | 263.48 | 1.54% | [9.0] | mg/L |
| Sb 217.582*† | 16933.6 | 301.01 | 1.78% | [9.0] | mg/L |
| Se 196.026*† | 6615.9 | 155.71 | 2.35% | [3.0] | mg/L |
| Si 251.611*† | 448317.1 | 2607.94 | 0.58% | [12.0] | mg/L |
| Sn 189.927*† | 36348.4 | 749.75 | 2.06% | [6.0] | mg/L |
| Sn 242.170† | 10542.3 | 214.87 | 2.04% | [6.0] | mg/L |
| Sr 407.771*† | 194174.9 | 3390.68 | 1.75% | [0.60] | mg/L |
| Ti 334.940† | 997927.8 | 18985.56 | 1.90% | [1.20] | mg/L |
| Ti 336.121*† | 685948.9 | 260.32 | 0.04% | [1.20] | mg/L |
| Tl 190.801*† | 5529.9 | 112.35 | 2.03% | [3.0] | mg/L |
| V 292.402*† | 488145.8 | 1498.42 | 0.31% | [3.75] | mg/L |
| Zn 206.200*† | 194478.2 | 28.50 | 0.01% | [5.0] | mg/L |
| Zn 213.857*† | 337401.8 | 116.45 | 0.03% | [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: 3/20/2017 10:11:01 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 | 71694.7 | 91.95 | % | 1.117 | | | | 1.21% |
| Tb 350 | 119142.0 | 94.24 | % | 0.812 | | | | 0.86% |
| Ag 328.068*† | 92330.1 | 0.5072 | mg/L | 0.00486 | 0.5072 | mg/L | 0.00486 | 0.96% |
| QC value within limits for Ag 328.068* Recovery = 101.44% | | | | | | | | |
| Al 308.215*† | 71364.1 | 4.201 | mg/L | 0.0612 | 4.201 | mg/L | 0.0612 | 1.46% |
| QC value within limits for Al 308.215* Recovery = 105.03% | | | | | | | | |
| As 188.979† | 10046.9 | 4.770 | mg/L | 0.0291 | 4.770 | mg/L | 0.0291 | 0.61% |
| QC value within limits for As 188.979 Recovery = 95.39% | | | | | | | | |
| As 193.696*† | 6989.6 | 4.769 | mg/L | 0.0597 | 4.769 | mg/L | 0.0597 | 1.25% |
| QC value within limits for As 193.696* Recovery = 95.38% | | | | | | | | |
| B 249.677*† | 121374.4 | 2.634 | mg/L | 0.0101 | 2.634 | mg/L | 0.0101 | 0.38% |
| QC value within limits for B 249.677* Recovery = 105.36% | | | | | | | | |
| Ba 233.527*† | 150510.7 | 0.9995 | mg/L | 0.01152 | 0.9995 | mg/L | 0.01152 | 1.15% |
| QC value within limits for Ba 233.527* Recovery = 99.95% | | | | | | | | |
| Be 313.042*† | 1824385.9 | 0.4876 | mg/L | 0.02117 | 0.4876 | mg/L | 0.02117 | 4.34% |
| QC value within limits for Be 313.042* Recovery = 97.52% | | | | | | | | |
| Ca 317.933*† | 38879.8 | 19.91 | mg/L | 0.083 | 19.91 | mg/L | 0.083 | 0.42% |
| QC value within limits for Ca 317.933* Recovery = 99.54% | | | | | | | | |
| Cd 226.502*† | 113650.0 | 1.546 | mg/L | 0.0197 | 1.546 | mg/L | 0.0197 | 1.27% |
| QC value within limits for Cd 226.502* Recovery = 103.09% | | | | | | | | |
| Cd 228.802† | 56915.0 | 1.516 | mg/L | 0.0123 | 1.516 | mg/L | 0.0123 | 0.81% |
| Co 228.616*† | 28584.0 | 1.065 | mg/L | 0.0180 | 1.065 | mg/L | 0.0180 | 1.69% |
| QC value within limits for Co 228.616* Recovery = 106.55% | | | | | | | | |
| Cr 267.716*† | 44509.1 | 0.4090 | mg/L | 0.00529 | 0.4090 | mg/L | 0.00529 | 1.29% |
| QC value within limits for Cr 267.716* Recovery = 102.24% | | | | | | | | |
| Cu 324.752*† | 247587.3 | 1.026 | mg/L | 0.0110 | 1.026 | mg/L | 0.0110 | 1.07% |
| QC value within limits for Cu 324.752* Recovery = 102.56% | | | | | | | | |
| Fe 273.955*† | 2333139.8 | 102.9 | mg/L | 3.48 | 102.9 | mg/L | 3.48 | 3.38% |
| QC value within limits for Fe 273.955* Recovery = 102.92% | | | | | | | | |
| K 766.490*† | 23248.5 | 7.897 | mg/L | 0.0106 | 7.897 | mg/L | 0.0106 | 0.13% |
| QC value within limits for K 766.490* Recovery = 98.71% | | | | | | | | |
| Mg 279.077*† | 187407.2 | 10.28 | mg/L | 0.095 | 10.28 | mg/L | 0.095 | 0.92% |
| QC value within limits for Mg 279.077* Recovery = 102.76% | | | | | | | | |
| Mn 257.610*† | 636313.5 | 0.9919 | mg/L | 0.01213 | 0.9919 | mg/L | 0.01213 | 1.22% |
| QC value within limits for Mn 257.610* Recovery = 99.19% | | | | | | | | |
| Mo 202.031*† | 22199.3 | 2.384 | mg/L | 0.0145 | 2.384 | mg/L | 0.0145 | 0.61% |
| QC value within limits for Mo 202.031* Recovery = 95.35% | | | | | | | | |
| Na 589.592*† | 236704.6 | 55.48 | mg/L | 0.055 | 55.48 | mg/L | 0.055 | 0.10% |
| QC value within limits for Na 589.592* Recovery = 102.74% | | | | | | | | |
| Ni 231.604*† | 9716.6 | 0.4189 | mg/L | 0.00466 | 0.4189 | mg/L | 0.00466 | 1.11% |
| QC value within limits for Ni 231.604* Recovery = 104.74% | | | | | | | | |
| P 213.617*† | 9234.9 | 4.686 | mg/L | 0.0585 | 4.686 | mg/L | 0.0585 | 1.25% |
| QC value within limits for P 213.617* Recovery = 93.72% | | | | | | | | |
| P 214.914† | 6081.1 | 4.858 | mg/L | 0.0462 | 4.858 | mg/L | 0.0462 | 0.95% |
| Pb 220.353*† | 39494.5 | 5.205 | mg/L | 0.0685 | 5.205 | mg/L | 0.0685 | 1.32% |
| QC value within limits for Pb 220.353* Recovery = 104.10% | | | | | | | | |
| Sb 206.836† | 3589.9 | 1.892 | mg/L | 0.0031 | 1.892 | mg/L | 0.0031 | 0.17% |
| QC value within limits for Sb 206.836 Recovery = 94.59% | | | | | | | | |
| Sb 217.582*† | 3578.6 | 1.902 | mg/L | 0.0138 | 1.902 | mg/L | 0.0138 | 0.72% |
| QC value within limits for Sb 217.582* Recovery = 95.10% | | | | | | | | |
| Se 196.026*† | 4204.1 | 1.906 | mg/L | 0.0195 | 1.906 | mg/L | 0.0195 | 1.02% |
| QC value within limits for Se 196.026* Recovery = 95.32% | | | | | | | | |
| Si 251.611*† | 367951.5 | 9.849 | mg/L | 0.1082 | 9.849 | mg/L | 0.1082 | 1.10% |
| QC value within limits for Si 251.611* Recovery = 98.49% | | | | | | | | |
| Sn 189.927*† | 14780.4 | 2.440 | mg/L | 0.0245 | 2.440 | mg/L | 0.0245 | 1.00% |
| QC value within limits for Sn 189.927* Recovery = 97.59% | | | | | | | | |
| Sn 242.170† | 4797.9 | 2.731 | mg/L | 0.0161 | 2.731 | mg/L | 0.0161 | 0.59% |
| Sr 407.771*† | 65506.5 | 0.2024 | mg/L | 0.00053 | 0.2024 | mg/L | 0.00053 | 0.26% |
| QC value within limits for Sr 407.771* Recovery = 101.21% | | | | | | | | |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Ti 334.940† | 3930517.6 | 4.726 | mg/L | 0.1379 | 4.726 | mg/L | 0.1379 | 2.92% |
| Ti 336.121*† | 2791950.5 | 4.884 | mg/L | 0.1408 | 4.884 | mg/L | 0.1408 | 2.88% |
| QC value within limits for Ti 336.121* Recovery = 97.68% | | | | | | | | |
| Tl 190.801*† | 3548.3 | 1.925 | mg/L | 0.0051 | 1.925 | mg/L | 0.0051 | 0.26% |
| QC value within limits for Tl 190.801* Recovery = 96.25% | | | | | | | | |
| V 292.402*† | 132426.3 | 1.016 | mg/L | 0.0107 | 1.016 | mg/L | 0.0107 | 1.05% |
| QC value within limits for V 292.402* Recovery = 101.56% | | | | | | | | |
| Zn 206.200*† | 60932.3 | 1.567 | mg/L | 0.0145 | 1.567 | mg/L | 0.0145 | 0.93% |
| QC value within limits for Zn 206.200* Recovery = 104.44% | | | | | | | | |
| Zn 213.857*† | 105856.5 | 1.560 | mg/L | 0.0186 | 1.560 | mg/L | 0.0186 | 1.19% |
| QC value within limits for Zn 213.857* Recovery = 104.01% | | | | | | | | |

All analyte(s) passed QC.

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2H 3/24/17

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 79277.2 | 101.7 | % | 0.61 | | | | 0.60% |
| Tb 350 | 130641.6 | 103.3 | % | 0.45 | | | | 0.44% |
| Ag 328.068*† | -147.1 | -0.0008 | mg/L | 0.00091 | -0.0008 | mg/L | 0.00091 | 112.63% |
| Al 308.215*† | 60.2 | 0.0035 | mg/L | 0.00178 | 0.0035 | mg/L | 0.00178 | 50.15% |
| As 188.979† | -2.1 | -0.0010 | mg/L | 0.00131 | -0.0010 | mg/L | 0.00131 | 128.28% |
| As 193.696*† | 2.5 | 0.0017 | mg/L | 0.00036 | 0.0017 | mg/L | 0.00036 | 21.22% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1269.7 | 0.0276 | mg/L | 0.00243 | 0.0276 | mg/L | 0.00243 | 8.82% |
| QC value greater than the upper limit for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | -27.8 | -0.0002 | mg/L | 0.00015 | -0.0002 | mg/L | 0.00015 | 78.97% |
| Be 313.042*† | 86.5 | 0.0000 | mg/L | 0.00001 | 0.0000 | mg/L | 0.00001 | 61.32% |
| Ca 317.933*† | 1.0 | 0.0005 | mg/L | 0.00284 | 0.0005 | mg/L | 0.00284 | 530.28% |
| Cd 226.502*† | -10.3 | -0.0001 | mg/L | 0.00011 | -0.0001 | mg/L | 0.00011 | 80.95% |
| Cd 228.802† | -3.2 | -0.0001 | mg/L | 0.00013 | -0.0001 | mg/L | 0.00013 | 153.10% |
| Co 228.616*† | 11.2 | 0.0004 | mg/L | 0.00055 | 0.0004 | mg/L | 0.00055 | 130.78% |
| Cr 267.716*† | -21.1 | -0.0002 | mg/L | 0.00086 | -0.0002 | mg/L | 0.00086 | 440.86% |
| Cu 324.752*† | -94.0 | -0.0004 | mg/L | 0.00051 | -0.0004 | mg/L | 0.00051 | 130.35% |
| Fe 273.955*† | 16.0 | 0.0007 | mg/L | 0.00006 | 0.0007 | mg/L | 0.00006 | 7.81% |
| K 766.490*† | 101.3 | 0.0344 | mg/L | 0.01264 | 0.0344 | mg/L | 0.01264 | 36.74% |
| Mg 279.077*† | -31.9 | -0.0018 | mg/L | 0.00003 | -0.0018 | mg/L | 0.00003 | 1.97% |
| Mn 257.610*† | 3.1 | 0.0000 | mg/L | 0.00004 | 0.0000 | mg/L | 0.00004 | 787.15% |
| Mo 202.031*† | -3.5 | -0.0004 | mg/L | 0.00047 | -0.0004 | mg/L | 0.00047 | 124.91% |
| Na 589.592*† | 54.7 | 0.0128 | mg/L | 0.00373 | 0.0128 | mg/L | 0.00373 | 29.09% |
| Ni 231.604*† | 10.2 | 0.0004 | mg/L | 0.00090 | 0.0004 | mg/L | 0.00090 | 203.91% |
| P 213.617*† | -6.8 | -0.0034 | mg/L | 0.01046 | -0.0034 | mg/L | 0.01046 | 303.40% |
| P 214.914† | 3.1 | 0.0025 | mg/L | 0.01008 | 0.0025 | mg/L | 0.01008 | 410.82% |
| Pb 220.353*† | -36.5 | -0.0048 | mg/L | 0.00035 | -0.0048 | mg/L | 0.00035 | 7.36% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | | |
| Sb 206.836† | 6.2 | 0.0033 | mg/L | 0.00328 | 0.0033 | mg/L | 0.00328 | 100.80% |
| Sb 217.582*† | -10.7 | -0.0057 | mg/L | 0.00098 | -0.0057 | mg/L | 0.00098 | 17.34% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | -1.4 | -0.0006 | mg/L | 0.00094 | -0.0006 | mg/L | 0.00094 | 149.30% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | -36.5 | -0.0010 | mg/L | 0.00019 | -0.0010 | mg/L | 0.00019 | 19.21% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | | |
| Sn 189.927*† | 33.7 | 0.0056 | mg/L | 0.00128 | 0.0056 | mg/L | 0.00128 | 23.04% |
| Sn 242.170† | -0.9 | -0.0005 | mg/L | 0.00872 | -0.0005 | mg/L | 0.00872 | >999.9% |
| Sr 407.771*† | 7.3 | 0.0000 | mg/L | 0.00001 | 0.0000 | mg/L | 0.00001 | 60.53% |
| Ti 334.940† | 79.1 | 0.0001 | mg/L | 0.00011 | 0.0001 | mg/L | 0.00011 | 119.07% |
| Ti 336.121*† | 499.0 | 0.0009 | mg/L | 0.00048 | 0.0009 | mg/L | 0.00048 | 55.32% |
| Tl 190.801*† | 5.5 | 0.0030 | mg/L | 0.00656 | 0.0030 | mg/L | 0.00656 | 220.99% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 78.6 | 0.0006 | mg/L | 0.00072 | 0.0006 | mg/L | 0.00072 | 119.86% |
| Zn 206.200*† | -114.4 | -0.0029 | mg/L | 0.00010 | -0.0029 | mg/L | 0.00010 | 3.36% |
| Zn 213.857*† | -218.0 | -0.0032 | mg/L | 0.00014 | -0.0032 | mg/L | 0.00014 | 4.31% |

QC Failed. Retry.

==========

**Sequence No.: 6**
**Sample ID: ICB-R12091601**
**Analyst: 935 icp 7300**
**Initial Sample Wt:**
**Dilution:**
**Wash Time: 20**

**Autosampler Location: 1**
**Date Collected: 3/20/2017 10:13:31 AM**
**Data Type: Original**
**Initial Sample Vol:**
**Sample Prep Vol:**
**Auto Dilution Factor: 1**

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**Mean Data: ICB-R12091601**

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 78613.4 | 100.8 | % | 1.44 | | | | 1.43% |
| Tb 350 | 128580.5 | 101.7 | % | 1.47 | | | | 1.44% |
| Ag 328.068*† | -161.6 | -0.0009 | mg/L | 0.00066 | -0.0009 | mg/L | 0.00066 | 74.89% |
| Al 308.215*† | 256.8 | 0.0151 | mg/L | 0.00072 | 0.0151 | mg/L | 0.00072 | 4.75% |
| As 188.979† | -2.6 | -0.0012 | mg/L | 0.00016 | -0.0012 | mg/L | 0.00016 | 13.03% |
| As 193.696*† | 2.5 | 0.0017 | mg/L | 0.00762 | 0.0017 | mg/L | 0.00762 | 446.37% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 673.3 | 0.0146 | mg/L | 0.00131 | 0.0146 | mg/L | 0.00131 | 8.99% |
| QC value within limits for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | 51.4 | 0.0003 | mg/L | 0.00006 | 0.0003 | mg/L | 0.00006 | 16.68% |
| Be 313.042*† | -18.1 | -0.0000 | mg/L | 0.00000 | -0.0000 | mg/L | 0.00000 | 18.53% |
| Ca 317.933*† | 5.2 | 0.0026 | mg/L | 0.00159 | 0.0026 | mg/L | 0.00159 | 60.22% |
| Cd 226.502*† | -5.1 | -0.0001 | mg/L | 0.00002 | -0.0001 | mg/L | 0.00002 | 26.04% |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cd 228.802† | 1.7 | 0.0000 | mg/L | 0.00004 | 0.0000 | mg/L | 0.00004 88.70% |
| Co 228.616*† | 10.2 | 0.0004 | mg/L | 0.00052 | 0.0004 | mg/L | 0.00052 137.23% |
| Cr 267.716*† | 69.5 | 0.0006 | mg/L | 0.00021 | 0.0006 | mg/L | 0.00021 33.09% |
| Cu 324.752*† | -124.2 | -0.0005 | mg/L | 0.00051 | -0.0005 | mg/L | 0.00051 99.21% |
| Fe 273.955*† | 420.1 | 0.0185 | mg/L | 0.00499 | 0.0185 | mg/L | 0.00499 26.92% |
| K 766.490*† | -28.0 | -0.0095 | mg/L | 0.00670 | -0.0095 | mg/L | 0.00670 70.47% |
| Mg 279.077*† | -9.8 | -0.0005 | mg/L | 0.00243 | -0.0005 | mg/L | 0.00243 449.54% |
| Mn 257.610*† | 216.8 | 0.0003 | mg/L | 0.00011 | 0.0003 | mg/L | 0.00011 32.14% |
| Mo 202.031*† | -2.5 | -0.0003 | mg/L | 0.00016 | -0.0003 | mg/L | 0.00016 61.03% |
| Na 589.592*† | 97.4 | 0.0228 | mg/L | 0.02534 | 0.0228 | mg/L | 0.02534 110.99% |
| Ni 231.604*† | 5.1 | 0.0002 | mg/L | 0.00052 | 0.0002 | mg/L | 0.00052 237.87% |
| P 213.617*† | 6.0 | 0.0031 | mg/L | 0.00535 | 0.0031 | mg/L | 0.00535 174.62% |
| P 214.914† | -9.8 | -0.0079 | mg/L | 0.00739 | -0.0079 | mg/L | 0.00739 93.92% |
| Pb 220.353*† | -11.8 | -0.0016 | mg/L | 0.00050 | -0.0016 | mg/L | 0.00050 32.16% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | |
| Sb 206.836† | -5.2 | -0.0027 | mg/L | 0.00045 | -0.0027 | mg/L | 0.00045 16.48% |
| Sb 217.582*† | -11.5 | -0.0061 | mg/L | 0.00227 | -0.0061 | mg/L | 0.00227 37.19% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | |
| Se 196.026*† | -2.2 | -0.0010 | mg/L | 0.00126 | -0.0010 | mg/L | 0.00126 127.39% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | |
| Si 251.611*† | -48.1 | -0.0013 | mg/L | 0.00169 | -0.0013 | mg/L | 0.00169 131.60% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | |
| Sn 189.927*† | 11.0 | 0.0018 | mg/L | 0.00113 | 0.0018 | mg/L | 0.00113 62.02% |
| Sn 242.170† | -21.8 | -0.0124 | mg/L | 0.00465 | -0.0124 | mg/L | 0.00465 37.43% |
| Sr 407.771*† | 24.7 | 0.0001 | mg/L | 0.00003 | 0.0001 | mg/L | 0.00003 35.07% |
| Ti 334.940† | 207.9 | 0.0003 | mg/L | 0.00047 | 0.0003 | mg/L | 0.00047 186.20% |
| Ti 336.121*† | 503.5 | 0.0009 | mg/L | 0.00054 | 0.0009 | mg/L | 0.00054 61.51% |
| Tl 190.801*† | 4.6 | 0.0025 | mg/L | 0.00358 | 0.0025 | mg/L | 0.00358 144.16% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | |
| V 292.402*† | 48.4 | 0.0004 | mg/L | 0.00012 | 0.0004 | mg/L | 0.00012 32.09% |
| Zn 206.200*† | -124.6 | -0.0032 | mg/L | 0.00016 | -0.0032 | mg/L | 0.00016 4.97% |
| Zn 213.857*† | -227.2 | -0.0034 | mg/L | 0.00052 | -0.0034 | mg/L | 0.00052 15.53% |

All analyte(s) passed QC.

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Sequence No.: 7
Sample ID: ICS_A - M110116B
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 8
Date Collected: 3/20/2017 10:14:33 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 | 68368.3 | 87.69 | % | 0.685 | | | | 0.78% |
| Tb 350 | 112746.9 | 89.18 | % | 0.968 | | | | 1.09% |
| Ag 328.068*† | -67.2 | -0.0004 | mg/L | 0.00212 | -0.0004 | mg/L | 0.00212 | 573.85% |
| Al 308.215*† | 420773.5 | 24.77 | mg/L | 0.177 | 24.77 | mg/L | 0.177 | 0.71% |
| As 188.979† | 10.9 | 0.0052 | mg/L | 0.00234 | 0.0052 | mg/L | 0.00234 | 45.35% |
| As 193.696*† | 7.9 | 0.0054 | mg/L | 0.00212 | 0.0054 | mg/L | 0.00212 | 39.15% |
| B 249.677*† | 342.4 | 0.0074 | mg/L | 0.00119 | 0.0074 | mg/L | 0.00119 | 15.95% |
| Ba 233.527*† | 431.4 | 0.0029 | mg/L | 0.00007 | 0.0029 | mg/L | 0.00007 | 2.48% |
| Be 313.042*† | -457.2 | -0.0001 | mg/L | 0.00002 | -0.0001 | mg/L | 0.00002 | 16.07% |
| Ca 317.933*† | 232067.2 | 118.8 | mg/L | 2.38 | 118.8 | mg/L | 2.38 | 2.00% |
| Cd 226.502*† | 134.4 | 0.0018 | mg/L | 0.00015 | 0.0018 | mg/L | 0.00015 | 8.43% |
| Cd 228.802† | -16.0 | -0.0004 | mg/L | 0.00014 | -0.0004 | mg/L | 0.00014 | 32.58% |
| Co 228.616*† | 30.3 | 0.0011 | mg/L | 0.00023 | 0.0011 | mg/L | 0.00023 | 20.53% |
| Cr 267.716*† | -59.5 | -0.0005 | mg/L | 0.00026 | -0.0005 | mg/L | 0.00026 | 46.87% |
| Cu 324.752*† | 530.5 | 0.0022 | mg/L | 0.00062 | 0.0022 | mg/L | 0.00062 | 28.02% |
| Fe 273.955*† | 2187654.1 | 96.50 | mg/L | 1.610 | 96.50 | mg/L | 1.610 | 1.67% |
| K 766.490*† | -27.2 | -0.0093 | mg/L | 0.05293 | -0.0093 | mg/L | 0.05293 | 571.93% |
| Mg 279.077*† | 1099261.9 | 60.27 | mg/L | 1.283 | 60.27 | mg/L | 1.283 | 2.13% |
| Mn 257.610*† | 71.4 | 0.0001 | mg/L | 0.00017 | 0.0001 | mg/L | 0.00017 | 150.89% |
| Mo 202.031*† | 4.3 | 0.0005 | mg/L | 0.00060 | 0.0005 | mg/L | 0.00060 | 130.70% |
| Na 589.592*† | 90659.6 | 21.25 | mg/L | 0.262 | 21.25 | mg/L | 0.262 | 1.23% |
| Ni 231.604*† | 4.2 | 0.0002 | mg/L | 0.00050 | 0.0002 | mg/L | 0.00050 | 280.63% |
| P 213.617*† | -291.2 | -0.1477 | mg/L | 0.01804 | -0.1477 | mg/L | 0.01804 | 12.21% |
| P 214.914† | 42.2 | 0.0337 | mg/L | 0.01493 | 0.0337 | mg/L | 0.01493 | 44.26% |
| Pb 220.353*† | -59.2 | -0.0078 | mg/L | 0.00062 | -0.0078 | mg/L | 0.00062 | 7.96% |
| Sb 206.836† | 4.4 | 0.0023 | mg/L | 0.00782 | 0.0023 | mg/L | 0.00782 | 340.77% |
| Sb 217.582*† | -22.5 | -0.0120 | mg/L | 0.00550 | -0.0120 | mg/L | 0.00550 | 46.00% |
| Se 196.026*† | -9.0 | -0.0041 | mg/L | 0.00120 | -0.0041 | mg/L | 0.00120 | 29.30% |
| Si 251.611*† | 138.5 | 0.0037 | mg/L | 0.00324 | 0.0037 | mg/L | 0.00324 | 87.37% |
| Sn 189.927*† | 13.1 | 0.0022 | mg/L | 0.00038 | 0.0022 | mg/L | 0.00038 | 17.74% |
| Sn 242.170† | 489.1 | 0.2784 | mg/L | 0.00682 | 0.2784 | mg/L | 0.00682 | 2.45% |
| Sr 407.771*† | 1073.5 | 0.0033 | mg/L | 0.00028 | 0.0033 | mg/L | 0.00028 | 8.52% |
| Ti 334.940† | -1389.9 | -0.0017 | mg/L | 0.00026 | -0.0017 | mg/L | 0.00026 | 15.48% |
| Ti 336.121*† | -471.7 | -0.0008 | mg/L | 0.00000 | -0.0008 | mg/L | 0.00000 | 0.33% |
| Tl 190.801*† | -2.1 | -0.0011 | mg/L | 0.00669 | -0.0011 | mg/L | 0.00669 | 590.60% |
| V 292.402*† | 424.4 | 0.0017 | mg/L | 0.00016 | 0.0017 | mg/L | 0.00016 | 9.34% |
| Zn 206.200*† | 138.7 | 0.0036 | mg/L | 0.00035 | 0.0036 | mg/L | 0.00035 | 9.91% |
| Zn 213.857*† | 775.1 | 0.0035 | mg/L | 0.00059 | 0.0035 | mg/L | 0.00059 | 16.94% |

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Sequence No.: 8
Sample ID: ICS_AB - M110116A
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 9
Date Collected: 3/20/2017 10:15:24 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 | 68304.9 | 87.61 | % | 1.658 | | | | 1.89% |
| Tb 350 | 115473.2 | 91.34 | % | 1.435 | | | | 1.57% |
| Ag 328.068*† | 56641.5 | 0.3111 | mg/L | 0.00158 | 0.3111 | mg/L | 0.00158 | 0.51% |
| Al 308.215*† | 417171.1 | 24.56 | mg/L | 0.159 | 24.56 | mg/L | 0.159 | 0.65% |
| As 188.979† | 2093.3 | 0.9937 | mg/L | 0.00940 | 0.9937 | mg/L | 0.00940 | 0.95% |
| As 193.696*† | 1452.3 | 0.9909 | mg/L | 0.00151 | 0.9909 | mg/L | 0.00151 | 0.15% |
| B 249.677*† | 22806.1 | 0.4949 | mg/L | 0.00853 | 0.4949 | mg/L | 0.00853 | 1.72% |
| Ba 233.527*† | 45093.1 | 0.2995 | mg/L | 0.00157 | 0.2995 | mg/L | 0.00157 | 0.52% |
| Be 313.042*† | 380732.3 | 0.1018 | mg/L | 0.00055 | 0.1018 | mg/L | 0.00055 | 0.54% |
| Ca 317.933*† | 231034.7 | 118.3 | mg/L | 0.56 | 118.3 | mg/L | 0.56 | 0.47% |
| Cd 226.502*† | 22326.5 | 0.3038 | mg/L | 0.00135 | 0.3038 | mg/L | 0.00135 | 0.45% |
| Cd 228.802† | 11273.5 | 0.3002 | mg/L | 0.00144 | 0.3002 | mg/L | 0.00144 | 0.48% |
| Co 228.616*† | 8307.8 | 0.3097 | mg/L | 0.00164 | 0.3097 | mg/L | 0.00164 | 0.53% |
| Cr 267.716*† | 33335.0 | 0.3063 | mg/L | 0.00089 | 0.3063 | mg/L | 0.00089 | 0.29% |
| Cu 324.752*† | 76227.1 | 0.3158 | mg/L | 0.00209 | 0.3158 | mg/L | 0.00209 | 0.66% |
| Fe 273.955*† | 2184227.4 | 96.35 | mg/L | 0.661 | 96.35 | mg/L | 0.661 | 0.69% |
| K 766.490*† | 62456.5 | 21.21 | mg/L | 0.063 | 21.21 | mg/L | 0.063 | 0.30% |
| Mg 279.077*† | 1091358.7 | 59.84 | mg/L | 0.417 | 59.84 | mg/L | 0.417 | 0.70% |
| Mn 257.610*† | 126907.7 | 0.1978 | mg/L | 0.00147 | 0.1978 | mg/L | 0.00147 | 0.74% |
| Mo 202.031*† | 2710.6 | 0.2911 | mg/L | 0.00234 | 0.2911 | mg/L | 0.00234 | 0.80% |
| Na 589.592*† | 88550.7 | 20.75 | mg/L | 0.082 | 20.75 | mg/L | 0.082 | 0.40% |
| Ni 231.604*† | 7217.5 | 0.3112 | mg/L | 0.00112 | 0.3112 | mg/L | 0.00112 | 0.36% |
| P 213.617*† | -215.1 | -0.1092 | mg/L | 0.01403 | -0.1092 | mg/L | 0.01403 | 12.85% |
| P 214.914† | 38.0 | 0.0303 | mg/L | 0.00339 | 0.0303 | mg/L | 0.00339 | 11.17% |
| Pb 220.353*† | 7631.6 | 1.006 | mg/L | 0.0030 | 1.006 | mg/L | 0.0030 | 0.30% |
| Sb 206.836† | 1802.0 | 0.9496 | mg/L | 0.00320 | 0.9496 | mg/L | 0.00320 | 0.34% |
| Sb 217.582*† | 1769.0 | 0.9402 | mg/L | 0.00763 | 0.9402 | mg/L | 0.00763 | 0.81% |
| Se 196.026*† | 1092.5 | 0.4954 | mg/L | 0.00601 | 0.4954 | mg/L | 0.00601 | 1.21% |
| Si 251.611*† | 7744.4 | 0.2073 | mg/L | 0.00124 | 0.2073 | mg/L | 0.00124 | 0.60% |
| Sn 189.927*† | -27.7 | -0.0046 | mg/L | 0.00028 | -0.0046 | mg/L | 0.00028 | 6.08% |
| Sn 242.170† | 453.8 | 0.2583 | mg/L | 0.00068 | 0.2583 | mg/L | 0.00068 | 0.26% |
| Sr 407.771*† | 782.3 | 0.0024 | mg/L | 0.00019 | 0.0024 | mg/L | 0.00019 | 7.97% |
| Ti 334.940† | 810442.5 | 0.9746 | mg/L | 0.00638 | 0.9746 | mg/L | 0.00638 | 0.65% |
| Ti 336.121*† | 574598.3 | 1.005 | mg/L | 0.0052 | 1.005 | mg/L | 0.0052 | 0.51% |
| Tl 190.801*† | 1818.2 | 0.9864 | mg/L | 0.00511 | 0.9864 | mg/L | 0.00511 | 0.52% |
| V 292.402*† | 39677.4 | 0.3032 | mg/L | 0.00271 | 0.3032 | mg/L | 0.00271 | 0.89% |
| Zn 206.200*† | 12087.4 | 0.3108 | mg/L | 0.00119 | 0.3108 | mg/L | 0.00119 | 0.38% |
| Zn 213.857*† | 21396.5 | 0.3091 | mg/L | 0.00185 | 0.3091 | mg/L | 0.00185 | 0.60% |

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Analysis Begun

Start Time: 3/20/2017 11:45:43 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/20/2017 9:11:12 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032001.sif

Batch ID:
Results Data Set: 170320C1
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: 3/20/2017 11:45:54 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 | 78546.0 | 275.25 | 0.35% | 100.0 | % |
| Tb 350 | 128740.0 | 232.16 | 0.18% | 100.0 | % |
| Ag 328.068*† | -1082.4 | 138.07 | 12.76% | [0.00] | mg/L |
| Al 308.215*† | -2676.8 | 147.60 | 5.51% | [0.00] | mg/L |
| As 188.979† | 2.3 | 3.80 | 168.55% | [0.00] | mg/L |
| As 193.696*† | 5.7 | 1.58 | 27.63% | [0.00] | mg/L |
| B 249.677*† | -415.8 | 27.20 | 6.54% | [0.00] | mg/L |
| Ba 233.527*† | -113.1 | 20.51 | 18.14% | [0.00] | mg/L |
| Be 313.042*† | -721.6 | 7.38 | 1.02% | [0.00] | mg/L |
| Ca 317.933*† | 62.8 | 2.03 | 3.22% | [0.00] | mg/L |
| Cd 226.502*† | 23.9 | 9.22 | 38.54% | [0.00] | mg/L |
| Cd 228.802† | 7.5 | 4.53 | 60.25% | [0.00] | mg/L |
| Co 228.616*† | -69.9 | 0.70 | 0.99% | [0.00] | mg/L |
| Cr 267.716*† | 504.8 | 43.34 | 8.59% | [0.00] | mg/L |
| Cu 324.752*† | 2647.0 | 86.25 | 3.26% | [0.00] | mg/L |
| Fe 273.955*† | -402.5 | 2.56 | 0.64% | [0.00] | mg/L |
| K 766.490*† | 866.1 | 408.32 | 47.14% | [0.00] | mg/L |
| Mg 279.077*† | -8032.9 | 140.62 | 1.75% | [0.00] | mg/L |
| Mn 257.610*† | -229.5 | 6.81 | 2.97% | [0.00] | mg/L |
| Mo 202.031*† | -51.8 | 2.22 | 4.28% | [0.00] | mg/L |
| Na 589.592*† | 565.6 | 79.58 | 14.07% | [0.00] | mg/L |
| Ni 231.604*† | -62.2 | 3.85 | 6.19% | [0.00] | mg/L |
| P 213.617*† | -153.6 | 32.17 | 20.95% | [0.00] | mg/L |
| P 214.914† | -38.4 | 0.92 | 2.39% | [0.00] | mg/L |
| Pb 220.353*† | -20.4 | 5.99 | 29.29% | [0.00] | mg/L |
| Sb 206.836† | 25.4 | 10.24 | 40.24% | [0.00] | mg/L |
| Sb 217.582*† | -6.7 | 1.21 | 17.92% | [0.00] | mg/L |
| Se 196.026*† | -5.1 | 0.93 | 18.13% | [0.00] | mg/L |
| Si 251.611*† | 1176.9 | 4.43 | 0.38% | [0.00] | mg/L |
| Sn 189.927*† | -94.5 | 2.80 | 2.97% | [0.00] | mg/L |
| Sn 242.170† | -414.8 | 18.04 | 4.35% | [0.00] | mg/L |
| Sr 407.771*† | 193.6 | 9.58 | 4.95% | [0.00] | mg/L |
| Ti 334.940† | 29218.0 | 65.91 | 0.23% | [0.00] | mg/L |
| Ti 336.121*† | -1211.2 | 202.94 | 16.75% | [0.00] | mg/L |
| Tl 190.801*† | -10.1 | 9.38 | 92.56% | [0.00] | mg/L |
| V 292.402*† | 213.5 | 115.84 | 54.26% | [0.00] | mg/L |
| Zn 206.200*† | 363.2 | 3.44 | 0.95% | [0.00] | mg/L |
| Zn 213.857*† | 1024.2 | 9.18 | 0.90% | [0.00] | mg/L |

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User canceled analysis.

Analysis Begun

Start Time: 3/20/2017 11:47:01 AM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/20/2017 9:11:12 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032001.sif

Batch ID:
Results Data Set: 170320C1
Results Library: W:\pe\7300\Results\results.mdb

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

Autosampler Location: 2
Date Collected: 3/20/2017 11:47:02 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:

Mean Data: STD3-M111116A_935_ICP7300

| Analyte | Mean Corrected Intensity | Std.Dev. | RSD | Conc. | Calib Units |
|---|---|---|---|---|---|
| Tb 384 | 69229.9 | 257.77 | 0.37% | 88.14 | % |
| Tb 350 | 117619.2 | 270.01 | 0.23% | 91.36 | % |
| Ag 328.068*† | 137928.5 | 734.58 | 0.53% | [0.75] | mg/L |
| Al 308.215*† | 458577.9 | 3463.73 | 0.76% | [27.0] | mg/L |
| As 188.979† | 15304.3 | 101.63 | 0.66% | [7.50] | mg/L |
| As 193.696*† | 10611.0 | 95.57 | 0.90% | [7.50] | mg/L |
| B 249.677*† | 362227.3 | 5778.85 | 1.60% | [7.50] | mg/L |
| Ba 233.527*† | 2235930.9 | 19748.19 | 0.88% | [15.0] | mg/L |
| Be 313.042*† | 4163190.0 | 28988.11 | 0.70% | [1.125] | mg/L |
| Ca 317.933*† | 114095.4 | 1775.28 | 1.56% | [60.0] | mg/L |
| Cd 226.502*† | 114213.8 | 1761.19 | 1.54% | [1.50] | mg/L |
| Cd 228.802† | 58778.0 | 634.13 | 1.08% | [1.50] | mg/L |
| Co 228.616*† | 104905.2 | 670.69 | 0.64% | [3.75] | mg/L |
| Cr 267.716*† | 133687.2 | 1446.84 | 1.08% | [1.20] | mg/L |
| Cu 324.752*† | 458377.7 | 2540.47 | 0.55% | [1.875] | mg/L |
| Fe 273.955*† | 173241.9 | 1324.59 | 0.76% | [7.50] | mg/L |
| K 766.490*† | 157381.4 | 1844.60 | 1.17% | [54.0] | mg/L |
| Mg 279.077*† | 281127.3 | 3849.46 | 1.37% | [15.0] | mg/L |
| Mn 257.610*† | 950360.5 | 7298.03 | 0.77% | [1.50] | mg/L |
| Mo 202.031*† | 10947.9 | 165.49 | 1.51% | [1.20] | mg/L |
| Na 589.592*† | 303757.3 | 3013.28 | 0.99% | [72.0] | mg/L |
| Ni 231.604*† | 28092.1 | 289.60 | 1.03% | [1.20] | mg/L |
| P 213.617*† | 22272.0 | 320.85 | 1.44% | [12.0] | mg/L |
| P 214.914† | 14756.8 | 196.82 | 1.33% | [12.0] | mg/L |
| Pb 220.353*† | 58807.0 | 721.75 | 1.23% | [7.50] | mg/L |
| Sb 206.836† | 16733.6 | 145.54 | 0.87% | [9.0] | mg/L |
| Sb 217.582*† | 16554.8 | 145.14 | 0.88% | [9.0] | mg/L |
| Se 196.026*† | 6477.6 | 18.43 | 0.28% | [3.0] | mg/L |
| Si 251.611*† | 449482.4 | 4693.05 | 1.04% | [12.0] | mg/L |
| Sn 189.927*† | 35509.8 | 490.67 | 1.38% | [6.0] | mg/L |
| Sn 242.170† | 10419.8 | 255.03 | 2.45% | [6.0] | mg/L |
| Sr 407.771*† | 192013.5 | 1913.33 | 1.00% | [0.60] | mg/L |
| Ti 334.940† | 981364.0 | 4134.02 | 0.42% | [1.20] | mg/L |
| Ti 336.121*† | 697635.5 | 3755.57 | 0.54% | [1.20] | mg/L |
| Tl 190.801*† | 5402.0 | 93.84 | 1.74% | [3.0] | mg/L |
| V 292.402*† | 501772.1 | 4496.43 | 0.90% | [3.75] | mg/L |
| Zn 206.200*† | 198366.4 | 2363.63 | 1.19% | [5.0] | mg/L |
| Zn 213.857*† | 352380.2 | 4148.19 | 1.18% | [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: 3/20/2017 11:47:48 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: ICV-M072816C

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 71414.7 | 90.92 | % | 0.798 | | | | 0.88% |
| Tb 350 | 120331.4 | 93.47 | % | 1.482 | | | | 1.59% |
| Ag 328.068*† | 92715.7 | 0.5042 | mg/L | 0.00383 | 0.5042 | mg/L | 0.00383 | 0.76% |
| QC value within limits for Ag 328.068* Recovery = 100.83% | | | | | | | | |
| Al 308.215*† | 71789.0 | 4.227 | mg/L | 0.0165 | 4.227 | mg/L | 0.0165 | 0.39% |
| QC value within limits for Al 308.215* Recovery = 105.67% | | | | | | | | |
| As 188.979† | 10099.9 | 4.950 | mg/L | 0.0721 | 4.950 | mg/L | 0.0721 | 1.46% |
| QC value within limits for As 188.979 Recovery = 98.99% | | | | | | | | |
| As 193.696*† | 7013.7 | 4.957 | mg/L | 0.0643 | 4.957 | mg/L | 0.0643 | 1.30% |
| QC value within limits for As 193.696* Recovery = 99.15% | | | | | | | | |
| B 249.677*† | 121346.4 | 2.513 | mg/L | 0.0198 | 2.513 | mg/L | 0.0198 | 0.79% |
| QC value within limits for B 249.677* Recovery = 100.50% | | | | | | | | |
| Ba 233.527*† | 150415.7 | 1.009 | mg/L | 0.0087 | 1.009 | mg/L | 0.0087 | 0.86% |
| QC value within limits for Ba 233.527* Recovery = 100.91% | | | | | | | | |
| Be 313.042*† | 1806513.6 | 0.4882 | mg/L | 0.01633 | 0.4882 | mg/L | 0.01633 | 3.34% |
| QC value within limits for Be 313.042* Recovery = 97.63% | | | | | | | | |
| Ca 317.933*† | 38850.4 | 20.43 | mg/L | 0.401 | 20.43 | mg/L | 0.401 | 1.96% |
| QC value within limits for Ca 317.933* Recovery = 102.15% | | | | | | | | |
| Cd 226.502*† | 114080.8 | 1.498 | mg/L | 0.0171 | 1.498 | mg/L | 0.0171 | 1.14% |
| QC value within limits for Cd 226.502* Recovery = 99.88% | | | | | | | | |
| Cd 228.802† | 58059.1 | 1.482 | mg/L | 0.0153 | 1.482 | mg/L | 0.0153 | 1.03% |
| Co 228.616*† | 29052.1 | 1.039 | mg/L | 0.0085 | 1.039 | mg/L | 0.0085 | 0.82% |
| QC value within limits for Co 228.616* Recovery = 103.85% | | | | | | | | |
| Cr 267.716*† | 44617.7 | 0.4005 | mg/L | 0.00198 | 0.4005 | mg/L | 0.00198 | 0.49% |
| QC value within limits for Cr 267.716* Recovery = 100.12% | | | | | | | | |
| Cu 324.752*† | 247592.6 | 1.013 | mg/L | 0.0051 | 1.013 | mg/L | 0.0051 | 0.50% |
| QC value within limits for Cu 324.752* Recovery = 101.28% | | | | | | | | |
| Fe 273.955*† | 2343922.7 | 101.5 | mg/L | 3.36 | 101.5 | mg/L | 3.36 | 3.31% |
| QC value within limits for Fe 273.955* Recovery = 101.47% | | | | | | | | |
| K 766.490*† | 24171.8 | 8.294 | mg/L | 0.0780 | 8.294 | mg/L | 0.0780 | 0.94% |
| QC value within limits for K 766.490* Recovery = 103.67% | | | | | | | | |
| Mg 279.077*† | 187567.5 | 10.01 | mg/L | 0.157 | 10.01 | mg/L | 0.157 | 1.57% |
| QC value within limits for Mg 279.077* Recovery = 100.08% | | | | | | | | |
| Mn 257.610*† | 634537.3 | 1.002 | mg/L | 0.0105 | 1.002 | mg/L | 0.0105 | 1.04% |
| QC value within limits for Mn 257.610* Recovery = 100.15% | | | | | | | | |
| Mo 202.031*† | 22559.3 | 2.473 | mg/L | 0.0359 | 2.473 | mg/L | 0.0359 | 1.45% |
| QC value within limits for Mo 202.031* Recovery = 98.91% | | | | | | | | |
| Na 589.592*† | 231294.9 | 54.82 | mg/L | 0.839 | 54.82 | mg/L | 0.839 | 1.53% |
| QC value within limits for Na 589.592* Recovery = 101.53% | | | | | | | | |
| Ni 231.604*† | 9589.4 | 0.4096 | mg/L | 0.00584 | 0.4096 | mg/L | 0.00584 | 1.43% |
| QC value within limits for Ni 231.604* Recovery = 102.41% | | | | | | | | |
| P 213.617*† | 8903.7 | 4.797 | mg/L | 0.0452 | 4.797 | mg/L | 0.0452 | 0.94% |
| QC value within limits for P 213.617* Recovery = 95.95% | | | | | | | | |
| P 214.914† | 6157.7 | 5.007 | mg/L | 0.0658 | 5.007 | mg/L | 0.0658 | 1.31% |
| Pb 220.353*† | 39570.4 | 5.047 | mg/L | 0.0797 | 5.047 | mg/L | 0.0797 | 1.58% |
| QC value within limits for Pb 220.353* Recovery = 100.93% | | | | | | | | |
| Sb 206.836† | 3594.7 | 1.933 | mg/L | 0.0230 | 1.933 | mg/L | 0.0230 | 1.19% |
| QC value within limits for Sb 206.836 Recovery = 96.67% | | | | | | | | |
| Sb 217.582*† | 3621.4 | 1.969 | mg/L | 0.0273 | 1.969 | mg/L | 0.0273 | 1.39% |
| QC value within limits for Sb 217.582* Recovery = 98.44% | | | | | | | | |
| Se 196.026*† | 4255.5 | 1.971 | mg/L | 0.0227 | 1.971 | mg/L | 0.0227 | 1.15% |
| QC value within limits for Se 196.026* Recovery = 98.54% | | | | | | | | |
| Si 251.611*† | 364303.6 | 9.726 | mg/L | 0.1009 | 9.726 | mg/L | 0.1009 | 1.04% |
| QC value within limits for Si 251.611* Recovery = 97.26% | | | | | | | | |
| Sn 189.927*† | 14901.4 | 2.518 | mg/L | 0.0410 | 2.518 | mg/L | 0.0410 | 1.63% |
| QC value within limits for Sn 189.927* Recovery = 100.71% | | | | | | | | |
| Sn 242.170† | 4873.9 | 2.807 | mg/L | 0.0888 | 2.807 | mg/L | 0.0888 | 3.16% |
| Sr 407.771*† | 66714.2 | 0.2085 | mg/L | 0.00125 | 0.2085 | mg/L | 0.00125 | 0.60% |
| QC value within limits for Sr 407.771* Recovery = 104.23% | | | | | | | | |

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|---|---|---|---|---|---|---|
| Ti 334.940† | 3902190.6 | 4.772 mg/L | 0.1262 | 4.772 mg/L | 0.1262 | 2.65% |
| Ti 336.121*† | 2801883.7 | 4.820 mg/L | 0.1307 | 4.820 mg/L | 0.1307 | 2.71% |
| QC value within limits for Ti 336.121* Recovery = 96.39% | | | | | | |
| Tl 190.801*† | 3626.8 | 2.014 mg/L | 0.0278 | 2.014 mg/L | 0.0278 | 1.38% |
| QC value within limits for Tl 190.801* Recovery = 100.71% | | | | | | |
| V 292.402*† | 134129.5 | 1.001 mg/L | 0.0101 | 1.001 mg/L | 0.0101 | 1.01% |
| QC value within limits for V 292.402* Recovery = 100.08% | | | | | | |
| Zn 206.200*† | 60145.1 | 1.516 mg/L | 0.0240 | 1.516 mg/L | 0.0240 | 1.59% |
| QC value within limits for Zn 206.200* Recovery = 101.07% | | | | | | |
| Zn 213.857*† | 107575.6 | 1.518 mg/L | 0.0264 | 1.518 mg/L | 0.0264 | 1.74% |
| QC value within limits for Zn 213.857* Recovery = 101.20% | | | | | | |

All analyte(s) passed QC.

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7J/ 3/27/17

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 79185.8 | 100.8 | % | 1.96 | | | | 1.94% |
| Tb 350 | 130493.6 | 101.4 | % | 1.05 | | | | 1.03% |
| Ag 328.068*† | 83.2 | 0.0005 | mg/L | 0.00013 | 0.0005 | mg/L | 0.00013 | 28.51% |
| Al 308.215*† | 31.5 | 0.0019 | mg/L | 0.00141 | 0.0019 | mg/L | 0.00141 | 75.97% |
| As 188.979† | 2.9 | 0.0014 | mg/L | 0.00282 | 0.0014 | mg/L | 0.00282 | 198.31% |
| As 193.696*† | -2.4 | -0.0017 | mg/L | 0.01022 | -0.0017 | mg/L | 0.01022 | 607.45% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1317.5 | 0.0273 | mg/L | 0.00184 | 0.0273 | mg/L | 0.00184 | 6.76% |
| QC value greater than the upper limit for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | 11.8 | 0.0001 | mg/L | 0.00017 | 0.0001 | mg/L | 0.00017 | 219.91% |
| Be 313.042*† | -10.9 | -0.0000 | mg/L | 0.00000 | -0.0000 | mg/L | 0.00000 | 68.26% |
| Ca 317.933*† | -2.3 | -0.0012 | mg/L | 0.00041 | -0.0012 | mg/L | 0.00041 | 35.05% |
| Cd 226.502*† | 2.8 | 0.0000 | mg/L | 0.00003 | 0.0000 | mg/L | 0.00003 | 86.83% |
| Cd 228.802† | 4.2 | 0.0001 | mg/L | 0.00027 | 0.0001 | mg/L | 0.00027 | 251.32% |
| Co 228.616*† | -19.1 | -0.0007 | mg/L | 0.00012 | -0.0007 | mg/L | 0.00012 | 17.60% |
| Cr 267.716*† | -98.1 | -0.0009 | mg/L | 0.00069 | -0.0009 | mg/L | 0.00069 | 78.07% |
| Cu 324.752*† | -58.3 | -0.0002 | mg/L | 0.00085 | -0.0002 | mg/L | 0.00085 | 357.72% |
| Fe 273.955*† | 35.4 | 0.0015 | mg/L | 0.00001 | 0.0015 | mg/L | 0.00001 | 0.93% |
| K 766.490*† | 370.2 | 0.1270 | mg/L | 0.03201 | 0.1270 | mg/L | 0.03201 | 25.20% |
| Mg 279.077*† | 199.5 | 0.0106 | mg/L | 0.01039 | 0.0106 | mg/L | 0.01039 | 97.55% |
| Mn 257.610*† | 24.4 | 0.0000 | mg/L | 0.00000 | 0.0000 | mg/L | 0.00000 | 7.12% |
| Mo 202.031*† | 4.1 | 0.0005 | mg/L | 0.00020 | 0.0005 | mg/L | 0.00020 | 44.59% |
| Na 589.592*† | -144.1 | -0.0342 | mg/L | 0.02519 | -0.0342 | mg/L | 0.02519 | 73.74% |
| Ni 231.604*† | 0.1 | 0.0000 | mg/L | 0.00028 | 0.0000 | mg/L | 0.00028 | >999.9% |
| P 213.617*† | 11.7 | 0.0063 | mg/L | 0.00739 | 0.0063 | mg/L | 0.00739 | 117.56% |
| P 214.914† | -3.0 | -0.0024 | mg/L | 0.00479 | -0.0024 | mg/L | 0.00479 | 196.32% |
| Pb 220.353*† | -3.3 | -0.0004 | mg/L | 0.00087 | -0.0004 | mg/L | 0.00087 | 206.18% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | | |
| Sb 206.836† | 1.5 | 0.0008 | mg/L | 0.00026 | 0.0008 | mg/L | 0.00026 | 31.93% |
| Sb 217.582*† | -2.5 | -0.0014 | mg/L | 0.00248 | -0.0014 | mg/L | 0.00248 | 181.73% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 12.2 | 0.0057 | mg/L | 0.00343 | 0.0057 | mg/L | 0.00343 | 60.66% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 96.7 | 0.0026 | mg/L | 0.00050 | 0.0026 | mg/L | 0.00050 | 19.37% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | | |
| Sn 189.927*† | 19.7 | 0.0033 | mg/L | 0.00015 | 0.0033 | mg/L | 0.00015 | 4.45% |
| Sn 242.170† | 29.4 | 0.0169 | mg/L | 0.01013 | 0.0169 | mg/L | 0.01013 | 59.91% |
| Sr 407.771*† | -18.0 | -0.0001 | mg/L | 0.00002 | -0.0001 | mg/L | 0.00002 | 30.81% |
| Ti 334.940† | 470.2 | 0.0006 | mg/L | 0.00004 | 0.0006 | mg/L | 0.00004 | 6.80% |
| Ti 336.121*† | 288.4 | 0.0005 | mg/L | 0.00021 | 0.0005 | mg/L | 0.00021 | 42.04% |
| Tl 190.801*† | 5.9 | 0.0033 | mg/L | 0.00065 | 0.0033 | mg/L | 0.00065 | 20.04% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | -163.7 | -0.0012 | mg/L | 0.00048 | -0.0012 | mg/L | 0.00048 | 39.10% |
| Zn 206.200*† | -7.4 | -0.0002 | mg/L | 0.00041 | -0.0002 | mg/L | 0.00041 | 218.91% |
| Zn 213.857*† | -28.4 | -0.0004 | mg/L | 0.00016 | -0.0004 | mg/L | 0.00016 | 38.83% |

QC Failed. Retry.

==========

**Sequence No.: 6**
**Sample ID: ICB-R12091601**
**Analyst: 935 icp 7300**
**Initial Sample Wt:**
**Dilution:**
**Wash Time: 20**

**Autosampler Location: 1**
**Date Collected: 3/20/2017 11:50:19 AM**
**Data Type: Original**
**Initial Sample Vol:**
**Sample Prep Vol:**
**Auto Dilution Factor: 1**

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**Mean Data: ICB-R12091601**

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 80211.1 | 102.1 | % | 0.91 | | | | 0.90% |
| Tb 350 | 131729.4 | 102.3 | % | 0.34 | | | | 0.34% |
| Ag 328.068*† | 191.5 | 0.0010 | mg/L | 0.00012 | 0.0010 | mg/L | 0.00012 | 11.27% |
| Al 308.215*† | -29.4 | -0.0017 | mg/L | 0.00446 | -0.0017 | mg/L | 0.00446 | 257.69% |
| As 188.979† | 7.6 | 0.0037 | mg/L | 0.00037 | 0.0037 | mg/L | 0.00037 | 9.98% |
| As 193.696*† | -8.3 | -0.0059 | mg/L | 0.00361 | -0.0059 | mg/L | 0.00361 | 61.62% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 837.4 | 0.0173 | mg/L | 0.00042 | 0.0173 | mg/L | 0.00042 | 2.45% |
| QC value within limits for B 249.677* Recovery = Not calculated | | | | | | | | |
| Ba 233.527*† | 18.3 | 0.0001 | mg/L | 0.00001 | 0.0001 | mg/L | 0.00001 | 4.53% |
| Be 313.042*† | -28.9 | -0.0000 | mg/L | 0.00002 | -0.0000 | mg/L | 0.00002 | 265.69% |
| Ca 317.933*† | -9.2 | -0.0048 | mg/L | 0.00553 | -0.0048 | mg/L | 0.00553 | 114.09% |
| Cd 226.502*† | 4.7 | 0.0001 | mg/L | 0.00001 | 0.0001 | mg/L | 0.00001 | 11.39% |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Cd 228.802† | 2.3 | 0.0001 | mg/L | 0.00022 | 0.0001 | mg/L | 0.00022 377.25% |
| Co 228.616*† | -6.5 | -0.0002 | mg/L | 0.00013 | -0.0002 | mg/L | 0.00013 57.56% |
| Cr 267.716*† | -43.8 | -0.0004 | mg/L | 0.00039 | -0.0004 | mg/L | 0.00039 100.19% |
| Cu 324.752*† | -154.1 | -0.0006 | mg/L | 0.00058 | -0.0006 | mg/L | 0.00058 91.64% |
| Fe 273.955*† | 7.0 | 0.0003 | mg/L | 0.00023 | 0.0003 | mg/L | 0.00023 74.89% |
| K 766.490*† | 23.3 | 0.0080 | mg/L | 0.02752 | 0.0080 | mg/L | 0.02752 344.18% |
| Mg 279.077*† | 144.1 | 0.0077 | mg/L | 0.00291 | 0.0077 | mg/L | 0.00291 37.79% |
| Mn 257.610*† | 30.1 | 0.0000 | mg/L | 0.00008 | 0.0000 | mg/L | 0.00008 176.84% |
| Mo 202.031*† | 4.0 | 0.0004 | mg/L | 0.00085 | 0.0004 | mg/L | 0.00085 193.72% |
| Na 589.592*† | -76.0 | -0.0180 | mg/L | 0.01604 | -0.0180 | mg/L | 0.01604 89.01% |
| Ni 231.604*† | 5.3 | 0.0002 | mg/L | 0.00034 | 0.0002 | mg/L | 0.00034 148.60% |
| P 213.617*† | 7.3 | 0.0039 | mg/L | 0.00869 | 0.0039 | mg/L | 0.00869 222.42% |
| P 214.914† | -6.0 | -0.0049 | mg/L | 0.00139 | -0.0049 | mg/L | 0.00139 28.35% |
| Pb 220.353*† | 0.5 | 0.0001 | mg/L | 0.00104 | 0.0001 | mg/L | 0.00104 >999.9% |
| QC value within limits for Pb 220.353* Recovery = Not calculated | | | | | | | |
| Sb 206.836† | -1.5 | -0.0008 | mg/L | 0.00499 | -0.0008 | mg/L | 0.00499 630.18% |
| Sb 217.582*† | -2.7 | -0.0015 | mg/L | 0.00237 | -0.0015 | mg/L | 0.00237 161.31% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | |
| Se 196.026*† | 3.8 | 0.0017 | mg/L | 0.00709 | 0.0017 | mg/L | 0.00709 407.39% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | |
| Si 251.611*† | -4.5 | -0.0001 | mg/L | 0.00143 | -0.0001 | mg/L | 0.00143 >999.9% |
| QC value within limits for Si 251.611* Recovery = Not calculated | | | | | | | |
| Sn 189.927*† | 10.1 | 0.0017 | mg/L | 0.00380 | 0.0017 | mg/L | 0.00380 223.53% |
| Sn 242.170† | 37.0 | 0.0213 | mg/L | 0.00283 | 0.0213 | mg/L | 0.00283 13.30% |
| Sr 407.771*† | -11.2 | -0.0000 | mg/L | 0.00003 | -0.0000 | mg/L | 0.00003 98.72% |
| Ti 334.940† | 342.0 | 0.0004 | mg/L | 0.00011 | 0.0004 | mg/L | 0.00011 26.17% |
| Ti 336.121*† | 200.6 | 0.0003 | mg/L | 0.00013 | 0.0003 | mg/L | 0.00013 38.86% |
| Tl 190.801*† | -7.9 | -0.0044 | mg/L | 0.00100 | -0.0044 | mg/L | 0.00100 22.70% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | |
| V 292.402*† | 91.9 | 0.0007 | mg/L | 0.00037 | 0.0007 | mg/L | 0.00037 54.38% |
| Zn 206.200*† | 0.4 | 0.0000 | mg/L | 0.00014 | 0.0000 | mg/L | 0.00014 >999.9% |
| Zn 213.857*† | -30.2 | -0.0004 | mg/L | 0.00018 | -0.0004 | mg/L | 0.00018 43.02% |

All analyte(s) passed QC.

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Sequence No.: 51
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/20/2017 12:44:37 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 | 73391.1 | 93.44 | % | 1.312 | | | | 1.40% |
| Tb 350 | 124182.5 | 96.46 | % | 0.414 | | | | 0.43% |
| Ag 328.068*† | 67395.0 | 0.3665 | mg/L | 0.00403 | 0.3665 | mg/L | 0.00403 | 1.10% |
| QC value within limits for Ag 328.068* Recovery = 97.72% | | | | | | | | |
| Al 308.215*† | 228606.0 | 13.46 | mg/L | 0.010 | 13.46 | mg/L | 0.010 | 0.07% |
| QC value within limits for Al 308.215* Recovery = 99.70% | | | | | | | | |
| As 188.979† | 7344.1 | 3.599 | mg/L | 0.0305 | 3.599 | mg/L | 0.0305 | 0.85% |
| QC value within limits for As 188.979 Recovery = 95.97% | | | | | | | | |
| As 193.696*† | 5089.6 | 3.597 | mg/L | 0.0434 | 3.597 | mg/L | 0.0434 | 1.21% |
| QC value within limits for As 193.696* Recovery = 95.93% | | | | | | | | |
| B 249.677*† | 174289.1 | 3.609 | mg/L | 0.0011 | 3.609 | mg/L | 0.0011 | 0.03% |
| QC value within limits for B 249.677* Recovery = 96.23% | | | | | | | | |
| Ba 233.527*† | 1105604.4 | 7.417 | mg/L | 0.0192 | 7.417 | mg/L | 0.0192 | 0.26% |
| QC value within limits for Ba 233.527* Recovery = 98.89% | | | | | | | | |
| Be 313.042*† | 2029654.0 | 0.5485 | mg/L | 0.00809 | 0.5485 | mg/L | 0.00809 | 1.47% |
| QC value within limits for Be 313.042* Recovery = 97.50% | | | | | | | | |
| Ca 317.933*† | 55651.9 | 29.27 | mg/L | 0.224 | 29.27 | mg/L | 0.224 | 0.76% |
| QC value within limits for Ca 317.933* Recovery = 97.55% | | | | | | | | |
| Cd 226.502*† | 55781.9 | 0.7326 | mg/L | 0.00447 | 0.7326 | mg/L | 0.00447 | 0.61% |
| QC value within limits for Cd 226.502* Recovery = 97.68% | | | | | | | | |
| Cd 228.802† | 28491.9 | 0.7271 | mg/L | 0.00589 | 0.7271 | mg/L | 0.00589 | 0.81% |
| Co 228.616*† | 51482.4 | 1.840 | mg/L | 0.0125 | 1.840 | mg/L | 0.0125 | 0.68% |
| QC value within limits for Co 228.616* Recovery = 98.15% | | | | | | | | |
| Cr 267.716*† | 65652.2 | 0.5893 | mg/L | 0.00204 | 0.5893 | mg/L | 0.00204 | 0.35% |
| QC value within limits for Cr 267.716* Recovery = 98.22% | | | | | | | | |
| Cu 324.752*† | 224338.2 | 0.9177 | mg/L | 0.00643 | 0.9177 | mg/L | 0.00643 | 0.70% |
| QC value within limits for Cu 324.752* Recovery = 97.88% | | | | | | | | |
| Fe 273.955*† | 86474.5 | 3.744 | mg/L | 0.0212 | 3.744 | mg/L | 0.0212 | 0.57% |
| QC value within limits for Fe 273.955* Recovery = 99.83% | | | | | | | | |
| K 766.490*† | 76379.0 | 26.21 | mg/L | 0.167 | 26.21 | mg/L | 0.167 | 0.64% |
| QC value within limits for K 766.490* Recovery = 97.06% | | | | | | | | |
| Mg 279.077*† | 139010.1 | 7.417 | mg/L | 0.0464 | 7.417 | mg/L | 0.0464 | 0.63% |
| QC value within limits for Mg 279.077* Recovery = 98.89% | | | | | | | | |
| Mn 257.610*† | 467021.5 | 0.7371 | mg/L | 0.00254 | 0.7371 | mg/L | 0.00254 | 0.35% |
| QC value within limits for Mn 257.610* Recovery = 98.28% | | | | | | | | |
| Mo 202.031*† | 5340.6 | 0.5854 | mg/L | 0.00451 | 0.5854 | mg/L | 0.00451 | 0.77% |
| QC value within limits for Mo 202.031* Recovery = 97.56% | | | | | | | | |
| Na 589.592*† | 149743.7 | 35.49 | mg/L | 0.269 | 35.49 | mg/L | 0.269 | 0.76% |
| QC value within limits for Na 589.592* Recovery = 98.59% | | | | | | | | |
| Ni 231.604*† | 13709.5 | 0.5856 | mg/L | 0.00511 | 0.5856 | mg/L | 0.00511 | 0.87% |
| QC value within limits for Ni 231.604* Recovery = 97.60% | | | | | | | | |
| P 213.617*† | 10537.1 | 5.677 | mg/L | 0.0595 | 5.677 | mg/L | 0.0595 | 1.05% |
| QC value within limits for P 213.617* Recovery = 94.62% | | | | | | | | |
| P 214.914† | 7041.6 | 5.726 | mg/L | 0.0487 | 5.726 | mg/L | 0.0487 | 0.85% |
| Pb 220.353*† | 28852.7 | 3.680 | mg/L | 0.0272 | 3.680 | mg/L | 0.0272 | 0.74% |
| QC value within limits for Pb 220.353* Recovery = 98.13% | | | | | | | | |
| Sb 206.836† | 8018.7 | 4.313 | mg/L | 0.0277 | 4.313 | mg/L | 0.0277 | 0.64% |
| QC value within limits for Sb 206.836 Recovery = 95.84% | | | | | | | | |
| Sb 217.582*† | 7979.4 | 4.338 | mg/L | 0.0311 | 4.338 | mg/L | 0.0311 | 0.72% |
| QC value within limits for Sb 217.582* Recovery = 96.40% | | | | | | | | |
| Se 196.026*† | 3092.4 | 1.432 | mg/L | 0.0069 | 1.432 | mg/L | 0.0069 | 0.48% |
| QC value within limits for Se 196.026* Recovery = 95.48% | | | | | | | | |
| Si 251.611*† | 219820.8 | 5.869 | mg/L | 0.0178 | 5.869 | mg/L | 0.0178 | 0.30% |
| QC value within limits for Si 251.611* Recovery = 97.81% | | | | | | | | |
| Sn 189.927*† | 17154.8 | 2.899 | mg/L | 0.0253 | 2.899 | mg/L | 0.0253 | 0.87% |
| QC value within limits for Sn 189.927* Recovery = 96.62% | | | | | | | | |
| Sn 242.170† | 4983.6 | 2.870 | mg/L | 0.0082 | 2.870 | mg/L | 0.0082 | 0.29% |
| Sr 407.771*† | 94010.8 | 0.2938 | mg/L | 0.00368 | 0.2938 | mg/L | 0.00368 | 1.25% |
| QC value within limits for Sr 407.771* Recovery = 97.92% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 481210.5 | 0.5884 | mg/L | 0.00274 | 0.5884 | mg/L | 0.00274 | 0.47% |
| Ti 336.121*† | 342691.1 | 0.5895 | mg/L | 0.00149 | 0.5895 | mg/L | 0.00149 | 0.25% |
| QC value within limits for Ti 336.121* Recovery = 98.24% | | | | | | | | |
| Tl 190.801*† | 2673.1 | 1.485 | mg/L | 0.0053 | 1.485 | mg/L | 0.0053 | 0.35% |
| QC value within limits for Tl 190.801* Recovery = 98.97% | | | | | | | | |
| V 292.402*† | 246206.8 | 1.840 | mg/L | 0.0144 | 1.840 | mg/L | 0.0144 | 0.78% |
| QC value within limits for V 292.402* Recovery = 98.13% | | | | | | | | |
| Zn 206.200*† | 96093.2 | 2.422 | mg/L | 0.0103 | 2.422 | mg/L | 0.0103 | 0.43% |
| QC value within limits for Zn 206.200* Recovery = 96.88% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 52
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/20/2017 12:45:28 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. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 81273.9 | 103.5 | % | 2.28 | | | | 2.20% |
| Tb 350 | 134093.5 | 104.2 | % | 2.55 | | | | 2.45% |
| Ag 328.068*† | -169.3 | -0.0009 | mg/L | 0.00008 | -0.0009 | mg/L | 0.00008 | 8.26% |
| Al 308.215*† | 144.4 | 0.0085 | mg/L | 0.00175 | 0.0085 | mg/L | 0.00175 | 20.61% |
| As 188.979† | 13.3 | 0.0065 | mg/L | 0.00346 | 0.0065 | mg/L | 0.00346 | 53.04% |
| As 193.696*† | -0.5 | -0.0003 | mg/L | 0.00361 | -0.0003 | mg/L | 0.00361 | >999.9% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 2083.5 | 0.0431 | mg/L | 0.00260 | 0.0431 | mg/L | 0.00260 | 6.02% |
| Ba 233.527*† | 255.0 | 0.0017 | mg/L | 0.00005 | 0.0017 | mg/L | 0.00005 | 3.00% |
| Be 313.042*† | 588.4 | 0.0002 | mg/L | 0.00002 | 0.0002 | mg/L | 0.00002 | 13.43% |
| Ca 317.933*† | 0.0 | 0.0000 | mg/L | 0.00722 | 0.0000 | mg/L | 0.00722 | >999.9% |
| Cd 226.502*† | 12.1 | 0.0002 | mg/L | 0.00010 | 0.0002 | mg/L | 0.00010 | 62.17% |
| Cd 228.802† | 7.3 | 0.0002 | mg/L | 0.00011 | 0.0002 | mg/L | 0.00011 | 58.62% |
| Co 228.616*† | 2.7 | 0.0001 | mg/L | 0.00011 | 0.0001 | mg/L | 0.00011 | 115.12% |
| Cr 267.716*† | 2.9 | 0.0000 | mg/L | 0.00011 | 0.0000 | mg/L | 0.00011 | 400.11% |
| Cu 324.752*† | -430.2 | -0.0018 | mg/L | 0.00040 | -0.0018 | mg/L | 0.00040 | 22.80% |
| Fe 273.955*† | 74.5 | 0.0032 | mg/L | 0.00059 | 0.0032 | mg/L | 0.00059 | 18.29% |
| K 766.490*† | 203.2 | 0.0697 | mg/L | 0.04184 | 0.0697 | mg/L | 0.04184 | 60.00% |
| Mg 279.077*† | 408.6 | 0.0218 | mg/L | 0.00776 | 0.0218 | mg/L | 0.00776 | 35.60% |
| Mn 257.610*† | 151.2 | 0.0002 | mg/L | 0.00007 | 0.0002 | mg/L | 0.00007 | 31.12% |
| Mo 202.031*† | 14.1 | 0.0015 | mg/L | 0.00000 | 0.0015 | mg/L | 0.00000 | 0.16% |
| Na 589.592*† | -35.1 | -0.0083 | mg/L | 0.00722 | -0.0083 | mg/L | 0.00722 | 86.70% |
| Ni 231.604*† | 8.3 | 0.0004 | mg/L | 0.00093 | 0.0004 | mg/L | 0.00093 | 262.12% |
| P 213.617*† | -2.8 | -0.0015 | mg/L | 0.00661 | -0.0015 | mg/L | 0.00661 | 438.58% |
| P 214.914† | 9.3 | 0.0076 | mg/L | 0.00602 | 0.0076 | mg/L | 0.00602 | 79.58% |
| Pb 220.353*† | 3.2 | 0.0004 | mg/L | 0.00136 | 0.0004 | mg/L | 0.00136 | 332.96% |
| Sb 206.836† | 6.6 | 0.0035 | mg/L | 0.00569 | 0.0035 | mg/L | 0.00569 | 160.94% |
| Sb 217.582*† | 11.4 | 0.0062 | mg/L | 0.00027 | 0.0062 | mg/L | 0.00027 | 4.40% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 24.7 | 0.0114 | mg/L | 0.00823 | 0.0114 | mg/L | 0.00823 | 72.11% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 189.3 | 0.0051 | mg/L | 0.00272 | 0.0051 | mg/L | 0.00272 | 53.76% |
| Sn 189.927*† | 48.9 | 0.0083 | mg/L | 0.00121 | 0.0083 | mg/L | 0.00121 | 14.66% |
| Sn 242.170† | 15.8 | 0.0091 | mg/L | 0.00633 | 0.0091 | mg/L | 0.00633 | 69.42% |
| Sr 407.771*† | 0.3 | 0.0000 | mg/L | 0.00003 | 0.0000 | mg/L | 0.00003 | >999.9% |
| Ti 334.940† | 248.7 | 0.0003 | mg/L | 0.00047 | 0.0003 | mg/L | 0.00047 | 155.54% |
| Ti 336.121*† | 353.4 | 0.0006 | mg/L | 0.00007 | 0.0006 | mg/L | 0.00007 | 11.38% |
| Tl 190.801*† | 15.8 | 0.0087 | mg/L | 0.00646 | 0.0087 | mg/L | 0.00646 | 73.84% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 73.4 | 0.0005 | mg/L | 0.00028 | 0.0005 | mg/L | 0.00028 | 51.12% |
| Zn 206.200*† | -136.2 | -0.0034 | mg/L | 0.00028 | -0.0034 | mg/L | 0.00028 | 8.16% |
| QC value within limits for Zn 206.200* Recovery = Not calculated | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 11
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/20/2017 12:56:35 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 71304.1 | 90.78 | % | 0.412 | | | | 0.45% |
| Tb 350 | 119857.0 | 93.10 | % | 0.534 | | | | 0.57% |
| Ag 328.068*† | 67796.3 | 0.3686 | mg/L | 0.00142 | 0.3686 | mg/L | 0.00142 | 0.38% |
| QC value within limits for Ag 328.068* Recovery = 98.31% | | | | | | | | |
| Al 308.215*† | 231540.4 | 13.63 | mg/L | 0.021 | 13.63 | mg/L | 0.021 | 0.15% |
| QC value within limits for Al 308.215* Recovery = 100.98% | | | | | | | | |
| As 188.979† | 7665.1 | 3.756 | mg/L | 0.0419 | 3.756 | mg/L | 0.0419 | 1.11% |
| QC value within limits for As 188.979 Recovery = 100.17% | | | | | | | | |
| As 193.696*† | 5318.0 | 3.759 | mg/L | 0.0279 | 3.759 | mg/L | 0.0279 | 0.74% |
| QC value within limits for As 193.696* Recovery = 100.23% | | | | | | | | |
| B 249.677*† | 174021.2 | 3.603 | mg/L | 0.0423 | 3.603 | mg/L | 0.0423 | 1.17% |
| QC value within limits for B 249.677* Recovery = 96.08% | | | | | | | | |
| Ba 233.527*† | 1115551.0 | 7.484 | mg/L | 0.0085 | 7.484 | mg/L | 0.0085 | 0.11% |
| QC value within limits for Ba 233.527* Recovery = 99.78% | | | | | | | | |
| Be 313.042*† | 2037224.3 | 0.5505 | mg/L | 0.00433 | 0.5505 | mg/L | 0.00433 | 0.79% |
| QC value within limits for Be 313.042* Recovery = 97.87% | | | | | | | | |
| Ca 317.933*† | 56011.9 | 29.46 | mg/L | 0.592 | 29.46 | mg/L | 0.592 | 2.01% |
| QC value within limits for Ca 317.933* Recovery = 98.18% | | | | | | | | |
| Cd 226.502*† | 55958.2 | 0.7349 | mg/L | 0.00479 | 0.7349 | mg/L | 0.00479 | 0.65% |
| QC value within limits for Cd 226.502* Recovery = 97.99% | | | | | | | | |
| Cd 228.802† | 28659.6 | 0.7314 | mg/L | 0.00297 | 0.7314 | mg/L | 0.00297 | 0.41% |
| Co 228.616*† | 51769.3 | 1.851 | mg/L | 0.0022 | 1.851 | mg/L | 0.0022 | 0.12% |
| QC value within limits for Co 228.616* Recovery = 98.70% | | | | | | | | |
| Cr 267.716*† | 66621.5 | 0.5980 | mg/L | 0.00038 | 0.5980 | mg/L | 0.00038 | 0.06% |
| QC value within limits for Cr 267.716* Recovery = 99.67% | | | | | | | | |
| Cu 324.752*† | 225019.9 | 0.9204 | mg/L | 0.00226 | 0.9204 | mg/L | 0.00226 | 0.25% |
| QC value within limits for Cu 324.752* Recovery = 98.18% | | | | | | | | |
| Fe 273.955*† | 86620.9 | 3.750 | mg/L | 0.0089 | 3.750 | mg/L | 0.0089 | 0.24% |
| QC value within limits for Fe 273.955* Recovery = 100.00% | | | | | | | | |
| K 766.490*† | 77006.1 | 26.42 | mg/L | 0.378 | 26.42 | mg/L | 0.378 | 1.43% |
| QC value within limits for K 766.490* Recovery = 97.86% | | | | | | | | |
| Mg 279.077*† | 139486.4 | 7.443 | mg/L | 0.0128 | 7.443 | mg/L | 0.0128 | 0.17% |
| QC value within limits for Mg 279.077* Recovery = 99.23% | | | | | | | | |
| Mn 257.610*† | 470201.1 | 0.7421 | mg/L | 0.00043 | 0.7421 | mg/L | 0.00043 | 0.06% |
| QC value within limits for Mn 257.610* Recovery = 98.95% | | | | | | | | |
| Mo 202.031*† | 5568.9 | 0.6104 | mg/L | 0.00114 | 0.6104 | mg/L | 0.00114 | 0.19% |
| QC value within limits for Mo 202.031* Recovery = 101.73% | | | | | | | | |
| Na 589.592*† | 152961.2 | 36.26 | mg/L | 0.644 | 36.26 | mg/L | 0.644 | 1.78% |
| QC value within limits for Na 589.592* Recovery = 100.71% | | | | | | | | |
| Ni 231.604*† | 14282.1 | 0.6101 | mg/L | 0.00697 | 0.6101 | mg/L | 0.00697 | 1.14% |
| QC value within limits for Ni 231.604* Recovery = 101.68% | | | | | | | | |
| P 213.617*† | 11072.6 | 5.966 | mg/L | 0.0601 | 5.966 | mg/L | 0.0601 | 1.01% |
| QC value within limits for P 213.617* Recovery = 99.43% | | | | | | | | |
| P 214.914† | 7346.4 | 5.974 | mg/L | 0.0593 | 5.974 | mg/L | 0.0593 | 0.99% |
| Pb 220.353*† | 29103.4 | 3.712 | mg/L | 0.0196 | 3.712 | mg/L | 0.0196 | 0.53% |
| QC value within limits for Pb 220.353* Recovery = 98.98% | | | | | | | | |
| Sb 206.836† | 8375.9 | 4.505 | mg/L | 0.0302 | 4.505 | mg/L | 0.0302 | 0.67% |
| QC value within limits for Sb 206.836 Recovery = 100.11% | | | | | | | | |
| Sb 217.582*† | 8326.8 | 4.527 | mg/L | 0.0463 | 4.527 | mg/L | 0.0463 | 1.02% |
| QC value within limits for Sb 217.582* Recovery = 100.60% | | | | | | | | |
| Se 196.026*† | 3255.1 | 1.508 | mg/L | 0.0122 | 1.508 | mg/L | 0.0122 | 0.81% |
| QC value within limits for Se 196.026* Recovery = 100.50% | | | | | | | | |
| Si 251.611*† | 221901.8 | 5.924 | mg/L | 0.0093 | 5.924 | mg/L | 0.0093 | 0.16% |
| QC value within limits for Si 251.611* Recovery = 98.74% | | | | | | | | |
| Sn 189.927*† | 17952.5 | 3.033 | mg/L | 0.0350 | 3.033 | mg/L | 0.0350 | 1.15% |
| QC value within limits for Sn 189.927* Recovery = 101.11% | | | | | | | | |
| Sn 242.170† | 5187.0 | 2.987 | mg/L | 0.0258 | 2.987 | mg/L | 0.0258 | 0.86% |
| Sr 407.771*† | 95567.8 | 0.2986 | mg/L | 0.00722 | 0.2986 | mg/L | 0.00722 | 2.42% |
| QC value within limits for Sr 407.771* Recovery = 99.54% | | | | | | | | |

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|---|---|---|---|---|---|---|---|---|
| Ti 334.940† | 488258.1 | 0.5970 | mg/L | 0.00029 | 0.5970 | mg/L | 0.00029 | 0.05% |
| Ti 336.121*† | 348123.3 | 0.5988 | mg/L | 0.00003 | 0.5988 | mg/L | 0.00003 | 0.01% |
| QC value within limits for Ti 336.121* Recovery = 99.80% | | | | | | | | |
| Tl 190.801*† | 2792.8 | 1.551 | mg/L | 0.0115 | 1.551 | mg/L | 0.0115 | 0.74% |
| QC value within limits for Tl 190.801* Recovery = 103.40% | | | | | | | | |
| V 292.402*† | 248948.6 | 1.860 | mg/L | 0.0038 | 1.860 | mg/L | 0.0038 | 0.21% |
| QC value within limits for V 292.402* Recovery = 99.22% | | | | | | | | |
| Zn 206.200*† | 96576.2 | 2.434 | mg/L | 0.0112 | 2.434 | mg/L | 0.0112 | 0.46% |
| QC value within limits for Zn 206.200* Recovery = 97.37% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 12
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/20/2017 12:57:28 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 | 82218.6 | 104.7 | % | 1.81 | | | | 1.73% |
| Tb 350 | 135294.0 | 105.1 | % | 0.88 | | | | 0.84% |
| Ag 328.068*† | -158.1 | -0.0009 | mg/L | 0.00054 | -0.0009 | mg/L | 0.00054 | 62.31% |
| Al 308.215*† | 198.4 | 0.0117 | mg/L | 0.00481 | 0.0117 | mg/L | 0.00481 | 41.13% |
| As 188.979† | 6.1 | 0.0030 | mg/L | 0.00028 | 0.0030 | mg/L | 0.00028 | 9.51% |
| As 193.696*† | 7.0 | 0.0049 | mg/L | 0.00085 | 0.0049 | mg/L | 0.00085 | 17.28% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1944.4 | 0.0403 | mg/L | 0.00204 | 0.0403 | mg/L | 0.00204 | 5.06% |
| Ba 233.527*† | 364.0 | 0.0024 | mg/L | 0.00006 | 0.0024 | mg/L | 0.00006 | 2.49% |
| Be 313.042*† | 868.0 | 0.0002 | mg/L | 0.00002 | 0.0002 | mg/L | 0.00002 | 9.64% |
| Ca 317.933*† | 41.1 | 0.0216 | mg/L | 0.00464 | 0.0216 | mg/L | 0.00464 | 21.50% |
| Cd 226.502*† | 31.9 | 0.0004 | mg/L | 0.00014 | 0.0004 | mg/L | 0.00014 | 34.29% |
| Cd 228.802† | 7.7 | 0.0002 | mg/L | 0.00007 | 0.0002 | mg/L | 0.00007 | 35.35% |
| Co 228.616*† | 12.3 | 0.0004 | mg/L | 0.00025 | 0.0004 | mg/L | 0.00025 | 56.07% |
| Cr 267.716*† | -55.5 | -0.0005 | mg/L | 0.00028 | -0.0005 | mg/L | 0.00028 | 55.83% |
| Cu 324.752*† | -117.0 | -0.0005 | mg/L | 0.00029 | -0.0005 | mg/L | 0.00029 | 59.63% |
| Fe 273.955*† | 785.9 | 0.0340 | mg/L | 0.03319 | 0.0340 | mg/L | 0.03319 | 97.56% |
| K 766.490*† | 537.7 | 0.1845 | mg/L | 0.04038 | 0.1845 | mg/L | 0.04038 | 21.89% |
| Mg 279.077*† | 381.6 | 0.0204 | mg/L | 0.00830 | 0.0204 | mg/L | 0.00830 | 40.78% |
| Mn 257.610*† | 762.0 | 0.0012 | mg/L | 0.00102 | 0.0012 | mg/L | 0.00102 | 84.46% |
| Mo 202.031*† | 20.1 | 0.0022 | mg/L | 0.00063 | 0.0022 | mg/L | 0.00063 | 28.38% |
| Na 589.592*† | 45.1 | 0.0107 | mg/L | 0.00583 | 0.0107 | mg/L | 0.00583 | 54.55% |
| Ni 231.604*† | 15.7 | 0.0007 | mg/L | 0.00043 | 0.0007 | mg/L | 0.00043 | 64.92% |
| P 213.617*† | 54.0 | 0.0291 | mg/L | 0.00340 | 0.0291 | mg/L | 0.00340 | 11.67% |
| P 214.914† | 10.3 | 0.0084 | mg/L | 0.00920 | 0.0084 | mg/L | 0.00920 | 109.71% |
| Pb 220.353*† | 3.0 | 0.0004 | mg/L | 0.00236 | 0.0004 | mg/L | 0.00236 | 616.85% |
| Sb 206.836† | 11.4 | 0.0061 | mg/L | 0.00090 | 0.0061 | mg/L | 0.00090 | 14.72% |
| Sb 217.582*† | 3.3 | 0.0018 | mg/L | 0.00156 | 0.0018 | mg/L | 0.00156 | 86.39% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 7.5 | 0.0035 | mg/L | 0.00877 | 0.0035 | mg/L | 0.00877 | 254.12% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 280.2 | 0.0075 | mg/L | 0.00264 | 0.0075 | mg/L | 0.00264 | 35.27% |
| Sn 189.927*† | 34.5 | 0.0058 | mg/L | 0.00351 | 0.0058 | mg/L | 0.00351 | 60.28% |
| Sn 242.170† | 48.8 | 0.0281 | mg/L | 0.02280 | 0.0281 | mg/L | 0.02280 | 81.05% |
| Sr 407.771*† | 57.4 | 0.0002 | mg/L | 0.00002 | 0.0002 | mg/L | 0.00002 | 10.26% |
| Ti 334.940† | 933.4 | 0.0011 | mg/L | 0.00008 | 0.0011 | mg/L | 0.00008 | 7.17% |
| Ti 336.121*† | 655.9 | 0.0011 | mg/L | 0.00011 | 0.0011 | mg/L | 0.00011 | 9.37% |
| Tl 190.801*† | 15.0 | 0.0083 | mg/L | 0.00148 | 0.0083 | mg/L | 0.00148 | 17.74% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 126.0 | 0.0009 | mg/L | 0.00080 | 0.0009 | mg/L | 0.00080 | 85.36% |
| Zn 206.200*† | -141.3 | -0.0036 | mg/L | 0.00022 | -0.0036 | mg/L | 0.00022 | 6.07% |
| QC value within limits for Zn 206.200* Recovery = Not calculated | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 47
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/20/2017 1:28:51 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 73806.9 | 93.97 | % | 1.008 | | | | 1.07% |
| Tb 350 | 124172.8 | 96.45 | % | 1.046 | | | | 1.08% |
| Ag 328.068*† | 68511.6 | 0.3725 | mg/L | 0.00284 | 0.3725 | mg/L | 0.00284 | 0.76% |
| QC value within limits for Ag 328.068* Recovery = 99.34% | | | | | | | | |
| Al 308.215*† | 233831.8 | 13.77 | mg/L | 0.130 | 13.77 | mg/L | 0.130 | 0.95% |
| QC value within limits for Al 308.215* Recovery = 101.98% | | | | | | | | |
| As 188.979† | 7449.8 | 3.651 | mg/L | 0.0364 | 3.651 | mg/L | 0.0364 | 1.00% |
| QC value within limits for As 188.979 Recovery = 97.36% | | | | | | | | |
| As 193.696*† | 5166.2 | 3.652 | mg/L | 0.0377 | 3.652 | mg/L | 0.0377 | 1.03% |
| QC value within limits for As 193.696* Recovery = 97.37% | | | | | | | | |
| B 249.677*† | 180211.7 | 3.731 | mg/L | 0.1005 | 3.731 | mg/L | 0.1005 | 2.69% |
| QC value within limits for B 249.677* Recovery = 99.50% | | | | | | | | |
| Ba 233.527*† | 1130036.6 | 7.581 | mg/L | 0.0772 | 7.581 | mg/L | 0.0772 | 1.02% |
| QC value within limits for Ba 233.527* Recovery = 101.08% | | | | | | | | |
| Be 313.042*† | 2075490.2 | 0.5609 | mg/L | 0.00835 | 0.5609 | mg/L | 0.00835 | 1.49% |
| QC value within limits for Be 313.042* Recovery = 99.71% | | | | | | | | |
| Ca 317.933*† | 54921.6 | 28.88 | mg/L | 0.287 | 28.88 | mg/L | 0.287 | 0.99% |
| QC value within limits for Ca 317.933* Recovery = 96.27% | | | | | | | | |
| Cd 226.502*† | 57553.4 | 0.7559 | mg/L | 0.01536 | 0.7559 | mg/L | 0.01536 | 2.03% |
| QC value within limits for Cd 226.502* Recovery = 100.78% | | | | | | | | |
| Cd 228.802† | 29074.2 | 0.7420 | mg/L | 0.01321 | 0.7420 | mg/L | 0.01321 | 1.78% |
| Co 228.616*† | 52893.5 | 1.891 | mg/L | 0.0321 | 1.891 | mg/L | 0.0321 | 1.70% |
| QC value within limits for Co 228.616* Recovery = 100.84% | | | | | | | | |
| Cr 267.716*† | 67191.6 | 0.6031 | mg/L | 0.00461 | 0.6031 | mg/L | 0.00461 | 0.77% |
| QC value within limits for Cr 267.716* Recovery = 100.52% | | | | | | | | |
| Cu 324.752*† | 228006.4 | 0.9327 | mg/L | 0.00903 | 0.9327 | mg/L | 0.00903 | 0.97% |
| QC value within limits for Cu 324.752* Recovery = 99.48% | | | | | | | | |
| Fe 273.955*† | 89210.4 | 3.862 | mg/L | 0.0520 | 3.862 | mg/L | 0.0520 | 1.35% |
| QC value within limits for Fe 273.955* Recovery = 102.99% | | | | | | | | |
| K 766.490*† | 74819.7 | 25.67 | mg/L | 0.055 | 25.67 | mg/L | 0.055 | 0.21% |
| QC value within limits for K 766.490* Recovery = 95.08% | | | | | | | | |
| Mg 279.077*† | 143300.0 | 7.646 | mg/L | 0.1063 | 7.646 | mg/L | 0.1063 | 1.39% |
| QC value within limits for Mg 279.077* Recovery = 101.95% | | | | | | | | |
| Mn 257.610*† | 478054.9 | 0.7545 | mg/L | 0.00907 | 0.7545 | mg/L | 0.00907 | 1.20% |
| QC value within limits for Mn 257.610* Recovery = 100.60% | | | | | | | | |
| Mo 202.031*† | 5400.3 | 0.5919 | mg/L | 0.01077 | 0.5919 | mg/L | 0.01077 | 1.82% |
| QC value within limits for Mo 202.031* Recovery = 98.65% | | | | | | | | |
| Na 589.592*† | 148302.5 | 35.15 | mg/L | 0.228 | 35.15 | mg/L | 0.228 | 0.65% |
| QC value within limits for Na 589.592* Recovery = 97.65% | | | | | | | | |
| Ni 231.604*† | 13874.2 | 0.5927 | mg/L | 0.00681 | 0.5927 | mg/L | 0.00681 | 1.15% |
| QC value within limits for Ni 231.604* Recovery = 98.78% | | | | | | | | |
| P 213.617*† | 10702.9 | 5.767 | mg/L | 0.0562 | 5.767 | mg/L | 0.0562 | 0.97% |
| QC value within limits for P 213.617* Recovery = 96.11% | | | | | | | | |
| P 214.914† | 7154.3 | 5.818 | mg/L | 0.0636 | 5.818 | mg/L | 0.0636 | 1.09% |
| Pb 220.353*† | 29620.8 | 3.778 | mg/L | 0.0425 | 3.778 | mg/L | 0.0425 | 1.12% |
| QC value within limits for Pb 220.353* Recovery = 100.74% | | | | | | | | |
| Sb 206.836† | 8124.0 | 4.369 | mg/L | 0.0517 | 4.369 | mg/L | 0.0517 | 1.18% |
| QC value within limits for Sb 206.836 Recovery = 97.10% | | | | | | | | |
| Sb 217.582*† | 8073.2 | 4.389 | mg/L | 0.0564 | 4.389 | mg/L | 0.0564 | 1.28% |
| QC value within limits for Sb 217.582* Recovery = 97.53% | | | | | | | | |
| Se 196.026*† | 3165.3 | 1.466 | mg/L | 0.0104 | 1.466 | mg/L | 0.0104 | 0.71% |
| QC value within limits for Se 196.026* Recovery = 97.73% | | | | | | | | |
| Si 251.611*† | 226926.1 | 6.058 | mg/L | 0.0987 | 6.058 | mg/L | 0.0987 | 1.63% |
| QC value within limits for Si 251.611* Recovery = 100.97% | | | | | | | | |
| Sn 189.927*† | 17452.2 | 2.949 | mg/L | 0.0223 | 2.949 | mg/L | 0.0223 | 0.76% |
| QC value within limits for Sn 189.927* Recovery = 98.29% | | | | | | | | |
| Sn 242.170† | 5071.7 | 2.920 | mg/L | 0.0281 | 2.920 | mg/L | 0.0281 | 0.96% |
| Sr 407.771*† | 92745.7 | 0.2898 | mg/L | 0.00147 | 0.2898 | mg/L | 0.00147 | 0.51% |
| QC value within limits for Sr 407.771* Recovery = 96.60% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 491558.2 | 0.6011 | mg/L | 0.00619 | 0.6011 | mg/L | 0.00619 | 1.03% |
| Ti 336.121*† | 349781.2 | 0.6017 | mg/L | 0.00547 | 0.6017 | mg/L | 0.00547 | 0.91% |
| QC value within limits for Ti 336.121* Recovery = 100.28% | | | | | | | | |
| Tl 190.801*† | 2714.6 | 1.508 | mg/L | 0.0066 | 1.508 | mg/L | 0.0066 | 0.44% |
| QC value within limits for Tl 190.801* Recovery = 100.50% | | | | | | | | |
| V 292.402*† | 250864.9 | 1.875 | mg/L | 0.0239 | 1.875 | mg/L | 0.0239 | 1.27% |
| QC value within limits for V 292.402* Recovery = 99.99% | | | | | | | | |
| Zn 206.200*† | 99569.0 | 2.510 | mg/L | 0.0475 | 2.510 | mg/L | 0.0475 | 1.89% |
| QC value within limits for Zn 206.200* Recovery = 100.39% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 48
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/20/2017 1:29:43 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 | 80796.0 | 102.9 | % | 0.09 | | | | 0.09% |
| Tb 350 | 133576.2 | 103.8 | % | 0.01 | | | | 0.01% |
| Ag 328.068*† | 36.5 | 0.0002 | mg/L | 0.00179 | 0.0002 | mg/L | 0.00179 | 901.89% |
| Al 308.215*† | 215.0 | 0.0127 | mg/L | 0.00324 | 0.0127 | mg/L | 0.00324 | 25.58% |
| As 188.979† | 6.5 | 0.0032 | mg/L | 0.00801 | 0.0032 | mg/L | 0.00801 | 250.93% |
| As 193.696*† | 7.1 | 0.0050 | mg/L | 0.00111 | 0.0050 | mg/L | 0.00111 | 22.29% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 2011.4 | 0.0416 | mg/L | 0.00305 | 0.0416 | mg/L | 0.00305 | 7.32% |
| Ba 233.527*† | 741.5 | 0.0050 | mg/L | 0.00041 | 0.0050 | mg/L | 0.00041 | 8.20% |
| Be 313.042*† | 1297.3 | 0.0004 | mg/L | 0.00003 | 0.0004 | mg/L | 0.00003 | 8.94% |
| Ca 317.933*† | 27.1 | 0.0142 | mg/L | 0.00513 | 0.0142 | mg/L | 0.00513 | 36.08% |
| Cd 226.502*† | 33.3 | 0.0004 | mg/L | 0.00008 | 0.0004 | mg/L | 0.00008 | 17.92% |
| Cd 228.802† | 34.9 | 0.0009 | mg/L | 0.00031 | 0.0009 | mg/L | 0.00031 | 34.87% |
| Co 228.616*† | 35.8 | 0.0013 | mg/L | 0.00019 | 0.0013 | mg/L | 0.00019 | 15.25% |
| Cr 267.716*† | 98.5 | 0.0009 | mg/L | 0.00016 | 0.0009 | mg/L | 0.00016 | 18.28% |
| Cu 324.752*† | -205.9 | -0.0008 | mg/L | 0.00001 | -0.0008 | mg/L | 0.00001 | 0.76% |
| Fe 273.955*† | 211.2 | 0.0091 | mg/L | 0.00033 | 0.0091 | mg/L | 0.00033 | 3.57% |
| K 766.490*† | 350.1 | 0.1201 | mg/L | 0.07555 | 0.1201 | mg/L | 0.07555 | 62.89% |
| Mg 279.077*† | 410.7 | 0.0219 | mg/L | 0.00410 | 0.0219 | mg/L | 0.00410 | 18.72% |
| Mn 257.610*† | 386.4 | 0.0006 | mg/L | 0.00000 | 0.0006 | mg/L | 0.00000 | 0.26% |
| Mo 202.031*† | 4.5 | 0.0005 | mg/L | 0.00033 | 0.0005 | mg/L | 0.00033 | 67.48% |
| Na 589.592*† | 14.6 | 0.0035 | mg/L | 0.00742 | 0.0035 | mg/L | 0.00742 | 213.81% |
| Ni 231.604*† | 5.1 | 0.0002 | mg/L | 0.00080 | 0.0002 | mg/L | 0.00080 | 366.17% |
| P 213.617*† | 12.4 | 0.0067 | mg/L | 0.00832 | 0.0067 | mg/L | 0.00832 | 124.85% |
| P 214.914† | 10.9 | 0.0089 | mg/L | 0.00939 | 0.0089 | mg/L | 0.00939 | 105.99% |
| Pb 220.353*† | 8.1 | 0.0010 | mg/L | 0.00231 | 0.0010 | mg/L | 0.00231 | 224.48% |
| Sb 206.836† | 5.3 | 0.0028 | mg/L | 0.00446 | 0.0028 | mg/L | 0.00446 | 157.35% |
| Sb 217.582*† | -0.2 | -0.0001 | mg/L | 0.00877 | -0.0001 | mg/L | 0.00877 | >999.9% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | -2.7 | -0.0012 | mg/L | 0.00120 | -0.0012 | mg/L | 0.00120 | 97.31% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 403.3 | 0.0108 | mg/L | 0.00041 | 0.0108 | mg/L | 0.00041 | 3.81% |
| Sn 189.927*† | 24.7 | 0.0042 | mg/L | 0.00014 | 0.0042 | mg/L | 0.00014 | 3.43% |
| Sn 242.170† | 26.8 | 0.0154 | mg/L | 0.02310 | 0.0154 | mg/L | 0.02310 | 149.61% |
| Sr 407.771*† | 63.9 | 0.0002 | mg/L | 0.00005 | 0.0002 | mg/L | 0.00005 | 23.75% |
| Ti 334.940† | 613.3 | 0.0007 | mg/L | 0.00023 | 0.0007 | mg/L | 0.00023 | 30.85% |
| Ti 336.121*† | 653.2 | 0.0011 | mg/L | 0.00034 | 0.0011 | mg/L | 0.00034 | 30.48% |
| Tl 190.801*† | 6.6 | 0.0036 | mg/L | 0.00083 | 0.0036 | mg/L | 0.00083 | 22.85% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 315.7 | 0.0024 | mg/L | 0.00198 | 0.0024 | mg/L | 0.00198 | 83.94% |
| Zn 206.200*† | -157.1 | -0.0040 | mg/L | 0.00015 | -0.0040 | mg/L | 0.00015 | 3.90% |
| QC value within limits for Zn 206.200* Recovery = Not calculated | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 59
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 3
Date Collected: 3/20/2017 1:39:18 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 73280.9 | 93.30 | % | 1.069 | | | | 1.15% |
| Tb 350 | 122472.8 | 95.13 | % | 0.915 | | | | 0.96% |
| Ag 328.068*† | 68620.9 | 0.3731 | mg/L | 0.00061 | 0.3731 | mg/L | 0.00061 | 0.16% |
| QC value within limits for Ag 328.068* Recovery = 99.50% | | | | | | | | |
| Al 308.215*† | 232995.8 | 13.72 | mg/L | 0.049 | 13.72 | mg/L | 0.049 | 0.36% |
| QC value within limits for Al 308.215* Recovery = 101.62% | | | | | | | | |
| As 188.979† | 7547.3 | 3.699 | mg/L | 0.0219 | 3.699 | mg/L | 0.0219 | 0.59% |
| QC value within limits for As 188.979 Recovery = 98.63% | | | | | | | | |
| As 193.696*† | 5234.0 | 3.699 | mg/L | 0.0240 | 3.699 | mg/L | 0.0240 | 0.65% |
| QC value within limits for As 193.696* Recovery = 98.65% | | | | | | | | |
| B 249.677*† | 178073.5 | 3.687 | mg/L | 0.0296 | 3.687 | mg/L | 0.0296 | 0.80% |
| QC value within limits for B 249.677* Recovery = 98.32% | | | | | | | | |
| Ba 233.527*† | 1128176.2 | 7.569 | mg/L | 0.0040 | 7.569 | mg/L | 0.0040 | 0.05% |
| QC value within limits for Ba 233.527* Recovery = 100.91% | | | | | | | | |
| Be 313.042*† | 2073320.1 | 0.5603 | mg/L | 0.00176 | 0.5603 | mg/L | 0.00176 | 0.31% |
| QC value within limits for Be 313.042* Recovery = 99.60% | | | | | | | | |
| Ca 317.933*† | 58665.2 | 30.85 | mg/L | 1.838 | 30.85 | mg/L | 1.838 | 5.96% |
| QC value within limits for Ca 317.933* Recovery = 102.84% | | | | | | | | |
| Cd 226.502*† | 56983.8 | 0.7484 | mg/L | 0.00007 | 0.7484 | mg/L | 0.00007 | 0.01% |
| QC value within limits for Cd 226.502* Recovery = 99.78% | | | | | | | | |
| Cd 228.802† | 28948.7 | 0.7388 | mg/L | 0.00247 | 0.7388 | mg/L | 0.00247 | 0.33% |
| Co 228.616*† | 52652.2 | 1.882 | mg/L | 0.0038 | 1.882 | mg/L | 0.0038 | 0.20% |
| QC value within limits for Co 228.616* Recovery = 100.38% | | | | | | | | |
| Cr 267.716*† | 67013.8 | 0.6015 | mg/L | 0.00046 | 0.6015 | mg/L | 0.00046 | 0.08% |
| QC value within limits for Cr 267.716* Recovery = 100.25% | | | | | | | | |
| Cu 324.752*† | 227873.9 | 0.9321 | mg/L | 0.00347 | 0.9321 | mg/L | 0.00347 | 0.37% |
| QC value within limits for Cu 324.752* Recovery = 99.43% | | | | | | | | |
| Fe 273.955*† | 88268.5 | 3.821 | mg/L | 0.0029 | 3.821 | mg/L | 0.0029 | 0.08% |
| QC value within limits for Fe 273.955* Recovery = 101.90% | | | | | | | | |
| K 766.490*† | 78699.0 | 27.00 | mg/L | 1.563 | 27.00 | mg/L | 1.563 | 5.79% |
| QC value within limits for K 766.490* Recovery = 100.01% | | | | | | | | |
| Mg 279.077*† | 142087.4 | 7.581 | mg/L | 0.0264 | 7.581 | mg/L | 0.0264 | 0.35% |
| QC value within limits for Mg 279.077* Recovery = 101.08% | | | | | | | | |
| Mn 257.610*† | 477389.7 | 0.7535 | mg/L | 0.00061 | 0.7535 | mg/L | 0.00061 | 0.08% |
| QC value within limits for Mn 257.610* Recovery = 100.46% | | | | | | | | |
| Mo 202.031*† | 5458.6 | 0.5983 | mg/L | 0.00516 | 0.5983 | mg/L | 0.00516 | 0.86% |
| QC value within limits for Mo 202.031* Recovery = 99.72% | | | | | | | | |
| Na 589.592*† | 155486.6 | 36.86 | mg/L | 2.071 | 36.86 | mg/L | 2.071 | 5.62% |
| QC value within limits for Na 589.592* Recovery = 102.38% | | | | | | | | |
| Ni 231.604*† | 14028.6 | 0.5993 | mg/L | 0.00439 | 0.5993 | mg/L | 0.00439 | 0.73% |
| QC value within limits for Ni 231.604* Recovery = 99.88% | | | | | | | | |
| P 213.617*† | 10821.6 | 5.831 | mg/L | 0.0155 | 5.831 | mg/L | 0.0155 | 0.27% |
| QC value within limits for P 213.617* Recovery = 97.18% | | | | | | | | |
| P 214.914† | 7217.6 | 5.869 | mg/L | 0.0419 | 5.869 | mg/L | 0.0419 | 0.71% |
| Pb 220.353*† | 29567.0 | 3.771 | mg/L | 0.0059 | 3.771 | mg/L | 0.0059 | 0.16% |
| QC value within limits for Pb 220.353* Recovery = 100.56% | | | | | | | | |
| Sb 206.836† | 8196.4 | 4.408 | mg/L | 0.0306 | 4.408 | mg/L | 0.0306 | 0.69% |
| QC value within limits for Sb 206.836 Recovery = 97.96% | | | | | | | | |
| Sb 217.582*† | 8140.6 | 4.426 | mg/L | 0.0406 | 4.426 | mg/L | 0.0406 | 0.92% |
| QC value within limits for Sb 217.582* Recovery = 98.35% | | | | | | | | |
| Se 196.026*† | 3172.5 | 1.469 | mg/L | 0.0089 | 1.469 | mg/L | 0.0089 | 0.61% |
| QC value within limits for Se 196.026* Recovery = 97.95% | | | | | | | | |
| Si 251.611*† | 225369.1 | 6.017 | mg/L | 0.0155 | 6.017 | mg/L | 0.0155 | 0.26% |
| QC value within limits for Si 251.611* Recovery = 100.28% | | | | | | | | |
| Sn 189.927*† | 17610.8 | 2.976 | mg/L | 0.0232 | 2.976 | mg/L | 0.0232 | 0.78% |
| QC value within limits for Sn 189.927* Recovery = 99.19% | | | | | | | | |
| Sn 242.170† | 5139.1 | 2.959 | mg/L | 0.0181 | 2.959 | mg/L | 0.0181 | 0.61% |
| Sr 407.771*† | 97248.7 | 0.3039 | mg/L | 0.01752 | 0.3039 | mg/L | 0.01752 | 5.77% |
| QC value within limits for Sr 407.771* Recovery = 101.29% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 491617.3 | 0.6011 | mg/L | 0.00000 | 0.6011 | mg/L | 0.00000 | 0.00% |
| Ti 336.121*† | 349902.2 | 0.6019 | mg/L | 0.00079 | 0.6019 | mg/L | 0.00079 | 0.13% |
| QC value within limits for Ti 336.121* Recovery = 100.31% | | | | | | | | |
| Tl 190.801*† | 2740.1 | 1.522 | mg/L | 0.0260 | 1.522 | mg/L | 0.0260 | 1.71% |
| QC value within limits for Tl 190.801* Recovery = 101.45% | | | | | | | | |
| V 292.402*† | 251426.4 | 1.879 | mg/L | 0.0045 | 1.879 | mg/L | 0.0045 | 0.24% |
| QC value within limits for V 292.402* Recovery = 100.21% | | | | | | | | |
| Zn 206.200*† | 98919.5 | 2.493 | mg/L | 0.0134 | 2.493 | mg/L | 0.0134 | 0.54% |
| QC value within limits for Zn 206.200* Recovery = 99.73% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 60
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/20/2017 1:40:11 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 | 80071.9 | 101.9 | % | 0.49 | | | | 0.48% |
| Tb 350 | 132271.3 | 102.7 | % | 1.17 | | | | 1.14% |
| Ag 328.068*† | -81.4 | -0.0004 | mg/L | 0.00072 | -0.0004 | mg/L | 0.00072 | 162.56% |
| Al 308.215*† | 192.9 | 0.0114 | mg/L | 0.00116 | 0.0114 | mg/L | 0.00116 | 10.17% |
| As 188.979† | 6.0 | 0.0030 | mg/L | 0.00276 | 0.0030 | mg/L | 0.00276 | 93.07% |
| As 193.696*† | -3.7 | -0.0026 | mg/L | 0.00452 | -0.0026 | mg/L | 0.00452 | 171.99% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1814.3 | 0.0376 | mg/L | 0.00204 | 0.0376 | mg/L | 0.00204 | 5.44% |
| Ba 233.527*† | 684.7 | 0.0046 | mg/L | 0.00002 | 0.0046 | mg/L | 0.00002 | 0.46% |
| Be 313.042*† | 1223.0 | 0.0003 | mg/L | 0.00001 | 0.0003 | mg/L | 0.00001 | 3.21% |
| Ca 317.933*† | 25.5 | 0.0134 | mg/L | 0.00429 | 0.0134 | mg/L | 0.00429 | 31.98% |
| Cd 226.502*† | 22.2 | 0.0003 | mg/L | 0.00028 | 0.0003 | mg/L | 0.00028 | 96.64% |
| Cd 228.802† | 19.2 | 0.0005 | mg/L | 0.00021 | 0.0005 | mg/L | 0.00021 | 42.08% |
| Co 228.616*† | 29.3 | 0.0010 | mg/L | 0.00018 | 0.0010 | mg/L | 0.00018 | 17.57% |
| Cr 267.716*† | -9.2 | -0.0001 | mg/L | 0.00068 | -0.0001 | mg/L | 0.00068 | 827.67% |
| Cu 324.752*† | -129.3 | -0.0005 | mg/L | 0.00001 | -0.0005 | mg/L | 0.00001 | 2.54% |
| Fe 273.955*† | 213.8 | 0.0093 | mg/L | 0.00024 | 0.0093 | mg/L | 0.00024 | 2.62% |
| K 766.490*† | 31.3 | 0.0107 | mg/L | 0.09442 | 0.0107 | mg/L | 0.09442 | 878.59% |
| Mg 279.077*† | 380.0 | 0.0203 | mg/L | 0.00275 | 0.0203 | mg/L | 0.00275 | 13.55% |
| Mn 257.610*† | 369.5 | 0.0006 | mg/L | 0.00000 | 0.0006 | mg/L | 0.00000 | 0.07% |
| Mo 202.031*† | 10.5 | 0.0012 | mg/L | 0.00013 | 0.0012 | mg/L | 0.00013 | 11.12% |
| Na 589.592*† | 38.5 | 0.0091 | mg/L | 0.04972 | 0.0091 | mg/L | 0.04972 | 544.67% |
| Ni 231.604*† | 1.9 | 0.0001 | mg/L | 0.00005 | 0.0001 | mg/L | 0.00005 | 65.89% |
| P 213.617*† | 42.7 | 0.0230 | mg/L | 0.00944 | 0.0230 | mg/L | 0.00944 | 41.00% |
| P 214.914† | -0.5 | -0.0004 | mg/L | 0.00118 | -0.0004 | mg/L | 0.00118 | 279.86% |
| Pb 220.353*† | 24.5 | 0.0031 | mg/L | 0.00130 | 0.0031 | mg/L | 0.00130 | 41.68% |
| Sb 206.836† | 5.4 | 0.0029 | mg/L | 0.00755 | 0.0029 | mg/L | 0.00755 | 259.41% |
| Sb 217.582*† | -2.3 | -0.0013 | mg/L | 0.00020 | -0.0013 | mg/L | 0.00020 | 15.75% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 6.4 | 0.0030 | mg/L | 0.00507 | 0.0030 | mg/L | 0.00507 | 171.22% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 192.7 | 0.0051 | mg/L | 0.00011 | 0.0051 | mg/L | 0.00011 | 2.14% |
| Sn 189.927*† | 33.8 | 0.0057 | mg/L | 0.00105 | 0.0057 | mg/L | 0.00105 | 18.35% |
| Sn 242.170† | 33.3 | 0.0192 | mg/L | 0.01150 | 0.0192 | mg/L | 0.01150 | 59.96% |
| Sr 407.771*† | 48.8 | 0.0002 | mg/L | 0.00002 | 0.0002 | mg/L | 0.00002 | 15.50% |
| Ti 334.940† | 532.1 | 0.0007 | mg/L | 0.00029 | 0.0007 | mg/L | 0.00029 | 44.51% |
| Ti 336.121*† | 450.5 | 0.0008 | mg/L | 0.00042 | 0.0008 | mg/L | 0.00042 | 54.01% |
| Tl 190.801*† | 0.9 | 0.0005 | mg/L | 0.00426 | 0.0005 | mg/L | 0.00426 | 822.46% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 297.9 | 0.0022 | mg/L | 0.00005 | 0.0022 | mg/L | 0.00005 | 2.07% |
| Zn 206.200*† | -168.3 | -0.0042 | mg/L | 0.00048 | -0.0042 | mg/L | 0.00048 | 11.31% |
| QC value within limits for Zn 206.200* Recovery = Not calculated | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 71
Sample ID: CCV= STD3x0.5
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 20

Autosampler Location: 3
Date Collected: 3/20/2017 1:49:15 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Mean Data: CCV= STD3x0.5

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Sample Conc. | Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 73000.1 | 92.94 | % | 0.269 | | | | 0.29% |
| Tb 350 | 123896.8 | 96.24 | % | 1.332 | | | | 1.38% |
| Ag 328.068*† | 68048.8 | 0.3700 | mg/L | 0.00312 | 0.3700 | mg/L | 0.00312 | 0.84% |
| QC value within limits for Ag 328.068* Recovery = 98.67% | | | | | | | | |
| Al 308.215*† | 233473.4 | 13.75 | mg/L | 0.041 | 13.75 | mg/L | 0.041 | 0.30% |
| QC value within limits for Al 308.215* Recovery = 101.82% | | | | | | | | |
| As 188.979† | 7448.2 | 3.650 | mg/L | 0.0538 | 3.650 | mg/L | 0.0538 | 1.47% |
| QC value within limits for As 188.979 Recovery = 97.33% | | | | | | | | |
| As 193.696*† | 5154.0 | 3.643 | mg/L | 0.0298 | 3.643 | mg/L | 0.0298 | 0.82% |
| QC value within limits for As 193.696* Recovery = 97.14% | | | | | | | | |
| B 249.677*† | 178058.8 | 3.687 | mg/L | 0.0213 | 3.687 | mg/L | 0.0213 | 0.58% |
| QC value within limits for B 249.677* Recovery = 98.31% | | | | | | | | |
| Ba 233.527*† | 1124266.8 | 7.542 | mg/L | 0.0168 | 7.542 | mg/L | 0.0168 | 0.22% |
| QC value within limits for Ba 233.527* Recovery = 100.56% | | | | | | | | |
| Be 313.042*† | 2058050.9 | 0.5561 | mg/L | 0.00504 | 0.5561 | mg/L | 0.00504 | 0.91% |
| QC value within limits for Be 313.042* Recovery = 98.87% | | | | | | | | |
| Ca 317.933*† | 56780.4 | 29.86 | mg/L | 0.110 | 29.86 | mg/L | 0.110 | 0.37% |
| QC value within limits for Ca 317.933* Recovery = 99.53% | | | | | | | | |
| Cd 226.502*† | 56737.6 | 0.7452 | mg/L | 0.00487 | 0.7452 | mg/L | 0.00487 | 0.65% |
| QC value within limits for Cd 226.502* Recovery = 99.35% | | | | | | | | |
| Cd 228.802† | 29036.1 | 0.7410 | mg/L | 0.00333 | 0.7410 | mg/L | 0.00333 | 0.45% |
| Co 228.616*† | 52567.2 | 1.879 | mg/L | 0.0001 | 1.879 | mg/L | 0.0001 | 0.00% |
| QC value within limits for Co 228.616* Recovery = 100.22% | | | | | | | | |
| Cr 267.716*† | 66599.8 | 0.5978 | mg/L | 0.00543 | 0.5978 | mg/L | 0.00543 | 0.91% |
| QC value within limits for Cr 267.716* Recovery = 99.64% | | | | | | | | |
| Cu 324.752*† | 227764.5 | 0.9317 | mg/L | 0.00134 | 0.9317 | mg/L | 0.00134 | 0.14% |
| QC value within limits for Cu 324.752* Recovery = 99.38% | | | | | | | | |
| Fe 273.955*† | 89343.6 | 3.868 | mg/L | 0.0471 | 3.868 | mg/L | 0.0471 | 1.22% |
| QC value within limits for Fe 273.955* Recovery = 103.14% | | | | | | | | |
| K 766.490*† | 77296.6 | 26.52 | mg/L | 0.041 | 26.52 | mg/L | 0.041 | 0.16% |
| QC value within limits for K 766.490* Recovery = 98.23% | | | | | | | | |
| Mg 279.077*† | 141908.3 | 7.572 | mg/L | 0.0102 | 7.572 | mg/L | 0.0102 | 0.14% |
| QC value within limits for Mg 279.077* Recovery = 100.96% | | | | | | | | |
| Mn 257.610*† | 476612.5 | 0.7523 | mg/L | 0.00234 | 0.7523 | mg/L | 0.00234 | 0.31% |
| QC value within limits for Mn 257.610* Recovery = 100.30% | | | | | | | | |
| Mo 202.031*† | 5402.4 | 0.5922 | mg/L | 0.01188 | 0.5922 | mg/L | 0.01188 | 2.01% |
| QC value within limits for Mo 202.031* Recovery = 98.69% | | | | | | | | |
| Na 589.592*† | 153672.0 | 36.43 | mg/L | 0.069 | 36.43 | mg/L | 0.069 | 0.19% |
| QC value within limits for Na 589.592* Recovery = 101.18% | | | | | | | | |
| Ni 231.604*† | 13863.4 | 0.5922 | mg/L | 0.00997 | 0.5922 | mg/L | 0.00997 | 1.68% |
| QC value within limits for Ni 231.604* Recovery = 98.70% | | | | | | | | |
| P 213.617*† | 10686.9 | 5.758 | mg/L | 0.0820 | 5.758 | mg/L | 0.0820 | 1.42% |
| QC value within limits for P 213.617* Recovery = 95.97% | | | | | | | | |
| P 214.914† | 7123.0 | 5.792 | mg/L | 0.0535 | 5.792 | mg/L | 0.0535 | 0.92% |
| Pb 220.353*† | 29290.0 | 3.736 | mg/L | 0.0328 | 3.736 | mg/L | 0.0328 | 0.88% |
| QC value within limits for Pb 220.353* Recovery = 99.61% | | | | | | | | |
| Sb 206.836† | 8110.9 | 4.362 | mg/L | 0.0468 | 4.362 | mg/L | 0.0468 | 1.07% |
| QC value within limits for Sb 206.836 Recovery = 96.94% | | | | | | | | |
| Sb 217.582*† | 8066.9 | 4.386 | mg/L | 0.0740 | 4.386 | mg/L | 0.0740 | 1.69% |
| QC value within limits for Sb 217.582* Recovery = 97.46% | | | | | | | | |
| Se 196.026*† | 3150.0 | 1.459 | mg/L | 0.0149 | 1.459 | mg/L | 0.0149 | 1.02% |
| QC value within limits for Se 196.026* Recovery = 97.26% | | | | | | | | |
| Si 251.611*† | 225473.5 | 6.020 | mg/L | 0.0030 | 6.020 | mg/L | 0.0030 | 0.05% |
| QC value within limits for Si 251.611* Recovery = 100.33% | | | | | | | | |
| Sn 189.927*† | 17396.3 | 2.939 | mg/L | 0.0345 | 2.939 | mg/L | 0.0345 | 1.17% |
| QC value within limits for Sn 189.927* Recovery = 97.98% | | | | | | | | |
| Sn 242.170† | 5030.2 | 2.897 | mg/L | 0.0429 | 2.897 | mg/L | 0.0429 | 1.48% |
| Sr 407.771*† | 95820.4 | 0.2994 | mg/L | 0.00034 | 0.2994 | mg/L | 0.00034 | 0.11% |
| QC value within limits for Sr 407.771* Recovery = 99.81% | | | | | | | | |

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|---|---|---|---|---|---|---|---|
| Ti 334.940† | 494599.7 | 0.6048 | mg/L | 0.00031 | 0.6048 | mg/L | 0.00031 | 0.05% |
| Ti 336.121*† | 352650.1 | 0.6066 | mg/L | 0.00017 | 0.6066 | mg/L | 0.00017 | 0.03% |
| QC value within limits for Ti 336.121* Recovery = 101.10% | | | | | | | | |
| Tl 190.801*† | 2707.6 | 1.504 | mg/L | 0.0218 | 1.504 | mg/L | 0.0218 | 1.45% |
| QC value within limits for Tl 190.801* Recovery = 100.24% | | | | | | | | |
| V 292.402*† | 248715.6 | 1.859 | mg/L | 0.0094 | 1.859 | mg/L | 0.0094 | 0.51% |
| QC value within limits for V 292.402* Recovery = 99.13% | | | | | | | | |
| Zn 206.200*† | 98801.5 | 2.490 | mg/L | 0.0032 | 2.490 | mg/L | 0.0032 | 0.13% |
| QC value within limits for Zn 206.200* Recovery = 99.62% | | | | | | | | |

All analyte(s) passed QC.

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Sequence No.: 72
Sample ID: CCB-R12091601
Analyst: 935 icp 7300
Initial Sample Wt:
Dilution:
Wash Time: 15

Autosampler Location: 1
Date Collected: 3/20/2017 1:50:07 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 | 80391.2 | 102.3 | % | 1.26 | | | | 1.24% |
| Tb 350 | 134323.0 | 104.3 | % | 1.65 | | | | 1.58% |
| Ag 328.068*† | -58.2 | -0.0003 | mg/L | 0.00136 | -0.0003 | mg/L | 0.00136 | 428.36% |
| Al 308.215*† | 271.6 | 0.0160 | mg/L | 0.00563 | 0.0160 | mg/L | 0.00563 | 35.23% |
| As 188.979† | 12.6 | 0.0062 | mg/L | 0.00048 | 0.0062 | mg/L | 0.00048 | 7.84% |
| As 193.696*† | -0.1 | -0.0000 | mg/L | 0.00330 | -0.0000 | mg/L | 0.00330 | >999.9% |
| QC value within limits for As 193.696* Recovery = Not calculated | | | | | | | | |
| B 249.677*† | 1922.2 | 0.0398 | mg/L | 0.00188 | 0.0398 | mg/L | 0.00188 | 4.72% |
| Ba 233.527*† | 822.9 | 0.0055 | mg/L | 0.00150 | 0.0055 | mg/L | 0.00150 | 27.21% |
| Be 313.042*† | 1258.8 | 0.0003 | mg/L | 0.00002 | 0.0003 | mg/L | 0.00002 | 5.14% |
| Ca 317.933*† | 24.1 | 0.0127 | mg/L | 0.00104 | 0.0127 | mg/L | 0.00104 | 8.24% |
| Cd 226.502*† | 38.0 | 0.0005 | mg/L | 0.00008 | 0.0005 | mg/L | 0.00008 | 15.14% |
| Cd 228.802† | 24.0 | 0.0006 | mg/L | 0.00016 | 0.0006 | mg/L | 0.00016 | 26.75% |
| Co 228.616*† | 37.5 | 0.0013 | mg/L | 0.00014 | 0.0013 | mg/L | 0.00014 | 10.48% |
| Cr 267.716*† | -28.0 | -0.0003 | mg/L | 0.00051 | -0.0003 | mg/L | 0.00051 | 201.38% |
| Cu 324.752*† | -169.0 | -0.0007 | mg/L | 0.00007 | -0.0007 | mg/L | 0.00007 | 9.43% |
| Fe 273.955*† | 4030.8 | 0.1745 | mg/L | 0.10925 | 0.1745 | mg/L | 0.10925 | 62.61% |
| Saturated within auto integration window (code 4) | | | | | | | | |
| K 766.490*† | 100.2 | 0.0344 | mg/L | 0.08028 | 0.0344 | mg/L | 0.08028 | 233.49% |
| Mg 279.077*† | 322.2 | 0.0172 | mg/L | 0.00346 | 0.0172 | mg/L | 0.00346 | 20.14% |
| Mn 257.610*† | 3756.6 | 0.0059 | mg/L | 0.00649 | 0.0059 | mg/L | 0.00649 | 109.46% |
| Mo 202.031*† | 5.4 | 0.0006 | mg/L | 0.00076 | 0.0006 | mg/L | 0.00076 | 127.61% |
| Na 589.592*† | 5.7 | 0.0013 | mg/L | 0.04011 | 0.0013 | mg/L | 0.04011 | >999.9% |
| Ni 231.604*† | 44.2 | 0.0019 | mg/L | 0.00057 | 0.0019 | mg/L | 0.00057 | 30.14% |
| P 213.617*† | 36.7 | 0.0198 | mg/L | 0.01620 | 0.0198 | mg/L | 0.01620 | 81.98% |
| P 214.914† | 18.4 | 0.0150 | mg/L | 0.00132 | 0.0150 | mg/L | 0.00132 | 8.83% |
| Pb 220.353*† | 29.4 | 0.0037 | mg/L | 0.00235 | 0.0037 | mg/L | 0.00235 | 62.56% |
| Sb 206.836† | 1.9 | 0.0010 | mg/L | 0.00150 | 0.0010 | mg/L | 0.00150 | 146.47% |
| Sb 217.582*† | 9.0 | 0.0049 | mg/L | 0.00080 | 0.0049 | mg/L | 0.00080 | 16.33% |
| QC value within limits for Sb 217.582* Recovery = Not calculated | | | | | | | | |
| Se 196.026*† | 9.0 | 0.0042 | mg/L | 0.00260 | 0.0042 | mg/L | 0.00260 | 62.27% |
| QC value within limits for Se 196.026* Recovery = Not calculated | | | | | | | | |
| Si 251.611*† | 355.0 | 0.0095 | mg/L | 0.00796 | 0.0095 | mg/L | 0.00796 | 83.97% |
| Sn 189.927*† | 24.3 | 0.0041 | mg/L | 0.00191 | 0.0041 | mg/L | 0.00191 | 46.53% |
| Sn 242.170† | -7.2 | -0.0041 | mg/L | 0.02508 | -0.0041 | mg/L | 0.02508 | 605.05% |
| Sr 407.771*† | 47.1 | 0.0001 | mg/L | 0.00005 | 0.0001 | mg/L | 0.00005 | 36.55% |
| Ti 334.940† | 1374.0 | 0.0017 | mg/L | 0.00042 | 0.0017 | mg/L | 0.00042 | 25.12% |
| Ti 336.121*† | 829.1 | 0.0014 | mg/L | 0.00006 | 0.0014 | mg/L | 0.00006 | 4.21% |
| Tl 190.801*† | 10.0 | 0.0056 | mg/L | 0.00124 | 0.0056 | mg/L | 0.00124 | 22.25% |
| QC value within limits for Tl 190.801* Recovery = Not calculated | | | | | | | | |
| V 292.402*† | 51.3 | 0.0004 | mg/L | 0.00051 | 0.0004 | mg/L | 0.00051 | 134.62% |
| Zn 206.200*† | -113.5 | -0.0029 | mg/L | 0.00095 | -0.0029 | mg/L | 0.00095 | 33.06% |
| 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:** **17-03-0755**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-17 16:59
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170317C1\17-03-0755-16.icp

**# 16** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-08-25S**

LCS/MB BATCH: 170317L02
MS/MSD BATCH: 170317S02
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 | -0.00158 | 0.990 | ND | 0.743 | |
| Arsenic | 0.000871 | 0.990 | ND | 0.743 | |
| Barium | 0.847 | 0.990 | 41.9 | 0.495 | |
| Beryllium | 0.00126 | 0.990 | ND | 0.248 | |
| Cadmium | 0.00117 | 0.990 | ND | 0.495 | |
| Chromium | 0.0387 | 0.990 | 1.92 | 0.248 | |
| Cobalt | 0.0380 | 0.990 | 1.88 | 0.248 | |
| Copper | 0.0573 | 0.990 | 2.84 | 0.495 | |
| Lead | 0.0131 | 0.990 | 0.647 | 0.495 | |
| Molybdenum | 0.000206 | 0.990 | ND | 0.248 | |
| Nickel | 0.0366 | 0.990 | 1.81 | 0.248 | |
| Selenium | -0.00762 | 0.990 | ND | 0.743 | |
| Silver | -0.00130 | 0.990 | ND | 0.248 | |
| Thallium | 0.00336 | 0.990 | ND | 0.743 | |
| Vanadium | 0.120 | 0.990 | 5.95 | 0.248 | |
| Zinc | 0.278 | 0.990 | 13.8 | 0.990 | |

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Sequence No.: 21
Sample ID: 17-03-0755-16
Analyst: 935 icp 7300
Initial Sample Wt: 2.02 g
Dilution:
Wash Time: 15

Autosampler Location: 219
Date Collected: 3/17/2017 4:59:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0755-16

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 71251.6 | 90.74 | % | 0.492 | | | | 0.54% |
| Tb 350 | 124981.9 | 98.58 | % | 0.155 | | | | 0.16% |
| Ag 328.068*† | -250.9 | -0.0013 | mg/L | 0.00029 | -0.0645 | mg/kg | 0.01436 | 22.26% |
| Al 308.215*† | 1027200.2 | 58.04 | mg/L | 1.545 | 2873 | mg/kg | 76.47 | 2.66% |
| As 188.979† | 23.8 | 0.0115 | mg/L | 0.00141 | 0.5693 | mg/kg | 0.06970 | 12.24% |
| As 193.696*† | 1.3 | 0.0009 | mg/L | 0.00479 | 0.0431 | mg/kg | 0.23706 | 550.02% |
| B 249.677*† | 55.0 | 0.0011 | mg/L | 0.00349 | 0.0543 | mg/kg | 0.17260 | 317.92% |
| Ba 233.527*† | 128207.3 | 0.8471 | mg/L | 0.00102 | 41.94 | mg/kg | 0.050 | 0.12% |
| Be 313.042*† | 4675.4 | 0.0013 | mg/L | 0.00002 | 0.0622 | mg/kg | 0.00096 | 1.55% |
| Ca 317.933*† | 77931.6 | 40.06 | mg/L | 0.348 | 1983 | mg/kg | 17.21 | 0.87% |
| Cd 226.502*† | 91.8 | 0.0012 | mg/L | 0.00010 | 0.0577 | mg/kg | 0.00485 | 8.41% |
| Cd 228.802† | -19.8 | -0.0005 | mg/L | 0.00026 | -0.0246 | mg/kg | 0.01308 | 53.24% |
| Co 228.616*† | 1091.4 | 0.0380 | mg/L | 0.00033 | 1.883 | mg/kg | 0.0164 | 0.87% |
| Cr 267.716*† | 4459.1 | 0.0387 | mg/L | 0.00030 | 1.917 | mg/kg | 0.0149 | 0.78% |
| Cu 324.752*† | 14464.7 | 0.0573 | mg/L | 0.00052 | 2.837 | mg/kg | 0.0258 | 0.91% |
| Fe 273.955*† | 1676855.5 | 70.30 | mg/L | 1.983 | 3480 | mg/kg | 98.17 | 2.82% |
| K 766.490*† | 45057.9 | 15.12 | mg/L | 0.008 | 748.4 | mg/kg | 0.41 | 0.06% |
| Mg 279.077*† | 527906.2 | 27.40 | mg/L | 0.090 | 1357 | mg/kg | 4.45 | 0.33% |
| Mn 257.610*† | 896621.8 | 1.399 | mg/L | 0.0404 | 69.27 | mg/kg | 2.000 | 2.89% |
| Mo 202.031*† | 1.9 | 0.0002 | mg/L | 0.00000 | 0.0102 | mg/kg | 0.00010 | 0.94% |
| Na 589.592*† | 8289.3 | 1.889 | mg/L | 0.0215 | 93.53 | mg/kg | 1.062 | 1.14% |
| Ni 231.604*† | 889.7 | 0.0366 | mg/L | 0.00117 | 1.810 | mg/kg | 0.0581 | 3.21% |
| P 213.617*† | 16895.8 | 8.945 | mg/L | 0.0932 | 442.8 | mg/kg | 4.62 | 1.04% |
| P 214.914† | 10970.8 | 8.931 | mg/L | 0.0175 | 442.1 | mg/kg | 0.87 | 0.20% |
| Pb 220.353*† | 105.5 | 0.0131 | mg/L | 0.00002 | 0.6466 | mg/kg | 0.00108 | 0.17% |
| Sb 206.836† | -7.5 | -0.0040 | mg/L | 0.00138 | -0.1962 | mg/kg | 0.06843 | 34.89% |
| Sb 217.582*† | -3.0 | -0.0016 | mg/L | 0.00372 | -0.0780 | mg/kg | 0.18392 | 235.85% |
| Se 196.026*† | -16.6 | -0.0076 | mg/L | 0.00885 | -0.3771 | mg/kg | 0.43828 | 116.22% |
| Si 251.611*† | 341140.8 | 8.808 | mg/L | 0.0147 | 436.0 | mg/kg | 0.73 | 0.17% |
| Sn 189.927*† | -108.9 | -0.0181 | mg/L | 0.00181 | -0.8971 | mg/kg | 0.08946 | 9.97% |
| Sn 242.170† | 392.3 | 0.2225 | mg/L | 0.01209 | 11.02 | mg/kg | 0.599 | 5.44% |
| Sr 407.771*† | 232748.8 | 0.7194 | mg/L | 0.00148 | 35.62 | mg/kg | 0.073 | 0.21% |
| Ti 334.940† | 3925758.0 | 4.727 | mg/L | 0.1081 | 234.0 | mg/kg | 5.35 | 2.29% |
| Ti 336.121*† | 2798367.8 | 4.662 | mg/L | 0.1033 | 230.8 | mg/kg | 5.11 | 2.22% |
| Tl 190.801*† | 6.2 | 0.0034 | mg/L | 0.00043 | 0.1664 | mg/kg | 0.02142 | 12.87% |
| V 292.402*† | 16771.5 | 0.1203 | mg/L | 0.00008 | 5.953 | mg/kg | 0.0039 | 0.07% |
| Zn 206.200*† | 11414.2 | 0.2784 | mg/L | 0.00041 | 13.78 | mg/kg | 0.020 | 0.15% |

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# RAW DATA SHEET
# FOR METHOD: EPA 6010B

**WORK ORDER:** **17-03-0755**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-17 16:59
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170317C1\17-03-0755-20.icp

**# 20** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-25S**

LCS/MB BATCH: 170317L02
MS/MSD BATCH: 170317S02
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 | 0.000249 | 0.985 | ND | 0.739 | |
| Arsenic | 0.00651 | 0.985 | ND | 0.739 | |
| Barium | 0.611 | 0.985 | 30.1 | 0.493 | |
| Beryllium | 0.00122 | 0.985 | ND | 0.246 | |
| Cadmium | 0.000968 | 0.985 | ND | 0.493 | |
| Chromium | 0.0352 | 0.985 | 1.74 | 0.246 | |
| Cobalt | 0.0381 | 0.985 | 1.88 | 0.246 | |
| Copper | 0.0671 | 0.985 | 3.30 | 0.493 | |
| Lead | 0.0126 | 0.985 | 0.621 | 0.493 | |
| Molybdenum | -0.000566 | 0.985 | ND | 0.246 | |
| Nickel | 0.0381 | 0.985 | 1.88 | 0.246 | |
| Selenium | -0.00877 | 0.985 | ND | 0.739 | |
| Silver | -0.00259 | 0.985 | ND | 0.246 | |
| Thallium | -0.00476 | 0.985 | ND | 0.739 | |
| Vanadium | 0.116 | 0.985 | 5.72 | 0.246 | |
| Zinc | 0.219 | 0.985 | 10.8 | 0.985 | |

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Sequence No.: 22
Sample ID: 17-03-0755-20
Analyst: 935 icp 7300
Initial Sample Wt: 2.03 g
Dilution:
Wash Time: 15

Autosampler Location: 220
Date Collected: 3/17/2017 4:59:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-0755-20

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 73268.5 | 93.31 | % | 1.879 | | | | 2.01% |
| Tb 350 | 125414.9 | 98.92 | % | 2.057 | | | | 2.08% |
| Ag 328.068*† | -499.2 | -0.0026 | mg/L | 0.00030 | -0.1277 | mg/kg | 0.01494 | 11.70% |
| Al 308.215*† | 960192.5 | 54.26 | mg/L | 0.506 | 2673 | mg/kg | 24.93 | 0.93% |
| As 188.979† | 14.6 | 0.0071 | mg/L | 0.00314 | 0.3478 | mg/kg | 0.15462 | 44.46% |
| As 193.696*† | 9.4 | 0.0065 | mg/L | 0.00992 | 0.3208 | mg/kg | 0.48889 | 152.38% |
| B 249.677*† | -231.0 | -0.0046 | mg/L | 0.00301 | -0.2267 | mg/kg | 0.14845 | 65.47% |
| Ba 233.527*† | 92411.3 | 0.6106 | mg/L | 0.00186 | 30.08 | mg/kg | 0.092 | 0.31% |
| Be 313.042*† | 4551.3 | 0.0012 | mg/L | 0.00001 | 0.0602 | mg/kg | 0.00070 | 1.16% |
| Ca 317.933*† | 55952.7 | 28.76 | mg/L | 0.548 | 1417 | mg/kg | 26.97 | 1.90% |
| Cd 226.502*† | 76.2 | 0.0010 | mg/L | 0.00012 | 0.0477 | mg/kg | 0.00589 | 12.34% |
| Cd 228.802† | -8.3 | -0.0002 | mg/L | 0.00029 | -0.0102 | mg/kg | 0.01411 | 137.71% |
| Co 228.616*† | 1093.0 | 0.0381 | mg/L | 0.00067 | 1.876 | mg/kg | 0.0331 | 1.76% |
| Cr 267.716*† | 4056.5 | 0.0352 | mg/L | 0.00096 | 1.735 | mg/kg | 0.0473 | 2.72% |
| Cu 324.752*† | 16928.1 | 0.0671 | mg/L | 0.00100 | 3.304 | mg/kg | 0.0491 | 1.49% |
| Fe 273.955*† | 1710361.8 | 71.70 | mg/L | 0.468 | 3532 | mg/kg | 23.07 | 0.65% |
| K 766.490*† | 39572.6 | 13.28 | mg/L | 0.247 | 654.1 | mg/kg | 12.15 | 1.86% |
| Mg 279.077*† | 509840.0 | 26.47 | mg/L | 0.021 | 1304 | mg/kg | 1.04 | 0.08% |
| Mn 257.610*† | 866115.8 | 1.352 | mg/L | 0.0089 | 66.59 | mg/kg | 0.440 | 0.66% |
| Mo 202.031*† | -5.3 | -0.0006 | mg/L | 0.00007 | -0.0279 | mg/kg | 0.00348 | 12.50% |
| Na 589.592*† | 6865.7 | 1.565 | mg/L | 0.0178 | 77.08 | mg/kg | 0.878 | 1.14% |
| Ni 231.604*† | 927.1 | 0.0381 | mg/L | 0.00149 | 1.877 | mg/kg | 0.0732 | 3.90% |
| P 213.617*† | 9819.2 | 5.199 | mg/L | 0.0978 | 256.1 | mg/kg | 4.82 | 1.88% |
| P 214.914† | 6423.4 | 5.229 | mg/L | 0.0825 | 257.6 | mg/kg | 4.06 | 1.58% |
| Pb 220.353*† | 101.8 | 0.0126 | mg/L | 0.00054 | 0.6209 | mg/kg | 0.02664 | 4.29% |
| Sb 206.836† | -4.5 | -0.0024 | mg/L | 0.00605 | -0.1183 | mg/kg | 0.29815 | 252.04% |
| Sb 217.582*† | 0.5 | 0.0002 | mg/L | 0.00503 | 0.0122 | mg/kg | 0.24769 | >999.9% |
| Se 196.026*† | -19.1 | -0.0088 | mg/L | 0.00043 | -0.4323 | mg/kg | 0.02112 | 4.89% |
| Si 251.611*† | 266155.6 | 6.872 | mg/L | 0.1281 | 338.5 | mg/kg | 6.31 | 1.86% |
| Sn 189.927*† | -136.0 | -0.0226 | mg/L | 0.00068 | -1.114 | mg/kg | 0.0335 | 3.01% |
| Sn 242.170† | 379.9 | 0.2155 | mg/L | 0.01644 | 10.61 | mg/kg | 0.810 | 7.63% |
| Sr 407.771*† | 129121.9 | 0.3991 | mg/L | 0.00709 | 19.66 | mg/kg | 0.349 | 1.78% |
| Ti 334.940† | 3823431.7 | 4.603 | mg/L | 0.0233 | 226.8 | mg/kg | 1.15 | 0.51% |
| Ti 336.121*† | 2721831.3 | 4.535 | mg/L | 0.0254 | 223.4 | mg/kg | 1.25 | 0.56% |
| Tl 190.801*† | -8.8 | -0.0048 | mg/L | 0.00119 | -0.2344 | mg/kg | 0.05880 | 25.09% |
| V 292.402*† | 16194.3 | 0.1161 | mg/L | 0.00284 | 5.717 | mg/kg | 0.1400 | 2.45% |
| Zn 206.200*† | 8999.7 | 0.2195 | mg/L | 0.00604 | 10.81 | mg/kg | 0.297 | 2.75% |

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# EPA 6010B ICP Metals

# (Solid)

# Quality Control

# Method Blank
# LCS/LCSD
# MS/MSD

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 6010B

**MB SAMPLE ID:** **097-01-002-24453**
MB BATCH ID: 170317L02
INSTRUMENT: ICP 7300
EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 12:47
REVIEWED BY:
D/T REVIEWED:
MATRIX: Soil

DATA FILE: W:\ICP-DATA\170320C1\170317-b-02__128.icp

**CLIENT WORK ORDER: 17-03-0755**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 16 | | D-DU2-S-SG-08-25S | 2017-03-17 16:59 | W:\ICP-DATA\170317C1\17-03-0755-16.icp |
| 20 | | D-DU2-S-SG-09-25S | 2017-03-17 16:59 | W:\ICP-DATA\170317C1\17-03-0755-20.icp |

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# RAW DATA SHEET
# FOR METHOD: EPA 6010B

**WORK ORDER:** **097-01-002**
INSTRUMENT: ICP 7300
EXTRACTION : EPA 3050B
D/T EXTRACTED: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 12:47
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\170317-b-02__128.icp

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

LCS/MB BATCH: 170317L02
MS/MSD BATCH:
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 | -0.00186 | 0.966 | ND | 0.725 | |
| Arsenic | 0.00148 | 0.966 | ND | 0.725 | |
| Barium | -0.00102 | 0.966 | ND | 0.483 | |
| Beryllium | -0.0000788 | 0.966 | ND | 0.242 | |
| Cadmium | -0.000110 | 0.966 | ND | 0.483 | |
| Chromium | -0.000107 | 0.966 | ND | 0.242 | |
| Cobalt | -0.000542 | 0.966 | ND | 0.242 | |
| Copper | -0.000547 | 0.966 | ND | 0.483 | |
| Lead | -0.00149 | 0.966 | ND | 0.483 | |
| Molybdenum | 0.000484 | 0.966 | ND | 0.242 | |
| Nickel | 0.000647 | 0.966 | ND | 0.242 | |
| Selenium | 0.00539 | 0.966 | ND | 0.725 | |
| Silver | 0.00137 | 0.966 | ND | 0.242 | |
| Thallium | 0.000704 | 0.966 | ND | 0.725 | |
| Vanadium | 0.0000525 | 0.966 | ND | 0.242 | |
| Zinc | -0.00113 | 0.966 | ND | 0.966 | |

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**LCS SAMPLE ID:** **097-01-002-24453**
LCS/MB BATCH ID: 170317L02
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 12:48
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\170317-I-02__129.icp

| COMPOUND | CONC | CONC REC | %REC | %REC CL | ME CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|
| Antimony | 25.00 | 23.11 | 92 | 80-120 | 73-127 | PASS | |
| Arsenic | 25.00 | 23.18 | 93 | 80-120 | 73-127 | PASS | |
| Barium | 25.00 | 25.58 | 102 | 80-120 | 73-127 | PASS | |
| Beryllium | 25.00 | 23.87 | 95 | 80-120 | 73-127 | PASS | |
| Cadmium | 25.00 | 24.43 | 98 | 80-120 | 73-127 | PASS | |
| Chromium | 25.00 | 24.89 | 100 | 80-120 | 73-127 | PASS | |
| Cobalt | 25.00 | 25.13 | 101 | 80-120 | 73-127 | PASS | |
| Copper | 25.00 | 25.19 | 101 | 80-120 | 73-127 | PASS | |
| Lead | 25.00 | 24.81 | 99 | 80-120 | 73-127 | PASS | |
| Molybdenum | 25.00 | 23.70 | 95 | 80-120 | 73-127 | PASS | |
| Nickel | 25.00 | 24.97 | 100 | 80-120 | 73-127 | PASS | |
| Phosphorus | 25.00 | 25.45 | 102 | 80-120 | 73-127 | PASS | |
| Selenium | 25.00 | 23.06 | 92 | 80-120 | 73-127 | PASS | |
| Silver | 12.50 | 12.10 | 97 | 80-120 | 73-127 | PASS | |
| Thallium | 25.00 | 24.85 | 99 | 80-120 | 73-127 | PASS | |
| Vanadium | 25.00 | 23.59 | 94 | 80-120 | 73-127 | PASS | |
| Zinc | 25.00 | 25.01 | 100 | 80-120 | 73-127 | PASS | |
| Aluminum | 25.00 | 28.84 | 115 | 80-120 | 73-127 | PASS | |
| Calcium | 25.00 | 26.68 | 107 | 80-120 | 73-127 | PASS | |
| Iron | 25.00 | 28.08 | 112 | 80-120 | 73-127 | PASS | |
| Magnesium | 25.00 | 25.83 | 103 | 80-120 | 73-127 | PASS | |
| Manganese | 25.00 | 24.48 | 98 | 80-120 | 73-127 | PASS | |
| Potassium | 250.0 | 241.4 | 97 | 80-120 | 73-127 | PASS | |
| Sodium | 250.0 | 245.5 | 98 | 80-120 | 73-127 | PASS | |
| Strontium | 25.00 | 24.99 | 100 | 80-120 | 73-127 | PASS | |
| Tin | 25.00 | 24.51 | 98 | 80-120 | 73-127 | PASS | |
| Titanium | 25.00 | 24.08 | 96 | 80-120 | 73-127 | PASS | |
| Boron | 25.00 | 22.98 | 92 | 80-120 | 73-127 | PASS | |
| Silicon | 25.00 | 29.00 | 116 | 80-120 | 73-127 | PASS | |





Compounds listed in bold are required to be reported.

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**LCS SAMPLE ID:** **097-01-002-24453**
LCS/MB BATCH ID: 170317L02
INSTRUMENT: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED: 2017-03-20 12:48
REVIEWED BY:
D/T REVIEWED:

DATA FILE: W:\ICP-DATA\170320C1\170317-I-02__129.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.



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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**SPIKED SAMPLE ID:** **17-03-1223-1**
MS/MSD BATCH: 170317S02
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-17 00:00
MS: 2017-03-17 00:00
MSD: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-20 13:38
MS: 2017-03-20 13:41
MSD: 2017-03-20 13:42
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** | **8.304** | **33** | **9.361** | **37** | **50-115** | **12** | **0-20** | **FAIL** | **3G** |
| Arsenic | ND | 0.5000 | 25.00 | 25.93 | 104 | 27.13 | 109 | 75-125 | 5 | 0-20 | PASS | |
| Barium | 71.72 | 0.5000 | 25.00 | 95.64 | 96 | 96.47 | 99 | 75-125 | 1 | 0-20 | PASS | |
| Beryllium | 0.2785 | 0.5000 | 25.00 | 26.01 | 103 | 26.29 | 104 | 75-125 | 1 | 0-20 | PASS | |
| Cadmium | ND | 0.5000 | 25.00 | 26.12 | 104 | 26.42 | 106 | 75-125 | 1 | 0-20 | PASS | |
| Chromium | 15.33 | 0.5000 | 25.00 | 42.03 | 107 | 40.67 | 101 | 75-125 | 3 | 0-20 | PASS | |
| Cobalt | 5.419 | 0.5000 | 25.00 | 31.55 | 105 | 31.63 | 105 | 75-125 | 0 | 0-20 | PASS | |
| Copper | 6.170 | 0.5000 | 25.00 | 32.93 | 107 | 32.77 | 106 | 75-125 | 1 | 0-20 | PASS | |
| Lead | 3.158 | 0.5000 | 25.00 | 29.33 | 105 | 30.08 | 108 | 75-125 | 3 | 0-20 | PASS | |
| Molybdenum | ND | 0.5000 | 25.00 | 24.20 | 97 | 24.77 | 99 | 75-125 | 2 | 0-20 | PASS | |
| Nickel | 8.394 | 0.5000 | 25.00 | 34.02 | 102 | 34.44 | 104 | 75-125 | 1 | 0-20 | PASS | |
| Phosphorus | 171.7 | 0.5000 | 25.00 | 207.8 | 4x | 205.7 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Selenium | ND | 0.5000 | 25.00 | 25.32 | 101 | 25.96 | 104 | 75-125 | 2 | 0-20 | PASS | |
| Silver | ND | 0.2500 | 12.50 | 11.84 | 95 | 12.24 | 98 | 75-125 | 3 | 0-20 | PASS | |
| Thallium | ND | 0.5000 | 25.00 | 24.99 | 100 | 25.33 | 101 | 75-125 | 1 | 0-20 | PASS | |
| Vanadium | 25.58 | 0.5000 | 25.00 | 51.35 | 103 | 48.83 | 93 | 75-125 | 5 | 0-20 | PASS | |
| Zinc | 19.51 | 0.5000 | 25.00 | 44.67 | 101 | 45.04 | 102 | 75-125 | 1 | 0-20 | PASS | |
| Aluminum | 8629 | 0.5000 | 25.00 | 9631 | 4x | 9166 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Calcium | 1459 | 0.5000 | 25.00 | 1545 | 4x | 1469 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Iron | 11790 | 0.5000 | 25.00 | 12170 | 4x | 10950 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Magnesium | 1701 | 0.5000 | 25.00 | 1855 | 4x | 1755 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Manganese | 214.6 | 0.5000 | 25.00 | 245.5 | 4x | 237.5 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Potassium | 913.4 | 5.000 | 250.0 | 1139 | 90 | 1157 | 98 | 75-125 | 2 | 0-20 | PASS | |
| Sodium | 144.9 | 5.000 | 250.0 | 402.3 | 103 | 411.6 | 107 | 75-125 | 2 | 0-20 | PASS | |
| Strontium | 17.21 | 0.5000 | 25.00 | 43.97 | 107 | 44.32 | 108 | 75-125 | 1 | 0-20 | PASS | |
| Tin | ND | 0.5000 | 25.00 | 20.40 | 82 | 21.13 | 85 | 75-125 | 3 | 0-20 | PASS | |
| Titanium | 611.7 | 0.5000 | 25.00 | 656.8 | 4x | 599.6 | 4x | 75-125 | 4x | 0-20 | PASS | Q |
| Boron | 1.373 | 0.5000 | 25.00 | 25.48 | 96 | 26.13 | 99 | 75-125 | 3 | 0-20 | PASS | |





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# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 6010B

**SPIKED SAMPLE ID:** **17-03-1223-1**
MS/MSD BATCH: 170317S02
INSTRUMENTS:
SAMPLE: ICP 7300
MS: ICP 7300
MSD: ICP 7300

EXTRACTION: EPA 3050B
D/T EXTRACTED:
SAMPLE: 2017-03-17 00:00
MS: 2017-03-17 00:00
MSD: 2017-03-17 00:00

ANALYZED BY: 935
D/T ANALYZED:
SAMPLE: 2017-03-20 13:38
MS: 2017-03-20 13:41
MSD: 2017-03-20 13:42
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 | 554.3 | 0.5000 | 25.00 | 707.2 | 4x | 626.3 | 4x | 75-125 | 4x | 0-20 | PASS | Q |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17-03-1223-1 ms.icp | W:\ICP-DATA\170320C1\ |
| MSD | 17-03-1223-1 msd.icp | W:\ICP-DATA\170320C1\ |

Analysis Begun

Start Time: 3/20/2017 12:47:19 PM
Logged In Analyst: Oscar Gomez 935
Spectrometer: Optima 7300 DV, S/N 77c8120401

Plasma On Time: 3/20/2017 9:11:12 AM
Technique: ICP Continuous
Autosampler: ESI

Sample Information File: C:\Documents and Settings\All Users\PerkinElmer\ICP\Data\Sample Information\17032001.sif
Batch ID:
Results Data Set: 170320C1
Results Library: W:\pe\7300\Results\results.mdb

Sequence No.: 1
Sample ID: 170317-b-02
Analyst: 935 icp 7300
Initial Sample Wt: 2.07 g
Dilution:
Wash Time:

Autosampler Location: 314
Date Collected: 3/20/2017 12:47:31 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL

Mean Data: 170317-b-02

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 80155.1 | 102.0 | % | 1.42 | | | | 1.39% |
| Tb 350 | 131262.6 | 102.0 | % | 1.73 | | | | 1.70% |
| Ag 328.068*† | 252.2 | 0.0014 | mg/L | 0.00002 | 0.0662 | mg/kg | 0.00107 | 1.61% |
| Al 308.215*† | -63.4 | -0.0037 | mg/L | 0.00328 | -0.1802 | mg/kg | 0.15827 | 87.81% |
| As 188.979† | 7.0 | 0.0034 | mg/L | 0.00453 | 0.1653 | mg/kg | 0.21880 | 132.38% |
| As 193.696*† | 2.1 | 0.0015 | mg/L | 0.00926 | 0.0717 | mg/kg | 0.44749 | 624.24% |
| B 249.677*† | 401.8 | 0.0083 | mg/L | 0.00075 | 0.4019 | mg/kg | 0.03615 | 8.99% |
| Ba 233.527*† | -152.2 | -0.0010 | mg/L | 0.00007 | -0.0493 | mg/kg | 0.00324 | 6.57% |
| Be 313.042*† | -291.5 | -0.0001 | mg/L | 0.00002 | -0.0038 | mg/kg | 0.00078 | 20.52% |
| Ca 317.933*† | -21.1 | -0.0111 | mg/L | 0.00239 | -0.5365 | mg/kg | 0.11527 | 21.48% |
| Cd 226.502*† | -8.4 | -0.0001 | mg/L | 0.00005 | -0.0053 | mg/kg | 0.00227 | 42.69% |
| Cd 228.802† | -4.3 | -0.0001 | mg/L | 0.00034 | -0.0053 | mg/kg | 0.01634 | 310.26% |
| Co 228.616*† | -15.2 | -0.0005 | mg/L | 0.00017 | -0.0262 | mg/kg | 0.00834 | 31.85% |
| Cr 267.716*† | -12.0 | -0.0001 | mg/L | 0.00080 | -0.0052 | mg/kg | 0.03844 | 740.94% |
| Cu 324.752*† | -133.8 | -0.0005 | mg/L | 0.00029 | -0.0264 | mg/kg | 0.01379 | 52.15% |
| Fe 273.955*† | 315.2 | 0.0136 | mg/L | 0.00052 | 0.6592 | mg/kg | 0.02532 | 3.84% |
| K 766.490*† | -80.8 | -0.0277 | mg/L | 0.04765 | -1.340 | mg/kg | 2.3019 | 171.84% |
| Mg 279.077*† | 165.1 | 0.0088 | mg/L | 0.00975 | 0.4256 | mg/kg | 0.47098 | 110.65% |
| Mn 257.610*† | 211.5 | 0.0003 | mg/L | 0.00001 | 0.0161 | mg/kg | 0.00070 | 4.33% |
| Mo 202.031*† | 4.4 | 0.0005 | mg/L | 0.00047 | 0.0234 | mg/kg | 0.02255 | 96.55% |
| Na 589.592*† | 28.5 | 0.0068 | mg/L | 0.00003 | 0.3265 | mg/kg | 0.00122 | 0.38% |
| Ni 231.604*† | 15.1 | 0.0006 | mg/L | 0.00072 | 0.0312 | mg/kg | 0.03481 | 111.42% |
| P 213.617*† | 2.4 | 0.0013 | mg/L | 0.00158 | 0.0631 | mg/kg | 0.07613 | 120.60% |
| P 214.914† | 17.1 | 0.0139 | mg/L | 0.00326 | 0.6701 | mg/kg | 0.15744 | 23.49% |
| Pb 220.353*† | -11.7 | -0.0015 | mg/L | 0.00030 | -0.0721 | mg/kg | 0.01429 | 19.83% |
| Sb 206.836† | -3.1 | -0.0016 | mg/L | 0.00025 | -0.0795 | mg/kg | 0.01184 | 14.89% |
| Sb 217.582*† | -3.4 | -0.0019 | mg/L | 0.00628 | -0.0896 | mg/kg | 0.30317 | 338.27% |
| Se 196.026*† | 11.6 | 0.0054 | mg/L | 0.00126 | 0.2602 | mg/kg | 0.06100 | 23.45% |
| Si 251.611*† | 874.8 | 0.0234 | mg/L | 0.00301 | 1.128 | mg/kg | 0.1456 | 12.90% |
| Sn 189.927*† | 5.2 | 0.0009 | mg/L | 0.00077 | 0.0424 | mg/kg | 0.03736 | 88.16% |
| Sn 242.170† | 15.9 | 0.0092 | mg/L | 0.00026 | 0.4426 | mg/kg | 0.01257 | 2.84% |
| Sr 407.771*† | -23.6 | -0.0001 | mg/L | 0.00004 | -0.0036 | mg/kg | 0.00213 | 59.89% |
| Ti 334.940† | 343.4 | 0.0004 | mg/L | 0.00026 | 0.0203 | mg/kg | 0.01279 | 63.06% |
| Ti 336.121*† | 164.7 | 0.0003 | mg/L | 0.00012 | 0.0137 | mg/kg | 0.00565 | 41.29% |
| Tl 190.801*† | 1.3 | 0.0007 | mg/L | 0.00726 | 0.0340 | mg/kg | 0.35060 | >999.9% |
| V 292.402*† | 7.1 | 0.0001 | mg/L | 0.00059 | 0.0025 | mg/kg | 0.02846 | >999.9% |
| Zn 206.200*† | -44.8 | -0.0011 | mg/L | 0.00006 | -0.0546 | mg/kg | 0.00271 | 4.96% |

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Sequence No.: 2
Sample ID: 170317-1-02
Analyst: 935 icp 7300
Initial Sample Wt: 2.06 g
Dilution:
Wash Time: 15

Autosampler Location: 315
Date Collected: 3/20/2017 12:48:36 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 170317-1-02

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 77497.0 | 98.66 | % | 1.466 | | | | 1.49% |
| Tb 350 | 128884.7 | 100.1 | % | 1.81 | | | | 1.81% |
| Ag 328.068*† | 45840.6 | 0.2493 | mg/L | 0.00210 | 12.10 | mg/kg | 0.102 | 0.84% |
| Al 308.215*† | 10090.6 | 0.5941 | mg/L | 0.00726 | 28.84 | mg/kg | 0.353 | 1.22% |
| As 188.979† | 970.8 | 0.4758 | mg/L | 0.01372 | 23.10 | mg/kg | 0.666 | 2.88% |
| As 193.696*† | 675.5 | 0.4775 | mg/L | 0.01472 | 23.18 | mg/kg | 0.715 | 3.08% |
| B 249.677*† | 22858.3 | 0.4733 | mg/L | 0.00529 | 22.98 | mg/kg | 0.257 | 1.12% |
| Ba 233.527*† | 78539.4 | 0.5269 | mg/L | 0.00064 | 25.58 | mg/kg | 0.031 | 0.12% |
| Be 313.042*† | 1819575.2 | 0.4917 | mg/L | 0.00659 | 23.87 | mg/kg | 0.320 | 1.34% |
| Ca 317.933*† | 1045.2 | 0.5496 | mg/L | 0.01144 | 26.68 | mg/kg | 0.555 | 2.08% |
| Cd 226.502*† | 38319.8 | 0.5033 | mg/L | 0.00237 | 24.43 | mg/kg | 0.115 | 0.47% |
| Cd 228.802† | 19209.2 | 0.4902 | mg/L | 0.00244 | 23.80 | mg/kg | 0.118 | 0.50% |
| Co 228.616*† | 14480.9 | 0.5176 | mg/L | 0.00649 | 25.13 | mg/kg | 0.315 | 1.25% |
| Cr 267.716*† | 57122.6 | 0.5127 | mg/L | 0.00226 | 24.89 | mg/kg | 0.109 | 0.44% |
| Cu 324.752*† | 126879.9 | 0.5190 | mg/L | 0.00106 | 25.19 | mg/kg | 0.051 | 0.20% |
| Fe 273.955*† | 13363.2 | 0.5785 | mg/L | 0.00713 | 28.08 | mg/kg | 0.346 | 1.23% |
| K 766.490*† | 14496.2 | 4.974 | mg/L | 0.1095 | 241.4 | mg/kg | 5.31 | 2.20% |
| Mg 279.077*† | 9974.1 | 0.5322 | mg/L | 0.01454 | 25.83 | mg/kg | 0.706 | 2.73% |
| Mn 257.610*† | 319468.8 | 0.5042 | mg/L | 0.00038 | 24.48 | mg/kg | 0.018 | 0.07% |
| Mo 202.031*† | 4454.0 | 0.4882 | mg/L | 0.01180 | 23.70 | mg/kg | 0.573 | 2.42% |
| Na 589.592*† | 21336.4 | 5.057 | mg/L | 0.0688 | 245.5 | mg/kg | 3.34 | 1.36% |
| Ni 231.604*† | 12042.7 | 0.5144 | mg/L | 0.00163 | 24.97 | mg/kg | 0.079 | 0.32% |
| P 213.617*† | 973.0 | 0.5242 | mg/L | 0.01526 | 25.45 | mg/kg | 0.741 | 2.91% |
| P 214.914† | 586.8 | 0.4772 | mg/L | 0.00792 | 23.17 | mg/kg | 0.385 | 1.66% |
| Pb 220.353*† | 4007.2 | 0.5111 | mg/L | 0.01141 | 24.81 | mg/kg | 0.554 | 2.23% |
| Sb 206.836† | 888.5 | 0.4779 | mg/L | 0.01870 | 23.20 | mg/kg | 0.908 | 3.91% |
| Sb 217.582*† | 875.8 | 0.4761 | mg/L | 0.01186 | 23.11 | mg/kg | 0.576 | 2.49% |
| Se 196.026*† | 1025.6 | 0.4750 | mg/L | 0.00740 | 23.06 | mg/kg | 0.359 | 1.56% |
| Si 251.611*† | 22374.3 | 0.5973 | mg/L | 0.00291 | 29.00 | mg/kg | 0.141 | 0.49% |
| Sn 189.927*† | 2988.3 | 0.5049 | mg/L | 0.01549 | 24.51 | mg/kg | 0.752 | 3.07% |
| Sn 242.170† | 902.8 | 0.5198 | mg/L | 0.00173 | 25.24 | mg/kg | 0.084 | 0.33% |
| Sr 407.771*† | 164722.6 | 0.5147 | mg/L | 0.00280 | 24.99 | mg/kg | 0.136 | 0.54% |
| Ti 334.940† | 413499.8 | 0.5056 | mg/L | 0.00570 | 24.54 | mg/kg | 0.277 | 1.13% |
| Ti 336.121*† | 288376.1 | 0.4960 | mg/L | 0.00062 | 24.08 | mg/kg | 0.030 | 0.12% |
| Tl 190.801*† | 921.9 | 0.5120 | mg/L | 0.00289 | 24.85 | mg/kg | 0.140 | 0.56% |
| V 292.402*† | 65032.9 | 0.4860 | mg/L | 0.00005 | 23.59 | mg/kg | 0.002 | 0.01% |
| Zn 206.200*† | 20440.2 | 0.5152 | mg/L | 0.00097 | 25.01 | mg/kg | 0.047 | 0.19% |

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Sequence No.: 61
Sample ID: 17-03-1223-1 ms
Analyst: 935 icp 7300
Initial Sample Wt: 1.95 g
Dilution:
Wash Time: 15

Autosampler Location: 204
Date Collected: 3/20/2017 1:41:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1223-1 ms

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 59097.3 | 75.24 | % | 0.649 | | | | 0.86% |
| Tb 350 | 117487.4 | 91.26 | % | 0.566 | | | | 0.62% |
| Ag 328.068*† | 42444.8 | 0.2308 | mg/L | 0.00096 | 11.84 | mg/kg | 0.049 | 0.41% |
| Al 308.215*† | 3189574.7 | 187.8 | mg/L | 0.68 | 9631 | mg/kg | 34.93 | 0.36% |
| As 188.979† | 1079.8 | 0.5292 | mg/L | 0.00472 | 27.14 | mg/kg | 0.242 | 0.89% |
| As 193.696*† | 715.4 | 0.5057 | mg/L | 0.01119 | 25.93 | mg/kg | 0.574 | 2.21% |
| B 249.677*† | 23996.2 | 0.4968 | mg/L | 0.00520 | 25.48 | mg/kg | 0.267 | 1.05% |
| Ba 233.527*† | 277999.6 | 1.865 | mg/L | 0.0003 | 95.64 | mg/kg | 0.013 | 0.01% |
| Be 313.042*† | 1877028.6 | 0.5072 | mg/L | 0.00179 | 26.01 | mg/kg | 0.092 | 0.35% |
| Ca 317.933*† | 57302.3 | 30.13 | mg/L | 1.228 | 1545 | mg/kg | 62.98 | 4.08% |
| Cd 226.502*† | 38786.1 | 0.5094 | mg/L | 0.00069 | 26.12 | mg/kg | 0.035 | 0.14% |
| Cd 228.802† | 19412.2 | 0.4954 | mg/L | 0.00106 | 25.40 | mg/kg | 0.055 | 0.21% |
| Co 228.616*† | 17211.1 | 0.6152 | mg/L | 0.00164 | 31.55 | mg/kg | 0.084 | 0.27% |
| Cr 267.716*† | 91310.3 | 0.8196 | mg/L | 0.00033 | 42.03 | mg/kg | 0.017 | 0.04% |
| Cu 324.752*† | 156988.7 | 0.6422 | mg/L | 0.00223 | 32.93 | mg/kg | 0.114 | 0.35% |
| Fe 273.955*† | 5483607.6 | 237.4 | mg/L | 2.34 | 12170 | mg/kg | 120.17 | 0.99% |
| K 766.490*† | 64757.7 | 22.22 | mg/L | 0.724 | 1139 | mg/kg | 37.15 | 3.26% |
| Mg 279.077*† | 677777.7 | 36.16 | mg/L | 0.155 | 1855 | mg/kg | 7.96 | 0.43% |
| Mn 257.610*† | 3032625.4 | 4.787 | mg/L | 0.0103 | 245.5 | mg/kg | 0.53 | 0.21% |
| Mo 202.031*† | 4304.9 | 0.4719 | mg/L | 0.00141 | 24.20 | mg/kg | 0.072 | 0.30% |
| Na 589.592*† | 33100.1 | 7.846 | mg/L | 0.1988 | 402.3 | mg/kg | 10.19 | 2.53% |
| Ni 231.604*† | 15528.7 | 0.6633 | mg/L | 0.00146 | 34.02 | mg/kg | 0.075 | 0.22% |
| P 213.617*† | 7519.7 | 4.052 | mg/L | 0.0142 | 207.8 | mg/kg | 0.73 | 0.35% |
| P 214.914† | 5521.5 | 4.490 | mg/L | 0.0064 | 230.3 | mg/kg | 0.33 | 0.14% |
| Pb 220.353*† | 4484.8 | 0.5720 | mg/L | 0.00148 | 29.33 | mg/kg | 0.076 | 0.26% |
| Sb 206.836† | 341.3 | 0.1835 | mg/L | 0.00038 | 9.412 | mg/kg | 0.0193 | 0.21% |
| Sb 217.582*† | 297.9 | 0.1619 | mg/L | 0.00085 | 8.304 | mg/kg | 0.0437 | 0.53% |
| Se 196.026*† | 1066.2 | 0.4938 | mg/L | 0.00055 | 25.32 | mg/kg | 0.028 | 0.11% |
| Si 251.611*† | 516542.5 | 13.79 | mg/L | 0.033 | 707.2 | mg/kg | 1.69 | 0.24% |
| Sn 189.927*† | 2354.8 | 0.3979 | mg/L | 0.00301 | 20.40 | mg/kg | 0.154 | 0.76% |
| Sn 242.170† | 1855.0 | 1.068 | mg/L | 0.0367 | 54.78 | mg/kg | 1.881 | 3.43% |
| Sr 407.771*† | 274406.8 | 0.8575 | mg/L | 0.02859 | 43.97 | mg/kg | 1.466 | 3.33% |
| Ti 334.940† | 10346543.0 | 12.65 | mg/L | 0.122 | 648.8 | mg/kg | 6.28 | 0.97% |
| Ti 336.121*† | 7445673.8 | 12.81 | mg/L | 0.100 | 656.8 | mg/kg | 5.11 | 0.78% |
| Tl 190.801*† | 877.3 | 0.4872 | mg/L | 0.01174 | 24.99 | mg/kg | 0.602 | 2.41% |
| V 292.402*† | 134498.6 | 1.001 | mg/L | 0.0016 | 51.35 | mg/kg | 0.081 | 0.16% |
| Zn 206.200*† | 34559.2 | 0.8711 | mg/L | 0.00074 | 44.67 | mg/kg | 0.038 | 0.08% |

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Sequence No.: 62
Sample ID: 17-03-1223-1 msd
Analyst: 935 icp 7300
Initial Sample Wt: 1.97 g
Dilution:
Wash Time: 15

Autosampler Location: 205
Date Collected: 3/20/2017 1:42:05 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1223-1 msd

| Analyte | Mean Corrected Intensity | Calib. Conc. | Calib. Units | Std.Dev. | Sample Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 58632.4 | 74.65 | % | 3.019 | | | | 4.04% |
| Tb 350 | 117384.9 | 91.18 | % | 3.659 | | | | 4.01% |
| Ag 328.068*† | 44350.7 | 0.2412 | mg/L | 0.00193 | 12.24 | mg/kg | 0.098 | 0.80% |
| Al 308.215*† | 3066746.9 | 180.6 | mg/L | 4.83 | 9166 | mg/kg | 245.23 | 2.68% |
| As 188.979† | 1126.7 | 0.5521 | mg/L | 0.02457 | 28.03 | mg/kg | 1.247 | 4.45% |
| As 193.696*† | 756.3 | 0.5345 | mg/L | 0.01828 | 27.13 | mg/kg | 0.928 | 3.42% |
| B 249.677*† | 24857.3 | 0.5147 | mg/L | 0.01641 | 26.13 | mg/kg | 0.833 | 3.19% |
| Ba 233.527*† | 283283.1 | 1.900 | mg/L | 0.0236 | 96.47 | mg/kg | 1.197 | 1.24% |
| Be 313.042*† | 1916272.1 | 0.5178 | mg/L | 0.00957 | 26.29 | mg/kg | 0.486 | 1.85% |
| Ca 317.933*† | 55020.7 | 28.93 | mg/L | 0.715 | 1469 | mg/kg | 36.28 | 2.47% |
| Cd 226.502*† | 39623.2 | 0.5204 | mg/L | 0.01040 | 26.42 | mg/kg | 0.528 | 2.00% |
| Cd 228.802† | 20099.2 | 0.5129 | mg/L | 0.01798 | 26.04 | mg/kg | 0.912 | 3.50% |
| Co 228.616*† | 17429.8 | 0.6231 | mg/L | 0.02264 | 31.63 | mg/kg | 1.149 | 3.63% |
| Cr 267.716*† | 89253.8 | 0.8012 | mg/L | 0.01266 | 40.67 | mg/kg | 0.643 | 1.58% |
| Cu 324.752*† | 157801.7 | 0.6455 | mg/L | 0.00694 | 32.77 | mg/kg | 0.352 | 1.07% |
| Fe 273.955*† | 4982231.3 | 215.7 | mg/L | 5.64 | 10950 | mg/kg | 286.22 | 2.61% |
| K 766.490*† | 66447.8 | 22.80 | mg/L | 0.569 | 1157 | mg/kg | 28.91 | 2.50% |
| Mg 279.077*† | 647796.2 | 34.56 | mg/L | 0.886 | 1755 | mg/kg | 44.98 | 2.56% |
| Mn 257.610*† | 2963797.5 | 4.678 | mg/L | 0.0746 | 237.5 | mg/kg | 3.79 | 1.60% |
| Mo 202.031*† | 4451.2 | 0.4879 | mg/L | 0.01862 | 24.77 | mg/kg | 0.945 | 3.82% |
| Na 589.592*† | 34211.0 | 8.109 | mg/L | 0.1981 | 411.6 | mg/kg | 10.06 | 2.44% |
| Ni 231.604*† | 15884.5 | 0.6785 | mg/L | 0.02831 | 34.44 | mg/kg | 1.437 | 4.17% |
| P 213.617*† | 7520.5 | 4.052 | mg/L | 0.1848 | 205.7 | mg/kg | 9.38 | 4.56% |
| P 214.914† | 5389.4 | 4.383 | mg/L | 0.1402 | 222.5 | mg/kg | 7.12 | 3.20% |
| Pb 220.353*† | 4646.2 | 0.5926 | mg/L | 0.02328 | 30.08 | mg/kg | 1.182 | 3.93% |
| Sb 206.836† | 340.5 | 0.1831 | mg/L | 0.00325 | 9.295 | mg/kg | 0.1649 | 1.77% |
| Sb 217.582*† | 339.2 | 0.1844 | mg/L | 0.01392 | 9.361 | mg/kg | 0.7068 | 7.55% |
| Se 196.026*† | 1104.2 | 0.5114 | mg/L | 0.03615 | 25.96 | mg/kg | 1.835 | 7.07% |
| Si 251.611*† | 462168.7 | 12.34 | mg/L | 0.226 | 626.3 | mg/kg | 11.48 | 1.83% |
| Sn 189.927*† | 2463.0 | 0.4162 | mg/L | 0.01684 | 21.13 | mg/kg | 0.855 | 4.05% |
| Sn 242.170† | 1830.5 | 1.054 | mg/L | 0.0225 | 53.50 | mg/kg | 1.144 | 2.14% |
| Sr 407.771*† | 279425.8 | 0.8731 | mg/L | 0.02345 | 44.32 | mg/kg | 1.190 | 2.69% |
| Ti 334.940† | 9554241.8 | 11.68 | mg/L | 0.301 | 593.0 | mg/kg | 15.27 | 2.57% |
| Ti 336.121*† | 6866770.2 | 11.81 | mg/L | 0.315 | 599.6 | mg/kg | 16.00 | 2.67% |
| Tl 190.801*† | 898.5 | 0.4990 | mg/L | 0.02193 | 25.33 | mg/kg | 1.113 | 4.39% |
| V 292.402*† | 129185.1 | 0.9619 | mg/L | 0.00583 | 48.83 | mg/kg | 0.296 | 0.61% |
| Zn 206.200*† | 35200.2 | 0.8873 | mg/L | 0.03541 | 45.04 | mg/kg | 1.798 | 3.99% |

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Sequence No.: 58
Sample ID: 17-03-1223-1
Analyst: 935 icp 7300
Initial Sample Wt: 1.97 g
Dilution:
Wash Time: 15

Autosampler Location: 203
Date Collected: 3/20/2017 1:38:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Mean Data: 17-03-1223-1

| Analyte | Mean Corrected Intensity | Conc. | Calib. Units | Std.Dev. | Conc. | Sample Units | Std.Dev. | RSD |
|---|---|---|---|---|---|---|---|---|
| Tb 384 | 60602.7 | 77.16 | % | 0.493 | | | | 0.64% |
| Tb 350 | 117576.9 | 91.33 | % | 1.134 | | | | 1.24% |
| Ag 328.068*† | -630.8 | -0.0034 | mg/L | 0.00236 | -0.1741 | mg/kg | 0.12003 | 68.94% |
| Al 308.215*† | 2887293.3 | 170.0 | mg/L | 0.13 | 8629 | mg/kg | 6.37 | 0.07% |
| As 188.979† | 79.4 | 0.0389 | mg/L | 0.00144 | 1.975 | mg/kg | 0.0729 | 3.69% |
| As 193.696*† | 18.4 | 0.0130 | mg/L | 0.00603 | 0.6589 | mg/kg | 0.30598 | 46.44% |
| B 249.677*† | 1306.4 | 0.0270 | mg/L | 0.00146 | 1.373 | mg/kg | 0.0739 | 5.38% |
| Ba 233.527*† | 210593.4 | 1.413 | mg/L | 0.0020 | 71.72 | mg/kg | 0.102 | 0.14% |
| Be 313.042*† | 20302.9 | 0.0055 | mg/L | 0.00004 | 0.2785 | mg/kg | 0.00201 | 0.72% |
| Ca 317.933*† | 54661.7 | 28.75 | mg/L | 0.038 | 1459 | mg/kg | 1.91 | 0.13% |
| Cd 226.502*† | 416.8 | 0.0055 | mg/L | 0.00023 | 0.2779 | mg/kg | 0.01185 | 4.26% |
| Cd 228.802† | 23.1 | 0.0006 | mg/L | 0.00034 | 0.0300 | mg/kg | 0.01725 | 57.54% |
| Co 228.616*† | 2986.5 | 0.1068 | mg/L | 0.00245 | 5.419 | mg/kg | 0.1242 | 2.29% |
| Cr 267.716*† | 33647.6 | 0.3020 | mg/L | 0.00060 | 15.33 | mg/kg | 0.030 | 0.20% |
| Cu 324.752*† | 29713.4 | 0.1215 | mg/L | 0.00013 | 6.170 | mg/kg | 0.0064 | 0.10% |
| Fe 273.955*† | 5364502.6 | 232.2 | mg/L | 0.63 | 11790 | mg/kg | 32.16 | 0.27% |
| K 766.490*† | 52444.9 | 17.99 | mg/L | 0.058 | 913.4 | mg/kg | 2.96 | 0.32% |
| Mg 279.077*† | 627946.1 | 33.51 | mg/L | 0.115 | 1701 | mg/kg | 5.83 | 0.34% |
| Mn 257.610*† | 2678061.8 | 4.227 | mg/L | 0.0022 | 214.6 | mg/kg | 0.11 | 0.05% |
| Mo 202.031*† | 2.5 | 0.0003 | mg/L | 0.00172 | 0.0138 | mg/kg | 0.08744 | 631.38% |
| Na 589.592*† | 12042.4 | 2.854 | mg/L | 0.0224 | 144.9 | mg/kg | 1.14 | 0.79% |
| Ni 231.604*† | 3871.0 | 0.1654 | mg/L | 0.00411 | 8.394 | mg/kg | 0.2087 | 2.49% |
| P 213.617*† | 6276.7 | 3.382 | mg/L | 0.0902 | 171.7 | mg/kg | 4.58 | 2.67% |
| P 214.914† | 4711.9 | 3.832 | mg/L | 0.0943 | 194.5 | mg/kg | 4.79 | 2.46% |
| Pb 220.353*† | 487.9 | 0.0622 | mg/L | 0.00269 | 3.158 | mg/kg | 0.1365 | 4.32% |
| Sb 206.836† | 14.1 | 0.0076 | mg/L | 0.00958 | 0.3848 | mg/kg | 0.48618 | 126.36% |
| Sb 217.582*† | -0.1 | -0.0001 | mg/L | 0.00734 | -0.0030 | mg/kg | 0.37243 | >999.9% |
| Se 196.026*† | 19.7 | 0.0091 | mg/L | 0.00010 | 0.4626 | mg/kg | 0.00486 | 1.05% |
| Si 251.611*† | 409032.1 | 10.92 | mg/L | 0.010 | 554.3 | mg/kg | 0.52 | 0.09% |
| Sn 189.927*† | -368.2 | -0.0622 | mg/L | 0.00157 | -3.158 | mg/kg | 0.0797 | 2.52% |
| Sn 242.170† | 1054.4 | 0.6072 | mg/L | 0.04800 | 30.82 | mg/kg | 2.436 | 7.91% |
| Sr 407.771*† | 108487.7 | 0.3390 | mg/L | 0.00108 | 17.21 | mg/kg | 0.055 | 0.32% |
| Ti 334.940† | 9728465.1 | 11.90 | mg/L | 0.012 | 603.9 | mg/kg | 0.62 | 0.10% |
| Ti 336.121*† | 7006028.0 | 12.05 | mg/L | 0.004 | 611.7 | mg/kg | 0.23 | 0.04% |
| Tl 190.801*† | -21.5 | -0.0119 | mg/L | 0.00059 | -0.6053 | mg/kg | 0.02970 | 4.91% |
| V 292.402*† | 67950.6 | 0.5040 | mg/L | 0.00207 | 25.58 | mg/kg | 0.105 | 0.41% |
| Zn 206.200*† | 15250.4 | 0.3844 | mg/L | 0.00902 | 19.51 | mg/kg | 0.458 | 2.35% |

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# EPA 6010B ICP Metals (Solid)

# Run Logs

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# 170317C1

**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 | 3/17/2017 | 9:23:45 AM | 935 icp 7300 | 1 | |
| 2 | Cal blankR12091601_935 | 3/17/2017 | 9:25:07 AM | 935 icp 7300 | 1 | |
| 3 | Cal blankR12091601_935 | 3/17/2017 | 9:52:05 AM | 935 icp 7300 | 1 | |
| 4 | Cal blankR12091601_935 | 3/17/2017 | 9:53:37 AM | 935 icp 7300 | 1 | |
| 5 | Cal blankR12091601_935 | 3/17/2017 | 9:54:49 AM | 935 icp 7300 | 1 | |
| 6 | STD3-M111116A_935_ICP7300 | 3/17/2017 | 9:55:55 AM | 935 icp 7300 | 2 | |
| 7 | ICV-M072816C | 3/17/2017 | 9:56:51 AM | 935 icp 7300 | 10 | |
| 8 | ICB-R12091601 | 3/17/2017 | 9:57:48 AM | 935 icp 7300 | 1 | B > RL |
| 9 | ICB-R12091601 | 3/17/2017 | 10:01:10 AM | 935 icp 7300 | 1 | |
| 10 | ICB-R12091601 | 3/17/2017 | 10:01:57 AM | 935 icp 7300 | 1 | |
| 11 | ICS_A - M110116B | 3/17/2017 | 10:02:57 AM | 935 icp 7300 | 8 | |
| 12 | ICS_AB - M110116A | 3/17/2017 | 10:03:46 AM | 935 icp 7300 | 9 | |
| 13 | CCV= STD3x0.5 | 3/17/2017 | 10:04:33 AM | 935 icp 7300 | 3 | |
| 14 | CCB-R12091601 | 3/17/2017 | 10:05:22 AM | 935 icp 7300 | 1 | |
| 15 | LLCV-M082616A | 3/17/2017 | 10:07:17 AM | 935 icp 7300 | 101 | Al, Sb, Zn out |
| 16 | 170316-ba-3 | 3/17/2017 | 10:08:12 AM | 935 icp 7300 | 103 | |
| 17 | 170316-la-3 | 3/17/2017 | 10:09:15 AM | 935 icp 7300 | 104 | |
| 18 | 17-03-1147x5-5 | 3/17/2017 | 10:10:03 AM | 935 icp 7300 | 105 | |
| 19 | 17-03-1147-5 | 3/17/2017 | 10:10:48 AM | 935 icp 7300 | 106 | |
| 20 | 17-03-1147-5 ms | 3/17/2017 | 10:11:40 AM | 935 icp 7300 | 107 | |
| 21 | 17-03-1147-5 msd | 3/17/2017 | 10:12:35 AM | 935 icp 7300 | 108 | |
| 22 | 17-03-1147-5 pds | 3/17/2017 | 10:13:31 AM | 935 icp 7300 | 109 | |
| 23 | 17-03-1147-1 | 3/17/2017 | 10:14:27 AM | 935 icp 7300 | 110 | |
| 24 | CCV= STD3x0.5 | 3/17/2017 | 10:15:21 AM | 935 icp 7300 | 3 | |

Reviewed/Assign to Logbook Date: 3/20/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 76 Instrument ID: ICP7

| No. | File Name | Date | Time | Analyst Name | A/S Location | |
|---|---|---|---|---|---|---|
| 89 | CCV= STD3x0.5 | 3/17/2017 | 11:14:13 AM | 935 icp 7300 | 3 | |
| 90 | CCB-R12091601 | 3/17/2017 | 11:15:06 AM | 935 icp 7300 | 1 | |
| 91 | CCV= STD3x0.5 | 3/17/2017 | 11:15:57 AM | 935 icp 7300 | 3 | |
| 92 | CCB-R12091601 | 3/17/2017 | 11:16:55 AM | 935 icp 7300 | 1 | |
| 93 | 17-03-1058-1 EB | 3/17/2017 | 11:17:46 AM | 935 icp 7300 | 154 | |
| 94 | 17-03-1119-1 | 3/17/2017 | 11:18:52 AM | 935 icp 7300 | 155 | |
| 95 | 17-03-1118-1 | 3/17/2017 | 11:19:45 AM | 935 icp 7300 | 156 | |
| 96 | 17-03-1143-5 | 3/17/2017 | 11:20:39 AM | 935 icp 7300 | 157 | |
| 97 | 17-03-1143-6 | 3/17/2017 | 11:21:36 AM | 935 icp 7300 | 158 | |
| 98 | 17-03-1142x5-5 | 3/17/2017 | 11:22:33 AM | 935 icp 7300 | 159 | |
| 99 | 17-03-1045-2 | 3/17/2017 | 11:23:27 AM | 935 icp 7300 | 301 | |
| 100 | 17-03-1045-4 | 3/17/2017 | 11:24:23 AM | 935 icp 7300 | 302 | |
| 101 | 17-03-1045-5 | 3/17/2017 | 11:25:16 AM | 935 icp 7300 | 303 | |
| 102 | 17-03-1045-6 | 3/17/2017 | 11:26:09 AM | 935 icp 7300 | 304 | |
| 103 | CCV= STD3x0.5 | 3/17/2017 | 11:27:04 AM | 935 icp 7300 | 3 | |
| 104 | CCB-R12091601 | 3/17/2017 | 11:27:56 AM | 935 icp 7300 | 1 | |
| 105 | 17-03-1045-7 | 3/17/2017 | 11:28:56 AM | 935 icp 7300 | 305 | |
| 106 | 17-03-1045-8 | 3/17/2017 | 11:29:51 AM | 935 icp 7300 | 306 | |
| 107 | 17-03-1045-9 | 3/17/2017 | 11:30:47 AM | 935 icp 7300 | 307 | |
| 108 | 17-03-1045-10 | 3/17/2017 | 11:31:43 AM | 935 icp 7300 | 308 | |
| 109 | 17-03-1045-11 | 3/17/2017 | 11:32:38 AM | 935 icp 7300 | 309 | |
| 110 | 17-03-1045-12 | 3/17/2017 | 11:33:30 AM | 935 icp 7300 | 310 | |
| 111 | 17-03-1128-1 | 3/17/2017 | 11:35:02 AM | 935 icp 7300 | 311 | |
| 112 | 17-03-1137-1 | 3/17/2017 | 11:36:01 AM | 935 icp 7300 | 312 | |
| 113 | 17-03-1137-2 | 3/17/2017 | 11:36:53 AM | 935 icp 7300 | 313 | |
| 114 | CCV= STD3x0.5 | 3/17/2017 | 11:37:45 AM | 935 icp 7300 | 3 | |
| 115 | CCB-R12091601 | 3/17/2017 | 11:38:38 AM | 935 icp 7300 | 1 | |
| 116 | Cal blankR12091601_935 | 3/17/2017 | 11:50:51 AM | 935 icp 7300 | 1 | |
| 117 | STD3-M111116A_935_ICP7300 | 3/17/2017 | 11:51:57 AM | 935 icp 7300 | 2 | |
| 118 | ICV-M072816C | 3/17/2017 | 11:52:53 AM | 935 icp 7300 | 10 | out |
| 119 | ICV-M072816C | 3/17/2017 | 11:54:19 AM | 935 icp 7300 | 10 | |
| 120 | ICB-R12091601 | 3/17/2017 | 11:56:38 AM | 935 icp 7300 | 1 | B 7 RL |

Reviewed/Assign to Logbook Date: 3/20/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 79 Instrument ID: ICP 7

| No. | File Name | Date | Time | Analyst Name | A/S Location |
|---|---|---|---|---|---|
| 185 | 17-03-1321-1 | 3/17/2017 | 4:43:45 PM | 935 icp 7300 | 203 |
| 186 | 17-03-1314-1 | 3/17/2017 | 4:44:44 PM | 935 icp 7300 | 204 |
| 187 | 17-03-1314-2 | 3/17/2017 | 4:45:36 PM | 935 icp 7300 | 205 |
| 188 | 17-03-1314-3 | 3/17/2017 | 4:46:29 PM | 935 icp 7300 | 206 |
| 189 | 17-03-1314-4 | 3/17/2017 | 4:47:22 PM | 935 icp 7300 | 207 |
| 190 | 17-03-1314-5 | 3/17/2017 | 4:48:15 PM | 935 icp 7300 | 208 |
| 191 | 17-03-1273-1 | 3/17/2017 | 4:49:08 PM | 935 icp 7300 | 209 |
| 192 | 17-03-1273-1 ms | 3/17/2017 | 4:49:51 PM | 935 icp 7300 | 210 |
| 193 | CCV= STD3x0.5 | 3/17/2017 | 4:50:34 PM | 935 icp 7300 | 3 |
| 194 | CCB-R12091601 | 3/17/2017 | 4:51:28 PM | 935 icp 7300 | 1 |
| 195 | 17-03-1273-1 msd | 3/17/2017 | 4:52:28 PM | 935 icp 7300 | 211 |
| 196 | 17-03-1273-2 | 3/17/2017 | 4:53:14 PM | 935 icp 7300 | 212 |
| 197 | 17-03-1273-3 | 3/17/2017 | 4:54:05 PM | 935 icp 7300 | 213 |
| 198 | 17-03-1273-4 | 3/17/2017 | 4:54:47 PM | 935 icp 7300 | 214 |
| 199 | 17-03-1273-5 | 3/17/2017 | 4:55:38 PM | 935 icp 7300 | 215 |
| 200 | 17-03-1273-6 | 3/17/2017 | 4:56:29 PM | 935 icp 7300 | 216 |
| 201 | 17-03-1277-1 | 3/17/2017 | 4:57:20 PM | 935 icp 7300 | 217 |
| 202 | 17-03-0464-3 MIS | 3/17/2017 | 4:58:13 PM | 935 icp 7300 | 218 |
| 203 | 17-03-0755-16 | 3/17/2017 | 4:59:05 PM | 935 icp 7300 | 219 |
| 204 | 17-03-0755-20 | 3/17/2017 | 4:59:56 PM | 935 icp 7300 | 220 |
| 205 | CCV= STD3x0.5 | 3/17/2017 | 5:00:47 PM | 935 icp 7300 | 3 |
| 206 | CCB-R12091601 | 3/17/2017 | 5:01:40 PM | 935 icp 7300 | 1 |
| 207 | 17-03-0856-10 | 3/17/2017 | 5:02:40 PM | 935 icp 7300 | 221 |
| 208 | 17-03-1217-4 | 3/17/2017 | 5:03:34 PM | 935 icp 7300 | 222 |
| 209 | CCV= STD3x0.5 | 3/17/2017 | 5:04:16 PM | 935 icp 7300 | 3 |
| 210 | CCB-R12091601 | 3/17/2017 | 5:05:10 PM | 935 icp 7300 | 1 |
| 211 | LLCV--M082616A | 3/17/2017 | 5:13:12 PM | 935 icp 7300 | 102 |
| 212 | LCS-1012-JN-1 | 3/17/2017 | 5:25:15 PM | 935 icp 7300 | 257 |
| 213 | LCS-1012-JN-2 | 3/17/2017 | 5:28:58 PM | 935 icp 7300 | 258 |
| 214 | LCS-1012-JN-3 | 3/17/2017 | 5:29:51 PM | 935 icp 7300 | 259 |
| 215 | LCS-1012-JN-4 | 3/17/2017 | 6:15:47 PM | 935 icp 7300 | 257 |

Instrument stop, Rerun

Reviewed/Assign to Logbook Date: 3/20/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 82 Instrument ID: 1497

# 170320C1

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 | 3/20/2017 | 10:02:39 AM | 935 icp 7300 | 1 | |
| 2 | Cal blankR12091601_935 | 3/20/2017 | 10:03:53 AM | 935 icp 7300 | 1 | |
| 3 | STD3-M111116A_935_ICP7300 | 3/20/2017 | 10:04:59 AM | 935 icp 7300 | 2 | |
| 4 | ICV-M072816C | 3/20/2017 | 10:05:55 AM | 935 icp 7300 | 10 | |
| 5 | ICB-R12091601 | 3/20/2017 | 10:06:52 AM | 935 icp 7300 | 1 | |
| 6 | Cal blankR12091601_935 | 3/20/2017 | 10:08:59 AM | 935 icp 7300 | 1 | |
| 7 | STD3-M111116A_935_ICP7300 | 3/20/2017 | 10:10:05 AM | 935 icp 7300 | 2 | |
| 8 | ICV-M072816C | 3/20/2017 | 10:11:01 AM | 935 icp 7300 | 10 | |
| 9 | ICB-R12091601 | 3/20/2017 | 10:11:58 AM | 935 icp 7300 | 1 | B > RL |
| 10 | ICB-R12091601 | 3/20/2017 | 10:12:43 AM | 935 icp 7300 | 1 | |
| 11 | ICB-R12091601 | 3/20/2017 | 10:13:31 AM | 935 icp 7300 | 1 | |
| 12 | ICS_A - M110116B | 3/20/2017 | 10:14:33 AM | 935 icp 7300 | 8 | |
| 13 | ICS_AB - M110116A | 3/20/2017 | 10:15:24 AM | 935 icp 7300 | 9 | |
| 14 | CCV= STD3x0.5 | 3/20/2017 | 10:16:14 AM | 935 icp 7300 | 3 | |
| 15 | CCB-R12091601 | 3/20/2017 | 10:17:05 AM | 935 icp 7300 | 1 | |
| 16 | LLCV-M082616A | 3/20/2017 | 10:56:30 AM | 935 icp 7300 | 101 | Mn, As, Pb, Sb, Zn out |
| 17 | LLCV--M082616A | 3/20/2017 | 10:57:36 AM | 935 icp 7300 | 102 | |
| 18 | 17-03-0858-4 UTC | 3/20/2017 | 10:58:35 AM | 935 icp 7300 | 110 | |
| 19 | LCS-JN-1012-1 | 3/20/2017 | 10:59:33 AM | 935 icp 7300 | 103 | |
| 20 | LCS-JN-1012-2 | 3/20/2017 | 11:00:26 AM | 935 icp 7300 | 104 | |
| 21 | LCS-JN-1012-3 | 3/20/2017 | 11:01:17 AM | 935 icp 7300 | 105 | |
| 22 | LCS-JN-1012-4 | 3/20/2017 | 11:02:08 AM | 935 icp 7300 | 106 | |
| 23 | LLCV-M082616A | 3/20/2017 | 11:02:58 AM | 935 icp 7300 | 101 | Mn, |
| 24 | ICS_A - M110116B | 3/20/2017 | 11:03:59 AM | 935 icp 7300 | 8 | |

Reviewed/Assign to Logbook Date: 3/20/17
Analysis: 200.7/6010 Chemist ID: 102
Logbook Page: 83 Instrument ID: 187

| No. | File Name | Date | Time | Analyst Name | A/S Location | |
|---|---|---|---|---|---|---|
| 57 | 17-03-1081-2 | 3/20/2017 | 11:35:16 AM | 935 icp 7300 | 310 | |
| 58 | 17-03-1208-1 | 3/20/2017 | 11:36:03 AM | 935 icp 7300 | 311 | |
| 59 | 17-03-1208-1 ms | 3/20/2017 | 11:36:57 AM | 935 icp 7300 | 312 | |
| 60 | 17-03-1208-1 msd | 3/20/2017 | 11:37:53 AM | 935 icp 7300 | 313 | |
| 61 | CCV= STD3x0.5 | 3/20/2017 | 11:38:49 AM | 935 icp 7300 | 3 | |
| 62 | CCB-R12091601 | 3/20/2017 | 11:39:41 AM | 935 icp 7300 | 1 | |
| 63 | CCB-R12091601 | 3/20/2017 | 11:40:26 AM | 935 icp 7300 | 1 | |
| 64 | Cal blankR12091601_935 | 3/20/2017 | 11:42:58 AM | 935 icp 7300 | 1 | |
| 65 | Cal blankR12091601_935 | 3/20/2017 | 11:44:42 AM | 935 icp 7300 | 1 | |
| 66 | Cal blankR12091601_935 | 3/20/2017 | 11:45:54 AM | 935 icp 7300 | 1 | |
| 67 | STD3-M111116A_935_ICP7300 | 3/20/2017 | 11:47:02 AM | 935 icp 7300 | 2 | |
| 68 | ICV-M072816C | 3/20/2017 | 11:47:48 AM | 935 icp 7300 | 10 | |
| 69 | ICB-R12091601 | 3/20/2017 | 11:48:46 AM | 935 icp 7300 | 1 | B > RL |
| 70 | ICB-R12091601 | 3/20/2017 | 11:49:32 AM | 935 icp 7300 | 1 | |
| 71 | ICB-R12091601 | 3/20/2017 | 11:50:19 AM | 935 icp 7300 | 1 | |
| 72 | ICS_A - M110116B | 3/20/2017 | 11:51:22 AM | 935 icp 7300 | 8 | |
| 73 | ICS_AB - M110116A | 3/20/2017 | 11:52:13 AM | 935 icp 7300 | 9 | |
| 74 | CCV= STD3x0.5 | 3/20/2017 | 11:53:03 AM | 935 icp 7300 | 3 | |
| 75 | CCB-R12091601 | 3/20/2017 | 11:53:54 AM | 935 icp 7300 | 1 | |
| 76 | LLCV-M082616A | 3/20/2017 | 12:01:02 PM | 935 icp 7300 | 101 | Se out |
| 77 | LLCV--M082616A | 3/20/2017 | 12:02:08 PM | 935 icp 7300 | 102 | |
| 78 | 170317-b-04 | 3/20/2017 | 12:03:07 PM | 935 icp 7300 | 111 | |
| 79 | 170317-l-04 | 3/20/2017 | 12:04:08 PM | 935 icp 7300 | 112 | |
| 80 | 170317-b-05 | 3/20/2017 | 12:04:58 PM | 935 icp 7300 | 113 | |
| 81 | 170317-l-05 | 3/20/2017 | 12:05:57 PM | 935 icp 7300 | 114 | |
| 82 | 17-03-1275x5-1 | 3/20/2017 | 12:06:47 PM | 935 icp 7300 | 115 | |
| 83 | 17-03-1275-1 | 3/20/2017 | 12:07:37 PM | 935 icp 7300 | 116 | |
| 84 | 17-03-1275-1 ms | 3/20/2017 | 12:08:28 PM | 935 icp 7300 | 117 | |
| 85 | 17-03-1275-1 msd | 3/20/2017 | 12:09:19 PM | 935 icp 7300 | 118 | |
| 86 | CCV= STD3x0.5 | 3/20/2017 | 12:10:10 PM | 935 icp 7300 | 3 | |
| 87 | CCB-R12091601 | 3/20/2017 | 12:11:02 PM | 935 icp 7300 | 1 | |
| 88 | 17-03-1275-1 pds | 3/20/2017 | 12:12:02 PM | 935 icp 7300 | 119 | |



Reviewed/Assign to Logbook Date: 3/21/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 85 Instrument ID: ICP7

| No. | File Name | Date | Time | Analyst Name | A/S Location |
|---|---|---|---|---|---|
| 121 | LLCV--M082616A | 3/20/2017 | 12:40:12 PM | 935 icp 7300 | 102 |
| 122 | CCV= STD3x0.5 | 3/20/2017 | 12:41:04 PM | 935 icp 7300 | 3 |
| 123 | CCB-R12091601 | 3/20/2017 | 12:41:56 PM | 935 icp 7300 | 1 |
| 124 | ICS_A - M110116B | 3/20/2017 | 12:42:56 PM | 935 icp 7300 | 8 |
| 125 | ICS_AB - M110116A | 3/20/2017 | 12:43:47 PM | 935 icp 7300 | 9 |
| 126 | CCV= STD3x0.5 | 3/20/2017 | 12:44:37 PM | 935 icp 7300 | 3 |
| 127 | CCB-R12091601 | 3/20/2017 | 12:45:28 PM | 935 icp 7300 | 1 |
| 128 | 170317-b-02 | 3/20/2017 | 12:47:31 PM | 935 icp 7300 | 314 |
| 129 | 170317-l-02 | 3/20/2017 | 12:48:36 PM | 935 icp 7300 | 315 |
| 130 | 170317-b-03 | 3/20/2017 | 12:49:26 PM | 935 icp 7300 | 316 |
| 131 | 170317-l-03 | 3/20/2017 | 12:50:25 PM | 935 icp 7300 | 317 |
| 132 | 170317-b-06 | 3/20/2017 | 12:51:15 PM | 935 icp 7300 | 318 |
| 133 | 170317-l-06 | 3/20/2017 | 12:52:14 PM | 935 icp 7300 | 319 |
| 134 | 170318-b-01 | 3/20/2017 | 12:53:04 PM | 935 icp 7300 | 320 |
| 135 | 170318-l-01 | 3/20/2017 | 12:54:03 PM | 935 icp 7300 | 321 |
| 136 | 17-03-0980-1 | 3/20/2017 | 12:54:53 PM | 935 icp 7300 | 322 |
| 137 | 17-03-0980-1 ms | 3/20/2017 | 12:55:44 PM | 935 icp 7300 | 323 |
| 138 | CCV= STD3x0.5 | 3/20/2017 | 12:56:35 PM | 935 icp 7300 | 3 |
| 139 | CCB-R12091601 | 3/20/2017 | 12:57:28 PM | 935 icp 7300 | 1 |
| 140 | 17-03-0980-1 msd | 3/20/2017 | 12:58:28 PM | 935 icp 7300 | 324 |
| 141 | 17-03-1249-1 | 3/20/2017 | 12:59:22 PM | 935 icp 7300 | 325 |
| 142 | 17-03-0991-1 | 3/20/2017 | 1:00:04 PM | 935 icp 7300 | 326 |
| 143 | 17-03-0550-1 | 3/20/2017 | 1:00:55 PM | 935 icp 7300 | 327 |
| 144 | 17-03-0550-2 | 3/20/2017 | 1:01:51 PM | 935 icp 7300 | 328 |
| 145 | 17-03-0550-3 | 3/20/2017 | 1:02:47 PM | 935 icp 7300 | 329 |
| 146 | 17-03-0550-4 | 3/20/2017 | 1:03:44 PM | 935 icp 7300 | 330 |
| 147 | 17-03-0550-6 | 3/20/2017 | 1:04:41 PM | 935 icp 7300 | 331 |
| 148 | 17-03-0550-7 | 3/20/2017 | 1:05:37 PM | 935 icp 7300 | 332 |
| 149 | 17-03-0550-9 | 3/20/2017 | 1:06:33 PM | 935 icp 7300 | 333 |
| 150 | CCV= STD3x0.5 | 3/20/2017 | 1:07:29 PM | 935 icp 7300 | 3 |
| 151 | CCB-R12091601 | 3/20/2017 | 1:08:22 PM | 935 icp 7300 | 1 |
| 152 | 17-03-0550-10 | 3/20/2017 | 1:09:22 PM | 935 icp 7300 | 334 |



Reviewed/Assign to Logbook Date: 3/21/17
Analysis: 200.7/6010 Chemist ID: 102
Logbook Page: 81 Instrument ID: ICPT

| No. | File Name | Date | Time | Analyst Name | A/S Location |
|---|---|---|---|---|---|
| 153 | 17-03-0550-11 | 3/20/2017 | 1:10:21 PM | 935 icp 7300 | 335 |
| 154 | 17-03-0550-12 | 3/20/2017 | 1:11:17 PM | 935 icp 7300 | 336 |
| 155 | 17-03-1085-1 | 3/20/2017 | 1:12:13 PM | 935 icp 7300 | 337 |
| 156 | 17-03-1086-1 | 3/20/2017 | 1:13:09 PM | 935 icp 7300 | 338 |
| 157 | 17-03-1237-4 | 3/20/2017 | 1:13:56 PM | 935 icp 7300 | 339 |
| 158 | 17-03-1237-4 ms | 3/20/2017 | 1:14:47 PM | 935 icp 7300 | 340 |
| 159 | 17-03-1237-4 msd | 3/20/2017 | 1:15:28 PM | 935 icp 7300 | 341 |
| 160 | 17-03-1007-1 | 3/20/2017 | 1:16:09 PM | 935 icp 7300 | 342 |
| 161 | 17-03-1007-2 | 3/20/2017 | 1:17:00 PM | 935 icp 7300 | 343 |
| 162 | CCV= STD3x0.5 | 3/20/2017 | 1:17:51 PM | 935 icp 7300 | 3 |
| 163 | CCB-R12091601 | 3/20/2017 | 1:18:43 PM | 935 icp 7300 | 1 |
| 164 | 17-03-1007-3 | 3/20/2017 | 1:19:43 PM | 935 icp 7300 | 344 |
| 165 | 17-03-1007-4 | 3/20/2017 | 1:20:36 PM | 935 icp 7300 | 345 |
| 166 | 17-03-1186-1 | 3/20/2017 | 1:21:27 PM | 935 icp 7300 | 346 |
| 167 | 17-03-1186-2 | 3/20/2017 | 1:22:24 PM | 935 icp 7300 | 347 |
| 168 | 17-03-1186-3 | 3/20/2017 | 1:23:22 PM | 935 icp 7300 | 348 |
| 169 | 17-03-1186-4 | 3/20/2017 | 1:24:18 PM | 935 icp 7300 | 349 |
| 170 | 17-03-1186-5 | 3/20/2017 | 1:25:14 PM | 935 icp 7300 | 350 |
| 171 | 17-03-1186-6 | 3/20/2017 | 1:26:11 PM | 935 icp 7300 | 351 |
| 172 | 17-03-1071-2 ms | 3/20/2017 | 1:27:07 PM | 935 icp 7300 | 352 |
| 173 | 17-03-1071-2 msd | 3/20/2017 | 1:27:59 PM | 935 icp 7300 | 353 |
| 174 | CCV= STD3x0.5 | 3/20/2017 | 1:28:51 PM | 935 icp 7300 | 3 |
| 175 | CCB-R12091601 | 3/20/2017 | 1:29:43 PM | 935 icp 7300 | 1 |
| 176 | 17-03-1071-1 | 3/20/2017 | 1:30:43 PM | 935 icp 7300 | 354 |
| 177 | 17-03-1071-2 | 3/20/2017 | 1:31:36 PM | 935 icp 7300 | 355 |
| 178 | 17-03-1071-3 | 3/20/2017 | 1:32:27 PM | 935 icp 7300 | 356 |
| 179 | 17-03-1071-4 | 3/20/2017 | 1:33:18 PM | 935 icp 7300 | 357 |
| 180 | 17-03-1071-5 | 3/20/2017 | 1:34:08 PM | 935 icp 7300 | 358 |
| 181 | 17-03-1071-6 | 3/20/2017 | 1:35:00 PM | 935 icp 7300 | 359 |
| 182 | 17-03-1071-7 | 3/20/2017 | 1:35:51 PM | 935 icp 7300 | 360 |
| 183 | 17-03-1071-8 | 3/20/2017 | 1:36:43 PM | 935 icp 7300 | 201 |
| 184 | 17-03-1071-9 | 3/20/2017 | 1:37:36 PM | 935 icp 7300 | 202 |



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Reviewed/Assign to Logbook Date: 3/21/17
Analysis: 200.7/6010 Chemist ID: 1012
Logbook Page: 88 Instrument ID: 1097

| No. | File Name | Date | Time | Analyst Name | A/S Location | |
|---|---|---|---|---|---|---|
| 185 | 17-03-1223-1 | 3/20/2017 | 1:38:27 PM | 935 icp 7300 | 203 | |
| 186 | CCV= STD3x0.5 | 3/20/2017 | 1:39:18 PM | 935 icp 7300 | 3 | |
| 187 | CCB-R12091601 | 3/20/2017 | 1:40:11 PM | 935 icp 7300 | 1 | |
| 188 | 17-03-1223-1 ms | 3/20/2017 | 1:41:11 PM | 935 icp 7300 | 204 | |
| 189 | 17-03-1223-1 msd | 3/20/2017 | 1:42:05 PM | 935 icp 7300 | 205 | |
| 190 | 17-03-1223-2 | 3/20/2017 | 1:42:56 PM | 935 icp 7300 | 206 | |
| 191 | 17-03-1223-3 | 3/20/2017 | 1:43:47 PM | 935 icp 7300 | 207 | |
| 192 | 17-03-1223-4 | 3/20/2017 | 1:44:38 PM | 935 icp 7300 | 208 | |
| 193 | 17-03-1223-5 | 3/20/2017 | 1:45:29 PM | 935 icp 7300 | 209 | |
| 194 | 17-03-0485-7 MIS | 3/20/2017 | 1:46:20 PM | 935 icp 7300 | 210 | |
| 195 | 17-03-0485-8 MIS | 3/20/2017 | 1:47:03 PM | 935 icp 7300 | 211 | |
| 196 | 17-03-0485-9 MIS | 3/20/2017 | 1:47:46 PM | 935 icp 7300 | 212 | |
| 197 | 17-03-0884-1 | 3/20/2017 | 1:48:29 PM | 935 icp 7300 | 213 | |
| 198 | CCV= STD3x0.5 | 3/20/2017 | 1:49:15 PM | 935 icp 7300 | 3 | |
| 199 | CCB-R12091601 | 3/20/2017 | 1:50:07 PM | 935 icp 7300 | 1 | |
| 200 | 17-03-0884-1 ms | 3/20/2017 | 1:51:07 PM | 935 icp 7300 | 214 | |
| 201 | 17-03-0884-1 msd | 3/20/2017 | 1:51:55 PM | 935 icp 7300 | 215 | |
| 202 | CCV= STD3x0.5 * | 3/20/2017 | 1:52:41 PM | 935 icp 7300 | 3 | * T22 + minerals (6010B Soil) |
| 203 | CCB-R12091601 * | 3/20/2017 | 1:53:34 PM | 935 icp 7300 | 1 | * T22 + minerals (6010B Soil) |
| 204 | CCV= STD3x0.5 ** | 3/20/2017 | 1:54:25 PM | 935 icp 7300 | 3 | ** T22 + minerals (6010B Water) |
| 205 | CCB-R12091601 ** | 3/20/2017 | 1:55:23 PM | 935 icp 7300 | 1 | ** T22 + minerals (6010B Water) |
| 206 | 170320-ba-2 | 3/20/2017 | 1:56:14 PM | 935 icp 7300 | 216 | No solution |
| 207 | 170320-la-2 | 3/20/2017 | 1:57:20 PM | 935 icp 7300 | 217 | No solution |
| 208 | 17-03-1178-1 | 3/20/2017 | 1:58:19 PM | 935 icp 7300 | 218 | No solution |
| 209 | 17-03-1178-2 | 3/20/2017 | 1:59:11 PM | 935 icp 7300 | 219 | No solution |
| 210 | 17-03-1178-3 | 3/20/2017 | 1:59:58 PM | 935 icp 7300 | 220 | No solution |
| 211 | 17-03-1113-1 | 3/20/2017 | 2:00:51 PM | 935 icp 7300 | 221 | No solution |
| 212 | 17-03-1153-2 | 3/20/2017 | 2:10:51 PM | 935 icp 7300 | 224 | |
| 213 | Cal blankR12091601_935 | 3/20/2017 | 2:19:17 PM | 935 icp 7300 | 1 | |
| 214 | STD3-M111116A_935_ICP7300 | 3/20/2017 | 2:20:22 PM | 935 icp 7300 | 2 | |
| 215 | ICV-M072816C | 3/20/2017 | 2:21:18 PM | 935 icp 7300 | 10 | out |
| 216 | Cal blankR12091601_935 | 3/20/2017 | 2:23:32 PM | 935 icp 7300 | 1 | |

Reviewed/Assign to Logbook Date: 3/21/17
Analysis: 2007/6010 Chemist ID: 1012
Logbook Page: 89 Instrument ID: 1097

# 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 HP16 (CF-2.0 °C) | $HNO_3$ R01311701 20 mL | Spike 1 M022017 A |
| ☐ EPA 200.7 | ☐ Other (Specify) | Block Digester 8 | HCl R12301602 15 mL | Spike 2 M020617 C |
| ☐ EPA 200.8 | | Pipetter / Dispenser P-072 / D-027 / D-028 | $H_2O_2$ M006-040-13 3.0 mL | Spike 3 |

| BATCH NUMBER | SUPPLY LOT # | BALANCE ID # | QUALITY SYSTEM MATRIX ID # | SAMPLE HANDLING |
|---|---|---|---|---|
| MS/MSD 170317-S02 | Tube / Container 170104 | 65 | Teflon Chip M006-035-15 | 1 = Composite 2 = Subsample |
| (Specify) | Filter | | (Specify) | 3 = Homogenize 4 = None |

| DIGESTION DATE | START TIME | START TEMP W/O CF (°C) | START PREP TECH ID # | END TIME | END TEMP W/O CF (°C) | END PREP TECH ID # | SAMPLE HANDLING | ECI ID # | ANALYTE(S) | SAMPLE INITIAL (g) | SAMPLE FINAL (mL) | SPIKE STANDARD 1 (µL) | SPIKE STANDARD 2 (µL) | SPIKE STANDARD 3 (µL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/17/17 | 9:30 | 95 | 1080 | 11:00 | 95 | 1080 | 4 | MS 17-03-1223-1A | metals | 1.95 | 100 | 500 | 500 | |
| | | | | | | | | MSD | | 1.97 | | | | |
| | | | | | | | | LCS 17-0317-L02 | | 2.06 | | | | |
| | | | | | | | | LCSD / MB -B02 | | 2.07 | | | | |
| | | | | | | | | 17-03-1223-1A | | 1.97 | | | | |
| | | | | | | | | -2A | | 2.03 | | | | |
| | | | | | | | | -3A | | 1.96 | | | | |
| | | | | | | | | -4A | | 1.96 | | | | |
| | | | | | | | | -5A | | 1.97 | | | | |
| | | | | | | | | 17-03-0464-3A | | 1.96 | | | | |
| | | | | | | | | -3B | | 2.04 | | | | |
| | | | | | | | | -3C | | 2.00 | | | | |
| | | | | | | | | -3D | | 1.96 | | | | |
| | | | | | | | | -3E | | 1.96 | | | | |
| | | | | | | | 3 | 17-03-1186-1AA | | 1.98 | | | | |
| | | | | | | | | -2AA | | 2.09 | | | | |
| | | | | | | | | -3AA | | 2.07 | | | | |
| | | | | | | | | -4AA | | 2.07 | | | | |
| | | | | | | | | -5AA | | 2.03 | | | | |
| | | | | | | | | -6AA | | 2.01 | | | | |
| | | | | | | | 4 | 17-03-0856-1A | | 2.03 | | | | |
| | | | | | | | | 17-03-0755-16A | | 2.02 | | | | |
| | | | | | | | | -20A | | 2.03 | | | | |

COMMENTS:

# 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

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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Initial Calibration Verification

Work Order No.: 17-03-0755

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 | 5.101663 | 2 | 0 – 10 |

03/17/2017 20:07

ICV-1 File: ICV M030617B 03/16/2017 11:25:49 AM



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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Continuing Calibration Verification

Work Order No.: 17-03-0755

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 | 2.075845 | 4 | 2.053844 | 3 | 0 – 20 |

03/17/2017 20:07

CCV-1 File: CCV 0.2x10ppb 03/16/2017 12:57:21 PM

CCV-2 File: CCV 0.2x10ppb 03/16/2017 01:24:41 PM



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# EPA Method 7471A
## Initial and Continuing Calibration Blanks

Work Order No.: 17-03-0755

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 | RL (No PF) |
| Mercury | -0.085959 | -0.086841 | -0.088198 | 0.500000 |
| | | | | 03/17/2017 20:07 |

ICB-1 File: ICB 03/16/2017 11:28:04 AM

CCB-1 File: CCB 03/16/2017 12:59:37 PM

CCB-2 File: CCB 03/16/2017 01:26:58 PM

Note: Preparation factor (PF) = 167 L/kg

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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Initial Calibration Verification

Work Order No.: 17-03-0755

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 |

03/17/2017 19:58

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.: 17-03-0755

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 | 2.237028 | 12 | 2.399825 | 20 | 0 – 20 |

03/17/2017 19:59

CCV-1 File: CCV 0.2x10ppb 03/17/2017 02:18:44 PM

CCV-2 File: CCV 0.2x10ppb 03/17/2017 02:45:38 PM



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Calscience Environmental Laboratories, Inc.

# EPA Method 7471A
## Initial and Continuing Calibration Blanks

Work Order No.: 17-03-0755

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 | RL (No PF) |
| Mercury | -0.075715 | -0.064691 | -0.085676 | 0.500000 |

03/17/2017 19:59

ICB-1 File: ICB 03/17/2017 12:20:51 PM

CCB-1 File: CCB 03/17/2017 02:20:59 PM

CCB-2 File: CCB 03/17/2017 02:47:52 PM

Note: Preparation factor (PF) = 167 L/kg

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# RAW DATA SHEET
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0755** | ANALYZED BY: | 868 |
| INSTRUMENT: | Mercury 08 | D/T ANALYZED: | 2017-03-17 14:23 |
| EXTRACTION : | EPA 7471A Total | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-16 00:00 | D/T REVIEWED: | |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\17-03-0755-16.icp

**# 16** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-08-25S**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170316L01 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 0.60 g / ACTUAL: 0.60 g |
| MS/MSD BATCH: | 170316S01 | 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 | 0.0000409 | 1.00 | ND | 0.0833 | |

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# RAW DATA SHEET
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **WORK ORDER:** | **17-03-0755** | ANALYZED BY: | 868 |
| INSTRUMENT: | Mercury 08 | D/T ANALYZED: | 2017-03-17 14:25 |
| EXTRACTION : | EPA 7471A Total | REVIEWED BY: | |
| D/T EXTRACTED: | 2017-03-16 00:00 | D/T REVIEWED: | |

DATA FILE: W:\MERCURY_DATA\FINAL\170317H1\17-03-0755-20.icp

**# 20** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-25S**

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170316L01 | SAMPLE VOLUME / WEIGHT: | DEFAULT: 0.60 g / ACTUAL: 0.60 g |
| MS/MSD BATCH: | 170316S01 | 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 | 0.0000293 | 1.00 | ND | 0.0833 | |

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 7471A

| | | | |
|---|---|---|---|
| **MB SAMPLE ID:** | **099-16-272-2873** | ANALYZED BY: | 868 |
| MB BATCH ID: | 170316L01 | D/T ANALYZED: | 2017-03-16 13:11 |
| INSTRUMENT: | Mercury 08 | REVIEWED BY: | 309 |
| EXTRACTION: | EPA 7471A Total | D/T REVIEWED: | 2017-03-16 14:03 |
| D/T EXTRACTED: | 2017-03-16 00:00 | MATRIX: | Soil |

DATA FILE: W:\MERCURY_DATA\FINAL\170316H1\170316-B-01.icp

**CLIENT WORK ORDER: 17-03-0755**

| | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 16 | | D-DU2-S-SG-08-25S | 2017-03-17 14:23 | W:\MERCURY_DATA\FINAL\170317H1\17-03-0755-16.icp |
| 20 | | D-DU2-S-SG-09-25S | 2017-03-17 14:25 | W:\MERCURY_DATA\FINAL\170317H1\17-03-0755-20.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: | 2017-03-16 13:11 |
| EXTRACTION : | EPA 7471A Total | REVIEWED BY: | 309 |
| D/T EXTRACTED: | 2017-03-16 00:00 | D/T REVIEWED: | 2017-03-16 14:03 |

DATA FILE: W:\MERCURY_DATA\FINAL\170316H1\170316-B-01.icp

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

| | | | |
|---|---|---|---|
| LCS/MB BATCH: | 170316L01 | 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 | -0.0000858 | 1.00 | ND | 0.0833 | |

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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 7471A

| | | | | | |
|---|---|---|---|---|---|
| **LCS SAMPLE ID:** | **099-16-272- 2873** | EXTRACTION : | EPA 7471A Total | ANALYZED BY: | 868 |
| LCS/MB BATCH ID: | 170316L01 | D/T EXTRACTED: | 2017-03-16 00:00 | D/T ANALYZED: | 2017-03-16 13:13 |
| INSTRUMENT: | Mercury 08 | | | REVIEWED BY: | 309 |
| | | | | D/T REVIEWED: | 2017-03-16 14:03 |

DATA FILE: W:\MERCURY_DATA\FINAL\170316H1\170316-L-01.icp

| OMPOUND NAME | CONC ADDED | CONC REC | %RECOVERY | %REC CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| ercury | 0.8350 | 0.9138 | 109 | 85-121 | PASS | |

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 7471A

**SPIKED SAMPLE ID:** **17-03-0920-1**
MS/MSD BATCH: 170316S01
INSTRUMENTS:
SAMPLE: Mercury 08
MS: Mercury 08
MSD: Mercury 08

EXTRACTION: EPA 7471A Total
D/T EXTRACTED:
SAMPLE: 2017-03-16 00:00
MS: 2017-03-16 00:00
MSD: 2017-03-16 00:00

ANALYZED BY: 868
D/T ANALYZED:
SAMPLE: 2017-03-16 13:15
MS: 2017-03-16 13:17
MSD: 2017-03-16 13:20
REVIEWED BY: 309
D/T REVIEWED: 2017-03-16 14:04

COMMENT:

| COMPOUND NAME | SAMPLE | INITIAL | FINAL | MS CONC | % MS.REC | MSD CONC | % MSD.REC | % REC CL | RPD | RPD CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mercury | 0.1249 | 0.005000 | 0.8350 | 1.011 | 106 | 1.019 | 107 | 71-137 | 1 | 0-14 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17-03-0920-1 MS.icp | W:\MERCURY_DATA\FINAL\170316H1\ |
| MSD | 17-03-0920-1 MSD.icp | W:\MERCURY_DATA\FINAL\170316H1\ |

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\170316H1.sifx
Batch ID:
Results Data Set: 170316H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

Sequence No.: 1
Sample ID: Calib blank_868
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0
Autosampler Location: 1
Date Collected: 3/16/2017 11:07:21 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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 | 0.0008 | 0.0001 | 11:08:24 AM | Yes |
| 2 | | [0.00] | 0.0001 | 0.0005 | 0.0001 | 11:09:09 AM | Yes |
| Mean: | | [0.00] | 0.0001 | | | | |
| SD: | | 0.0000 | 0.0000 | | | | |
| %RSD: | | 0.00% | 18.06 | | | | |

Auto-zero performed.

Sequence No.: 2
Sample ID: 0.025ppb 0.005x5ppb
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0
Autosampler Location: 2
Date Collected: 3/16/2017 11:09:35 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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] | 0.0002 | 0.0006 | 0.0003 | 11:10:38 AM | Yes |
| 2 | | [0.025] | 0.0002 | 0.0011 | 0.0003 | 11:11:23 AM | Yes |
| Mean: | | [0.025] | 0.0002 | | | | |
| SD: | | 0.00000 | 0.0000 | | | | |
| %RSD: | | 0.00% | 2.77 | | | | |

Standard number 1 applied. [0.025]
Correlation Coef.: 1.000000 Slope: 0.00773 Intercept: 0.00000

Sequence No.: 3
Sample ID: 0.10ppb M030617AX0.0001
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0
Autosampler Location: 3
Date Collected: 3/16/2017 11:11:49 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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] | 0.0010 | 0.0038 | 0.0011 | 11:12:53 AM | Yes |
| 2 | | [0.100] | 0.0009 | 0.0027 | 0.0010 | 11:13:38 AM | Yes |
| Mean: | | [0.100] | 0.0010 | | | | |
| SD: | | 0.00000 | 0.0001 | | | | |
| %RSD: | | 0.00% | 6.18 | | | | |

Standard number 2 applied. [0.100]
Correlation Coef.: 0.998404 Slope: 0.01002 Intercept: -0.00002

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Sequence No.: 4
Sample ID: 1.00ppb M030617AX0.001
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 4
Date Collected: 3/16/2017 11:14:04 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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] | 0.0098 | 0.0286 | 0.0099 | 11:15:09 AM | Yes |
| 2 | | [1.000] | 0.0094 | 0.0247 | 0.0094 | 11:15:54 AM | Yes |
| Mean: | | [1.000] | 0.0096 | | | | |
| SD: | | 0.00000 | 0.0003 | | | | |
| %RSD: | | 0.00% | 3.53 | | | | |

Standard number 3 applied. [1.000]
Correlation Coef.: 0.999979 Slope: 0.00961 Intercept: -0.00001

Sequence No.: 5
Sample ID: 2.00ppb M030617AX0.002
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/16/2017 11:16:21 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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] | 0.0195 | 0.0581 | 0.0195 | 11:17:25 AM | Yes |
| 2 | | [2.000] | 0.0181 | 0.0478 | 0.0182 | 11:18:10 AM | Yes |
| Mean: | | [2.000] | 0.0188 | | | | |
| SD: | | 0.00000 | 0.0009 | | | | |
| %RSD: | | 0.00% | 5.01 | | | | |

Standard number 4 applied. [2.000]
Correlation Coef.: 0.999938 Slope: 0.00942 Intercept: 0.00003

Sequence No.: 6
Sample ID: 5.00ppb M030617AX0.005
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 6
Date Collected: 3/16/2017 11:18:38 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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] | 0.0469 | 0.1415 | 0.0470 | 11:19:41 AM | Yes |
| 2 | | [5.000] | 0.0438 | 0.1159 | 0.0439 | 11:20:26 AM | Yes |
| Mean: | | [5.000] | 0.0454 | | | | |
| SD: | | 0.00000 | 0.0022 | | | | |
| %RSD: | | 0.00% | 4.91 | | | | |

Standard number 5 applied. [5.000]
Correlation Coef.: 0.999854 Slope: 0.00908 Intercept: 0.00019

Sequence No.: 7
Sample ID: 10.0ppb M030617AX0.01
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 7
Date Collected: 3/16/2017 11:20:52 AM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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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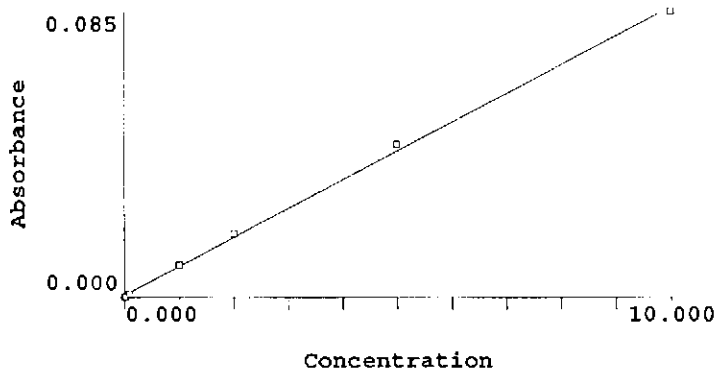
Method: EPA 7470A+7471A-Hg-8 Page 3 Date: 3/16/2017 11:23:06 AM

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | [10.00] | 0.0882 | 0.2676 | 0.0882 | 11:21:56 AM | Yes |
| 2 | [10.00] | 0.0819 | 0.2249 | 0.0820 | 11:22:40 AM | Yes |
| Mean: | [10.00] | 0.0850 | | | | |
| SD: | 0.0000 | 0.0044 | | | | |
| %RSD: | 0.00% | 5.22 | | | | |

Standard number 6 applied. [10.00]
Correlation Coef.: 0.999383 Slope: 0.00855 Intercept: 0.00072




---

**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 | -0.084081 | 0.00 | 18.06 |
| 0.025ppb 0.005x5ppb | 0.0002 | 0.025 | -0.061470 | 0.00 | 2.77 |
| 0.10ppb M030617AX0.0001 | 0.0010 | 0.100 | 0.031245 | 0.00 | 6.18 |
| 1.00ppb M030617AX0.001 | 0.0096 | 1.000 | 1.038916 | 0.00 | 3.53 |
| 2.00ppb M030617AX0.002 | 0.0188 | 2.000 | 2.114923 | 0.00 | 5.01 |
| 5.00ppb M030617AX0.005 | 0.0454 | 5.000 | 5.222880 | 0.00 | 4.91 |
| 10.0ppb M030617AX0.01 | 0.0850 | 10.00 | 9.862588 | 0.00 | 5.22 |

Correlation Coef.: 0.999383 Slope: 0.00855 Intercept: 0.00072

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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\170316H1.sifx
Batch ID:
Results Data Set: 170316H1
Results Library: U:\MERCURY_8\Data\Results\results.mdb

==========

Sequence No.: 1
Autosampler Location: 8
Sample ID: ICV M030617B
Date Collected: 3/16/2017 11:24:00 AM
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 | 0.00524 | 5.24 | 0.0455 | 0.1379 | 0.0456 | 11:25:04 AM | Yes |
| 2 | 0.00497 | 4.97 | 0.0432 | 0.1172 | 0.0433 | 11:25:49 AM | Yes |
| Mean: | 0.00510 | 5.10 | 0.0443 | | | | |
| SD: | 0.000189 | 0.189 | 0.0016 | | | | |
| %RSD: | 3.71% | 3.71% | 3.65 | | | | |

QC value within limits for Hg 253.7 Recovery = 102.03%
All analyte(s) passed QC.

==========

Sequence No.: 2
Autosampler Location: 1
Sample ID: ICB
Date Collected: 3/16/2017 11:26:16 AM
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 | -0.000086 | -0.0857 | -0.0000 | -0.0004 | 0.0001 | 11:27:19 AM | Yes |
| 2 | -0.000086 | -0.0862 | -0.0000 | -0.0003 | 0.0001 | 11:28:04 AM | Yes |
| Mean: | -0.000086 | -0.0860 | -0.0000 | | | | |
| SD: | 0.0000004 | 0.00038 | 0.0000 | | | | |
| %RSD: | 0.44% | 0.44% | 20.16 | | | | |

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: 3/16/2017 11:28:29 AM
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 | 0.0414 | 0.248 | 0.0028 | 0.0086 | 0.0029 | 11:29:34 AM | Yes |
| 2 | 0.0369 | 0.222 | 0.0026 | 0.0069 | 0.0027 | 11:30:18 AM | Yes |
| Mean: | 0.0392 | 0.235 | 0.0027 | | | | |
| SD: | 0.00313 | 0.0188 | 0.0002 | | | | |
| %RSD: | 8.00% | 8.00% | 5.89 | | | | |

==========

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Sequence No.: 20
Sample ID: 17-03-0982-TC-2
Analyst: 868 HG-8
Initial Sample Wt:
Dilution: 10X
Wash Time (before sample): 0

Autosampler Location: 56
Date Collected: 3/16/2017 12:48:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0982-TC-2 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000907 | -0.0907 | -0.0001 | -0.0005 | 0.0000 | 12:49:45 PM | Yes |
| 2 | -0.000864 | -0.0864 | -0.0000 | 0.0005 | 0.0001 | 12:50:30 PM | Yes |
| Mean: | -0.000886 | -0.0886 | -0.0000 | | | | |
| SD: | 0.0000301 | 0.00301 | 0.0000 | | | | |
| %RSD: | 3.40% | 3.40% | 66.94 | | | | |

==========

Sequence No.: 21
Sample ID: 17-03-0982-TC-3
Analyst: 868 HG-8
Initial Sample Wt:
Dilution: 10X
Wash Time (before sample): 0

Autosampler Location: 57
Date Collected: 3/16/2017 12:50:56 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0982-TC-3 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000901 | -0.0901 | -0.0001 | -0.0005 | 0.0000 | 12:52:01 PM | Yes |
| 2 | -0.000888 | -0.0888 | -0.0000 | 0.0001 | 0.0000 | 12:52:47 PM | Yes |
| Mean: | -0.000894 | -0.0894 | -0.0000 | | | | |
| SD: | 0.0000090 | 0.00090 | 0.0000 | | | | |
| %RSD: | 1.00% | 1.00% | 16.83 | | | | |

==========

Sequence No.: 22
Sample ID: 17-03-0907-TC-1
Analyst: 868 HG-8
Initial Sample Wt:
Dilution: 10X
Wash Time (before sample): 0

Autosampler Location: 58
Date Collected: 3/16/2017 12:53:14 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0907-TC-1 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000825 | -0.0825 | 0.0000 | 0.0000 | 0.0001 | 12:54:19 PM | Yes |
| 2 | -0.000864 | -0.0864 | -0.0000 | 0.0001 | 0.0001 | 12:55:04 PM | Yes |
| Mean: | -0.000845 | -0.0845 | -0.0000 | | | | |
| SD: | 0.0000273 | 0.00273 | 0.0000 | | | | |
| %RSD: | 3.23% | 3.23% | 703.11 | | | | |

==========

Sequence No.: 23
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/16/2017 12:55:30 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 | 0.00214 | 2.14 | 0.0191 | 0.0581 | 0.0191 | 12:56:36 PM | Yes |
| 2 | 0.00201 | 2.01 | 0.0179 | 0.0497 | 0.0180 | 12:57:21 PM | Yes |
| Mean: | 0.00208 | 2.08 | 0.0185 | | | | |
| SD: | 0.000097 | 0.097 | 0.0008 | | | | |
| %RSD: | 4.68% | 4.68% | 4.49 | | | | |

QC value within limits for Hg 253.7 Recovery = 103.79%
All analyte(s) passed QC.

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Sequence No.: 24
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/16/2017 12:57:48 PM
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 | -0.000082 | -0.0823 | 0.0000 | -0.0007 | 0.0001 | 12:58:52 PM | Yes |
| 2 | -0.000091 | -0.0914 | -0.0001 | -0.0015 | 0.0000 | 12:59:37 PM | Yes |
| Mean: | -0.000087 | -0.0868 | -0.0000 | | | | |
| SD: | 0.0000064 | 0.00641 | 0.0001 | | | | |
| %RSD: | 7.38% | 7.38% | 232.01 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 25
Sample ID: 17-03-1007-TC-1
Analyst: 868 HG-8
Initial Sample Wt:
Dilution: 10X
Wash Time (before sample): 0

Autosampler Location: 59
Date Collected: 3/16/2017 1:00:03 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Replicate Data: 17-03-1007-TC-1
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000885 | -0.0885 | -0.0000 | 0.0002 | 0.0000 | 1:01:08 PM | Yes |
| 2 | -0.000905 | -0.0905 | -0.0001 | -0.0001 | 0.0000 | 1:01:53 PM | Yes |
| Mean: | -0.000895 | -0.0895 | -0.0000 | | | | |
| SD: | 0.0000141 | 0.00141 | 0.0000 | | | | |
| %RSD: | 1.58% | 1.58% | 26.09 | | | | |

Sequence No.: 26
Sample ID: 17-03-1007-TC-1
Analyst: 868 HG-8
Initial Sample Wt:
Dilution: 10X
Wash Time (before sample): 0

Autosampler Location: 60
Date Collected: 3/16/2017 1:02:20 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Replicate Data: 17-03-1007-TC-1
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000884 | -0.0884 | -0.0000 | 0.0002 | 0.0000 | 1:03:25 PM | Yes |
| 2 | -0.000849 | -0.0849 | -0.0000 | 0.0007 | 0.0001 | 1:04:10 PM | Yes |
| Mean: | -0.000867 | -0.0867 | -0.0000 | | | | |
| SD: | 0.0000243 | 0.00243 | 0.0000 | | | | |
| %RSD: | 2.80% | 2.80% | 93.99 | | | | |

Sequence No.: 27
Sample ID: 17-03-1007-TC-1
Analyst: 868 HG-8
Initial Sample Wt:
Dilution: 10X
Wash Time (before sample): 0

Autosampler Location: 61
Date Collected: 3/16/2017 1:04:37 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

Replicate Data: 17-03-1007-TC-1
Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000891 | -0.0891 | -0.0000 | 0.0001 | 0.0000 | 1:05:42 PM | Yes |
| 2 | -0.000874 | -0.0874 | -0.0000 | 0.0004 | 0.0001 | 1:06:27 PM | Yes |
| Mean: | -0.000883 | -0.0883 | -0.0000 | | | | |

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| | | | |
|---|---|---|---|
| SD: | 0.0000123 | 0.00123 | 0.0000 |
| %RSD: | 1.40% | 1.40% | 29.39 |

==========

Sequence No.: 28
Sample ID: 17-03-1007-TC-1
Analyst: 868 HG-8
Initial Sample Wt:
Dilution: 10X
Wash Time (before sample): 0

Autosampler Location: 62
Date Collected: 3/16/2017 1:06:55 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1007-TC-1 Analyte: Hg 253.7

| Repl # | SampleConc mg/L | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.000933 | -0.0933 | -0.0001 | -0.0007 | 0.0000 | 1:07:59 PM | Yes |
| 2 | -0.000903 | -0.0903 | -0.0001 | 0.0001 | 0.0000 | 1:08:44 PM | Yes |
| Mean: | -0.000918 | -0.0918 | -0.0001 | | | | |
| SD: | 0.0000216 | 0.00216 | 0.0000 | | | | |
| %RSD: | 2.35% | 2.35% | 27.95 | | | | |

==========

Sequence No.: 29
Sample ID: 170316-B-01
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 63
Date Collected: 3/16/2017 1:09:11 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 170316-B-01 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.0146 | -0.0873 | -0.0000 | 0.0003 | 0.0001 | 1:10:15 PM | Yes |
| 2 | -0.0141 | -0.0843 | -0.0000 | 0.0008 | 0.0001 | 1:11:00 PM | Yes |
| Mean: | -0.0143 | -0.0858 | -0.0000 | | | | |
| SD: | 0.00036 | 0.00214 | 0.0000 | | | | |
| %RSD: | 2.49% | 2.49% | 122.91 | | | | |

==========

Sequence No.: 30
Sample ID: 170316-L-01
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 64
Date Collected: 3/16/2017 1:11:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 170316-L-01 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.946 | 5.68 | 0.0492 | 0.1508 | 0.0493 | 1:12:31 PM | Yes |
| 2 | 0.882 | 5.29 | 0.0459 | 0.1318 | 0.0460 | 1:13:16 PM | Yes |
| Mean: | 0.914 | 5.48 | 0.0476 | | | | |
| SD: | 0.0455 | 0.273 | 0.0023 | | | | |
| %RSD: | 4.98% | 4.98% | 4.90 | | | | |

==========

Sequence No.: 31
Sample ID: 17-03-0920-1
Analyst: 868 HG-8
Initial Sample Wt: 0.59 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 65
Date Collected: 3/16/2017 1:13:43 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0920-1 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.130 | 0.765 | 0.0073 | 0.0235 | 0.0073 | 1:14:48 PM | Yes |
| 2 | 0.120 | 0.709 | 0.0068 | 0.0201 | 0.0069 | 1:15:33 PM | Yes |
| Mean: | 0.125 | 0.737 | 0.0070 | | | | |

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| | | | |
|---|---|---|---|
| SD: | 0.0067 | 0.0397 | 0.0003 |
| %RSD: | 5.39% | 5.39% | 4.84 |

==========

Sequence No.: 32
Sample ID: 17-03-0920-1 MS
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 66
Date Collected: 3/16/2017 1:16:00 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0920-1 MS
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 1.04 | 6.33 | 0.0548 | 0.1698 | 0.0549 | 1:17:05 PM | Yes |
| 2 | 0.985 | 6.01 | 0.0521 | 0.1476 | 0.0522 | 1:17:51 PM | Yes |
| Mean: | 1.01 | 6.17 | 0.0534 | | | | |
| SD: | 0.037 | 0.224 | 0.0019 | | | | |
| %RSD: | 3.63% | 3.63% | 3.58 | | | | |

==========

Sequence No.: 33
Sample ID: 17-03-0920-1 MSD
Analyst: 868 HG-8
Initial Sample Wt: 0.62 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 67
Date Collected: 3/16/2017 1:18:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0920-1 MSD
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 1.05 | 6.54 | 0.0566 | 0.1750 | 0.0567 | 1:19:23 PM | Yes |
| 2 | 0.983 | 6.09 | 0.0528 | 0.1496 | 0.0529 | 1:20:07 PM | Yes |
| Mean: | 1.02 | 6.32 | 0.0547 | | | | |
| SD: | 0.051 | 0.317 | 0.0027 | | | | |
| %RSD: | 5.02% | 5.02% | 4.96 | | | | |

==========

Sequence No.: 34
Sample ID: 17-03-0919-1
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 68
Date Collected: 3/16/2017 1:20:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-0919-1
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 1.45 | 8.83 | 0.0762 | 0.2398 | 0.0763 | 1:21:39 PM | Yes |
| 2 | 1.36 | 8.32 | 0.0718 | 0.2020 | 0.0719 | 1:22:24 PM | Yes |
| Mean: | 1.41 | 8.58 | 0.0740 | | | | |
| SD: | 0.059 | 0.360 | 0.0031 | | | | |
| %RSD: | 4.20% | 4.20% | 4.16 | | | | |

==========

Sequence No.: 35
Sample ID: CCV 0.2x10ppb
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/16/2017 1:22:50 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 | 0.00212 | 2.12 | 0.0188 | 0.0601 | 0.0189 | 1:23:55 PM | Yes |
| 2 | 0.00199 | 1.99 | 0.0177 | 0.0516 | 0.0178 | 1:24:41 PM | Yes |
| Mean: | 0.00205 | 2.05 | 0.0183 | | | | |

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| | | | |
|---|---|---|---|
| SD: | 0.000091 | 0.091 | 0.0008 |
| %RSD: | 4.41% | 4.41% | 4.24 |

QC value within limits for Hg 253.7 Recovery = 102.69%
All analyte(s) passed QC.

==========

Sequence No.: 36
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/16/2017 1:25:08 PM
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 | -0.000089 | -0.0892 | -0.0000 | -0.0004 | 0.0000 | 1:26:13 PM | Yes |
| 2 | -0.000087 | -0.0872 | -0.0000 | 0.0005 | 0.0001 | 1:26:58 PM | Yes |
| Mean: | -0.000088 | -0.0882 | -0.0000 | | | | |
| SD: | 0.0000015 | 0.00147 | 0.0000 | | | | |
| %RSD: | 1.66% | 1.66% | 35.61 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

==========

Sequence No.: 37
Sample ID: 17-03-1061-4
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 69
Date Collected: 3/16/2017 1:27:24 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1061-4
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.0125 | -0.0760 | 0.0001 | 0.0002 | 0.0002 | 1:28:29 PM | Yes |
| 2 | -0.0120 | -0.0735 | 0.0001 | 0.0006 | 0.0002 | 1:29:14 PM | Yes |
| Mean: | -0.0123 | -0.0747 | 0.0001 | | | | |
| SD: | 0.00030 | 0.00180 | 0.0000 | | | | |
| %RSD: | 2.41% | 2.41% | 19.32 | | | | |

==========

Sequence No.: 38
Sample ID: 17-03-1061-5
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 70
Date Collected: 3/16/2017 1:29:40 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1061-5
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.0123 | -0.0738 | 0.0001 | 0.0002 | 0.0002 | 1:30:46 PM | Yes |
| 2 | -0.0123 | -0.0741 | 0.0001 | 0.0008 | 0.0002 | 1:31:31 PM | Yes |
| Mean: | -0.0123 | -0.0740 | 0.0001 | | | | |
| SD: | 0.00003 | 0.00019 | 0.0000 | | | | |
| %RSD: | 0.26% | 0.26% | 1.87 | | | | |

==========

Sequence No.: 39
Sample ID: 17-03-1061-6
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 71
Date Collected: 3/16/2017 1:31:58 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

---

Replicate Data: 17-03-1061-6
Analyte: Hg 253.7

| Repl | SampleConc | StndConc | BlnkCorr | Peak | Peak | Time | Peak |
|---|---|---|---|---|---|---|---|

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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: 1
Sample ID: Calib blank_868
Date Collected: 3/17/2017 11:57:27 AM
Analyst: 868
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: 868
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: 868
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
Sample ID: 1.00ppb M030617AX0.001
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 4
Date Collected: 3/17/2017 12:04:12 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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
Sample ID: 2.00ppb M030617AX0.002
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 5
Date Collected: 3/17/2017 12:06:29 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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
Sample ID: 5.00ppb M030617AX0.005
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 6
Date Collected: 3/17/2017 12:08:46 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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
Sample ID: 10.0ppb M030617AX0.01
Analyst: 868
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 7
Date Collected: 3/17/2017 12:10:59 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol:
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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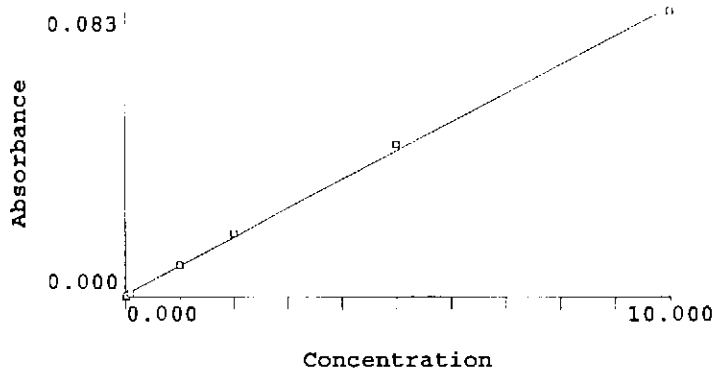
| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | [10.00] | 0.0831 | 0.2708 | 0.0833 | 12:12:03 PM | Yes |
| 2 | [10.00] | 0.0836 | 0.2741 | 0.0838 | 12:12:48 PM | Yes |
| Mean: | [10.00] | 0.0834 | | | | |
| SD: | 0.0000 | 0.0003 | | | | |
| %RSD: | 0.00% | 0.41 | | | | |

Standard number 6 applied. [10.00]

Correlation Coef.: 0.999436 Slope: 0.00839 Intercept: 0.00062




---

**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.: 1
Autosampler Location: 5
Sample ID: CCV 0.2x10ppb
Date Collected: 3/17/2017 2:16:54 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 | 0.00224 | 2.24 | 0.0194 | 0.0626 | 0.0195 | 2:17:59 PM | Yes |
| 2 | 0.00223 | 2.23 | 0.0194 | 0.0631 | 0.0195 | 2:18:44 PM | Yes |
| Mean: | 0.00224 | 2.24 | 0.0194 | | | | |
| SD: | 0.000003 | 0.003 | 0.0000 | | | | |
| %RSD: | 0.15% | 0.15% | 0.14 | | | | |

QC value within limits for Hg 253.7 Recovery = 111.85%
All analyte(s) passed QC.

Sequence No.: 2
Autosampler Location: 1
Sample ID: CCB
Date Collected: 3/17/2017 2:19:11 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 | -0.000064 | -0.0639 | 0.0001 | 0.0015 | 0.0002 | 2:20:14 PM | Yes |
| 2 | -0.000066 | -0.0655 | 0.0001 | 0.0010 | 0.0002 | 2:20:59 PM | Yes |
| Mean: | -0.000065 | -0.0647 | 0.0001 | | | | |
| SD: | 0.0000012 | 0.00119 | 0.0000 | | | | |
| %RSD: | 1.83% | 1.83% | 12.81 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 3
Autosampler Location: 10
Sample ID: 17-03-0755-16
Date Collected: 3/17/2017 2:21:24 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: 17-03-0755-16
Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00693 | 0.0416 | 0.0010 | 0.0037 | 0.0011 | 2:22:28 PM | Yes |
| 2 | 0.00669 | 0.0401 | 0.0010 | 0.0034 | 0.0011 | 2:23:13 PM | Yes |
| Mean: | 0.00681 | 0.0409 | 0.0010 | | | | |
| SD: | 0.000166 | 0.00099 | 0.0000 | | | | |
| %RSD: | 2.43% | 2.43% | 0.87 | | | | |

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Sequence No.: 4
Sample ID: 17-03-0755-20
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 11
Date Collected: 3/17/2017 2:23:39 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0755-20 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00517 | 0.0310 | 0.0009 | 0.0034 | 0.0010 | 2:24:43 PM | Yes |
| 2 | 0.00461 | 0.0277 | 0.0009 | 0.0032 | 0.0010 | 2:25:28 PM | Yes |
| Mean: | 0.00489 | 0.0293 | 0.0009 | | | | |
| SD: | 0.000395 | 0.00237 | 0.0000 | | | | |
| %RSD: | 8.09% | 8.09% | 2.30 | | | | |

Sequence No.: 5
Sample ID: 17-03-0856-10
Analyst: 868 HG-8
Initial Sample Wt: 0.63 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 12
Date Collected: 3/17/2017 2:25:54 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-0856-10 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.00557 | 0.0351 | 0.0009 | 0.0030 | 0.0010 | 2:26:59 PM | Yes |
| 2 | 0.00539 | 0.0339 | 0.0009 | 0.0032 | 0.0010 | 2:27:44 PM | Yes |
| Mean: | 0.00548 | 0.0345 | 0.0009 | | | | |
| SD: | 0.000130 | 0.00082 | 0.0000 | | | | |
| %RSD: | 2.37% | 2.37% | 0.75 | | | | |

Sequence No.: 6
Sample ID: 170317-B-01
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 13
Date Collected: 3/17/2017 2:28:10 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170317-B-01 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.0141 | -0.0848 | -0.0001 | 0.0001 | 0.0000 | 2:29:15 PM | Yes |
| 2 | -0.0142 | -0.0850 | -0.0001 | 0.0001 | 0.0000 | 2:30:00 PM | Yes |
| Mean: | -0.0142 | -0.0849 | -0.0001 | | | | |
| SD: | 0.00002 | 0.00011 | 0.0000 | | | | |
| %RSD: | 0.13% | 0.13% | 1.02 | | | | |

Sequence No.: 7
Sample ID: 170317-L-01
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 14
Date Collected: 3/17/2017 2:30:27 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 170317-L-01 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 1.10 | 6.59 | 0.0559 | 0.2453 | 0.0560 | 2:31:30 PM | Yes |
| 2 | 1.08 | 6.47 | 0.0549 | 0.2210 | 0.0550 | 2:32:15 PM | Yes |
| Mean: | 1.09 | 6.53 | 0.0554 | | | | |
| SD: | 0.014 | 0.082 | 0.0007 | | | | |
| %RSD: | 1.25% | 1.25% | 1.24 | | | | |

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Sequence No.: 12
Sample ID: 17-03-1067-2
Analyst: 868 HG-8
Initial Sample Wt: 0.61 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 19
Date Collected: 3/17/2017 2:41:34 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1067-2 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | -0.00342 | -0.0209 | 0.0004 | 0.0020 | 0.0006 | 2:42:38 PM | Yes |
| 2 | -0.00402 | -0.0245 | 0.0004 | 0.0017 | 0.0005 | 2:43:22 PM | Yes |
| Mean: | -0.00372 | -0.0227 | 0.0004 | | | | |
| SD: | 0.000424 | 0.00259 | 0.0000 | | | | |
| %RSD: | 11.40% | 11.40% | 5.05 | | | | |

Sequence No.: 13
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 2:43:48 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 | 0.00247 | 2.47 | 0.0214 | 0.0803 | 0.0215 | 2:44:52 PM | Yes |
| 2 | 0.00233 | 2.33 | 0.0201 | 0.0709 | 0.0203 | 2:45:38 PM | Yes |
| Mean: | 0.00240 | 2.40 | 0.0207 | | | | |
| SD: | 0.000104 | 0.104 | 0.0009 | | | | |
| %RSD: | 4.35% | 4.35% | 4.22 | | | | |

QC value within limits for Hg 253.7 Recovery = 119.99%
All analyte(s) passed QC.

Sequence No.: 14
Sample ID: CCB
Analyst: 868 HG-8
Initial Sample Wt:
Dilution:
Wash Time (before sample): 0

Autosampler Location: 1
Date Collected: 3/17/2017 2:46:04 PM
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 | -0.000085 | -0.0854 | -0.0001 | -0.0005 | 0.0000 | 2:47:08 PM | Yes |
| 2 | -0.000086 | -0.0859 | -0.0001 | -0.0006 | 0.0000 | 2:47:52 PM | Yes |
| Mean: | -0.000086 | -0.0857 | -0.0001 | | | | |
| SD: | 0.0000004 | 0.00036 | 0.0000 | | | | |
| %RSD: | 0.41% | 0.41% | 3.03 | | | | |

QC value within limits for Hg 253.7 Recovery = Not calculated
All analyte(s) passed QC.

Sequence No.: 15
Sample ID: 17-03-1067-3
Analyst: 868 HG-8
Initial Sample Wt: 0.6 g
Dilution:
Wash Time (before sample): 0

Autosampler Location: 20
Date Collected: 3/17/2017 2:48:17 PM
Data Type: Original
Initial Sample Vol:
Sample Prep Vol: 100 mL
Auto Dilution Factor: 1

Replicate Data: 17-03-1067-3 Analyte: Hg 253.7

| Repl # | SampleConc mg/kg | StndConc ug/L | BlnkCorr Signal | Peak Area | Peak Height | Time | Peak Stored |
|---|---|---|---|---|---|---|---|
| 1 | 0.0784 | 0.471 | 0.0046 | 0.0163 | 0.0047 | 2:49:21 PM | Yes |
| 2 | 0.0586 | 0.351 | 0.0036 | 0.0126 | 0.0037 | 2:50:06 PM | Yes |
| Mean: | 0.0685 | 0.411 | 0.0041 | | | | |

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# EPA 7471A Mercury (Solid)

# Run Logs

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# 170316H1

Carrier solution R07141602 Reducting 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 | 3/16/2017 | 11:09:09 AM | | ug/L | | mg/L | |
| 0.025ppb 0.005x5ppb | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:11:23 AM | | ug/L | | mg/L | |
| 0.10ppb M030617AX0.0001 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:13:38 AM | | ug/L | | mg/L | |
| 1.00ppb M030617AX0.001 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:15:54 AM | | ug/L | | mg/L | |
| 2.00ppb M030617AX0.002 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:18:10 AM | | ug/L | | mg/L | |
| 5.00ppb M030617AX0.005 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:20:26 AM | | ug/L | | mg/L | |
| 10.0ppb M030617AX0.01 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:22:40 AM | | ug/L | | mg/L | |
| ICV M030617B | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:25:49 AM | 5.101663 | ug/L | 0.005102 | mg/L | 0.999383 |
| ICB | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:28:04 AM | -0.08596 | ug/L | -8.60E-05 | mg/L | 0.999383 |
| CRQL 0.25 | 868 HG-8 | 0.6 | Hg 253.7 | 3/16/2017 | 11:30:18 AM | 0.23498 | ug/L | 0.039163 | mg/kg | 0.999383 |
| 17-03-0634-1 MS | 868 HG-8 | 50 | Hg 253.7 | 3/16/2017 | 11:32:36 AM | 5.566748 | ug/L | 0.011133 | mg/L | 0.999383 |
| 17-03-0634-1 MSD | 868 HG-8 | 50 | Hg 253.7 | 3/16/2017 | 11:34:55 AM | 5.427201 | ug/L | 0.010854 | mg/L | 0.999383 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:37:13 AM | 2.099447 | ug/L | 0.002099 | mg/L | 0.999383 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 11:39:30 AM | -0.08754 | ug/L | -8.75E-05 | mg/L | 0.999383 |
| 170316-B-A1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:07:23 PM | -0.0918 | ug/L | -0.00092 | mg/L | 0.999383 |
| 170316-L-A1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:09:39 PM | 5.388106 | ug/L | 0.053881 | mg/L | 0.999383 |
| 17-03-0906-TC-1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:11:56 PM | -0.08686 | ug/L | -0.00087 | mg/L | 0.999383 |
| 17-03-0906-TC-1 MS | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:14:11 PM | 4.287504 | ug/L | 0.042875 | mg/L | 0.999383 |
| 17-03-0906-TC-1 MSD | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:16:27 PM | 5.398353 | ug/L | 0.053984 | mg/L | 0.999383 |
| 17-03-0906-TC-2 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:18:42 PM | -0.08099 | ug/L | -0.00081 | mg/L | 0.999383 |
| 17-03-0906-TC-3 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:20:58 PM | -0.08664 | ug/L | -0.00087 | mg/L | 0.999383 |
| 17-03-0906-TC-4 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:23:15 PM | -0.08782 | ug/L | -0.00088 | mg/L | 0.999383 |
| 17-03-0906-TC-5 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:25:31 PM | -0.08886 | ug/L | -0.00089 | mg/L | 0.999383 |
| 17-03-0906-TC-6 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:27:47 PM | -0.08599 | ug/L | -0.00086 | mg/L | 0.999383 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:30:04 PM | 2.06889 | ug/L | 0.002069 | mg/L | 0.999383 |

Reviewed/Assign to Logbook Date: 03-17-17
Analysis Hg Chemist ID: 309
Logbook Page: 39 Instrument ID: Hg 8

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| Sample ID | Analyst Name | Initial Sample Wt | Analyte Name | Date | Time | Conc (Calib) | Units (Calib) | Conc (Samp) | Units (Samp) | Corr Coef |
|---|---|---|---|---|---|---|---|---|---|---|
| CCB | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:32:21 PM | -0.08325 | ug/L | -8.33E-05 | mg/L | 0.999383 |
| 17-03-0853-TC-2 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:34:37 PM | -0.05589 | ug/L | -0.00056 | mg/L | 0.999383 |
| 17-03-0853-TC-3 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:36:53 PM | -0.08916 | ug/L | -0.00089 | mg/L | 0.999383 |
| 17-03-0723-TC-1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:39:09 PM | -0.09003 | ug/L | -0.0009 | mg/L | 0.999383 |
| 17-03-0723-TC-2 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:41:25 PM | -0.09097 | ug/L | -0.00091 | mg/L | 0.999383 |
| 17-03-0981-TC-1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:43:40 PM | -0.08942 | ug/L | -0.00089 | mg/L | 0.999383 |
| 17-03-0981-TC-2 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:45:56 PM | -0.08746 | ug/L | -0.00087 | mg/L | 0.999383 |
| 17-03-0982-TC-1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:48:13 PM | -0.09235 | ug/L | -0.00092 | mg/L | 0.999383 |
| 17-03-0982-TC-2 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:50:30 PM | -0.08858 | ug/L | -0.00089 | mg/L | 0.999383 |
| 17-03-0982-TC-3 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:52:47 PM | -0.08942 | ug/L | -0.00089 | mg/L | 0.999383 |
| 17-03-0907-TC-1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:55:04 PM | -0.08447 | ug/L | -0.00084 | mg/L | 0.999383 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:57:21 PM | 2.075845 | ug/L | 0.002076 | mg/L | 0.999383 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 12:59:37 PM | -0.08684 | ug/L | -8.68E-05 | mg/L | 0.999383 |
| 17-03-1007-TC-1 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 1:01:53 PM | -0.0895 | ug/L | -0.0009 | mg/L | 0.999383 |
| 17-03-1007-TC-2 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 1:04:10 PM | -0.08666 | ug/L | -0.00087 | mg/L | 0.999383 |
| 17-03-1007-TC-3 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 1:06:27 PM | -0.08828 | ug/L | -0.00088 | mg/L | 0.999383 |
| 17-03-1007-TC-4 | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 1:08:44 PM | -0.09179 | ug/L | -0.00092 | mg/L | 0.999383 |
| 170316-B-01 | 868 HG-8 | 0.6 | Hg 253.7 | 3/16/2017 | 1:11:00 PM | -0.08582 | ug/L | -0.0143 | mg/kg | 0.999383 |
| 170316-L-01 | 868 HG-8 | 0.6 | Hg 253.7 | 3/16/2017 | 1:13:16 PM | 5.482916 | ug/L | 0.913819 | mg/kg | 0.999383 |
| 17-03-0920-1 | 868 HG-8 | 0.59 | Hg 253.7 | 3/16/2017 | 1:15:33 PM | 0.736793 | ug/L | 0.12488 | mg/kg | 0.999383 |
| 17-03-0920-1 MS | 868 HG-8 | 0.61 | Hg 253.7 | 3/16/2017 | 1:17:51 PM | 6.167884 | ug/L | 1.011128 | mg/kg | 0.999383 |
| 17-03-0920-1 MSD | 868 HG-8 | 0.62 | Hg 253.7 | 3/16/2017 | 1:20:07 PM | 6.316182 | ug/L | 1.018739 | mg/kg | 0.999383 |
| 17-03-0919-1 | 868 HG-8 | 0.61 | Hg 253.7 | 3/16/2017 | 1:22:24 PM | 8.575611 | ug/L | 1.405838 | mg/kg | 0.999383 |
| CCV 0.2x10ppb | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 1:24:41 PM | 2.053844 | ug/L | 0.002054 | mg/L | 0.999383 |
| CCB | 868 HG-8 | | Hg 253.7 | 3/16/2017 | 1:26:58 PM | -0.0882 | ug/L | -8.82E-05 | mg/L | 0.999383 |
| 17-03-1061-4 | 868 HG-8 | 0.61 | Hg 253.7 | 3/16/2017 | 1:29:14 PM | -0.07475 | ug/L | -0.01225 | mg/kg | 0.999383 |
| 17-03-1061-5 | 868 HG-8 | 0.6 | Hg 253.7 | 3/16/2017 | 1:31:31 PM | -0.07397 | ug/L | -0.01233 | mg/kg | 0.999383 |
| 17-03-1061-6 | 868 HG-8 | 0.61 | Hg 253.7 | 3/16/2017 | 1:33:48 PM | -0.02327 | ug/L | -0.00382 | mg/kg | 0.999383 |
| 17-03-0863-1 | 868 HG-8 | 0.61 | Hg 253.7 | 3/16/2017 | 1:36:06 PM | -0.06407 | ug/L | -0.0105 | mg/kg | 0.999383 |

Reviewed/Assign to Logbook Date: 03-17-17
Analysis: Hg Chemist ID: 309
Logbook Page: 40 Instrument ID: Hg-8

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# 170317H1

**Carrier solution R07141602** **Reducting 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

Reviewed/Assign to Logbook Date: 03-17-17
Analysis Hg Chemist ID: 309
Logbook Page: 45 Instrument ID: Hg-8

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| Sample ID | Analyst Name | Initial Sample Wt | Analyte Name | Date | Time | Conc (Calib) | Units (Calib) | Conc (Samp) | Units (Samp) | Corr Coef |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |

Reviewed/Assign to Logbook Date: 03-17-17
Analysis Hg Chemist ID: 309
Logbook Page: 46 Instrument ID: Hg 8

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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 | ☒ Solid | Thermometer GT-04 (CF-2.0 °C) | Aqua Regia R0429160I 10 mL | Spike M030617 A |
| ☐ EPA 7471B | ☐ Other (Specify) | Block Digester 3 | 5% $KMnO_4$ R1006160I | IC A |
| | | Pipetter / Dispenser P071 / * | $NaCl-H_3NO\cdot HCl$ R1026160I 6 mL | ICV B |

| BATCH NUMBER | SUPPLY LOT # | BALANCE ID # | QUALITY SYSTEM MATRIX ID # | SAMPLE HANDLING |
|---|---|---|---|---|
| MS/MSD 170316-501 | Tube / Container 160915 | 36 | Teflon Chip M006-35-15 | 1 = Composite 2 = Subsample |
| (Specify) | Filter | | (Specify) | 3 = Homogenize 4 = None |

| DIGESTION DATE | START TIME | START TEMP W/O CF (°C) | START PREP TECH ID # | END TIME | END TEMP W/O CF (°C) | END PREP TECH ID # | SAMPLE HANDLING | ECI ID # (868 03/16/17) | SAMPLE INITIAL (g) | SAMPLE FINAL (mL) | 5% $KMnO_4$ V (mL) | SPIKE OR IC/ICV V (µL) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3/16/17 | 10:00 | 95 | 868 | 11:45 | 95 | 868 | 2 | MS 17-03-0920-1A | 0.61 | 100 | 15 | 500 |
| | | | | | | | 2 | MSD | 0.62 | | | |
| | | | | | | | 2 | LCS 170316-L01 | 0.60 | | | |
| | | | | | | | 2 | LCSD / MB 170316-B01 | 0.60 | | | |
| | | | | | | | 2 | 17-03-0920-1A | 0.59 | | | |
| | | | | | | | 2 | 17-03-0919-1A | 0.61 | | | |
| | | | | | | | 2 | 17-03-1061-4A | 0.61 | | | |
| | | | | | | | 2 | 5 | 0.60 | | | |
| | | | | | | | 2 | 6 | 0.61 | | | |
| | | | | | | | 2 | 17-03-0863-1A | 0.61 | | | |
| | | | | | | | 2 | 17-03-0952-1A | 0.60 | | | |
| | | | | | | | 2 | 2 | 0.60 | | | |
| | | | | | | | 2 | 3 | 0.60 | | | |
| | | | | | | | 2 | 4 | 0.61 | | | |
| | | | | | | | 2 | 5 | 0.60 | | | |
| | | | | | | | 2 | 6 | 0.63 | | | |
| | | | | | | | 2 | 7 | 0.63 | | | |
| | | | | | | | 2 | 8 | 0.63 | | | |
| | | | | | | | 2 | 9 | 0.59 | | | |
| | | | | | | | 2 | 10 | 0.60 | | | |
| | | | | | | | 2 | 17-03-0946-1A | 0.62 | | | |
| | 13:00 | | | 13:45 | | | 2 | 17-03-0755-16A | 0.60 | | | |
| | | | | | | | 2 | 20A | 0.60 | | | |
| | | | | | | | 2 | 17-03-0856-16A | 0.63 | | | |
| | | | | | | | | IC | | | | |
| | | | | | | | | ICV | | | | |
| | | | | | | | | CB | | | | |

COMMENTS: * D003/MD003/D008



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# EPA METHOD 8082
# PCB

# RAW DATA

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# EPA METHOD 8082
# PCB

# 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: 27
D/T REVIEWED: 2017-02-24 16:33

| OMPOUND | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| oclor-1016 | C | Avg RF | 975,287 | 941,045 | 882,730 | 864,861 | 802,600 | | | | | 893,304 | 0.00 | 8 | 0-20 | | | PASS |
| oclor-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

DATA FILE: /chem1/SVOA/GC_66/170222A/b1702220617022206

ANALYZED BY: 669
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
ICV: 2017-02-22 18:56
REVIEWED BY: 27
D/T REVIEWED: 2017-02-24 16:33

| 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

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
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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022201.d

Page 1

Date : 22-FEB-2017 17:27

Client ID:

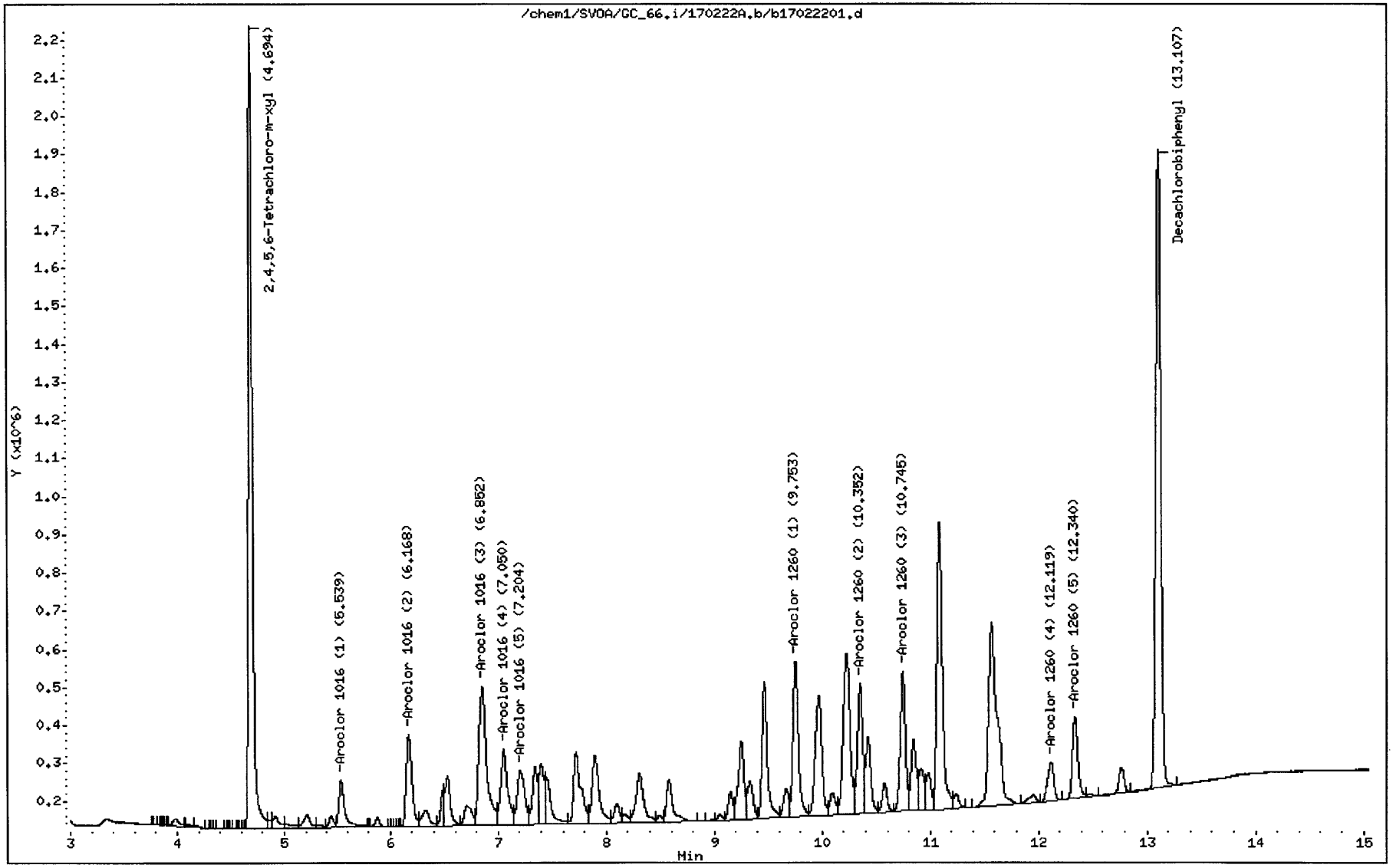
Instrument: GC_66.i

Sample Info: PCB ICAL1 P021517F 100PPB

Operator: 944

Column phase:

Column diameter: 2.00



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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 ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022202.d

Page 1

Date : 22-FEB-2017 17:45

Client ID:

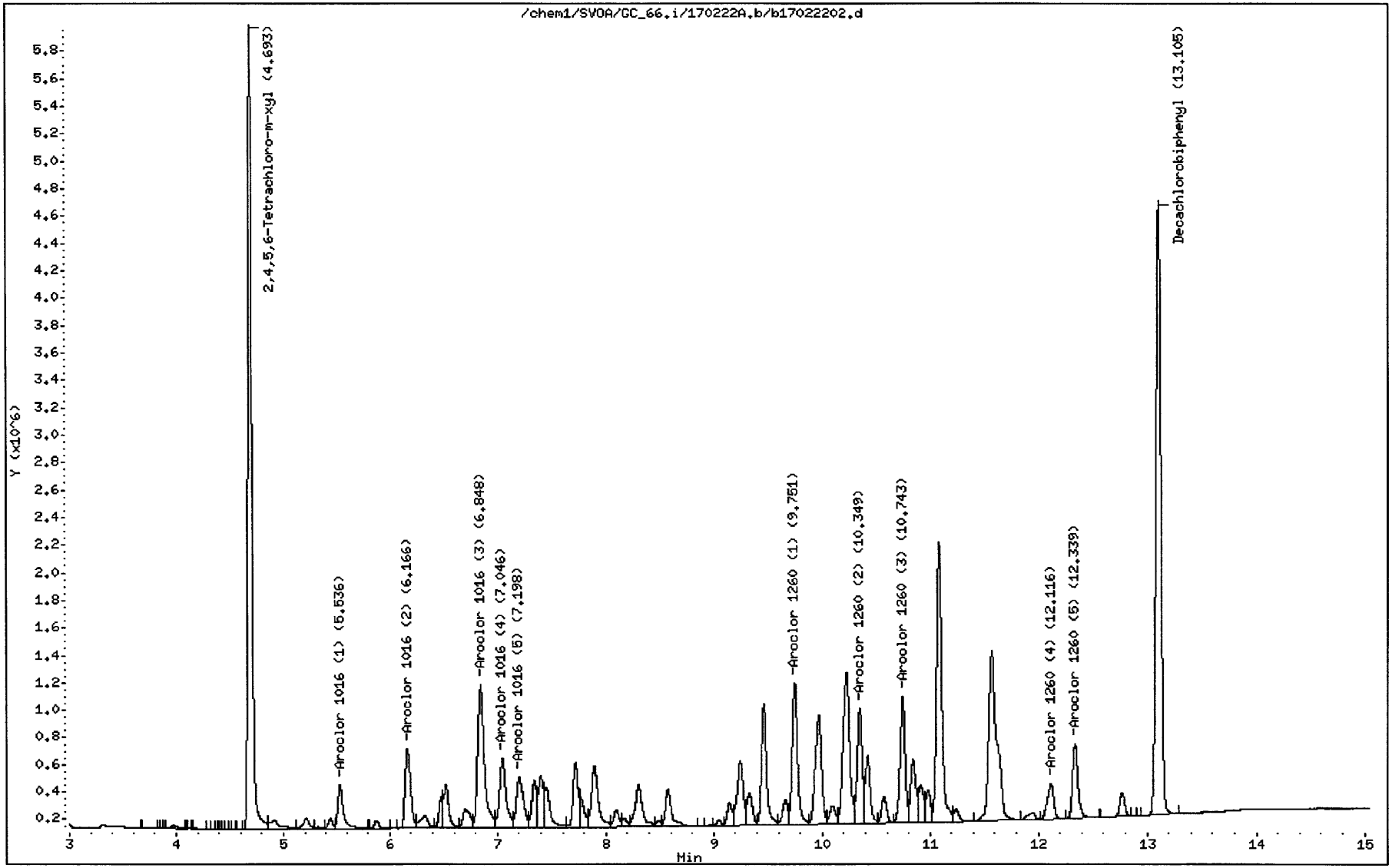
Instrument: GC_66.i

Sample Info: PCB ICAL2 P021517E 250PPB

Operator: 944

Column phase:

Column diameter: 2.00



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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 ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022203.d

Page 1

Date : 22-FEB-2017 18:03

Client ID:

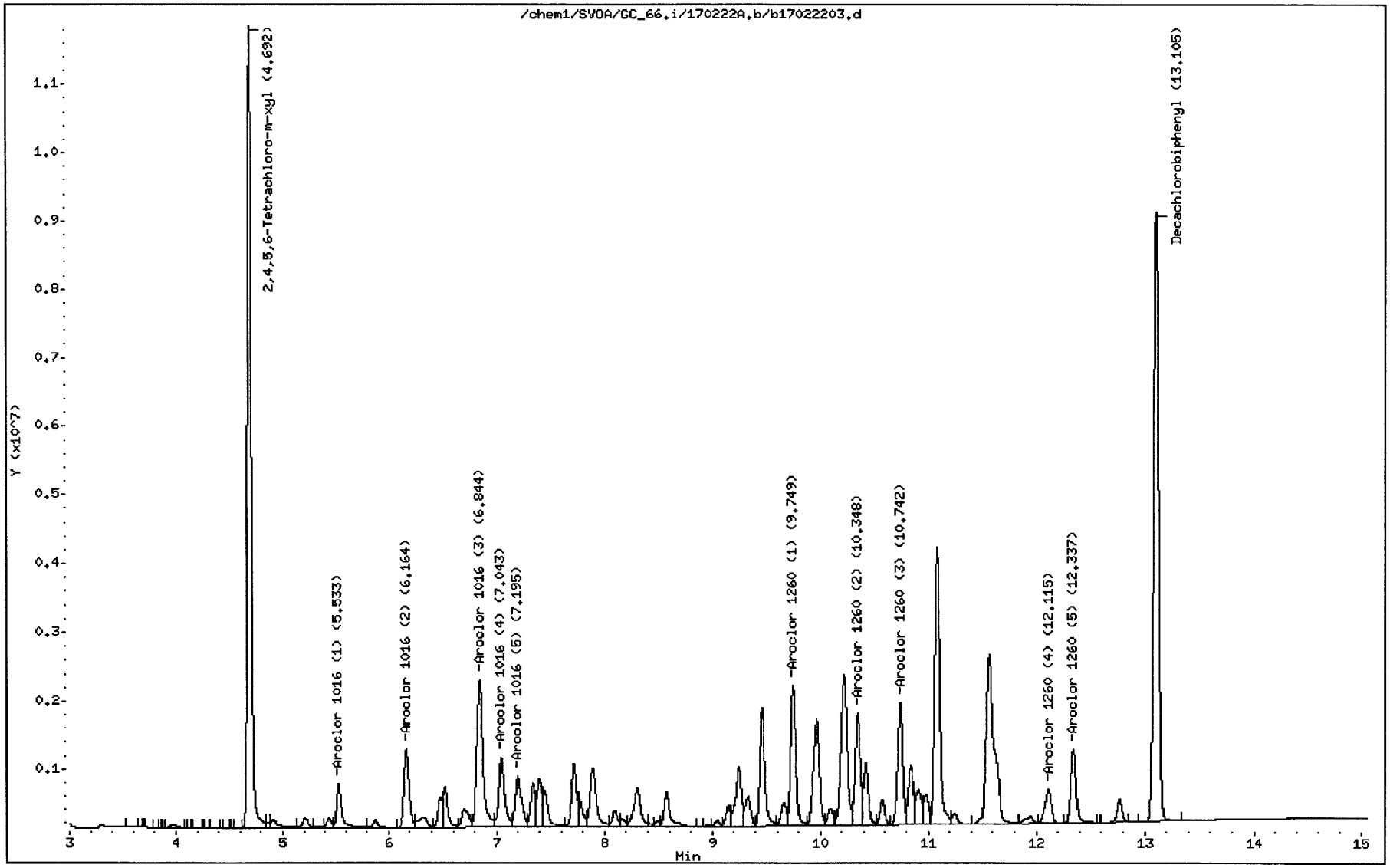
Instrument: GC_66.i

Sample Info: PCB ICAL3 P021517D 500PPB

Operator: 944

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d
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 ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022204.d

Page 1

Date : 22-FEB-2017 18:21

Client ID:

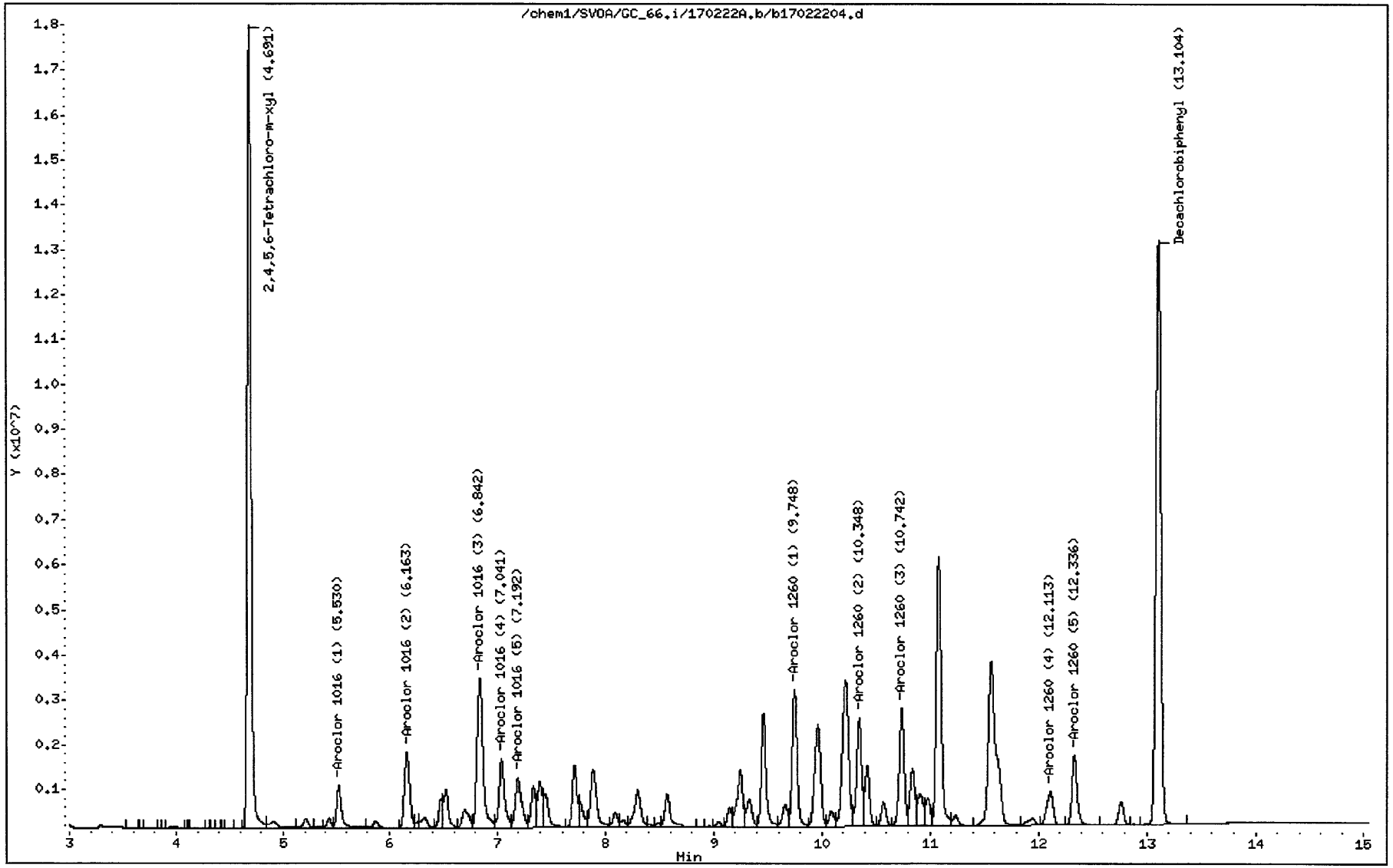
Instrument: GC_66.i

Sample Info: PCB ICAL4 P021517C 750PPB

Operator: 944

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d
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 ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|---|
| Compounds | RT | EXP RT | DLT RT | RESPONSE | | | |
| $ 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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022205.d

Page 1

Date : 22-FEB-2017 18:38

Client ID:

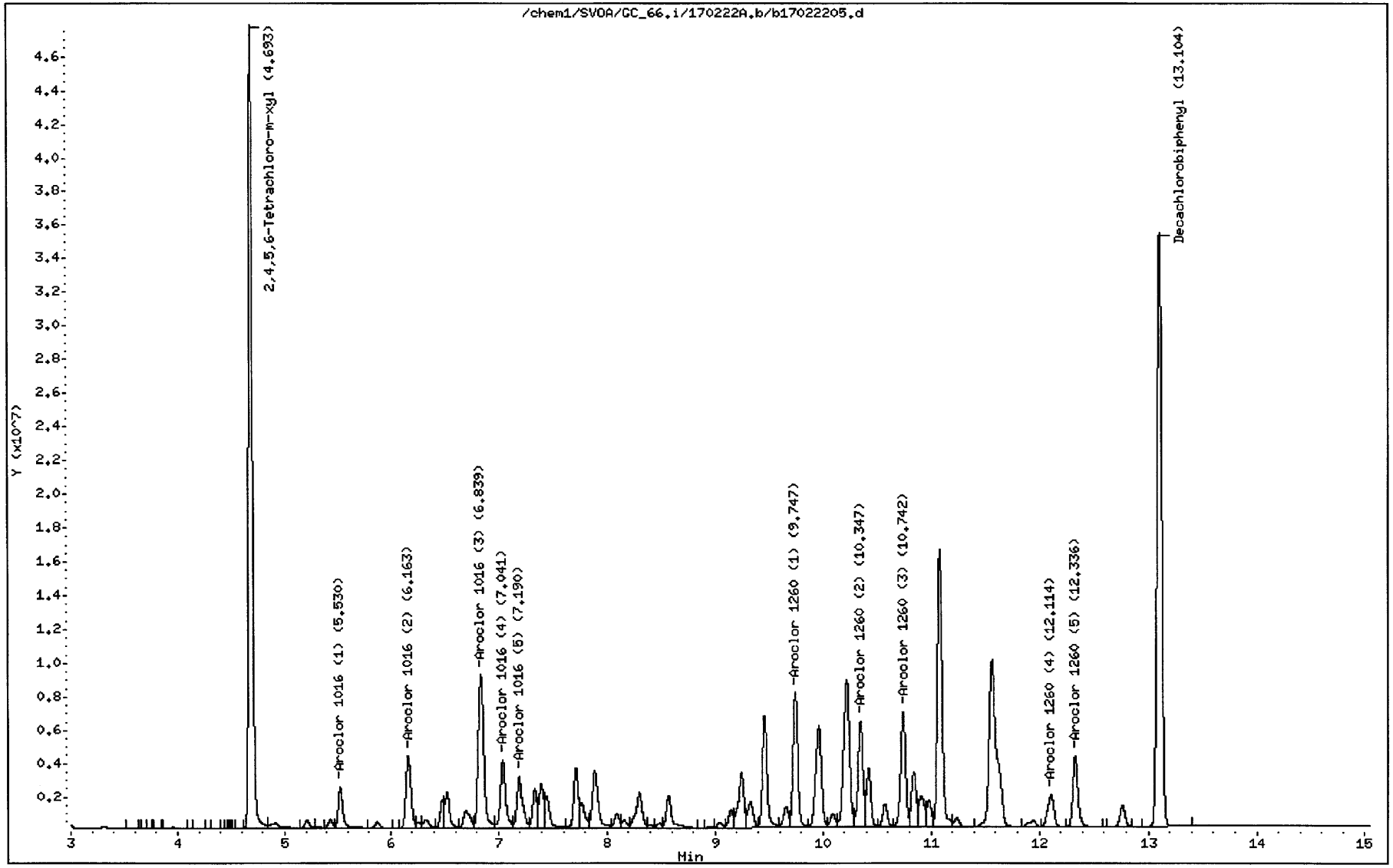
Instrument: GC_66.i

Sample Info: PCB ICAL5 P021517B 2000PPB

Operator: 944

Column phase:

Column diameter: 2.00



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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 ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022206.d

Date : 22-FEB-2017 18:56

Client ID:

Sample Info: PCB ICV P021517H 500PPB

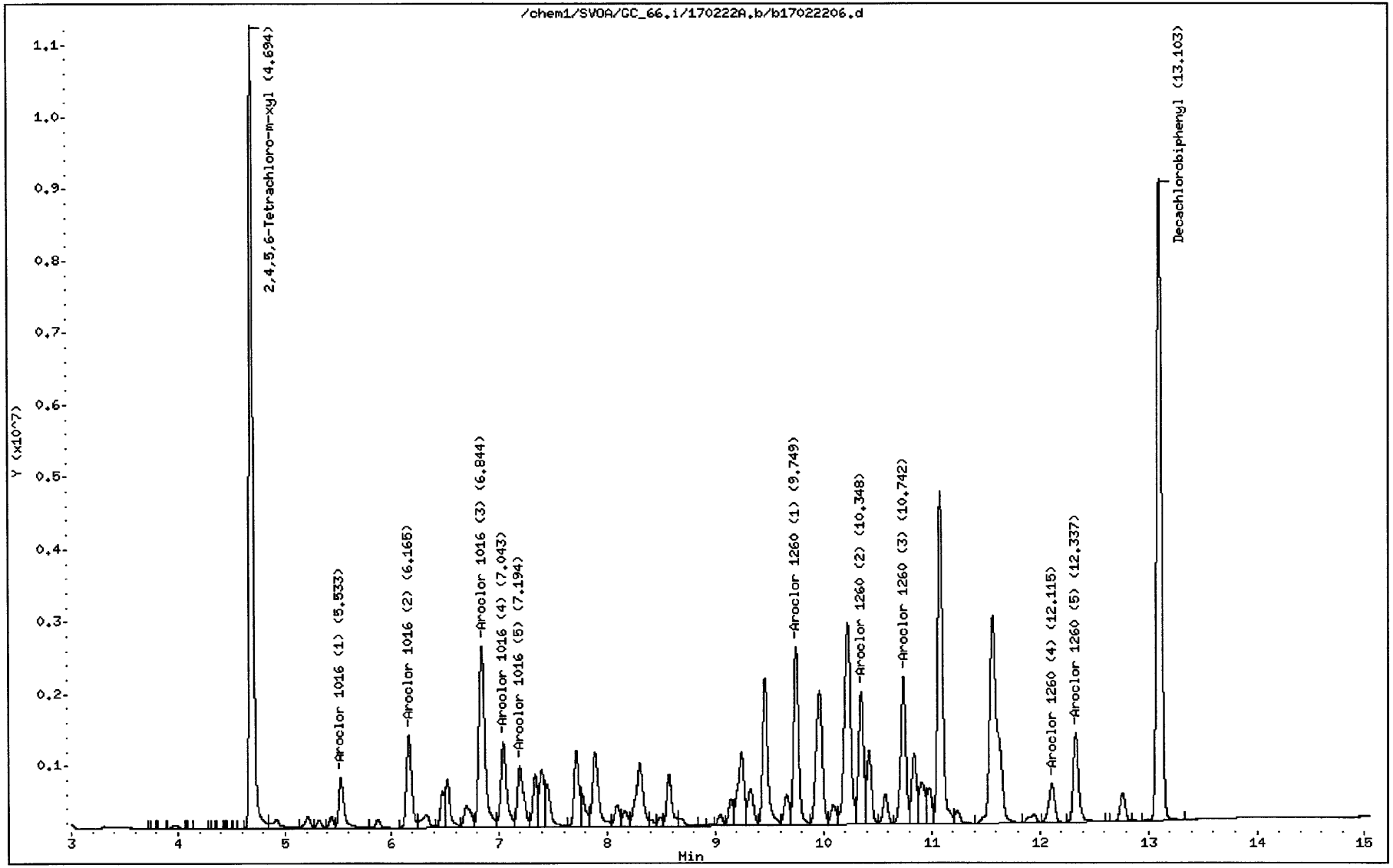
Column phase:

Instrument: GC_66.i

Operator: 944

Column diameter: 2.00





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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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022207.d

Page 1

Date : 22-FEB-2017 19:14

Client ID:

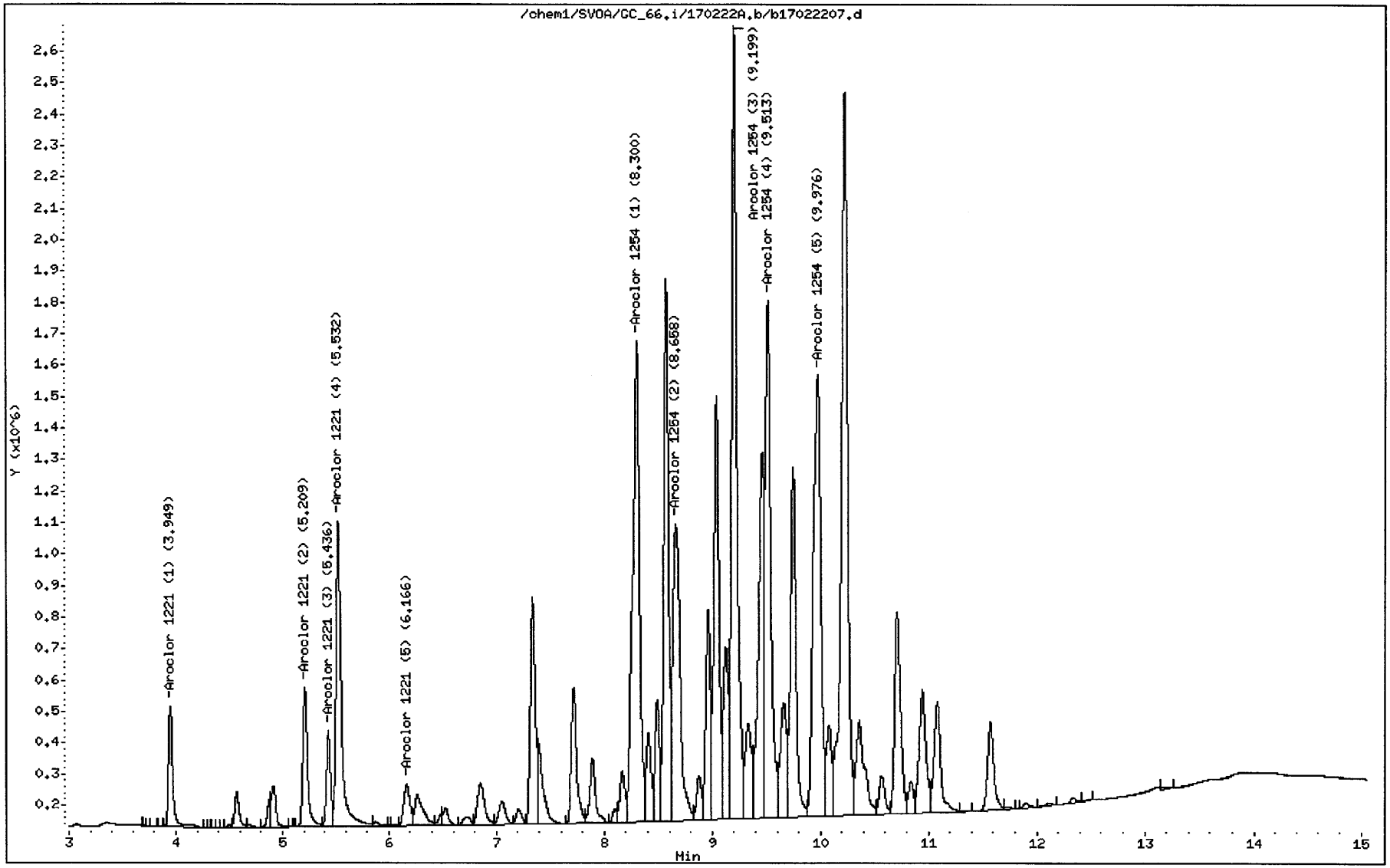
Instrument: GC_66.i

Sample Info: PCB 1221/54 500PPB P120616I

Operator: 944

Column phase:

Column diameter: 2.00



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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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022208.d

Page 1

Date : 22-FEB-2017 19:32

Client ID:

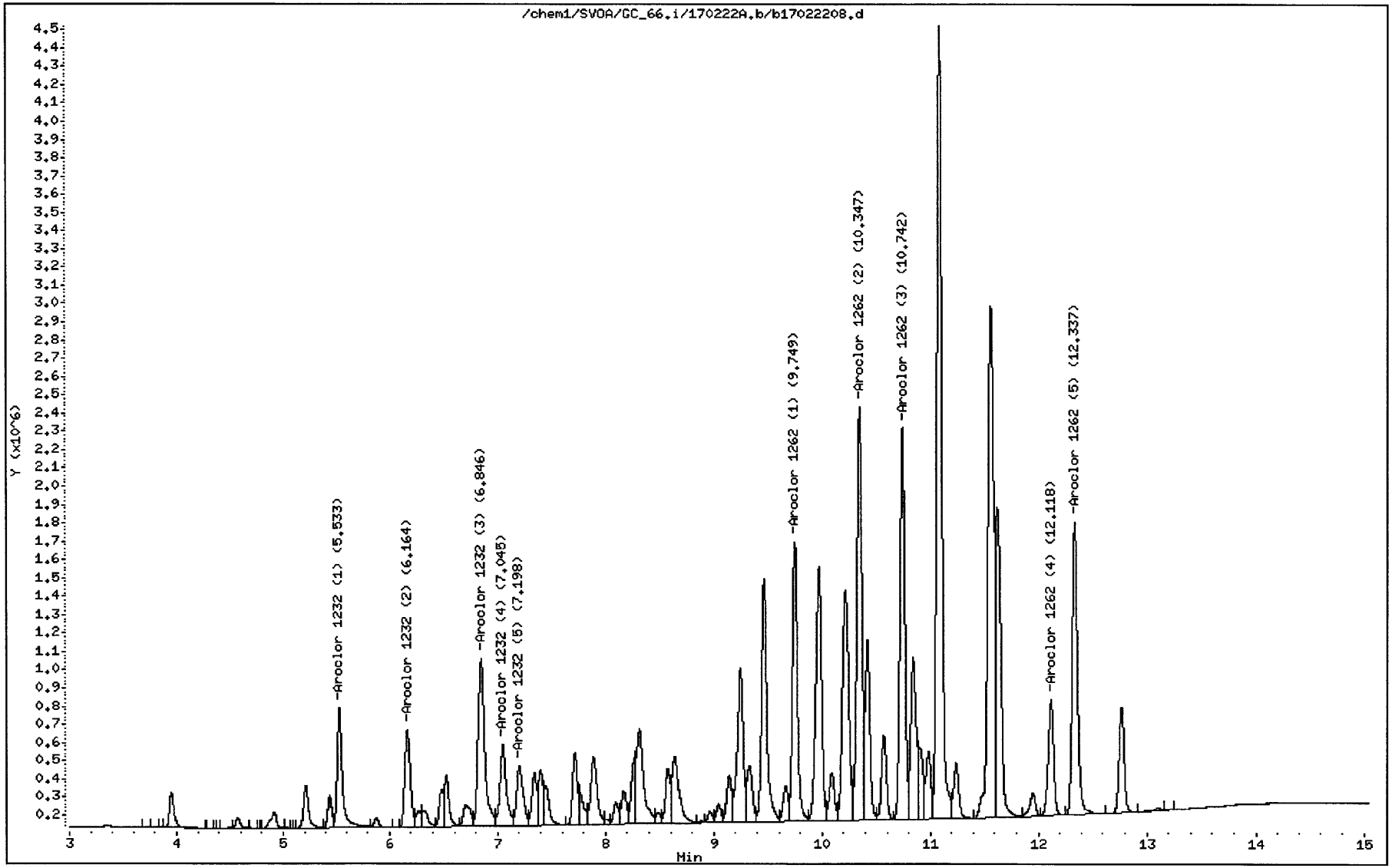
Instrument: GC_66.i

Sample Info: PCB 1232/62 500PPB P120616J

Operator: 944

Column phase:

Column diameter: 2.00



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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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022209.d

Page 1

Date : 22-FEB-2017 19:50

Client ID:

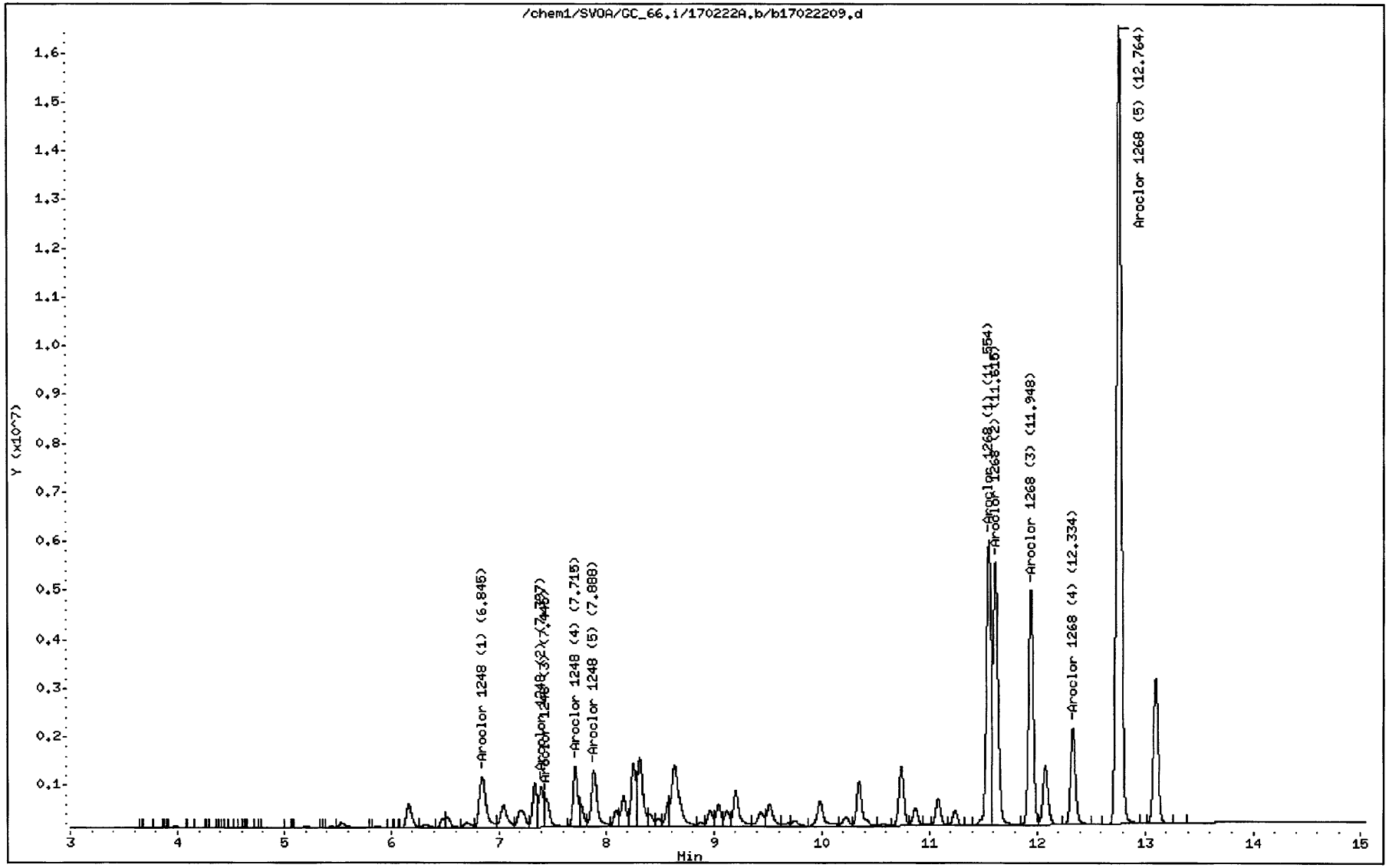
Instrument: GC_66.i

Sample Info: PCB 1248/68 500PPB P120616K

Operator: 944

Column phase:

Column diameter: 2.00



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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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | AMOUNTS CAL-AMT ( ppb) | AMOUNTS ON-COL ( 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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Data File: /chem1/SVOA/GC_66.i/170222A.b/b17022210.d

Page 1

Date : 22-FEB-2017 20:07

Client ID:

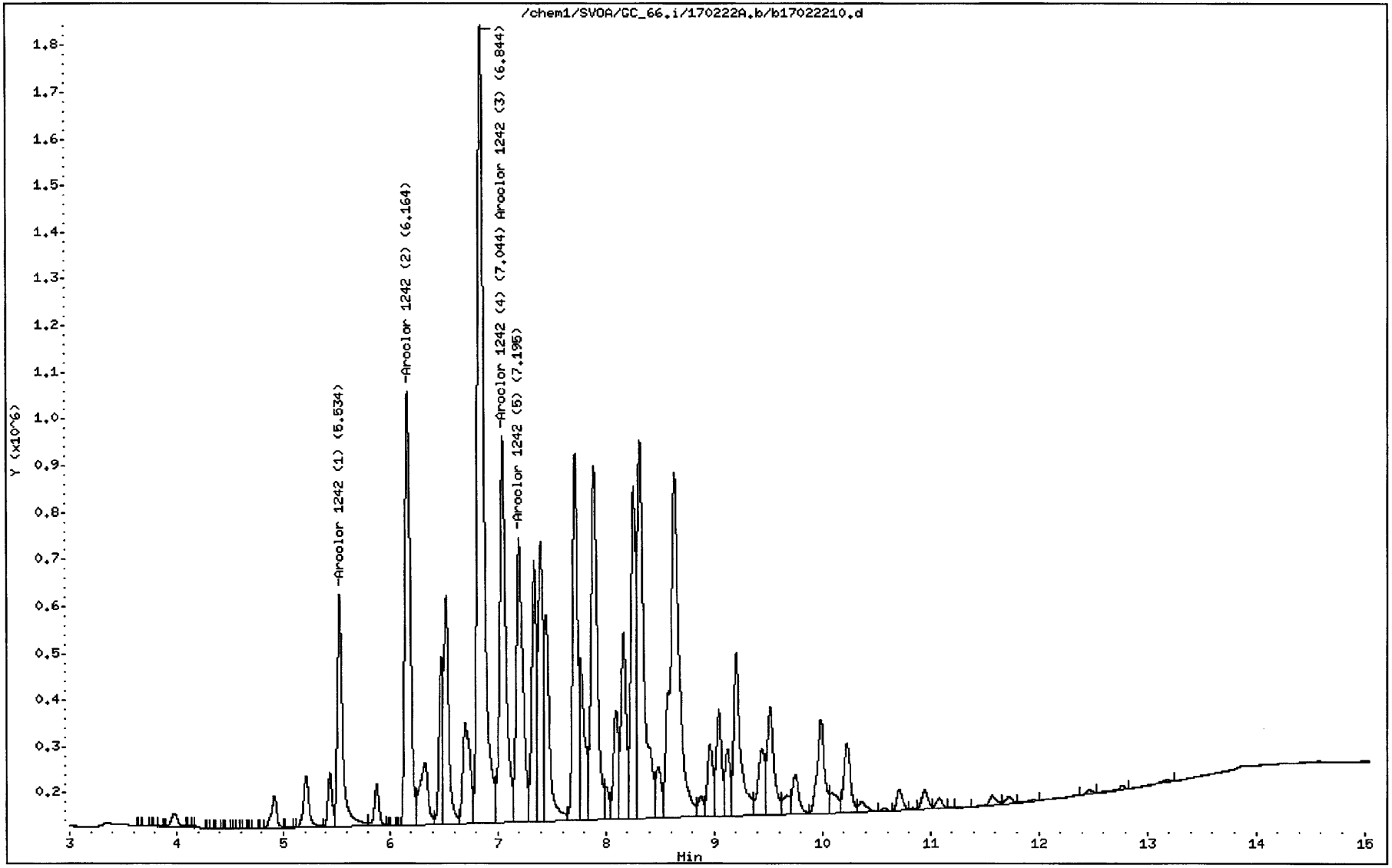
Instrument: GC_66.i

Sample Info: PCB 1242 500PPB P120616L

Operator: 944

Column phase:

Column diameter: 2.00



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# EPA METHOD 8082
# PCB

# Sample Data

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# RAW DATA SHEET
# FOR METHOD: EPA 8082

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-15 03:48
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150617031506

**# 15** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-08-15S**

LCS/MB BATCH: 170311L02
MS/MSD BATCH: 170311S02
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.20 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
ADJUSTMENT RATIO TO PF: 0.99

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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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031506.d
Lab Smp Id:
Inj Date : 15-MAR-2017 03:48
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-0755-15
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 6
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) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|
| $ 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.695 | -0.001 | 273995003 | 47.7188 | 47.7 |
| 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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| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | 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 | 13.099 | 13.102 | -0.003 | 475421799 | 87.0795 | 87.1 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031506.d

Page 1

Date : 15-MAR-2017 03:48

Client ID:

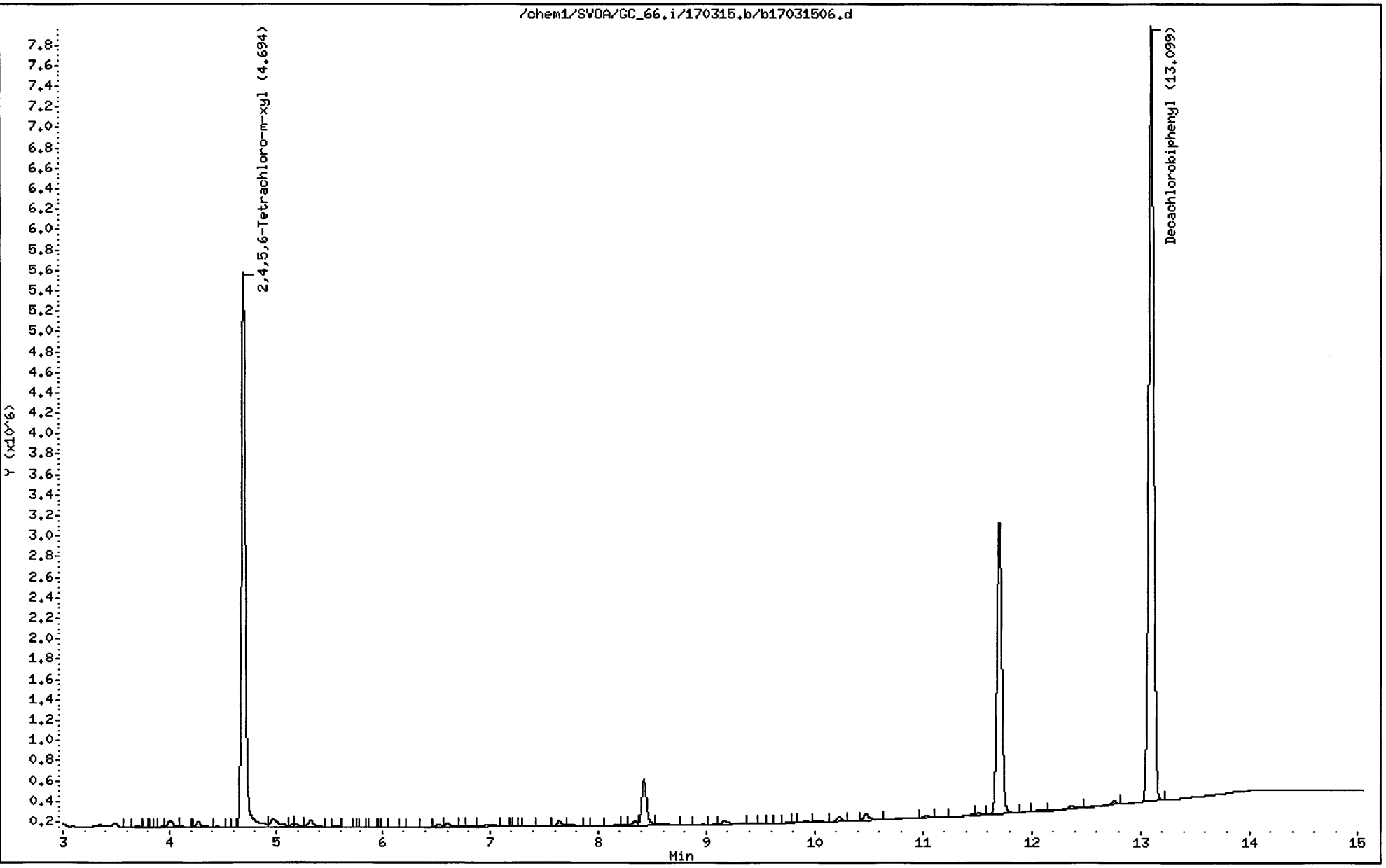
Instrument: GC_66.i

Sample Info: 17-03-0755-15

Operator: 669

Column phase:

Column diameter: 2.00



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# RAW DATA SHEET
# FOR METHOD: EPA 8082

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-15 04:06
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150717031507

**# 16** **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-08-25S**

LCS/MB BATCH: 170311L02
MS/MSD BATCH: 170311S02
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
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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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031507.d
Lab Smp Id:
Inj Date : 15-MAR-2017 04:06
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-0755-16
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 7
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) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.695 | -0.001 | 266574267 | 46.4264 | 46.4 |
| 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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| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | 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 | 13.100 | 13.102 | -0.002 | 364909355 | 66.8378 | 66.8 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031507.d

Page 1

Date : 15-MAR-2017 04:06

Client ID:

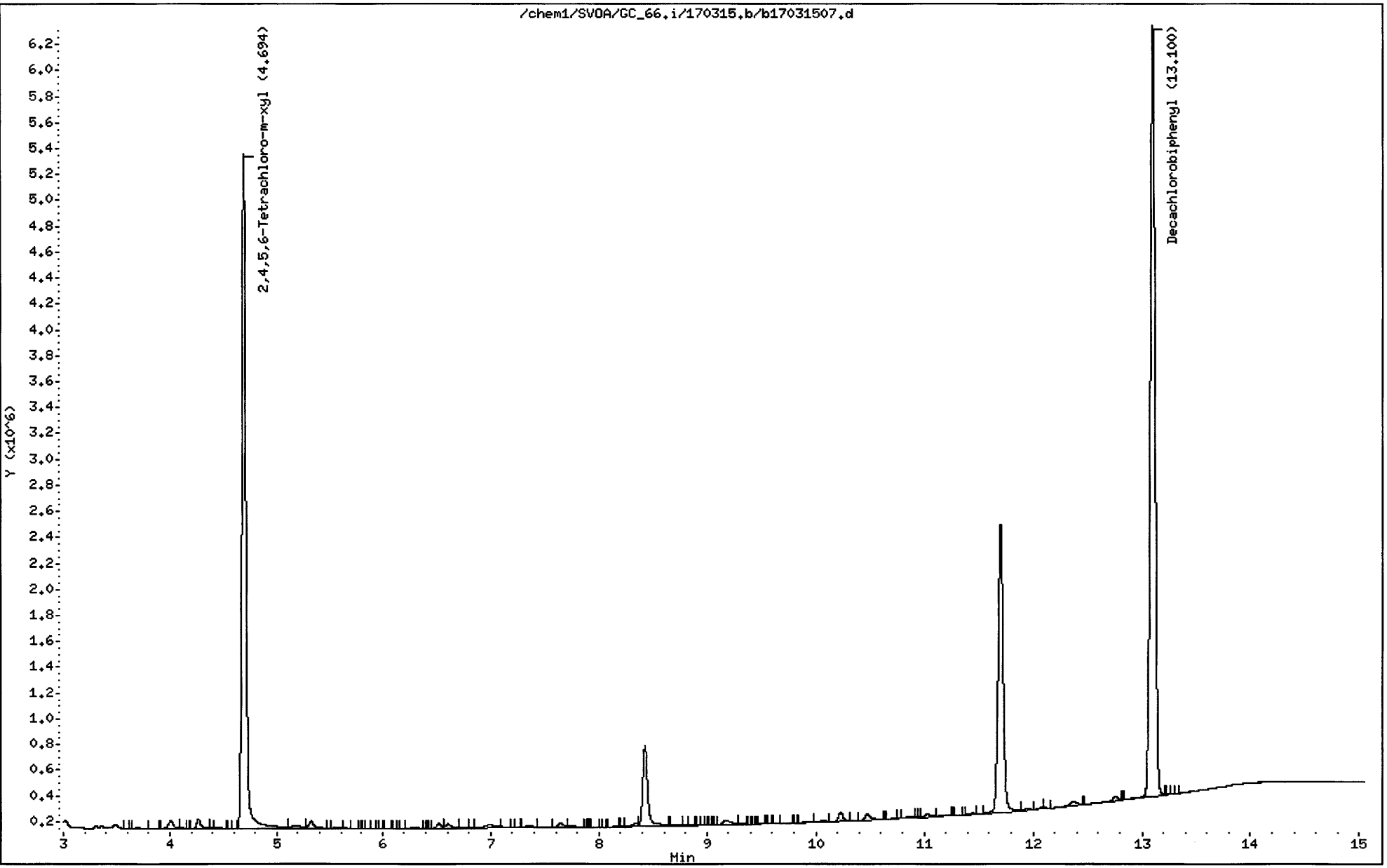
Instrument: GC_66.i

Sample Info: 17-03-0755-16

Operator: 669

Column phase:

Column diameter: 2.00



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# RAW DATA SHEET
# FOR METHOD: EPA 8082

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-15 04:24
REVIEWED BY:
D/T REVIEWED: ~~

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150817031508

**# 19** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-15S**

LCS/MB BATCH: 170311L02
MS/MSD BATCH: 170311S02
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
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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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031508.d
Lab Smp Id:
Inj Date : 15-MAR-2017 04:24
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-0755-19
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 8
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 ( ppb) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.693 | 4.695 | -0.002 | 263175280 | 45.8345 | 45.8 |
| 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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| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | 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 | 13.100 | 13.102 | -0.002 | 411233587 | 75.3227 | 75.3 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031508.d

Page 1

Date : 15-MAR-2017 04:24

Client ID:

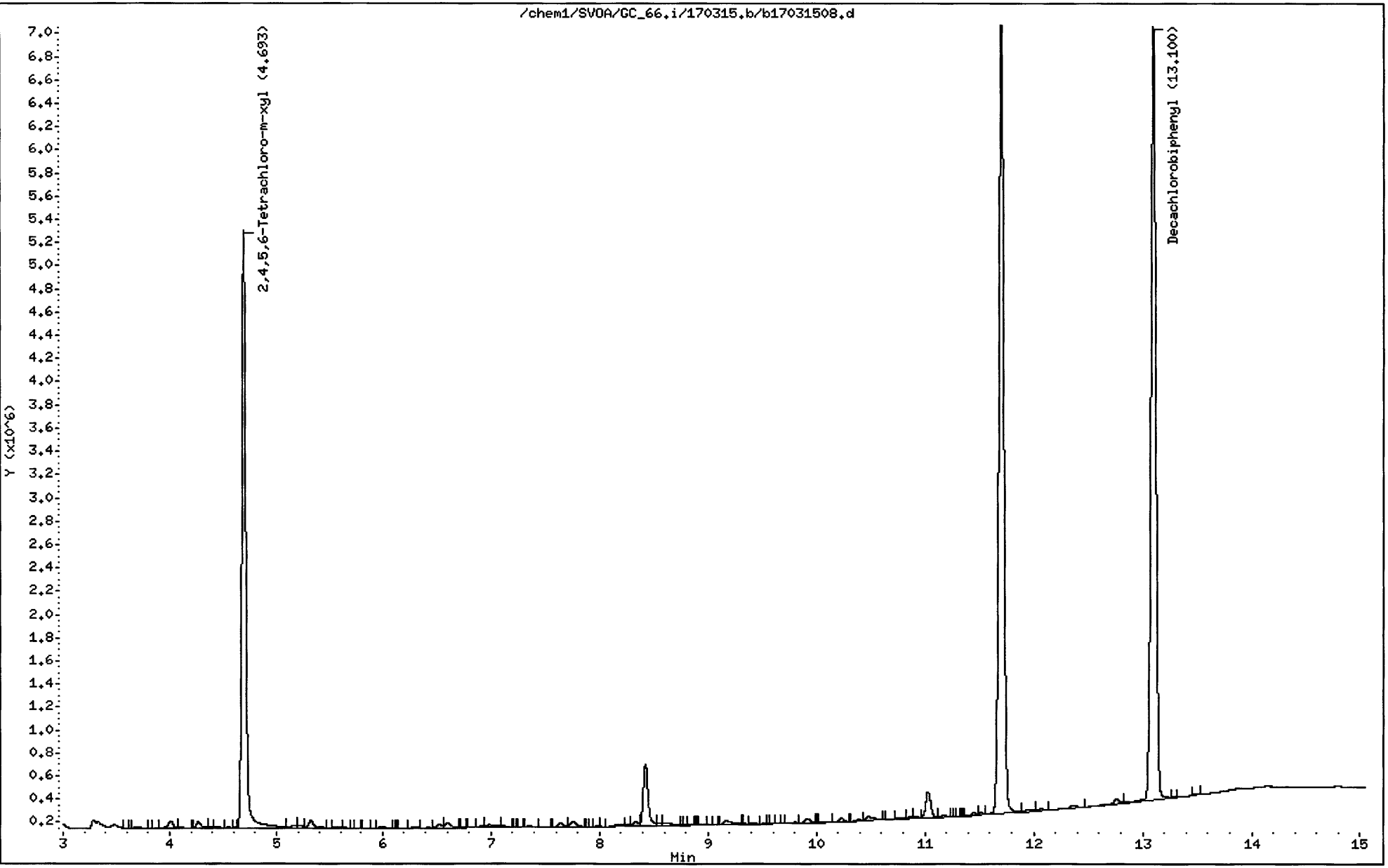
Instrument: GC_66.i

Sample Info: 17-03-0755-19

Operator: 669

Column phase:

Column diameter: 2.00



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# RAW DATA SHEET
# FOR METHOD: EPA 8082

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-15 04:42
REVIEWED BY:
D/T REVIEWED: 11

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150917031509

**# 20** **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-09-25S**

LCS/MB BATCH: 170311L02
MS/MSD BATCH: 170311S02
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 20.00 g / ACTUAL: 20.00 g
FINAL VOLUME / WEIGHT: DEFAULT: 10.00 ml / ACTUAL: 10.00 ml
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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Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031509.d
Lab Smp Id:
Inj Date : 15-MAR-2017 04:42
Operator : 669 Inst ID: GC_66.i
Smp Info : 17-03-0755-20
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 9
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) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.695 | -0.001 | 292632108 | 50.9646 | 51.0 |
| 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/170315.b/b17031509.d
Report Date: 15-Mar-2017 14:06



| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | 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 | 13.100 | 13.102 | -0.002 | 451130790 | 82.6303 | 82.6 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031509.d

Page 1

Date : 15-MAR-2017 04:42

Client ID:

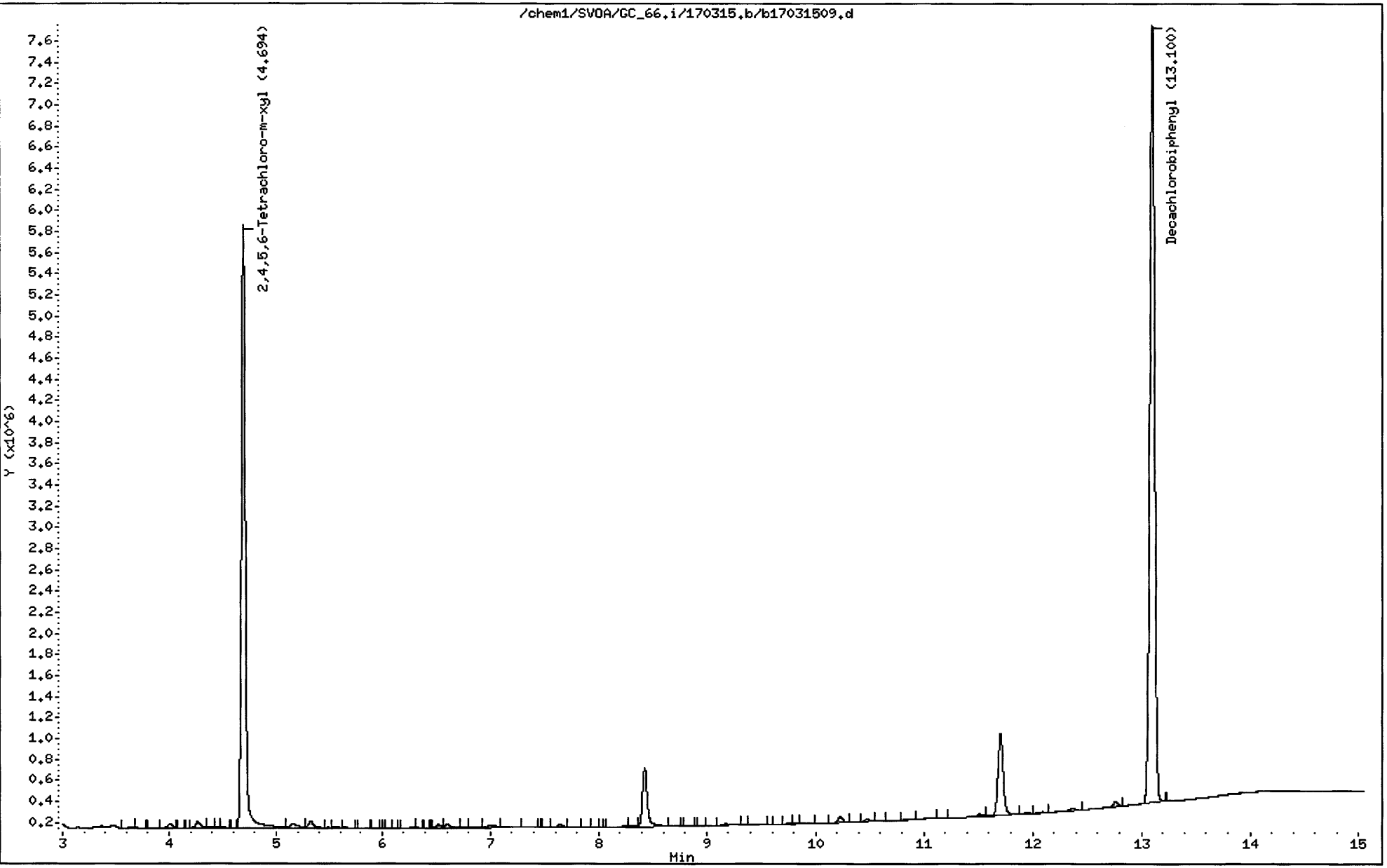
Instrument: GC_66.i

Sample Info: 17-03-0755-20

Operator: 669

Column phase:

Column diameter: 2.00



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# EPA METHOD 8082
# PCB

# Quality Control

# Method Blank
# LCS/LCSD
# MS/MSD

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# METHOD BLANK ASSOCIATION SUMMARY
# FOR METHOD: EPA 8082

**MB SAMPLE ID:** **099-12-535-4093**
MB BATCH ID: 170311L02
INSTRUMENT: GC 66
EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-15 02:37
REVIEWED BY: ~~
D/T REVIEWED:
MATRIX: Soil

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150217031502

**CLIENT WORK ORDER: 17-03-0755**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 15 | | D-DU2-S-SG-08-15S | 2017-03-15 03:48 | /chem1/SVOA/GC_66/170315/b1703150617031506 |
| 16 | | D-DU2-S-SG-08-25S | 2017-03-15 04:06 | /chem1/SVOA/GC_66/170315/b1703150717031507 |
| 19 | | D-DU2-S-SG-09-15S | 2017-03-15 04:24 | /chem1/SVOA/GC_66/170315/b1703150817031508 |
| 20 | | D-DU2-S-SG-09-25S | 2017-03-15 04:42 | /chem1/SVOA/GC_66/170315/b1703150917031509 |

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# RAW DATA SHEET
# FOR METHOD: EPA 8082

**WORK ORDER:** **099-12-535**
INSTRUMENT: GC 66
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-15 02:37
REVIEWED BY:
D/T REVIEWED: M

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150217031502

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

LCS/MB BATCH: 170311L02
MS/MSD BATCH:
UNITS: ug/kg

SAMPLE VOLUME / WEIGHT: DEFAULT: 1.00 / ACTUAL: 1.00
FINAL VOLUME / WEIGHT: DEFAULT: 1.00 ml / ACTUAL: 1.00 ml
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- 4093**
LCS/MB BATCH ID: 170311L02
INSTRUMENT: GC 66

EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED: 2017-03-15 02:55
REVIEWED BY:
D/T REVIEWED:

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150317031503

| OMPOUND NAME | CONC ADDED | CONC REC | %RECOVERY | %REC CONTROL LIMIT | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|
| oclor-1016 | 100.0 | 81.50 | 82 | 50-135 | PASS | |
| oclor-1260 | 100.0 | 86.00 | 86 | 50-135 | PASS | |

# MATRIX SPIKE / MATRIX SPIKE DUPLICATE QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

**SPIKED SAMPLE ID:** **17-03-0755-15**
MS/MSD BATCH: 170311S02
INSTRUMENTS:
SAMPLE: GC 66
MS: GC 66
MSD: GC 66

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-11 00:00
MS: 2017-03-11 00:00
MSD: 2017-03-11 00:00

ANALYZED BY: 1,028
D/T ANALYZED:
SAMPLE: 2017-03-15 03:48
MS: 2017-03-15 03:13
MSD: 2017-03-15 03:31
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** | **50.50** | **50** | **64.00** | **64** | **50-135** | **24** | **0-20** | **FAIL** | **4** |
| **Aroclor-1260** | **ND** | **200.0** | **100.0** | **61.50** | **62** | **79.50** | **80** | **50-135** | **26** | **0-20** | **FAIL** | **4** |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 17031504 | /chem1/SVOA/GC_66/170315/b17031504 |
| MSD | 17031505 | /chem1/SVOA/GC_66/170315/b17031505 |

# SURROGATE RECOVERIES
# FOR METHOD: EPA 8082

WORK ORDER: 17-03-0755
BATCH ID:
**LCS/MB: 170311L02**
**MS: 170311S02**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # 15 CLIENT SAMPLE NUMBER : D-DU2-S-SG-08-15S

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150617031506

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 03:48

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 87 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 48 | 25-145 | PASS | |

## # 16 CLIENT SAMPLE NUMBER : D-DU2-S-SG-08-25S

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150717031507

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 04:06

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 67 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 46 | 25-145 | PASS | |

## # 19 CLIENT SAMPLE NUMBER : D-DU2-S-SG-09-15S

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150817031508

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 04:24

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 75 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 46 | 25-145 | PASS | |

## # 20 CLIENT SAMPLE NUMBER : D-DU2-S-SG-09-25S

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150917031509

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 04:42

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 83 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 51 | 25-145 | PASS | |

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# SURROGATE RECOVERIES FOR METHOD: EPA 8082

WORK ORDER: 17-03-0755
BATCH ID:
**LCS/MB: 170311L02**
**MS:**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150217031502

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 02:37

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 77 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 64 | 25-145 | PASS | |

## # LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150317031503

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 02:55

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 79 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 65 | 25-145 | PASS | |

## # MS CLIENT SAMPLE NUMBER : Matrix Spike

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150417031504

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 03:13

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 48 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 32 | 25-145 | PASS | |

## # MSD CLIENT SAMPLE NUMBER : Matrix Spike Duplicate

INSTRUMENT: GC 66
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: /chem1/SVOA/GC_66/170315/b1703150517031505

ANALYZED BY: 1,028
D/T ANALYZED 2017-03-15 03:31

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| Decachlorobiphenyl | 68 | 24-168 | PASS | |
| 2,4,5,6-Tetrachloro-m-Xylene | 44 | 25-145 | PASS | |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031502.d
Report Date: 15-Mar-2017 14:06



Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031502.d
Lab Smp Id:
Inj Date : 15-MAR-2017 02:37
Operator : 669 Inst ID: GC_66.i
Smp Info : MB 170311L02
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 2 QC Sample: BLANK
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) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.695 | -0.001 | 368413690 | 64.1627 | 64.2 |
| 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/170315.b/b17031502.d Page 2
Report Date: 15-Mar-2017 14:06

| | Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | 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 | 419582217 | 76.8518 | 76.8 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031502.d

Page 1

Date : 15-MAR-2017 02:37

Client ID:

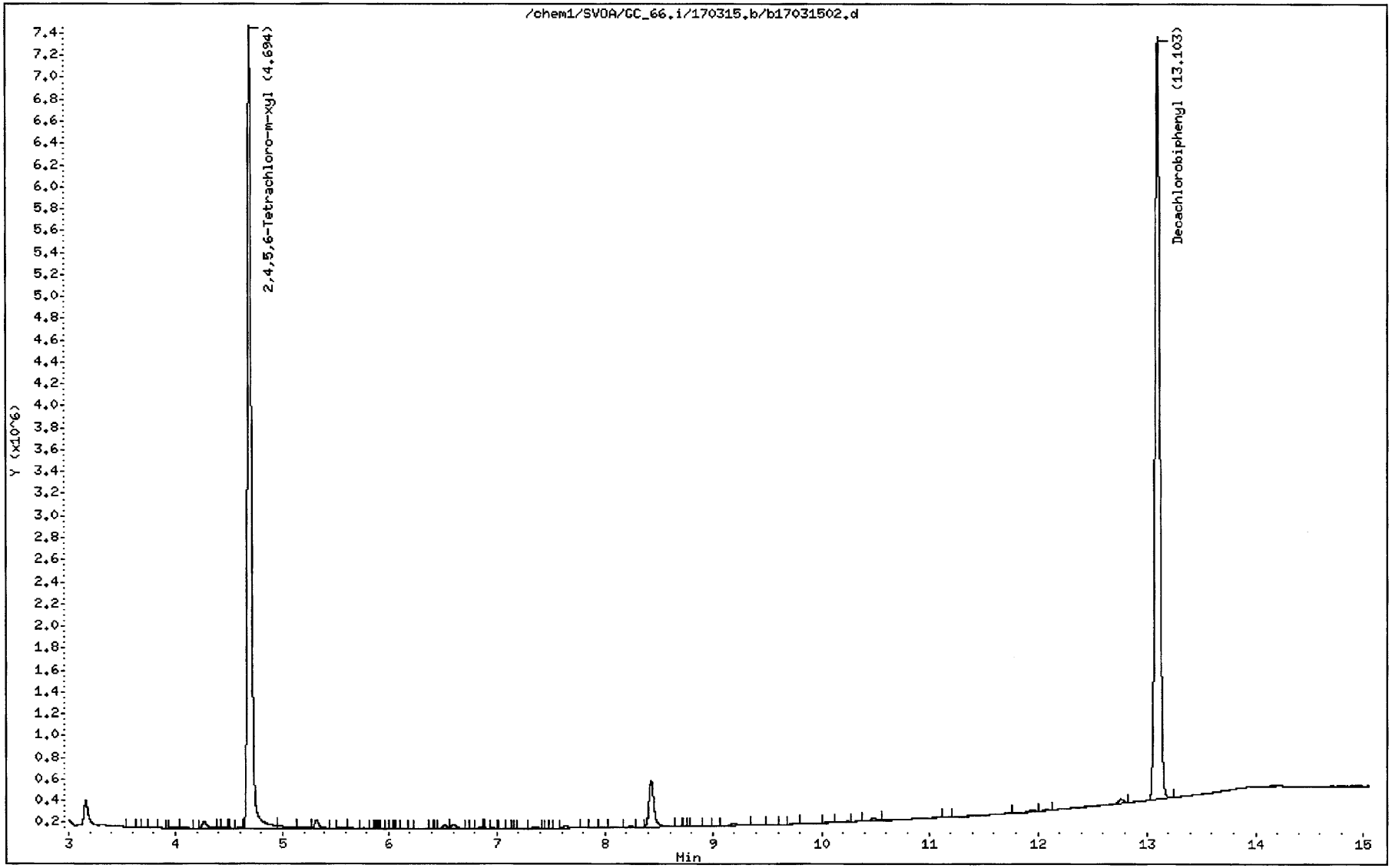
Instrument: GC_66.i

Sample Info: MB 170311L02

Operator: 669

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031503.d
Report Date: 15-Mar-2017 14:06



Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031503.d
Lab Smp Id:
Inj Date : 15-MAR-2017 02:55
Operator : 669 Inst ID: GC_66.i
Smp Info : LCS 170311L02
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 3 QC Sample: LCS
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 ( ppb) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.695 | -0.001 | 374228849 | 65.1755 | 65.2 |
| M | 2 Aroclor-1016 | | | | 146038702 | 163.481 | 163 |
| | 3 Aroclor 1016 (1) | 5.536 | 5.535 | 0.001 | 15119648 | 167.930 | 168 |
| | 4 Aroclor 1016 (2) | 6.166 | 6.166 | 0.000 | 26408519 | 165.607 | 166 |
| | 5 Aroclor 1016 (3) | 6.847 | 6.846 | 0.001 | 57009862 | 160.626 | 161 |
| | 6 Aroclor 1016 (4) | 7.046 | 7.044 | 0.002 | 26806934 | 165.375 | 165 |
| | 7 Aroclor 1016 (5) | 7.198 | 7.195 | 0.003 | 20693739 | 163.224 | 163 |
| M | 8 Aroclor-1260 | | | | 163442066 | 172.447 | 172 |
| | 9 Aroclor 1260 (1) | 9.748 | 9.749 | -0.001 | 47386803 | 175.322 | 175 |
| | 10 Aroclor 1260 (2) | 10.348 | 10.347 | 0.001 | 37940587 | 177.329 | 177 |
| | 11 Aroclor 1260 (3) | 10.740 | 10.742 | -0.002 | 38440828 | 164.936 | 165 |
| | 12 Aroclor 1260 (4) | 12.115 | 12.116 | -0.001 | 12030969 | 144.738 | 145 |
| | 13 Aroclor 1260 (5) | 12.334 | 12.336 | -0.002 | 27642879 | 187.596 | 188 |
| $ | 56 Decachlorobiphenyl | 13.101 | 13.102 | -0.001 | 433290394 | 79.3626 | 79.4 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031503.d

Page 1

Date : 15-MAR-2017 02:55

Client ID:

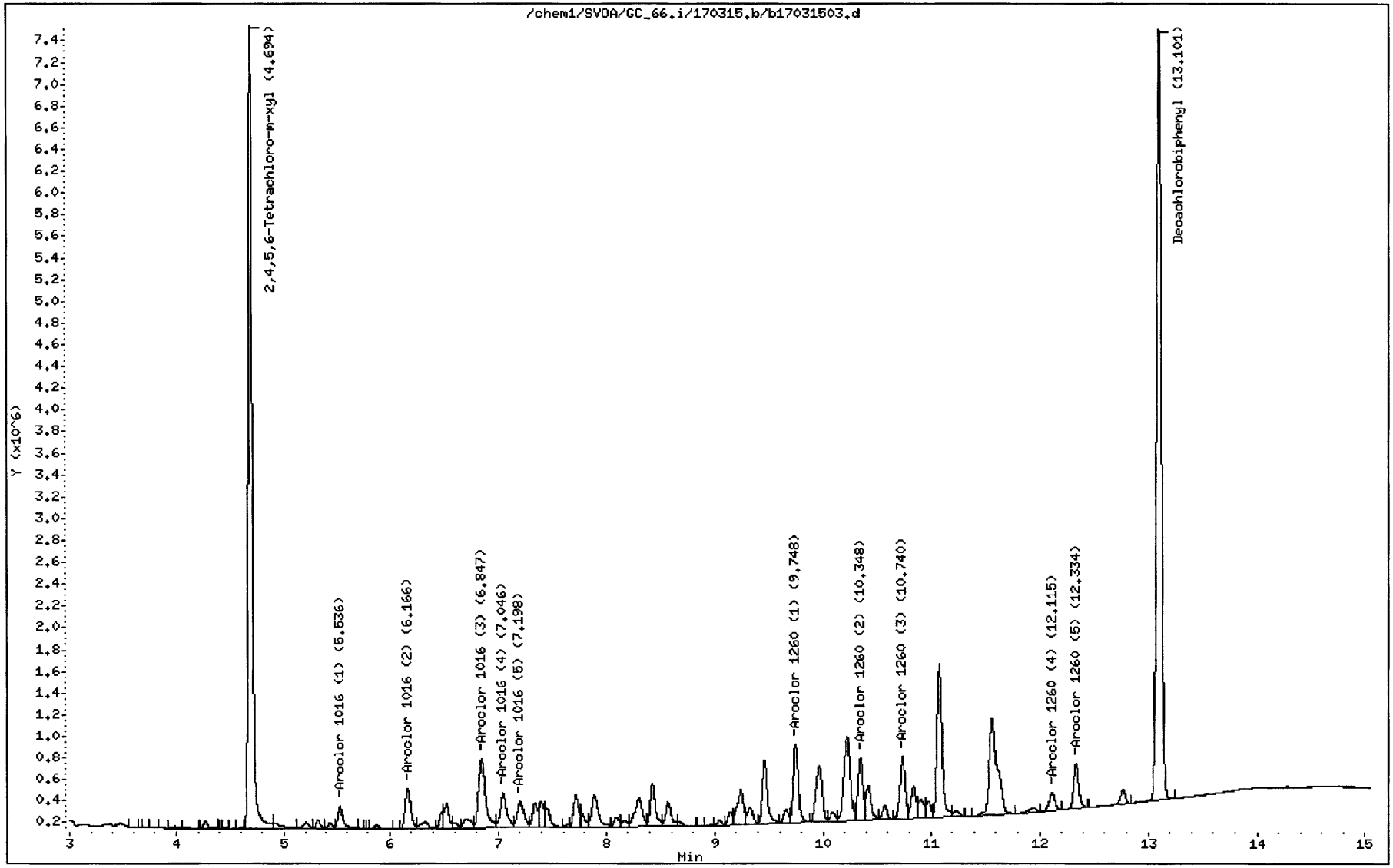
Instrument: GC_66.i

Sample Info: LCS 170311L02

Operator: 669

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031504.d Page 1
Report Date: 15-Mar-2017 14:06

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031504.d
Lab Smp Id:
Inj Date : 15-MAR-2017 03:13
Operator : 669 Inst ID: GC_66.i
Smp Info : MS 17-03-0755-15 170311S02
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 4 QC Sample: MS
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

| Compounds | RT | EXP RT | DLT RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ppb) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|
| $ 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.695 | -0.001 | 184729470 | 32.1724 | 32.2 |
| M 2 Aroclor-1016 | | | | 90590403 | 101.410 | 101 |
| 3 Aroclor 1016 (1) | 5.536 | 5.535 | 0.001 | 9306027 | 103.359 | 103 |
| 4 Aroclor 1016 (2) | 6.166 | 6.166 | 0.000 | 15932274 | 99.9105 | 99.9 |
| 5 Aroclor 1016 (3) | 6.849 | 6.846 | 0.003 | 35330917 | 99.5451 | 99.5 |
| 6 Aroclor 1016 (4) | 7.047 | 7.044 | 0.003 | 17245171 | 106.387 | 106 |
| 7 Aroclor 1016 (5) | 7.199 | 7.195 | 0.004 | 12776014 | 100.772 | 101 |
| M 8 Aroclor-1260 | | | | 116849989 | 123.288 | 123 |
| 9 Aroclor 1260 (1) | 9.748 | 9.749 | -0.001 | 34238457 | 126.676 | 127 |
| 10 Aroclor 1260 (2) | 10.347 | 10.347 | 0.000 | 27477689 | 128.427 | 128 |
| 11 Aroclor 1260 (3) | 10.739 | 10.742 | -0.003 | 27712223 | 118.904 | 119 |
| 12 Aroclor 1260 (4) | 12.114 | 12.116 | -0.002 | 8123575 | 97.7305 | 97.7 |
| 13 Aroclor 1260 (5) | 12.335 | 12.336 | -0.001 | 19298045 | 130.965 | 131 |
| $ 56 Decachlorobiphenyl | 13.101 | 13.102 | -0.001 | 260271794 | 47.6721 | 47.7 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031504.d

Page 1

Date : 15-MAR-2017 03:13

Client ID:

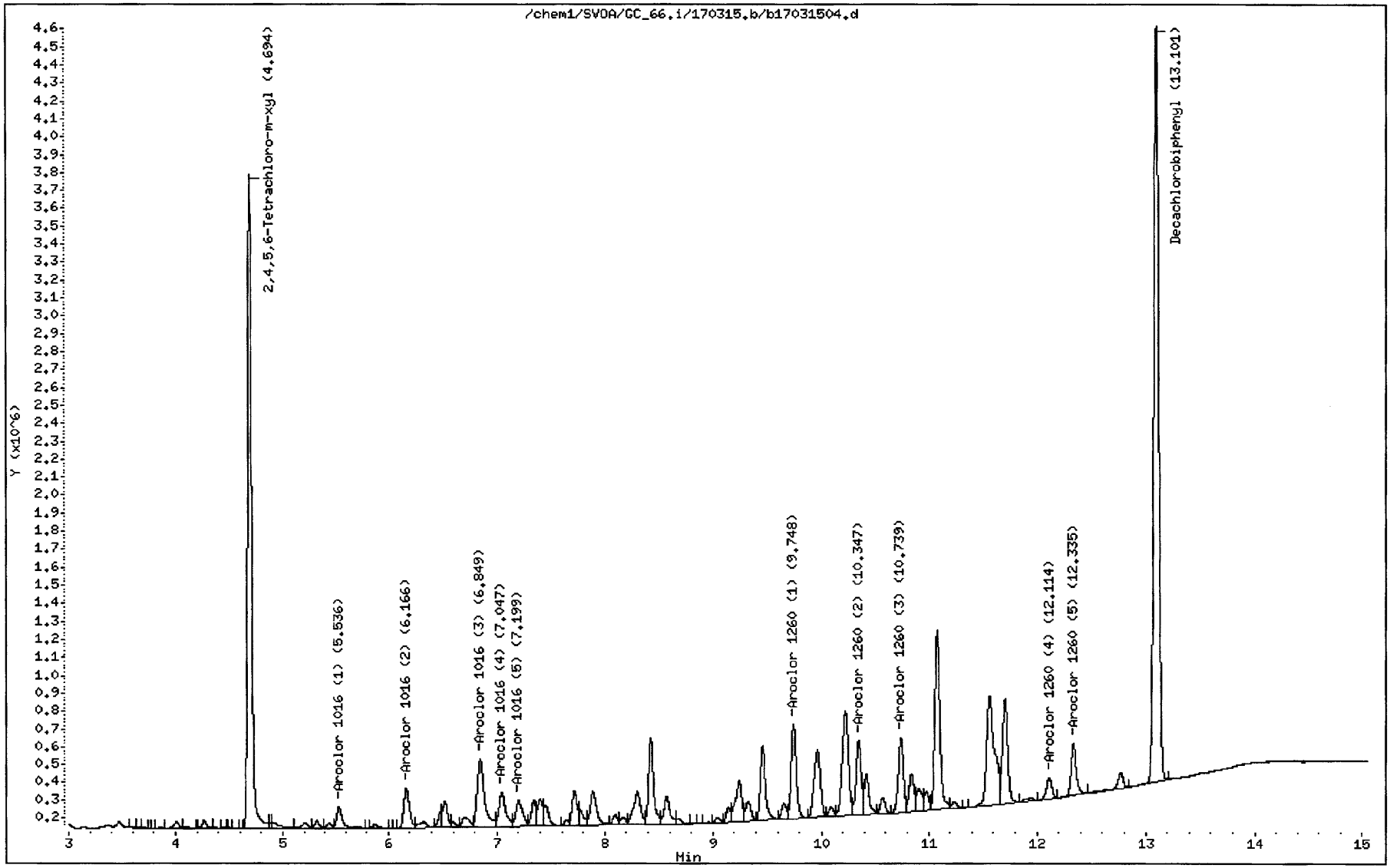
Instrument: GC_66.i

Sample Info: MS 17-03-0755-15 170311S02

Operator: 669

Column phase:

Column diameter: 2.00



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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031505.d Page 1
Report Date: 15-Mar-2017 14:06

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031505.d
Lab Smp Id:
Inj Date : 15-MAR-2017 03:31
Operator : 669 Inst ID: GC_66.i
Smp Info : MSD 17-03-0755-15 170311S02
Misc Info :
Comment : Rtx-CLPesticide II
Method : /chem1/SVOA/GC_66.i/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 Quant Type: ESTD
Cal Date : 22-FEB-2017 20:07 Cal File: b17022210.d
Als bottle: 5 QC Sample: MSD
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 ( ppb) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.693 | 4.695 | -0.002 | 250693152 | 43.6606 | 43.7 |
| M | 2 Aroclor-1016 | | | | 113995191 | 127.611 | 128 |
| | 3 Aroclor 1016 (1) | 5.535 | 5.535 | 0.000 | 11898496 | 132.153 | 132 |
| | 4 Aroclor 1016 (2) | 6.165 | 6.166 | -0.001 | 19635346 | 123.132 | 123 |
| | 5 Aroclor 1016 (3) | 6.846 | 6.846 | 0.000 | 44633675 | 125.756 | 126 |
| | 6 Aroclor 1016 (4) | 7.045 | 7.044 | 0.001 | 21760098 | 134.240 | 134 |
| | 7 Aroclor 1016 (5) | 7.197 | 7.195 | 0.002 | 16067576 | 126.735 | 127 |
| M | 8 Aroclor-1260 | | | | 150717819 | 159.022 | 159 |
| | 9 Aroclor 1260 (1) | 9.747 | 9.749 | -0.002 | 43731490 | 161.798 | 162 |
| | 10 Aroclor 1260 (2) | 10.346 | 10.347 | -0.001 | 34984014 | 163.510 | 164 |
| | 11 Aroclor 1260 (3) | 10.739 | 10.742 | -0.003 | 35744262 | 153.366 | 153 |
| | 12 Aroclor 1260 (4) | 12.114 | 12.116 | -0.002 | 10648949 | 128.112 | 128 |
| | 13 Aroclor 1260 (5) | 12.334 | 12.336 | -0.002 | 25609104 | 173.794 | 174 |
| $ | 56 Decachlorobiphenyl | 13.100 | 13.102 | -0.002 | 370737800 | 67.9053 | 67.9 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031505.d

Page 1

Date : 15-MAR-2017 03:31

Client ID:

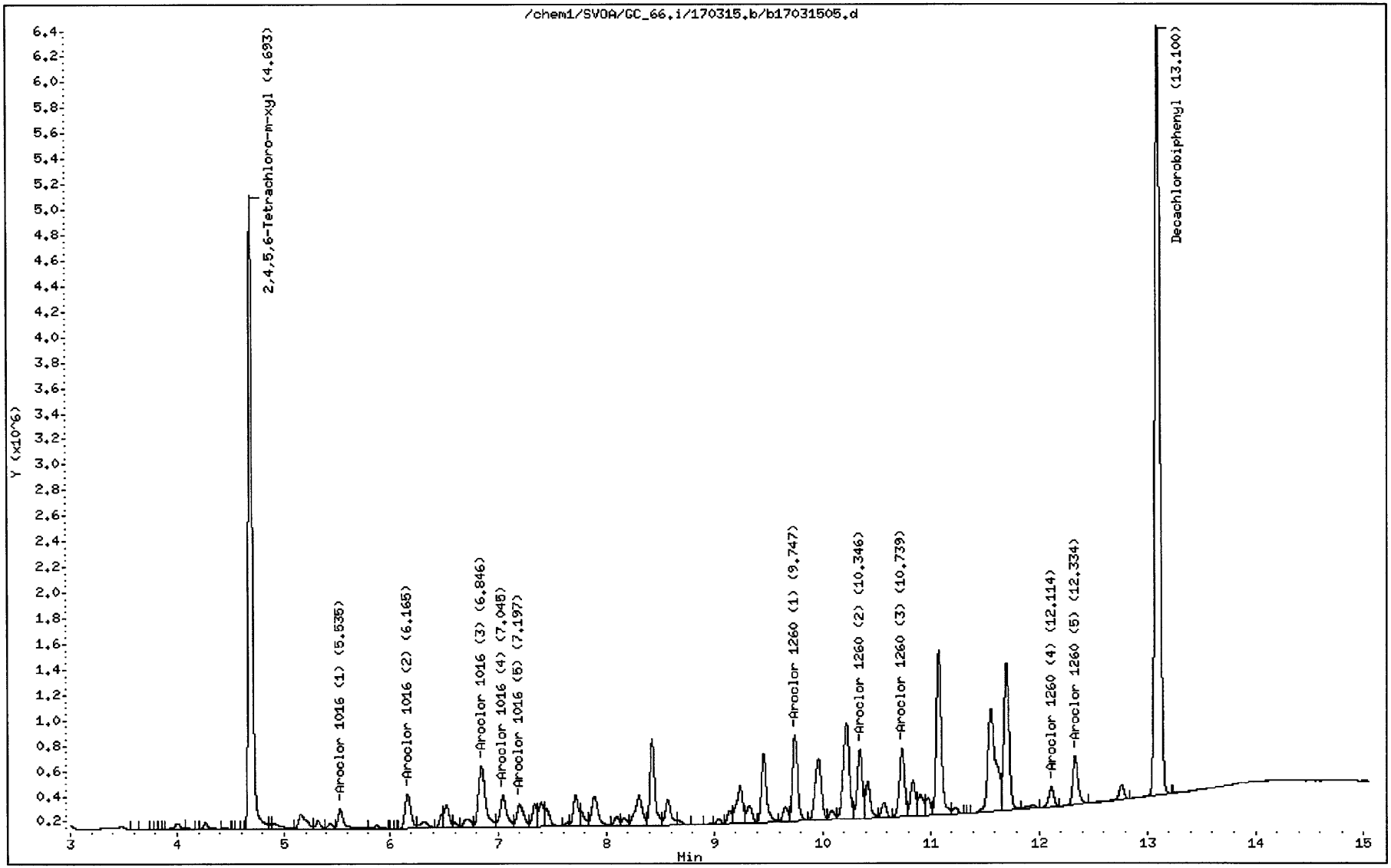
Instrument: GC_66.i

Sample Info: MSD 17-03-0755-15 170311S02

Operator: 669

Column phase:

Column diameter: 2.00



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# EPA METHOD 8082
# PCB

# Continuing Calibration

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# CCV ASSOCIATION SUMMARY
# FOR METHOD: EPA 8082

**BATCH ID:** **170315A026** ANALYZED BY: 1,028
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 |
|---|---|---|---|
| 9431 | Daily Calibration | 2017-03-15 02:19 | /chem1/SVOA/GC_66/170315/b1703150117031501 |

**WORK ORDER:** **17-03-0755** REVIEWED BY:
MATRIX: Soil D/T REVIEWED:

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 15 | D-DU2-S-SG-08-15S | 2017-03-15 03:13 | /chem1/SVOA/GC_66/170315/b1703150417031504 |
| 15 | D-DU2-S-SG-08-15S | 2017-03-15 03:31 | /chem1/SVOA/GC_66/170315/b1703150517031505 |
| 15 | D-DU2-S-SG-08-15S | 2017-03-15 03:48 | /chem1/SVOA/GC_66/170315/b1703150617031506 |
| 16 | D-DU2-S-SG-08-25S | 2017-03-15 04:06 | /chem1/SVOA/GC_66/170315/b1703150717031507 |
| 19 | D-DU2-S-SG-09-15S | 2017-03-15 04:24 | /chem1/SVOA/GC_66/170315/b1703150817031508 |
| 20 | D-DU2-S-SG-09-25S | 2017-03-15 04:42 | /chem1/SVOA/GC_66/170315/b1703150917031509 |

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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

**CCV WORK ORDER: 099-12-532-9431-5154**

BATCH ID:
INITIAL: 170222I003
CCV: 170315A026
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170315/b1703150117031501

ANALYZED BY: 1028
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
CCV: 2017-03-15 02:19
REVIEWED BY:
D/T REVIEWED:

| OMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| oclor-1016 | C | Avg Resp | 0.00 | 893304.438 | 829981.990 | | | 7 | 0-15 | PASS |
| oclor-1260 | C | Avg Resp | 0.00 | 947781.003 | 871569.148 | | | 8 | 0-15 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170315.b/b17031501.d
Report Date: 03/15/2017 14:13

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/170315.b/b8082d-n2.m

Injection Date and Time: 15-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 | 254319.788 | 0.01 | 6 | 15 | Averaged | |
| Aroclor 1260 (2) | 213956.488 | 208567.956 | 0.01 | 3 | 15 | Averaged | |
| Aroclor 1260 (3) | 233064.808 | 207300.956 | 0.01 | 11 | 15 | Averaged | |
| Aroclor 1260 (4) | 83122.167 | 60119.776 | 0.01 | 28 | 15 | Averaged | <-Failed |
| Aroclor-1260 | 947781.003 | 871569.148 | 0.01 | 8 | 15 | Averaged | |
| Aroclor-1016 | 893304.438 | 829981.990 | 0.01 | 7 | 15 | Averaged | |
| Aroclor 1016 (1) | 90035.625 | 84041.890 | 0.01 | 7 | 15 | Averaged | |
| Aroclor 1016 (2) | 159465.395 | 148623.714 | 0.01 | 7 | 15 | Averaged | |
| Aroclor 1016 (3) | 354923.864 | 332465.772 | 0.01 | 6 | 15 | Averaged | |
| Aroclor 1016 (4) | 162098.269 | 148456.816 | 0.01 | 8 | 15 | Averaged | |
| Aroclor 1016 (5) | 126781.283 | 116393.798 | 0.01 | 8 | 15 | Averaged | |
| Aroclor 1260 (5) | 147353.008 | 141260.672 | 0.01 | 4 | 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 | 5411923.850 | 0.01 | 6 | 15 | Averaged |
| Decachlorobiphenyl | 5459627.036 | 5160857.720 | 0.01 | 5 | 15 | Averaged |



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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031501.d Page 1
Report Date: 15-Mar-2017 14:06

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031501.d
Lab Smp Id:
Inj Date : 15-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/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 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 | 4.695 | 4.695 | 0.000 | 541192385 | 100.000 | 94.2 |
| M | 2 Aroclor-1016 | | | | 414990995 | 500.000 | 464 |
| | 3 Aroclor 1016 (1) | 5.535 | 5.535 | 0.000 | 42020945 | 500.000 | 467 |
| | 4 Aroclor 1016 (2) | 6.166 | 6.166 | 0.000 | 74311857 | 500.000 | 466 |
| | 5 Aroclor 1016 (3) | 6.846 | 6.846 | 0.000 | 166232886 | 500.000 | 468 |
| | 6 Aroclor 1016 (4) | 7.044 | 7.044 | 0.000 | 74228408 | 500.000 | 458 |
| | 7 Aroclor 1016 (5) | 7.195 | 7.195 | 0.000 | 58196899 | 500.000 | 459 |
| M | 8 Aroclor-1260 | | | | 435784574 | 500.000 | 460 |
| | 9 Aroclor 1260 (1) | 9.749 | 9.749 | 0.000 | 127159894 | 500.000 | 470 |
| | 10 Aroclor 1260 (2) | 10.347 | 10.347 | 0.000 | 104283978 | 500.000 | 487 |
| | 11 Aroclor 1260 (3) | 10.742 | 10.742 | 0.000 | 103650478 | 500.000 | 445 |
| | 12 Aroclor 1260 (4) | 12.116 | 12.116 | 0.000 | 30059888 | 500.000 | 362 |
| | 13 Aroclor 1260 (5) | 12.336 | 12.336 | 0.000 | 70630336 | 500.000 | 479 |
| $ | 56 Decachlorobiphenyl | 13.102 | 13.102 | 0.000 | 516085772 | 100.000 | 94.5 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031501.d

Page 1

Date : 15-MAR-2017 02:19

Client ID:

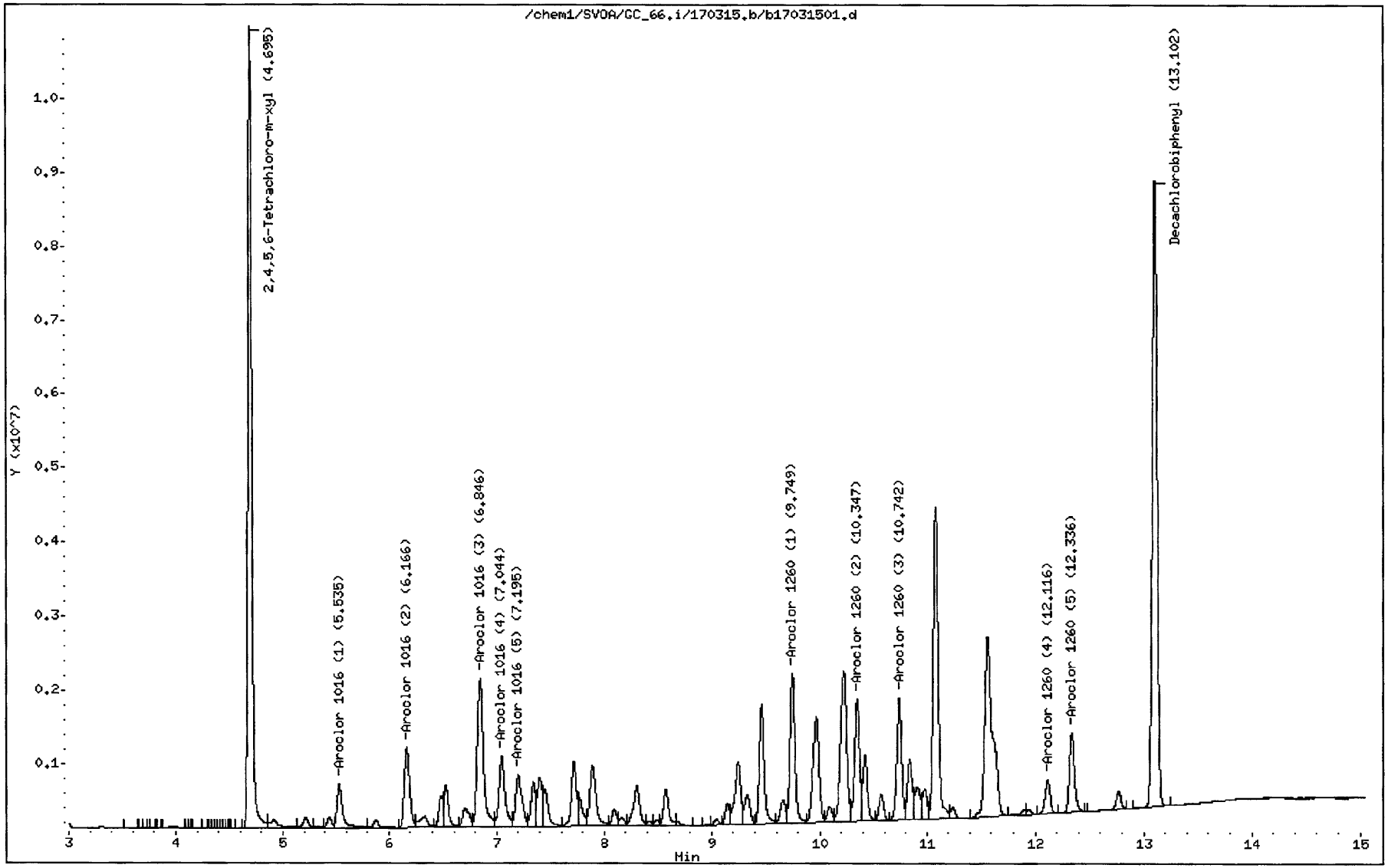
Instrument: GC_66.i

Sample Info: PCB CCV P021517I 500PPB

Operator: 669

Column phase:

Column diameter: 2.00



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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8082

**CCV WORK ORDER:** **099-12-532-9436-5154**

BATCH ID:
INITIAL: 170222I003
CCV: 170315A027
INSTRUMENT: GC 66

DATA FILE: /chem1/SVOA/GC_66/170315/b1703152217031522

ANALYZED BY: 1028
D/T ANALYZED:
INITIAL: 2017-02-22 17:27
CCV: 2017-03-15 09:33
REVIEWED BY: 
D/T REVIEWED:

| OMPOUND NAME | TYPE | CALIB MODEL | MIN RF | AVG RF | CCV RF | AMOUNT | CCV CONC | CCV %D | CCV %D CL | STATUS |
|---|---|---|---|---|---|---|---|---|---|---|
| oclor-1016 | C | Avg Resp | 0.00 | 893304.438 | 794218.278 | | | 11 | 0-15 | PASS |
| oclor-1260 | C | Avg Resp | 0.00 | 947781.003 | 879140.340 | | | 7 | 0-15 | PASS |

MIN RF: Method Specified Minimum Response Factor

Data File: /chem1/SVOA/GC_66.i/170315.b/b17031522.d
Report Date: 03/15/2017 14:13

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/170315.b/b8082d-n2.m

Injection Date and Time: 15-MAR-2017 09:33
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 | 249434.968 | 0.01 | 8 | 15 | Averaged | |
| Aroclor 1260 (2) | 213956.488 | 205106.904 | 0.01 | 4 | 15 | Averaged | |
| Aroclor 1260 (3) | 233064.808 | 208314.660 | 0.01 | 11 | 15 | Averaged | |
| Aroclor 1260 (4) | 83122.167 | 66101.108 | 0.01 | 20 | 15 | Averaged | <-Failed |
| Aroclor-1260 | 947781.003 | 879140.340 | 0.01 | 7 | 15 | Averaged | |
| Aroclor-1016 | 893304.438 | 794218.278 | 0.01 | 11 | 15 | Averaged | |
| Aroclor 1016 (1) | 90035.625 | 78564.182 | 0.01 | 13 | 15 | Averaged | |
| Aroclor 1016 (2) | 159465.395 | 143096.568 | 0.01 | 10 | 15 | Averaged | |
| Aroclor 1016 (3) | 354923.864 | 323578.340 | 0.01 | 9 | 15 | Averaged | |
| Aroclor 1016 (4) | 162098.269 | 139828.422 | 0.01 | 14 | 15 | Averaged | |
| Aroclor 1016 (5) | 126781.283 | 109150.766 | 0.01 | 14 | 15 | Averaged | |
| Aroclor 1260 (5) | 147353.008 | 150182.700 | 0.01 | -2 | 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 | 5362505.120 | 0.01 | 7 | 15 | Averaged |
| Decachlorobiphenyl | 5459627.036 | 5191302.460 | 0.01 | 5 | 15 | Averaged |



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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031522.d Page 1
Report Date: 15-Mar-2017 14:06

Eurofins Calscience

EPA 8082/A PCB analysis

Data file : /chem1/SVOA/GC_66.i/170315.b/b17031522.d
Lab Smp Id:
Inj Date : 15-MAR-2017 09:33
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/170315.b/b8082d-n2.m
Meth Date : 15-Mar-2017 14:06 i9h5 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 ( ppb) | AMOUNTS ON-COL ( ppb) |
|---|---|---|---|---|---|---|---|
| Compounds | | RT | EXP RT | DLT RT | RESPONSE | | |
| $ | 1 2,4,5,6-Tetrachloro-m-xylene | 4.694 | 4.694 | 0.000 | 536250512 | 100.000 | 93.4 |
| M | 2 Aroclor-1016 | | | | 397109139 | 500.000 | 444 |
| | 3 Aroclor 1016 (1) | 5.532 | 5.532 | 0.000 | 39282091 | 500.000 | 436 |
| | 4 Aroclor 1016 (2) | 6.164 | 6.164 | 0.000 | 71548284 | 500.000 | 449 |
| | 5 Aroclor 1016 (3) | 6.842 | 6.842 | 0.000 | 161789170 | 500.000 | 456 |
| | 6 Aroclor 1016 (4) | 7.042 | 7.042 | 0.000 | 69914211 | 500.000 | 431 |
| | 7 Aroclor 1016 (5) | 7.192 | 7.192 | 0.000 | 54575383 | 500.000 | 430 |
| M | 8 Aroclor-1260 | | | | 439570170 | 500.000 | 464 |
| | 9 Aroclor 1260 (1) | 9.745 | 9.745 | 0.000 | 124717484 | 500.000 | 461 |
| | 10 Aroclor 1260 (2) | 10.345 | 10.345 | 0.000 | 102553452 | 500.000 | 479 |
| | 11 Aroclor 1260 (3) | 10.738 | 10.738 | 0.000 | 104157330 | 500.000 | 447 |
| | 12 Aroclor 1260 (4) | 12.112 | 12.112 | 0.000 | 33050554 | 500.000 | 398 |
| | 13 Aroclor 1260 (5) | 12.330 | 12.330 | 0.000 | 75091350 | 500.000 | 510 |
| $ | 56 Decachlorobiphenyl | 13.098 | 13.098 | 0.000 | 519130246 | 100.000 | 95.1 |

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Data File: /chem1/SVOA/GC_66.i/170315.b/b17031522.d

Page 1

Date : 15-MAR-2017 09:33

Client ID:

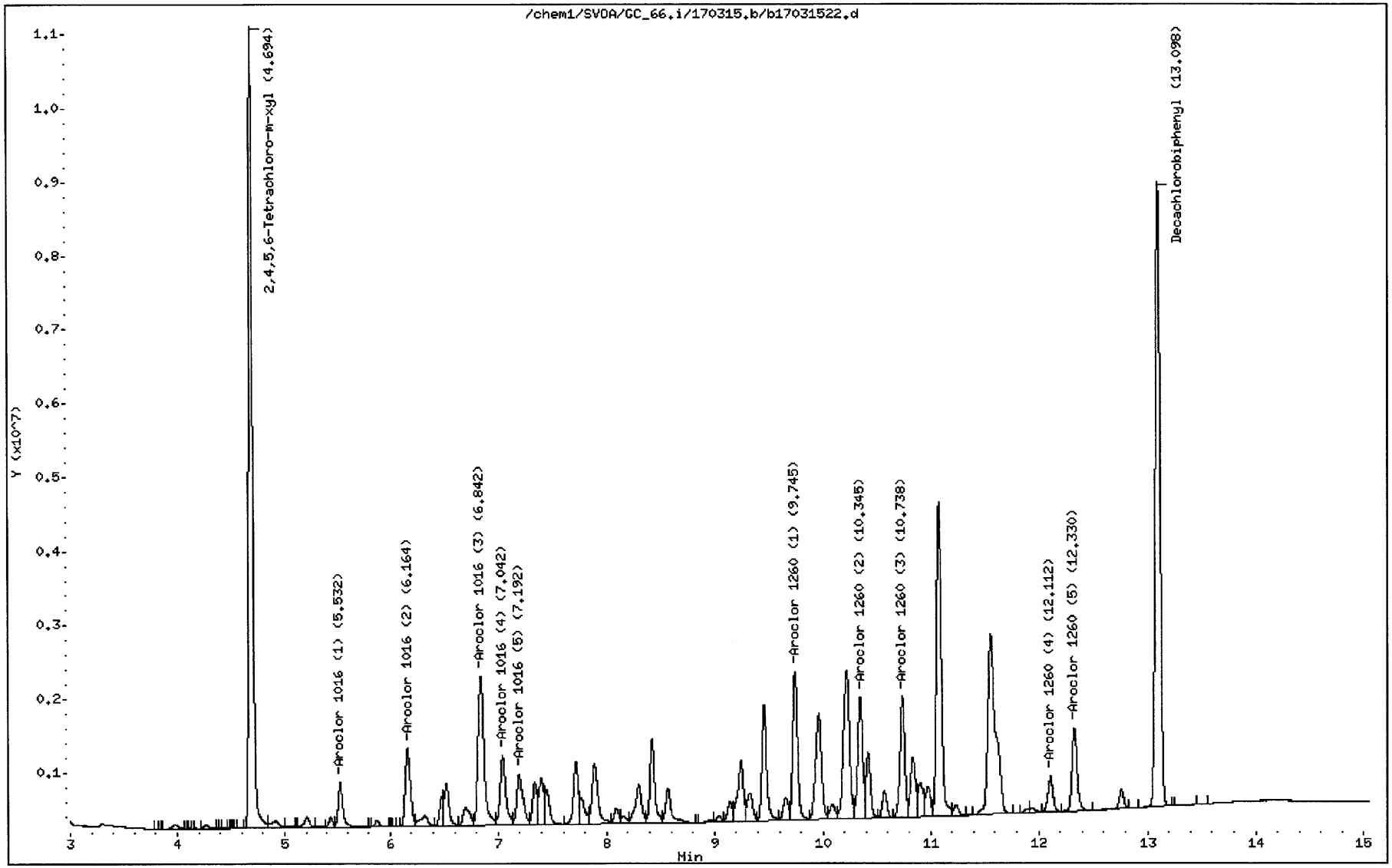
Instrument: GC_66.i

Sample Info: PCB CCV P021517I 500PPB

Operator: 669

Column phase:

Column diameter: 2.00



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# EPA METHOD 8082
# PCB

# Run Logs

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Sequence: C:\CHEM32\1\SEQUENCE\170222A.S
Table: Front DataPath: W:\GC_66\DATA\2017\170222A\



| 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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Sequence: C:\CHEM32\1\SEQUENCE\170315.S
Table: Front DataPath: W:\GC_66\DATA\2017\170315\



| Line | Vial | File | Name | Method | InjVolume | Acquired |
|---|---|---|---|---|---|---|
| 1 | 150 | 17031500 | S007-46-21 | 8082D-N2 | | 15-Mar-17, 02:01:47 |
| 2 | 1 | 17031501 | PCB CCV P021517I 500PPB | 8082D-N2 | A026 | 15-Mar-17, 02:19:35 |
| 3 | 2 | 17031502 | MB 170311L02 | 8082D-N2 | | 15-Mar-17, 02:37:24 |
| 4 | 3 | 17031503 | LCS 170311L02 | 8082D-N2 | | 15-Mar-17, 02:55:14 |
| 5 | 4 | 17031504 | MS 17-03-0755-15 170311S02 | 8082D-N2 | | 15-Mar-17, 03:13:13 |
| 6 | 5 | 17031505 | MSD 17-03-0755-15 170311S02 | 8082D-N2 | | 15-Mar-17, 03:31:02 |
| 7 | 6 | 17031506 | 17-03-0755-15 | 8082D-N2 | | 15-Mar-17, 03:48:49 |
| 8 | 7 | 17031507 | 17-03-0755-16 | 8082D-N2 | | 15-Mar-17, 04:06:38 |
| 9 | 8 | 17031508 | 17-03-0755-19 | 8082D-N2 | | 15-Mar-17, 04:24:32 |
| 10 | 9 | 17031509 | 17-03-0755-20 | 8082D-N2 | | 15-Mar-17, 04:42:19 |
| 11 | 10 | 17031510 | 17-03-0856-9 | 8082D-N2 | | 15-Mar-17, 05:00:08 |
| 12 | 11 | 17031511 | 17-03-0856-10 | 8082D-N2 | | 15-Mar-17, 05:17:57 |
| 13 | 12 | 17031512 | 17-03-0464-3 | 8082D-N2 | | 15-Mar-17, 05:35:50 |
| 14 | 13 | 17031513 | 17-03-0550-3 RR | 8082D-N2 | | 15-Mar-17, 05:53:39 |
| 15 | 14 | 17031514 | 17-03-0550-4 RR | 8082D-N2 | | 15-Mar-17, 06:11:26 |
| 16 | 15 | 17031515 | 17-03-0550-6 HG 5X | 8082D-N2 | | 15-Mar-17, 06:29:16 |
| 17 | 16 | 17031516 | 17-03-0771-28 | 8082D-N2 | | 15-Mar-17, 06:47:11 |
| 18 | 17 | 17031517 | MB 170313L05 | 8082D-N2 | | 15-Mar-17, 07:04:58 |
| 19 | 18 | 17031518 | 17-03-0771-1 | 8082D-N2 | | 15-Mar-17, 07:22:47 |
| 20 | 19 | 17031519 | 17-03-0771-2 | 8082D-N2 | | 15-Mar-17, 07:40:34 |
| 21 | 20 | 17031520 | 17-03-0771-3 | 8082D-N2 | | 15-Mar-17, 07:58:28 |
| 22 | 21 | 17031521 | LCS 170313L05 | 8082D-N2 | A027 | 15-Mar-17, 08:16:17 |
| 23 | 22 | 17031522 | PCB CCV P021517I 500PPB | 8082D-N2 | | 15-Mar-17, 09:33:41 |
| 24 | 23 | 17031523 | 17-03-0771-4 | 8082D-N2 | | 15-Mar-17, 09:56:47 |
| 25 | 24 | 17031524 | 17-03-0771-7 | 8082D-N2 | | 15-Mar-17, 10:14:34 |
| 26 | 25 | 17031525 | 17-03-0771-8 | 8082D-N2 | | 15-Mar-17, 10:32:24 |
| 27 | 26 | 17031526 | 17-03-0771-9 | 8082D-N2 | | 15-Mar-17, 10:50:12 |
| 28 | 27 | 17031527 | 17-03-0771-10 | 8082D-N2 | | 15-Mar-17, 11:08:01 |
| 29 | 28 | 17031528 | 17-03-0771-11 | 8082D-N2 | | 15-Mar-17, 11:25:53 |
| 30 | 29 | 17031529 | 17-03-0771-13 | 8082D-N2 | | 15-Mar-17, 11:43:45 |
| 31 | 30 | 17031530 | 17-03-0771-14 | 8082D-N2 | | 15-Mar-17, 12:01:35 |
| 32 | 39 | 17031539 | 17-03-0771-21 | 8082D-N2 | | 15-Mar-17, 12:22:02 |
| 33 | 40 | 17031540 | 17-03-0771-22 | 8082D-N2 | | 15-Mar-17, 12:39:56 |
| 34 | 41 | 17031541 | 17-03-0771-23 | 8082D-N2 | | 15-Mar-17, 12:57:49 |
| 35 | 42 | 17031542 | 17-03-0771-28 Hg | 8082D-N2 | | 15-Mar-17, 13:47:06 |
| 36 | 31 | 17031531 | 17-03-0771-15 | 8082D-N2 | | 15-Mar-17, 14:04:55 |
| 37 | 32 | 17031532 | 17-03-0771-16 | 8082D-N2 | | 15-Mar-17, 14:22:48 |
| 38 | 33 | 17031533 | 17-03-0771-17 | 8082D-N2 | | |
| 39 | 34 | 17031534 | 17-03-0771-18 | 8082D-N2 | | |
| 40 | 35 | 17031535 | 17-03-0771-24 | 8082D-N2 | | |
| 41 | 36 | 17031536 | 17-03-0771-25 | 8082D-N2 | | |
| 42 | 37 | 17031537 | MS 17-03-0771-18 | 8082D-N2 | | |
| 43 | 38 | 17031538 | MSD 17-03-0771-18 | 8082D-N2 | | |
| 44 | 43 | 17031543 | PCB CCV P021517I 500PPB | 8082D-N2 | A029 | |

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# EPA METHOD 8082
# PCB

# 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- 963 Start Extraction- 1104/785 Blow Down- 1084/1101 Clean Up- 944

Matrix: ☑ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air

Balance ID#: 70 Filter ID#: 507-17-17 ASE ID#: 7 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:

Ext. Start Date/Time: 3/11/17 13:00 Ext. End Date/Time: 3/11/17 15:00

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): 5101316A 0.5

Spike Std ID# & Volume Added (mL): 5020317A 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#: 507-44-07/507-44-08 Exchange Solvent (☑ Hexane ☐ Acetonitrile) ID#: 507-42-09

Clean Up Start Date & Time: 03/14/17 - 12:00 Clean Up End Date & Time: 03/14/17 - 12:40

Clean Up: ☐ 3620 Florisil ☐ 3630 SGC ☐ 3660 Sulfur ☑ 3665 Acid ☐ Other Cartridge ID#:

Clean Up Reagent ID#: 507-52-12 Cartridge Conditioning Column Pre-Elution Reagent ID#:

MB/LCS/MS Batch #: 170311L02

| Cel ID#: | Sample W(g)/ V (mL) Initial | Final | Clean Up Performed | Comments |
|---|---|---|---|---|
| MB | 20.0 | 10 | ☑ | |
| LCS | 20.0 | 10 | ☑ | |
| LCSD | – | – | ☐ | |
| MS 17-03-0755-15A | 20.1g | 10 | ☑ | |
| MSD 17-03-0755-15A | 20.0g | 10 | ☑ | |
| 17-03-0755-15A | 20.2g | 10 | ☑ | |
| -16A | 20.0g | 10 | ☑ | |
| -19A | 20.0g | 10 | ☑ | |
| -20A | 20.0g | 10 | ☑ | |
| 17-03-0856-9A | 20.1g | 10 | ☑ | |
| -10A | 20.1g | 10 | ☑ | |
| 17-03-0464-3A | 20.2g | 10 | ☑ | Dirty Sample |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |
| | | | ☐ | |
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| | | | ☐ | |

Peer Reviewed by: 787 Peer Reviewed Date: 03/14/17 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:
D/T REVIEWED:

| 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:
D/T REVIEWED:

| 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 |
| Benzo (e) Pyrene | | Avg Resp | 0.00 | 1.557 | 1.395 | | | 10 | 0-20 | PASS |
| Perylene | | Avg Resp | 0.00 | 1.493 | 1.264 | | | 15 | 0-20 | PASS |
| Biphenyl | | Avg Resp | 0.00 | 2.240 | 2.047 | | | 9 | 0-20 | PASS |
| 1-Methylphenanthrene | | Avg Resp | 0.00 | 0.997 | 0.912 | | | 9 | 0-20 | PASS |
| 2,6-Dimethylnaphthalene | | Avg Resp | 0.00 | 1.572 | 1.418 | | | 10 | 0-20 | PASS |
| 1,6,7-Trimethylnaphthalene | | Avg Resp | 0.00 | 1.571 | 1.354 | | | 14 | 0-20 | PASS |
| Dibenzothiophene | | Avg Resp | 0.00 | 4.622 | 4.193 | | | 9 | 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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Report Date : 13-Mar-2017 15:04 Page 2

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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Report Date : 13-Mar-2017 15:04 Page 3

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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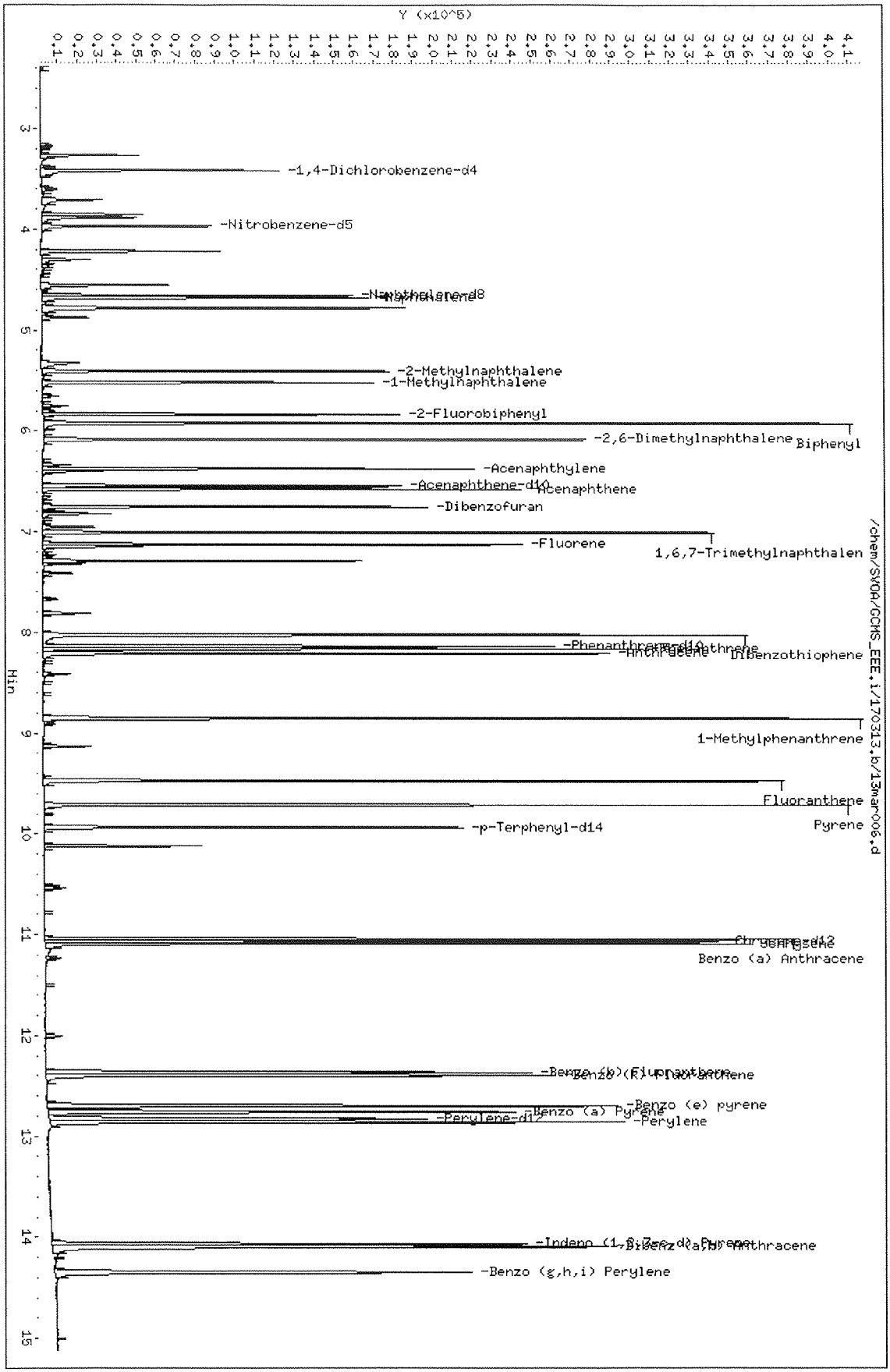
Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar006.d
Date : 13-MAR-2017 12:52
Client ID:
Sample Info: ICAL-1 S0103170 5PPM
Column phase: J&W DB-5MS

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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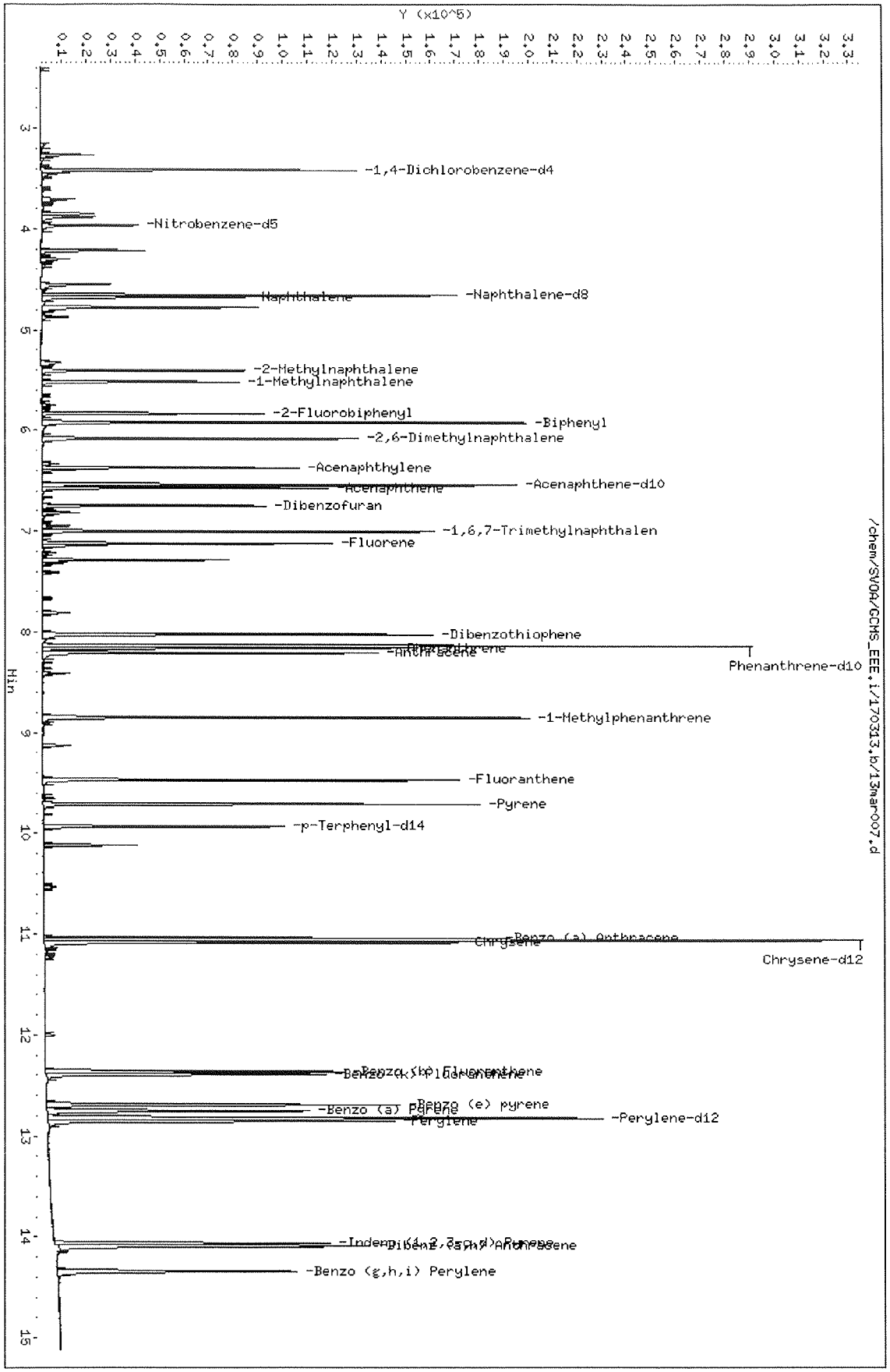
Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar007.d
Date : 13-MAR-2017 13:13
Client ID:
Sample Info: ICAL-2 S010317E 2PPM
Column phase: J&W DB-5MS

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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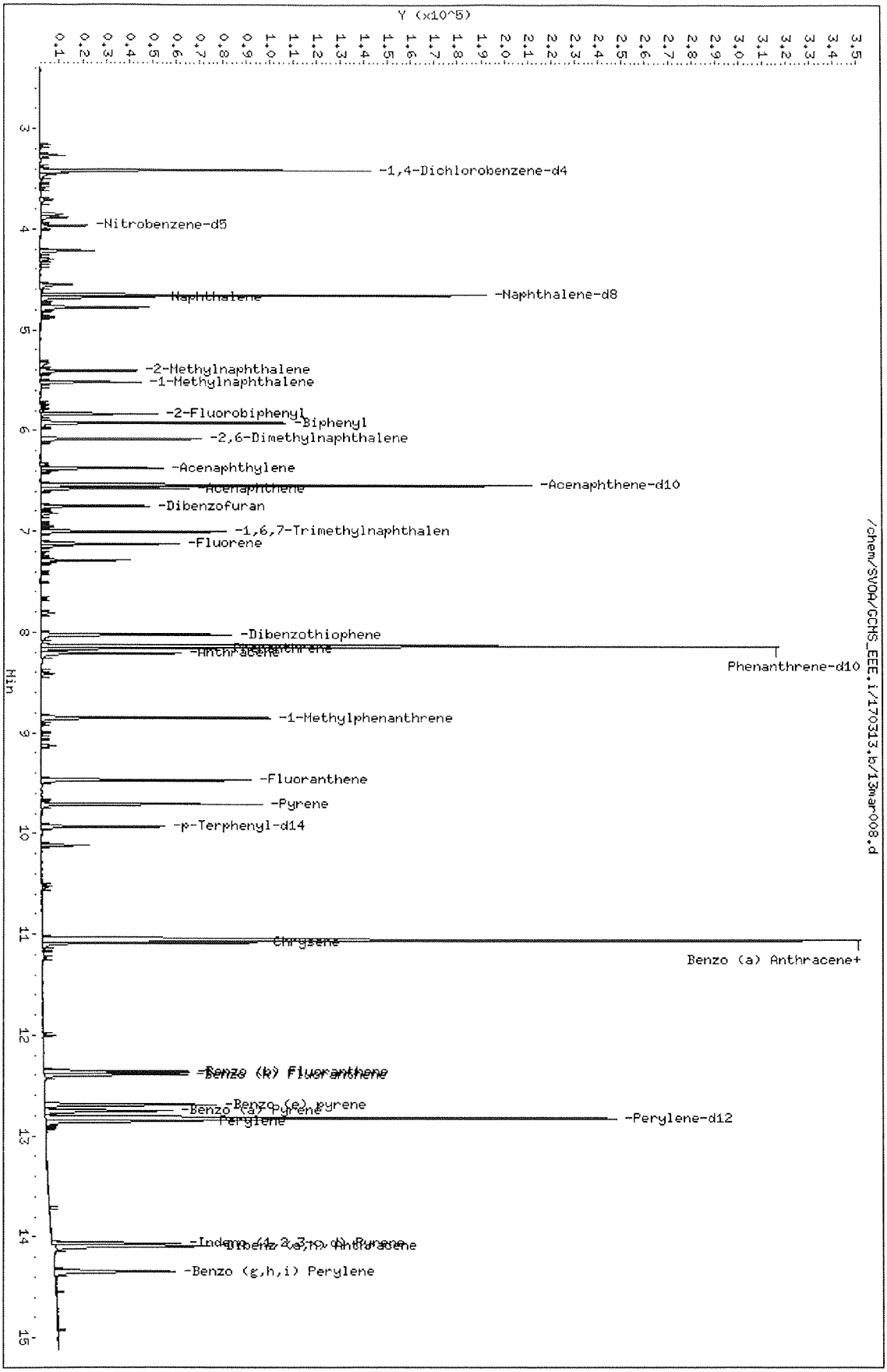
Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar008.d
Date : 13-MAR-2017 13:33
Client ID:
Sample Info: ICAL-3 S010317F 1PPM
Column phase: J&W DB-5MS

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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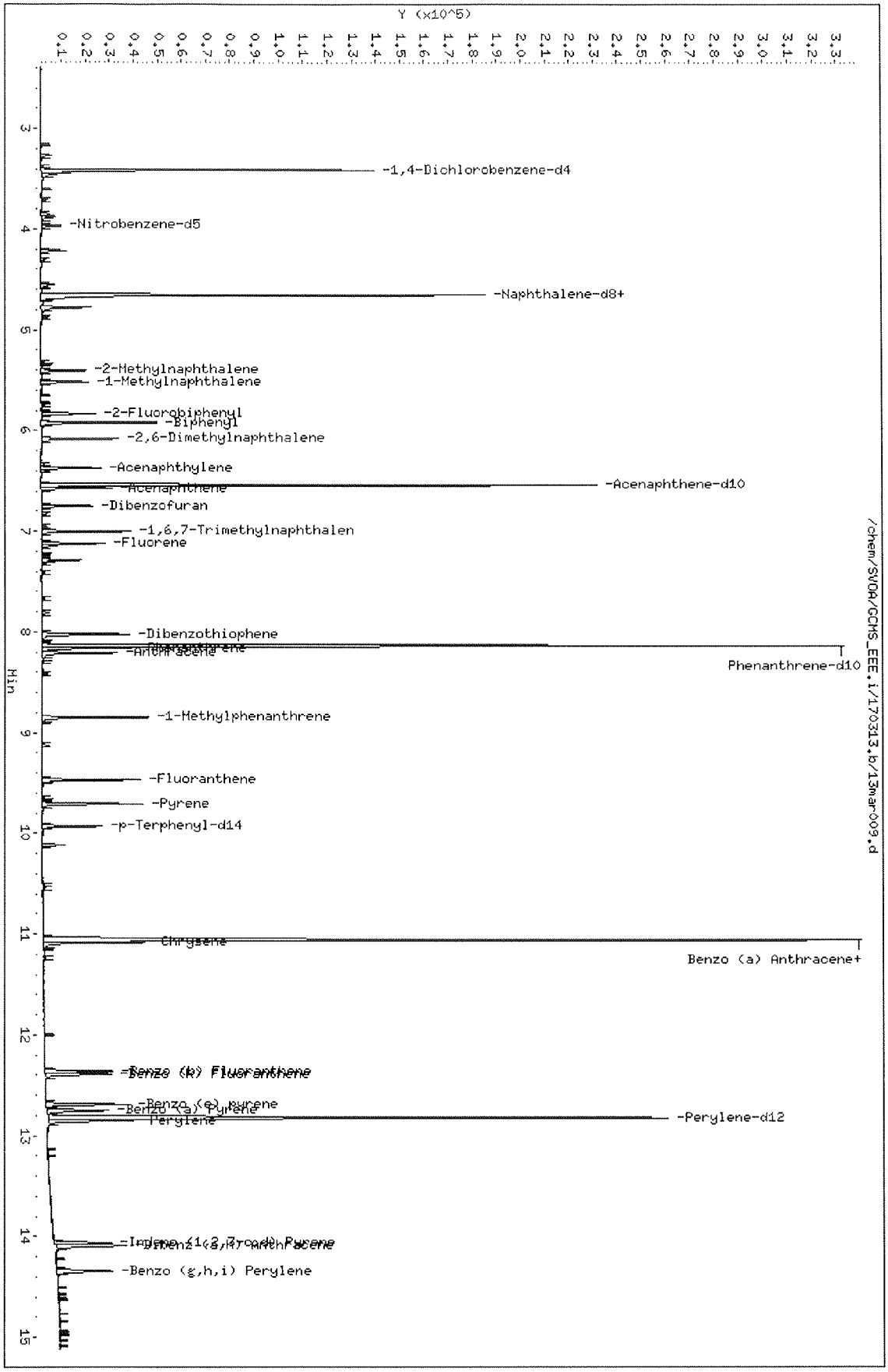
Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar009.d
Date : 13-MAR-2017 13:53
Client ID:
Sample Info: ICAL-4 S010317C 0.5PPM
Column phase: J&W DB-5MS

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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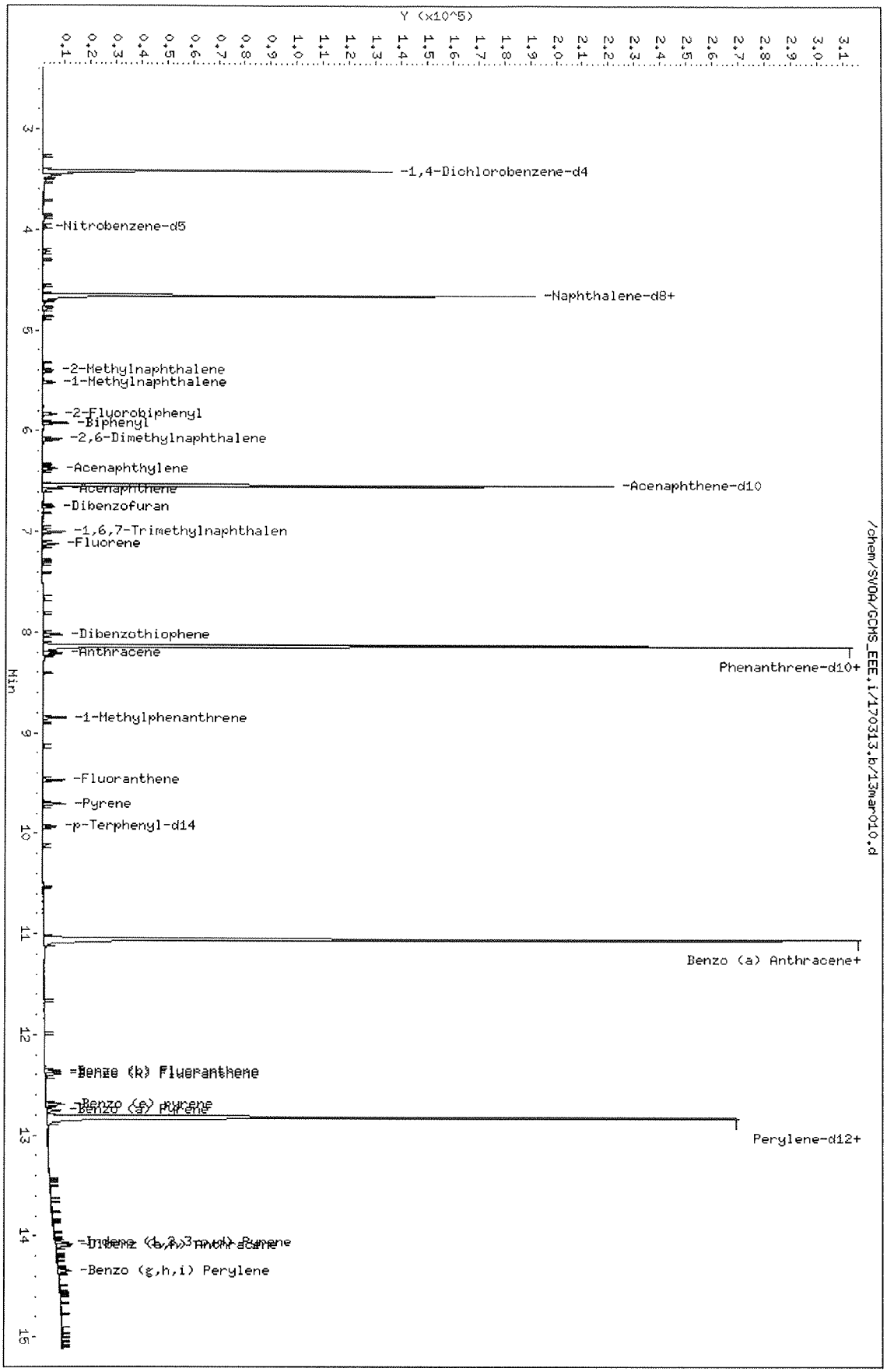
Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar010.d
Date : 13-MAR-2017 14:13
Client ID:
Sample Info: ICAL-5 S010317H 0.1PPM
Column phase: J&W DB-5MS

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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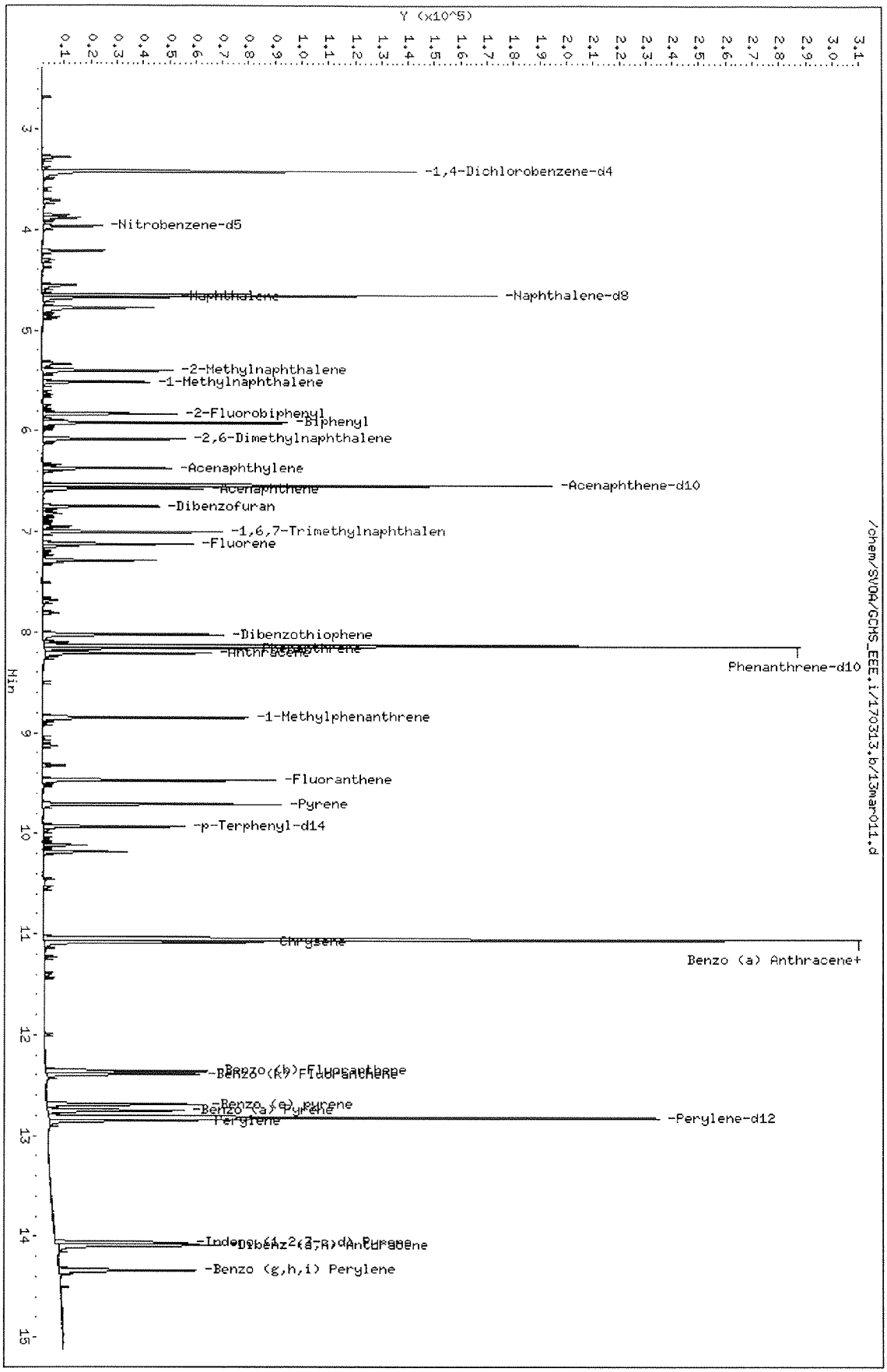
Data File: /chem/SVOA/GCMS_EEE.i/170313.b/13mar011.d
Date : 13-MAR-2017 14:34
Client ID:
Sample Info: ICV S0103171 1PPM
Column phase: J&W DB-5MS

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:** **17-03-0755**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-14 17:01
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar019.d\14mar019.rr

**# 15** **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-08-15S**

LCS/MB BATCH: 170311L03
MS/MSD BATCH: 170311S03
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 | 0.000 | 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/170314.b/14mar019.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 17:01 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:43 ev7p

Sample Name: 17-03-0755-15 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) | 3.406 | 152 | 59391 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.642 | 136 | 170372 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.528 | 164 | 95243 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.130 | 188 | 276021 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.818 | 264 | 282516 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.050 | 240 | 287019 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.955 | 82 | 8707 | 0.772 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 77.155 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.826 | 172 | 24087 | 0.701 | -0.01 |
| SpikedAmount 1.000 | Recovery = | 70.055 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.924 | 244 | 36054 | 0.811 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 81.057 | | | | |
| 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/170314.b/14mar019.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 17:01 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:43 ev7p

Sample Name: 17-03-0755-15 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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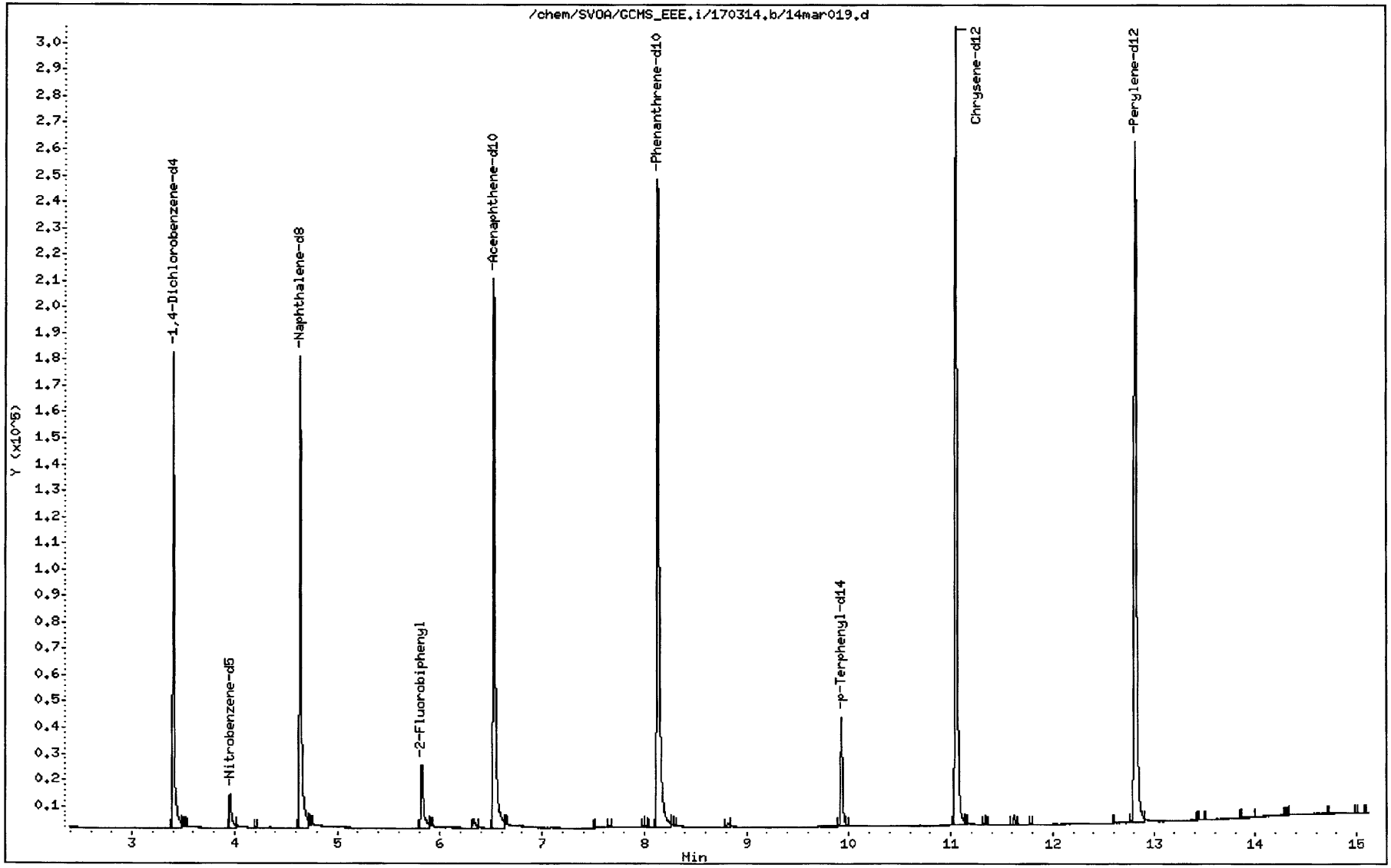
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar019.d
Date : 14-MAR-2017 17:01
Client ID:
Sample Info: 17-03-0755-15

Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i

Operator: 907
Column diameter: 0.18





# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-14 17:21
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar020.d\14mar020.rr

**# 16** **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-08-25S**

LCS/MB BATCH: 170311L03
MS/MSD BATCH: 170311S03
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/170314.b/14mar020.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 17:21 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 17:45 ev7p

Sample Name: 17-03-0755-16 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) | 3.405 | 152 | 55630 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.640 | 136 | 164300 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.528 | 164 | 90638 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.130 | 188 | 260345 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.818 | 264 | 262928 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.052 | 240 | 268916 | 5.000 | -0.01 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.955 | 82 | 8266 | 0.760 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 75.959 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.826 | 172 | 19090 | 0.583 | -0.01 |
| SpikedAmount 1.000 | Recovery = | 58.343 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.926 | 244 | 36111 | 0.867 | -0.01 |
| SpikedAmount 1.000 | Recovery = | 86.651 | | | | |
| 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 | | 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/170314.b/14mar020.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 17:21 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 17:45 ev7p

Sample Name: 17-03-0755-16 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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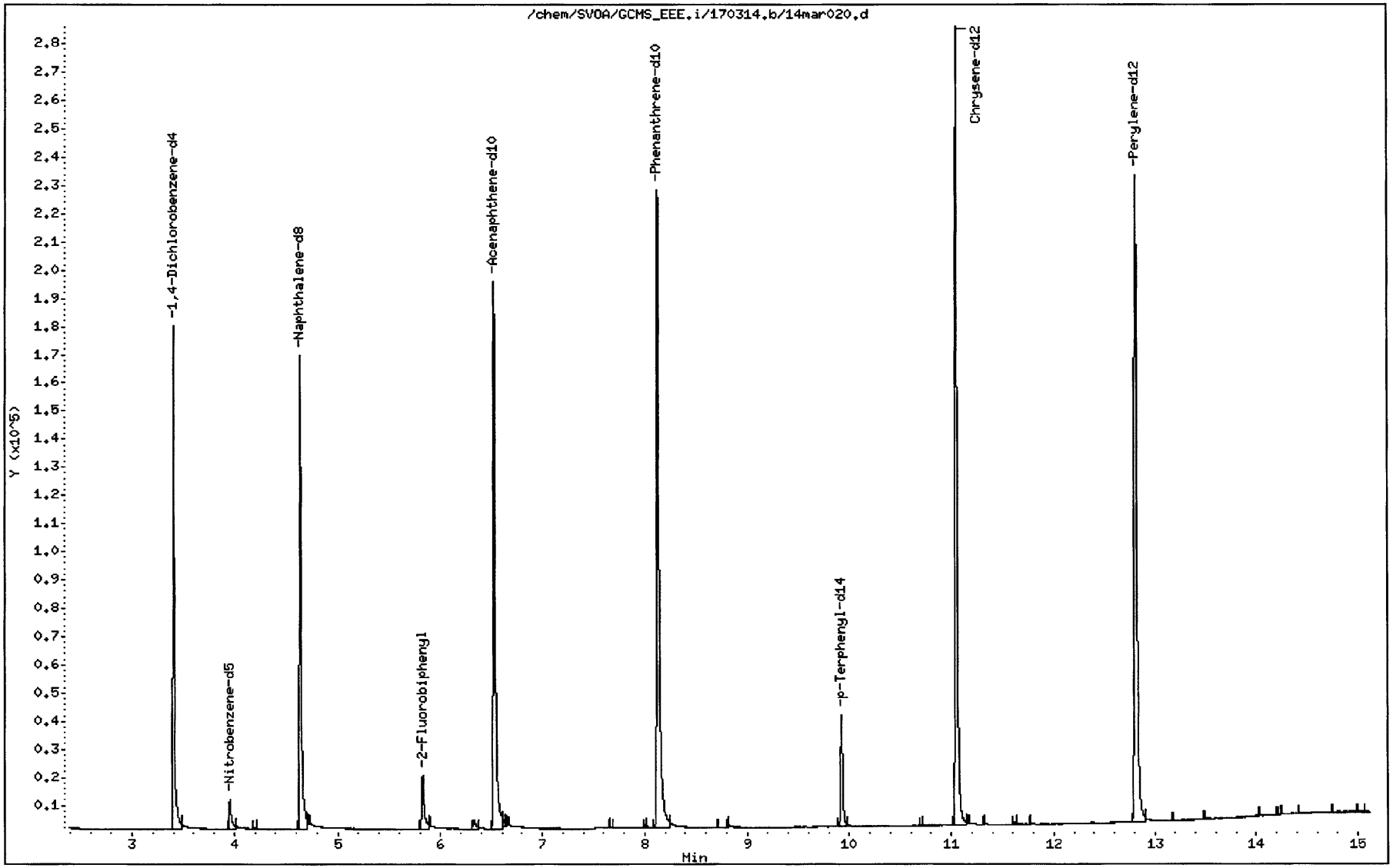
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar020.d
Date : 14-MAR-2017 17:21
Client ID:
Sample Info: 17-03-0755-16

Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i

Operator: 907
Column diameter: 0.18





# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-14 17:41
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar021.d\14mar021.rr

**# 19** **CLIENT SAMPLE NUMBER: D-DU2-S-SG-09-15S**

LCS/MB BATCH: 170311L03
MS/MSD BATCH: 170311S03
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/170314.b/14mar021.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 17:41 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:44 ev7p

Sample Name: 17-03-0755-19 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) | 3.404 | 152 | 56461 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.640 | 136 | 157851 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.528 | 164 | 89392 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.130 | 188 | 242883 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.818 | 264 | 178799 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.050 | 240 | 212538 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.955 | 82 | 7938 | 0.759 | 0.00 |
| SpikedAmount 1.000 | Recovery = 75.920 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.824 | 172 | 18865 | 0.585 | -0.01 |
| SpikedAmount 1.000 | Recovery = 58.459 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.928 | 244 | 33311 | 1.011 | -0.01 |
| SpikedAmount 1.000 | Recovery = 101.135 | | | | | |
| 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/170314.b/14mar021.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 17:41 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:44 ev7p

Sample Name: 17-03-0755-19 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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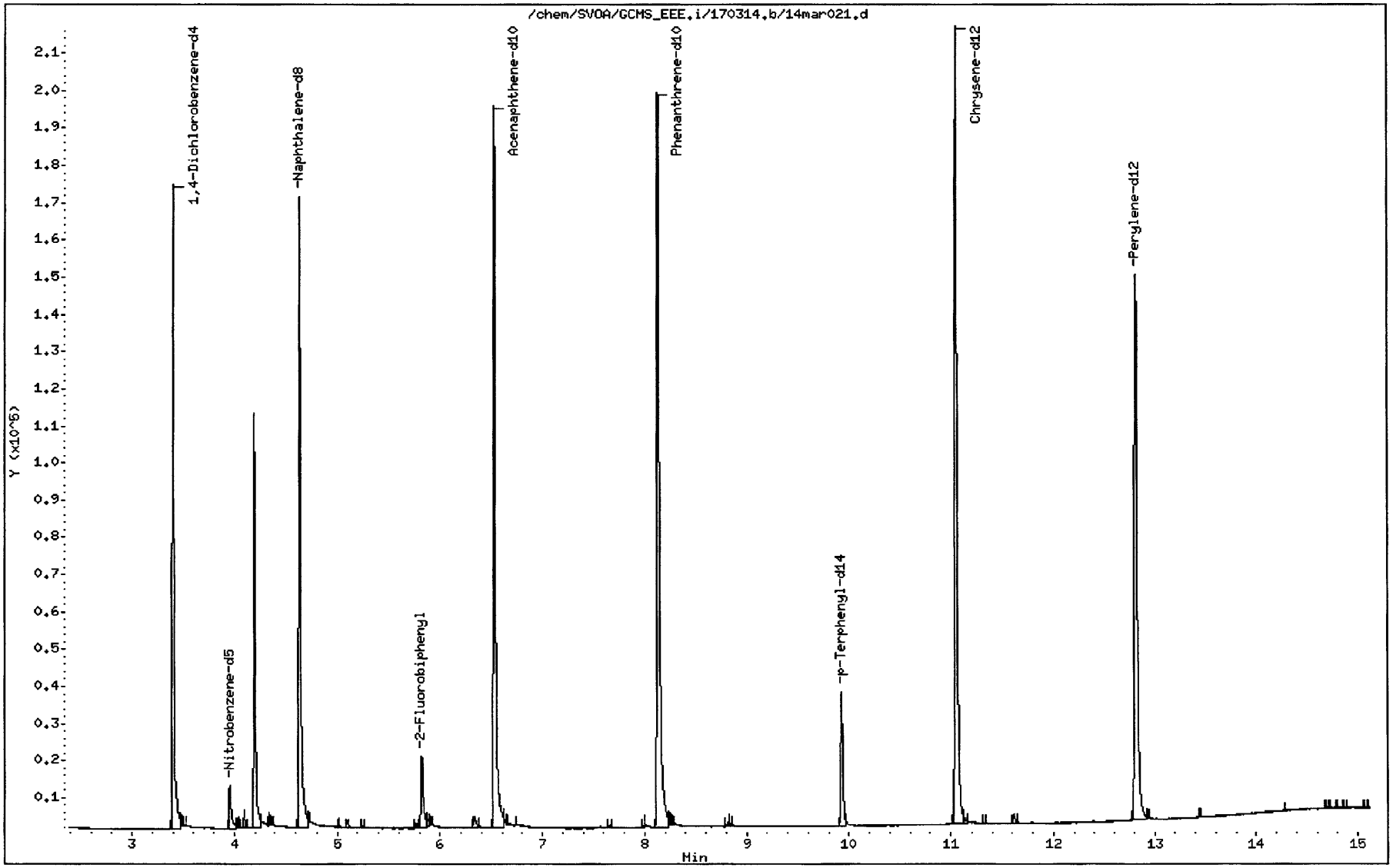
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar021.d
Date : 14-MAR-2017 17:41
Client ID:
Sample Info: 17-03-0755-19

Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i

Operator: 907
Column diameter: 0.18





# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**WORK ORDER:** **17-03-0755**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-14 18:02
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar022.d\14mar022.rr

**# 20** **CLIENT SAMPLE NUMBER:** **D-DU2-S-SG-09-25S**

LCS/MB BATCH: 170311L03
MS/MSD BATCH: 170311S03
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 | 0.000 | 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/170314.b/14mar022.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 18:02 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:44 ev7p

Sample Name: 17-03-0755-20 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) | 3.405 | 152 | 56966 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.642 | 136 | 161712 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.528 | 164 | 89203 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.130 | 188 | 252973 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.818 | 264 | 256027 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.050 | 240 | 262464 | 5.000 | -0.01 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.956 | 82 | 9720 | 0.907 | -0.01 |
| SpikedAmount 1.000 | Recovery = 90.743 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.826 | 172 | 27368 | 0.850 | -0.01 |
| SpikedAmount 1.000 | Recovery = 84.988 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.926 | 244 | 49966 | 1.228 | -0.01 |
| SpikedAmount 1.000 | Recovery = 122.844 | | | | | |
| 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/170314.b/14mar022.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 18:02 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:44 ev7p

Sample Name: 17-03-0755-20 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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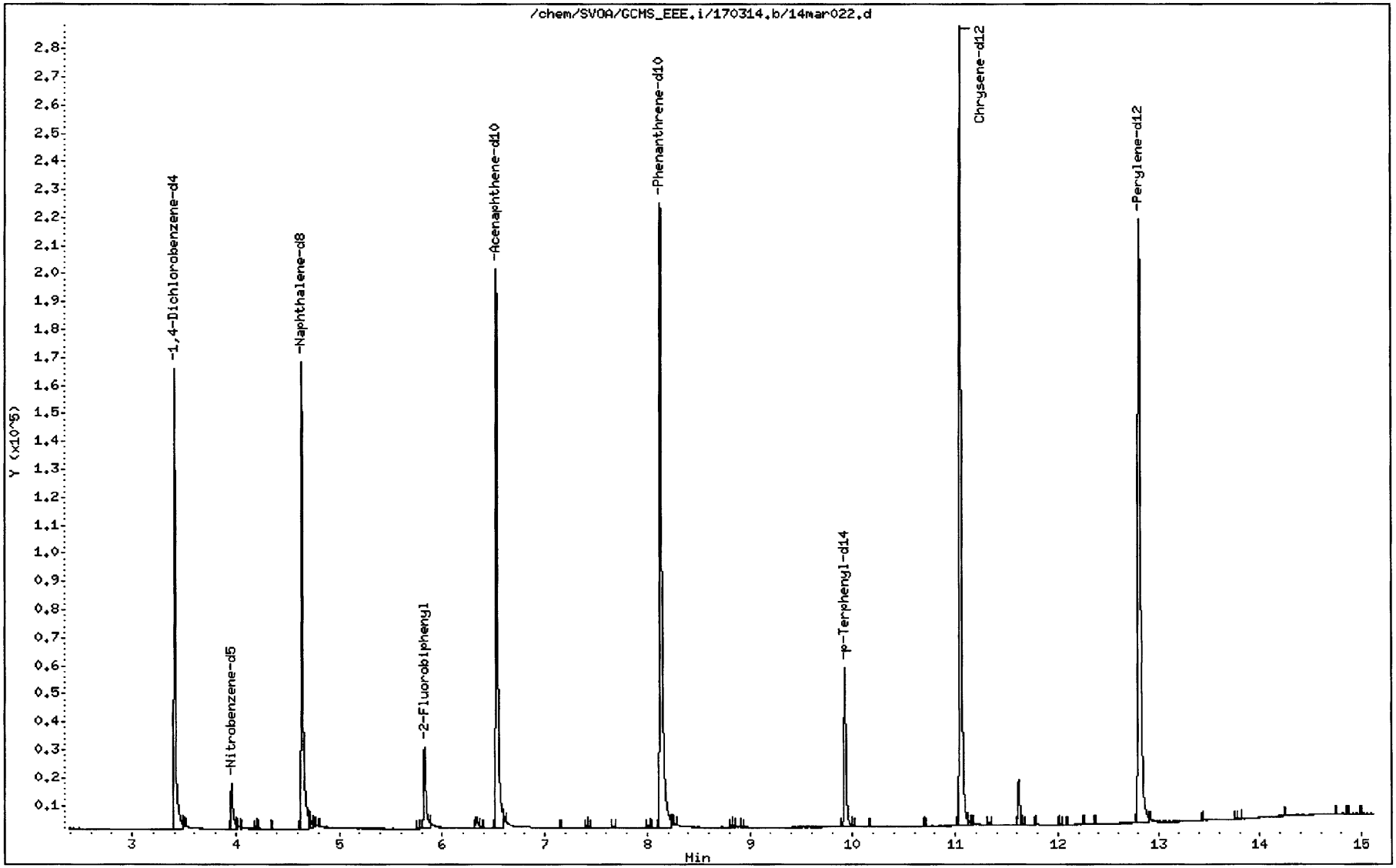
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar022.d
Date : 14-MAR-2017 18:02
Client ID:
Sample Info: 17-03-0755-20

Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i

Operator: 907
Column diameter: 0.18





# 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:** | **099-14-035-382** | ANALYZED BY: | 907 |
| MB BATCH ID: | 170311L03 | D/T ANALYZED: | 2017-03-14 15:00 |
| INSTRUMENT: | GC/MS EEE | REVIEWED BY: | |
| EXTRACTION: | EPA 3545 | D/T REVIEWED: | |
| D/T EXTRACTED: | 2017-03-11 00:00 | MATRIX: | Soil |

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar013.d\14mar013.rr

**CLIENT WORK ORDER: 17-03-0755**

| S# | RUN TYPE | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|---|
| 15 | | D-DU2-S-SG-08-15S | 2017-03-14 17:01 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar019.d\14mar019.rr |
| 16 | | D-DU2-S-SG-08-25S | 2017-03-14 17:21 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar020.d\14mar020.rr |
| 19 | | D-DU2-S-SG-09-15S | 2017-03-14 17:41 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar021.d\14mar021.rr |
| 20 | | D-DU2-S-SG-09-25S | 2017-03-14 18:02 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar022.d\14mar022.rr |

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# RAW DATA SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**WORK ORDER:** **099-14-035**
INSTRUMENT: GC/MS EEE
EXTRACTION : EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-14 15:00
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar013.d\14mar013.rr

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

LCS/MB BATCH: 170311L03
MS/MSD BATCH:
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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# LCS QUALITY CONTROL SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**LCS SAMPLE ID:** **099-14-035-382**
LCS/MB BATCH ID: 170311L03
INSTRUMENT: GC/MS EEE

EXTRACTION: EPA 3545
D/T EXTRACTED: 2017-03-11 00:00

ANALYZED BY: 907
D/T ANALYZED: 2017-03-14 15:20
REVIEWED BY:
D/T REVIEWED:

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar014.d\14mar014.rr

| COMPOUND | CONC | CONC REC | %REC | %REC CL | ME CL | STATUS | QUALIFIERS |
|---|---|---|---|---|---|---|---|
| Naphthalene | 0.1000 | 0.1003 | 100 | 51-129 | 38-142 | PASS | |
| 2-Methylnaphthalene | 0.1000 | 0.1249 | 125 | 50-127 | 37-140 | PASS | |
| 1-Methylnaphthalene | 0.1000 | 0.1036 | 104 | 54-132 | 41-145 | PASS | |
| Acenaphthylene | 0.1000 | 0.08675 | 87 | 50-123 | 38-135 | PASS | |
| Acenaphthene | 0.1000 | 0.08759 | 88 | 53-125 | 41-137 | PASS | |
| Fluorene | 0.1000 | 0.08945 | 89 | 55-127 | 43-139 | PASS | |
| Phenanthrene | 0.1000 | 0.1005 | 100 | 50-122 | 38-134 | PASS | |
| Anthracene | 0.1000 | 0.1064 | 106 | 50-132 | 36-146 | PASS | |
| Fluoranthene | 0.1000 | 0.1023 | 102 | 55-127 | 43-139 | PASS | |
| Pyrene | 0.1000 | 0.1026 | 103 | 50-134 | 36-148 | PASS | |
| Benzo (a) Anthracene | 0.1000 | 0.1011 | 101 | 50-133 | 36-147 | PASS | |
| Chrysene | 0.1000 | 0.1022 | 102 | 51-129 | 38-142 | PASS | |
| Benzo (k) Fluoranthene | 0.1000 | 0.1043 | 104 | 49-150 | 32-167 | PASS | |
| Benzo (b) Fluoranthene | 0.1000 | 0.1038 | 104 | 50-142 | 35-157 | PASS | |
| Benzo (a) Pyrene | 0.1000 | 0.1035 | 104 | 50-134 | 36-148 | PASS | |
| Indeno (1,2,3-c,d) Pyrene | 0.1000 | 0.1010 | 101 | 50-148 | 34-164 | PASS | |
| Dibenz (a,h) Anthracene | 0.1000 | 0.1063 | 106 | 50-133 | 36-147 | PASS | |
| Benzo (g,h,i) Perylene | 0.1000 | 0.1053 | 105 | 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:** **17-03-0856-9**
MS/MSD BATCH: 170311S03
INSTRUMENTS:
SAMPLE: GC/MS EEE
MS: GC/MS EEE
MSD: GC/MS EEE

EXTRACTION: EPA 3545
D/T EXTRACTED:
SAMPLE: 2017-03-11 00:00
MS: 2017-03-11 00:00
MSD: 2017-03-11 00:00

ANALYZED BY: 907
D/T ANALYZED:
SAMPLE: 2017-03-14 16:21
MS: 2017-03-14 15:40
MSD: 2017-03-14 16:00
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 | 0.09305 | 93 | 0.09131 | 91 | 20-150 | 2 | 0-33 | PASS | |
| 2-Methylnaphthalene | ND | 1.000 | 0.1000 | 0.1190 | 119 | 0.1171 | 117 | 29-137 | 2 | 0-31 | PASS | |
| 1-Methylnaphthalene | ND | 1.000 | 0.1000 | 0.09396 | 94 | 0.09554 | 96 | 34-136 | 2 | 0-29 | PASS | |
| Acenaphthylene | ND | 1.000 | 0.1000 | 0.08104 | 81 | 0.07819 | 78 | 29-131 | 4 | 0-32 | PASS | |
| Acenaphthene | ND | 1.000 | 0.1000 | 0.08305 | 83 | 0.08074 | 81 | 29-137 | 3 | 0-28 | PASS | |
| Fluorene | ND | 1.000 | 0.1000 | 0.08433 | 84 | 0.08017 | 80 | 36-132 | 5 | 0-27 | PASS | |
| Phenanthrene | ND | 1.000 | 0.1000 | 0.09693 | 97 | 0.09180 | 92 | 20-144 | 5 | 0-27 | PASS | |
| Anthracene | ND | 1.000 | 0.1000 | 0.09977 | 100 | 0.09590 | 96 | 26-134 | 4 | 0-27 | PASS | |
| Fluoranthene | ND | 1.000 | 0.1000 | 0.1008 | 101 | 0.09508 | 95 | 20-151 | 6 | 0-26 | PASS | |
| Pyrene | ND | 1.000 | 0.1000 | 0.09815 | 98 | 0.09518 | 95 | 20-150 | 3 | 0-32 | PASS | |
| Benzo (a) Anthracene | ND | 1.000 | 0.1000 | 0.09591 | 96 | 0.09180 | 92 | 24-150 | 4 | 0-24 | PASS | |
| Chrysene | ND | 1.000 | 0.1000 | 0.09820 | 98 | 0.09538 | 95 | 25-145 | 3 | 0-28 | PASS | |
| Benzo (k) Fluoranthene | ND | 1.000 | 0.1000 | 0.09884 | 99 | 0.09486 | 95 | 28-148 | 4 | 0-26 | PASS | |
| Benzo (b) Fluoranthene | ND | 1.000 | 0.1000 | 0.09836 | 98 | 0.09521 | 95 | 21-153 | 3 | 0-26 | PASS | |
| Benzo (a) Pyrene | ND | 1.000 | 0.1000 | 0.09755 | 98 | 0.09445 | 94 | 29-149 | 3 | 0-22 | PASS | |
| Indeno (1,2,3-c,d) Pyrene | ND | 1.000 | 0.1000 | 0.09515 | 95 | 0.08940 | 89 | 20-154 | 6 | 0-25 | PASS | |
| Dibenz (a,h) Anthracene | ND | 1.000 | 0.1000 | 0.1004 | 100 | 0.09371 | 94 | 20-132 | 7 | 0-26 | PASS | |
| Benzo (g,h,i) Perylene | ND | 1.000 | 0.1000 | 0.09670 | 97 | 0.09361 | 94 | 20-148 | 3 | 0-27 | PASS | |

Data Files:

| TYPE | DATA FILE | DATA FILE PATH |
|---|---|---|
| MS | 14mar015.rr | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar015.d\ |
| MSD | 14mar016.rr | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar016.d\ |

# SURROGATE RECOVERIES
# FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0755
BATCH ID:
**LCS/MB: 170311L03**
**MS: 170311S03**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # 15 CLIENT SAMPLE NUMBER : D-DU2-S-SG-08-15S

INSTRUMENT: GC/MS EEE
ANALYZED BY: 907
D/T EXTRACTED: 2017-03-11 00:00
D/T ANALYZED 2017-03-14 17:01
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar019.d\14mar019.rr

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 70 | 13-127 | PASS | |
| Nitrobenzene-d5 | 77 | 17-137 | PASS | |
| p-Terphenyl-d14 | 81 | 4-160 | PASS | |

## # 16 CLIENT SAMPLE NUMBER : D-DU2-S-SG-08-25S

INSTRUMENT: GC/MS EEE
ANALYZED BY: 907
D/T EXTRACTED: 2017-03-11 00:00
D/T ANALYZED 2017-03-14 17:21
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar020.d\14mar020.rr

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| p-Terphenyl-d14 | 87 | 4-160 | PASS | |
| Nitrobenzene-d5 | 76 | 17-137 | PASS | |
| 2-Fluorobiphenyl | 58 | 13-127 | PASS | |

## # 19 CLIENT SAMPLE NUMBER : D-DU2-S-SG-09-15S

INSTRUMENT: GC/MS EEE
ANALYZED BY: 907
D/T EXTRACTED: 2017-03-11 00:00
D/T ANALYZED 2017-03-14 17:41
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar021.d\14mar021.rr

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 58 | 13-127 | PASS | |
| Nitrobenzene-d5 | 76 | 17-137 | PASS | |
| p-Terphenyl-d14 | 101 | 4-160 | PASS | |

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# SURROGATE RECOVERIES
# FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0755
BATCH ID:
**LCS/MB: 170311L03**
**MS: 170311S03**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

## # 20 CLIENT SAMPLE NUMBER : D-DU2-S-SG-09-25S

INSTRUMENT: GC/MS EEE
ANALYZED BY: 907
D/T EXTRACTED: 2017-03-11 00:00
D/T ANALYZED 2017-03-14 18:02
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar022.d\14mar022.rr

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| p-Terphenyl-d14 | 123 | 4-160 | PASS | |
| 2-Fluorobiphenyl | 85 | 13-127 | PASS | |
| Nitrobenzene-d5 | 91 | 17-137 | PASS | |

## # MB CLIENT SAMPLE NUMBER : Method Blank

INSTRUMENT: GC/MS EEE
ANALYZED BY: 907
D/T EXTRACTED: 2017-03-11 00:00
D/T ANALYZED 2017-03-14 15:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar013.d\14mar013.rr

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 77 | 13-127 | PASS | |
| Nitrobenzene-d5 | 95 | 17-137 | PASS | |
| p-Terphenyl-d14 | 97 | 4-160 | PASS | |

## # LCS CLIENT SAMPLE NUMBER : Lab Control Sample

INSTRUMENT: GC/MS EEE
ANALYZED BY: 907
D/T EXTRACTED: 2017-03-11 00:00
D/T ANALYZED 2017-03-14 15:20
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar014.d\14mar014.rr

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| p-Terphenyl-d14 | 106 | 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
ANALYZED BY: 907
D/T EXTRACTED: 2017-03-11 00:00
D/T ANALYZED 2017-03-14 15:40
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar015.d\14mar015.rr

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| p-Terphenyl-d14 | 96 | 4-160 | PASS | |
| Nitrobenzene-d5 | 99 | 17-137 | PASS | |
| 2-Fluorobiphenyl | 81 | 13-127 | PASS | |

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# SURROGATE RECOVERIES
# FOR METHOD: EPA 8270C SIM PAHs

WORK ORDER: 17-03-0755
BATCH ID:
**LCS/MB:**
**MS:** **170311S03**
EXTRACTION : EPA 3545

REVIEWED BY:
D/T REVIEWED:

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

INSTRUMENT: GC/MS EEE
D/T EXTRACTED: 2017-03-11 00:00
DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar016.d\14mar016.rr

ANALYZED BY: 907
D/T ANALYZED 2017-03-14 16:00

COMMENT:

| COMPOUND | % REC | % REC CL | STATUS | QUALIFIERS |
|---|---|---|---|---|
| 2-Fluorobiphenyl | 79 | 13-127 | PASS | |
| Nitrobenzene-d5 | 98 | 17-137 | PASS | |
| p-Terphenyl-d14 | 93 | 4-160 | PASS | |

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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 15:00 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 16:37 ev7p

Sample Name: MB 170311 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) | 3.408 | 152 | 64331 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.642 | 136 | 177612 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.528 | 164 | 95024 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.132 | 188 | 268800 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.823 | 264 | 241126 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.057 | 240 | 252528 | 5.000 | -0.01 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.955 | 82 | 11179 | 0.950 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 95.022 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.823 | 172 | 26329 | 0.768 | -0.01 |
| SpikedAmount 1.000 | Recovery = | 76.753 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.929 | 244 | 38005 | 0.971 | -0.01 |
| SpikedAmount 1.000 | Recovery = | 97.114 | | | | |
| 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/170314.b/14mar013.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 15:00 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 16:37 ev7p

Sample Name: MB 170311 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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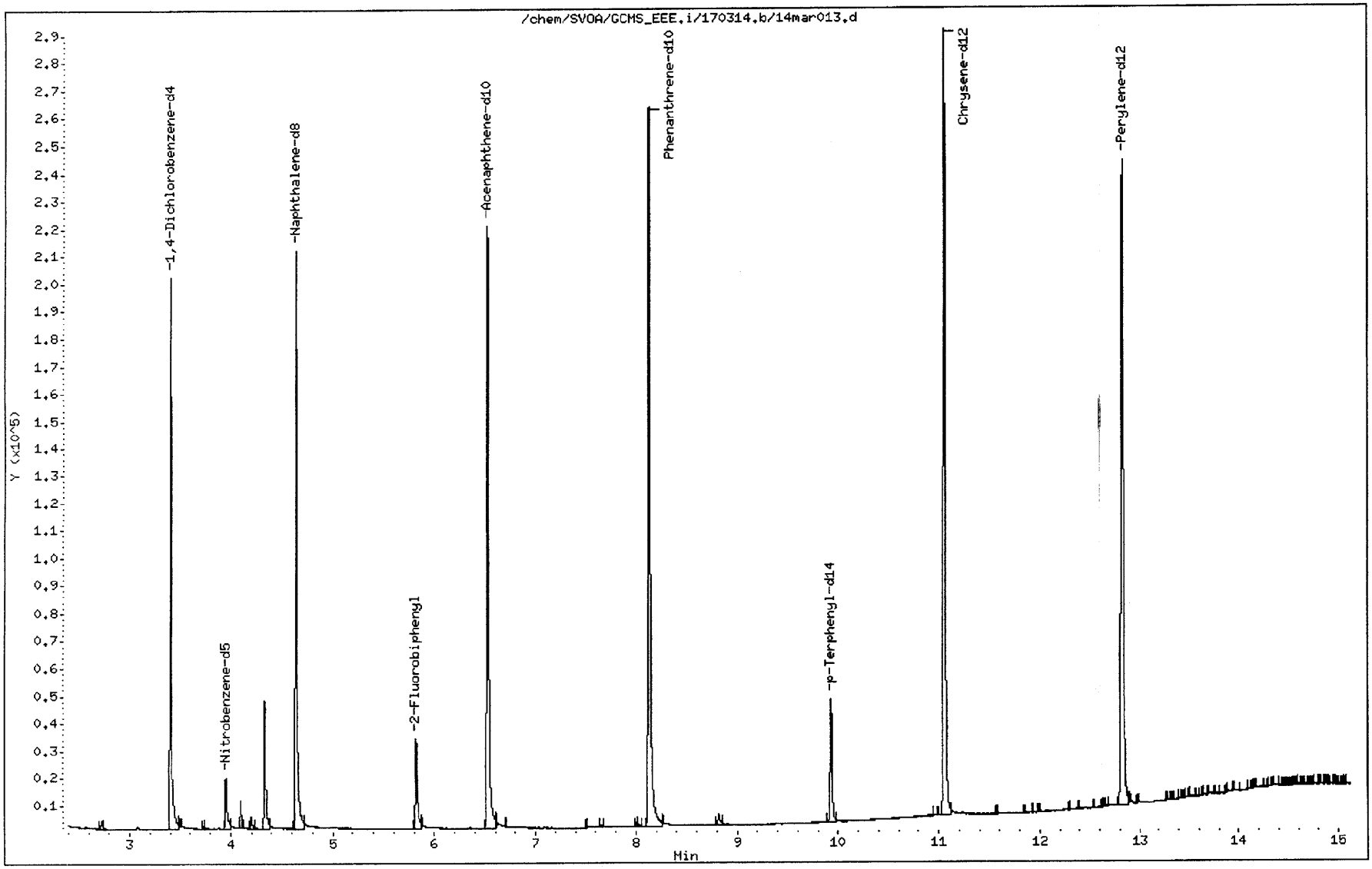
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar013.d
Date : 14-MAR-2017 15:00
Client ID:
Sample Info: MB 170311 L03

Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i

Operator: 907
Column diameter: 0.18





Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar014.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 15:20 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 15:42 Unknown

Sample Name: LCS 170311 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) | 3.408 | 152 | 54150 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.640 | 136 | 151951 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.527 | 164 | 83343 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.127 | 188 | 236393 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.817 | 264 | 239075 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.050 | 240 | 242355 | 5.000 | -0.01 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.952 | 82 | 10959 | 1.089 | 0.00 |
| SpikedAmount 1.000 | Recovery = 108.886 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.819 | 172 | 26430 | 0.878 | 0.00 |
| SpikedAmount 1.000 | Recovery = 87.847 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.924 | 244 | 39827 | 1.060 | 0.00 |
| SpikedAmount 1.000 | Recovery = 106.042 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.660 | 128 | 33061 | 1.003 | 99 |
| 5) 2-Methylnaphthalene | (2) | 5.391 | 142 | 25111 | 1.249 | 91 |
| 6) 1-Methylnaphthalene | (2) | 5.503 | 142 | 20874 | 1.036 | 96 |
| 10) Acenaphthylene | (3) | 6.358 | 152 | 36560 | 0.868 | 99 |
| 12) Acenaphthene | (3) | 6.560 | 153 | 22150 | 0.876 | 98 |
| 15) Fluorene | (3) | 7.112 | 166 | 25183 | 0.894 | 99 |
| 18) Phenanthrene | (4) | 8.150 | 178 | 50413 | 1.005 | 100 |
| 19) Anthracene | (4) | 8.201 | 178 | 52184 | 1.064 | 98 |
| 21) Fluoranthene | (4) | 9.463 | 202 | 66016 | 1.023 | 100 |
| 22) Pyrene | (5) | 9.701 | 202 | 67711 | 1.026 | 99 |
| 24) Benzo (a) Anthracene | (5) | 11.032 | 228 | 64555 | 1.011 | 100 |
| 26) Chrysene | (5) | 11.078 | 228 | 59317 | 1.023 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.355 | 252 | 64653 | 1.038 | 99 |
| 28) Benzo (k) Fluoranthene | (6) | 12.384 | 252 | 68154 | 1.043 | 99 |
| 30) Benzo (a) Pyrene | (6) | 12.747 | 252 | 62181 | 1.035 | 97 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.065 | 276 | 72531 | 1.010 | 99 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.086 | 278 | 57876 | 1.063 | 98 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.341 | 276 | 60729 | 1.053 | 98 |
| 8) Biphenyl | (3) | 5.908 | 154 | 31476 | 0.843 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.070 | 156 | 21769 | 0.831 | 99 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.992 | 170 | 21310 | 0.814 | 100 |
| 16) Dibenzothiophene | (3) | 8.016 | 184 | 61913 | 0.804 | 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/170314.b/14mar014.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 15:20 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 15:42 Unknown

Sample Name: LCS 170311 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) | 8.842 | 192 | 48167 | 0.997 | 100 |
| 29) Benzo (e) pyrene | (6) | 12.682 | 252 | 72648 | 0.976 | 98 |
| 32) Perylene | (6) | 12.846 | 252 | 68192 | 0.955 | 97 |
| 13) Dibenzofuran | (3) | 6.738 | 168 | 32943 | 0.901 | 98 |



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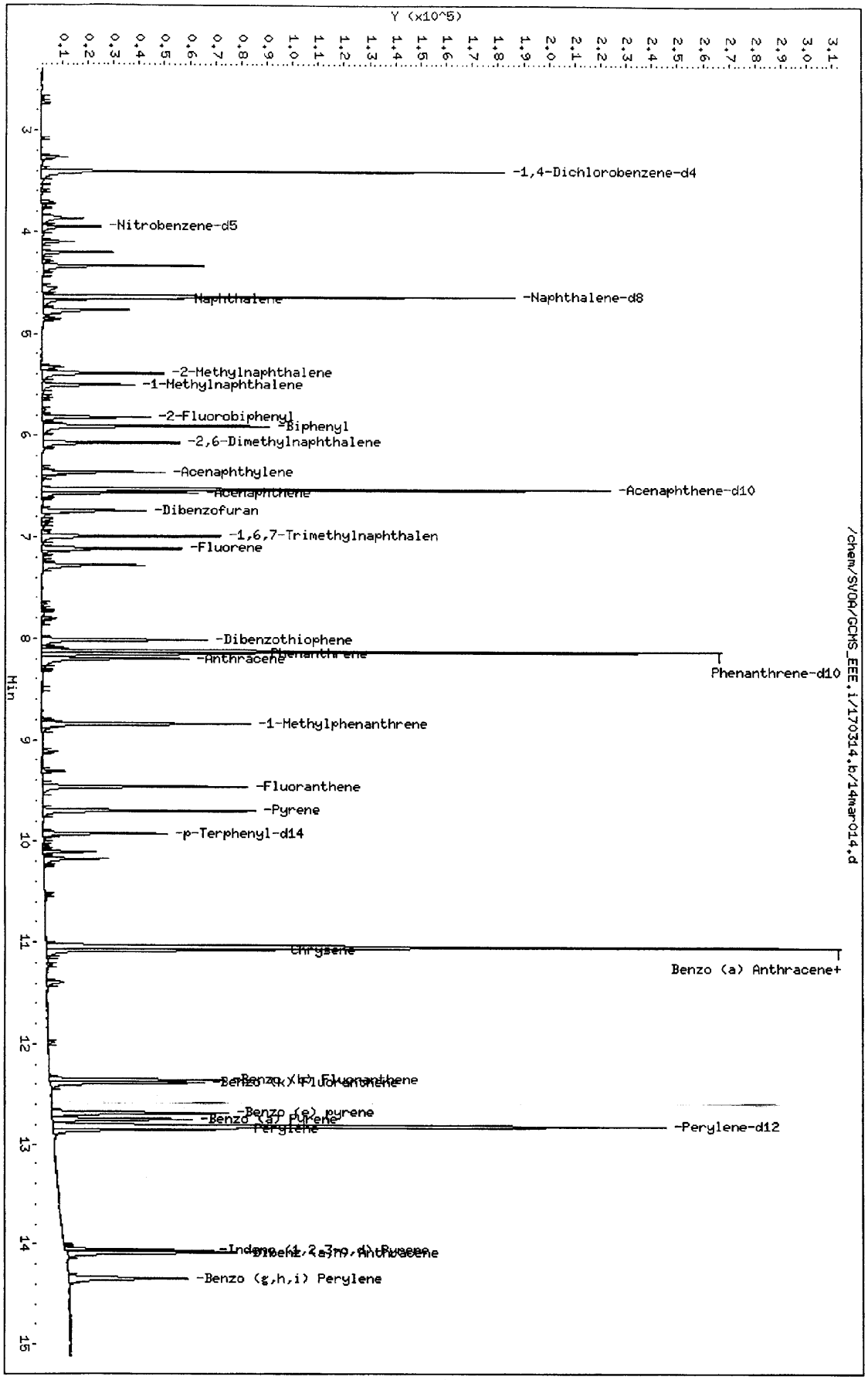
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar014.d
Date : 14-MAR-2017 15:20
Client ID:
Sample Info: LCS 170311 L03
Column phase: J&W DB-5MS

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/170314.b/14mar015.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 15:40 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 16:02 Unknown

Sample Name: 17-03-0856-9 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) | 3.404 | 152 | 57753 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.640 | 136 | 163305 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.527 | 164 | 89689 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.127 | 188 | 255463 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.813 | 264 | 264641 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.048 | 240 | 268033 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.952 | 82 | 10667 | 0.986 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 98.614 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.819 | 172 | 26231 | 0.810 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 81.017 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.923 | 244 | 39920 | 0.961 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 96.108 | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.660 | 128 | 32959 | 0.931 | 100 |
| 5) 2-Methylnaphthalene | (2) | 5.391 | 142 | 25709 | 1.190 | 91 |
| 6) 1-Methylnaphthalene | (2) | 5.503 | 142 | 20349 | 0.940 | 99 |
| 10) Acenaphthylene | (3) | 6.358 | 152 | 36756 | 0.810 | 99 |
| 12) Acenaphthene | (3) | 6.560 | 153 | 22601 | 0.830 | 98 |
| 15) Fluorene | (3) | 7.112 | 166 | 25549 | 0.843 | 99 |
| 18) Phenanthrene | (4) | 8.150 | 178 | 52547 | 0.969 | 99 |
| 19) Anthracene | (4) | 8.201 | 178 | 52875 | 0.998 | 97 |
| 21) Fluoranthene | (4) | 9.461 | 202 | 70321 | 1.008 | 99 |
| 22) Pyrene | (5) | 9.699 | 202 | 71638 | 0.982 | 99 |
| 24) Benzo (a) Anthracene | (5) | 11.030 | 228 | 67723 | 0.959 | 100 |
| 26) Chrysene | (5) | 11.075 | 228 | 62998 | 0.982 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.355 | 252 | 67829 | 0.984 | 100 |
| 28) Benzo (k) Fluoranthene | (6) | 12.383 | 252 | 71471 | 0.988 | 99 |
| 30) Benzo (a) Pyrene | (6) | 12.744 | 252 | 64851 | 0.975 | 97 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.061 | 276 | 75621 | 0.952 | 99 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.085 | 278 | 60502 | 1.004 | 98 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.339 | 276 | 61755 | 0.967 | 100 |
| 8) Biphenyl | (3) | 5.908 | 154 | 32347 | 0.805 | 99 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.068 | 156 | 22291 | 0.791 | 97 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.992 | 170 | 22302 | 0.792 | 98 |
| 16) Dibenzothiophene | (3) | 8.016 | 184 | 64218 | 0.774 | 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/170314.b/14mar015.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 15:40 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 16:02 Unknown

Sample Name: 17-03-0856-9 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) | 8.842 | 192 | 49782 | 0.932 | 99 |
| 29) Benzo (e) pyrene | (6) | 12.682 | 252 | 75870 | 0.920 | 99 |
| 32) Perylene | (6) | 12.845 | 252 | 71075 | 0.899 | 100 |
| 13) Dibenzofuran | (3) | 6.738 | 168 | 33412 | 0.849 | 98 |



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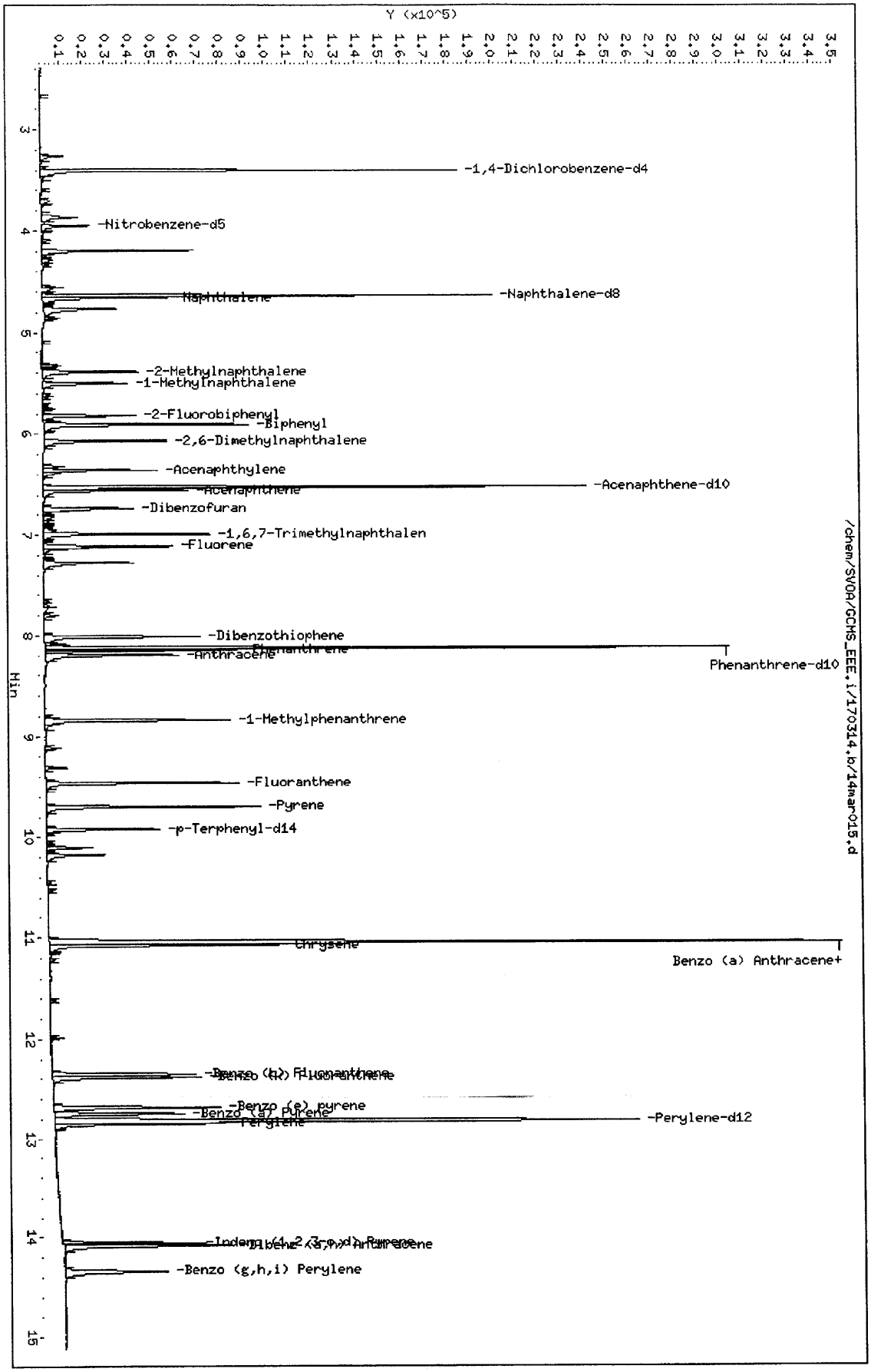
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar015.d
Date : 14-MAR-2017 15:40
Client ID:
Sample Info: 17-03-0856-9 MS
Column phase: J&W DB-5MS

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/170314.b/14mar016.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 16:00 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 16:22 Unknown

Sample Name: 17-03-0856-9 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) | 3.407 | 152 | 57422 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.641 | 136 | 162245 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.527 | 164 | 88426 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.128 | 188 | 249081 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.817 | 264 | 247646 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.049 | 240 | 256450 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.954 | 82 | 10538 | 0.981 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 98.064 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.820 | 172 | 25060 | 0.785 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 78.506 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.923 | 244 | 36873 | 0.928 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 92.780 | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.660 | 128 | 32133 | 0.913 | 99 |
| 5) 2-Methylnaphthalene | (2) | 5.391 | 142 | 25139 | 1.171 | 90 |
| 6) 1-Methylnaphthalene | (2) | 5.505 | 142 | 20557 | 0.955 | 97 |
| 10) Acenaphthylene | (3) | 6.359 | 152 | 34961 | 0.782 | 98 |
| 12) Acenaphthene | (3) | 6.560 | 153 | 21664 | 0.807 | 99 |
| 15) Fluorene | (3) | 7.112 | 166 | 23946 | 0.802 | 100 |
| 18) Phenanthrene | (4) | 8.152 | 178 | 48525 | 0.918 | 99 |
| 19) Anthracene | (4) | 8.201 | 178 | 49553 | 0.959 | 99 |
| 21) Fluoranthene | (4) | 9.463 | 202 | 64652 | 0.951 | 100 |
| 22) Pyrene | (5) | 9.701 | 202 | 66467 | 0.952 | 99 |
| 24) Benzo (a) Anthracene | (5) | 11.030 | 228 | 62018 | 0.918 | 100 |
| 26) Chrysene | (5) | 11.077 | 228 | 58545 | 0.954 | 99 |
| 27) Benzo (b) Fluoranthene | (6) | 12.355 | 252 | 61439 | 0.952 | 100 |
| 28) Benzo (k) Fluoranthene | (6) | 12.381 | 252 | 64187 | 0.949 | 100 |
| 30) Benzo (a) Pyrene | (6) | 12.746 | 252 | 58757 | 0.944 | 98 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.067 | 276 | 66485 | 0.894 | 99 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.086 | 278 | 52865 | 0.937 | 98 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.345 | 276 | 55939 | 0.936 | 100 |
| 8) Biphenyl | (3) | 5.908 | 154 | 30775 | 0.777 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.070 | 156 | 20826 | 0.749 | 100 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.992 | 170 | 21347 | 0.769 | 98 |
| 16) Dibenzothiophene | (3) | 8.014 | 184 | 59500 | 0.728 | 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/170314.b/14mar016.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 16:00 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 16:22 Unknown

Sample Name: 17-03-0856-9 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) | 8.844 | 192 | 45827 | 0.896 | 99 |
| 29) Benzo (e) pyrene | (6) | 12.684 | 252 | 68818 | 0.892 | 99 |
| 32) Perylene | (6) | 12.845 | 252 | 64099 | 0.867 | 100 |
| 13) Dibenzofuran | (3) | 6.740 | 168 | 31762 | 0.819 | 99 |



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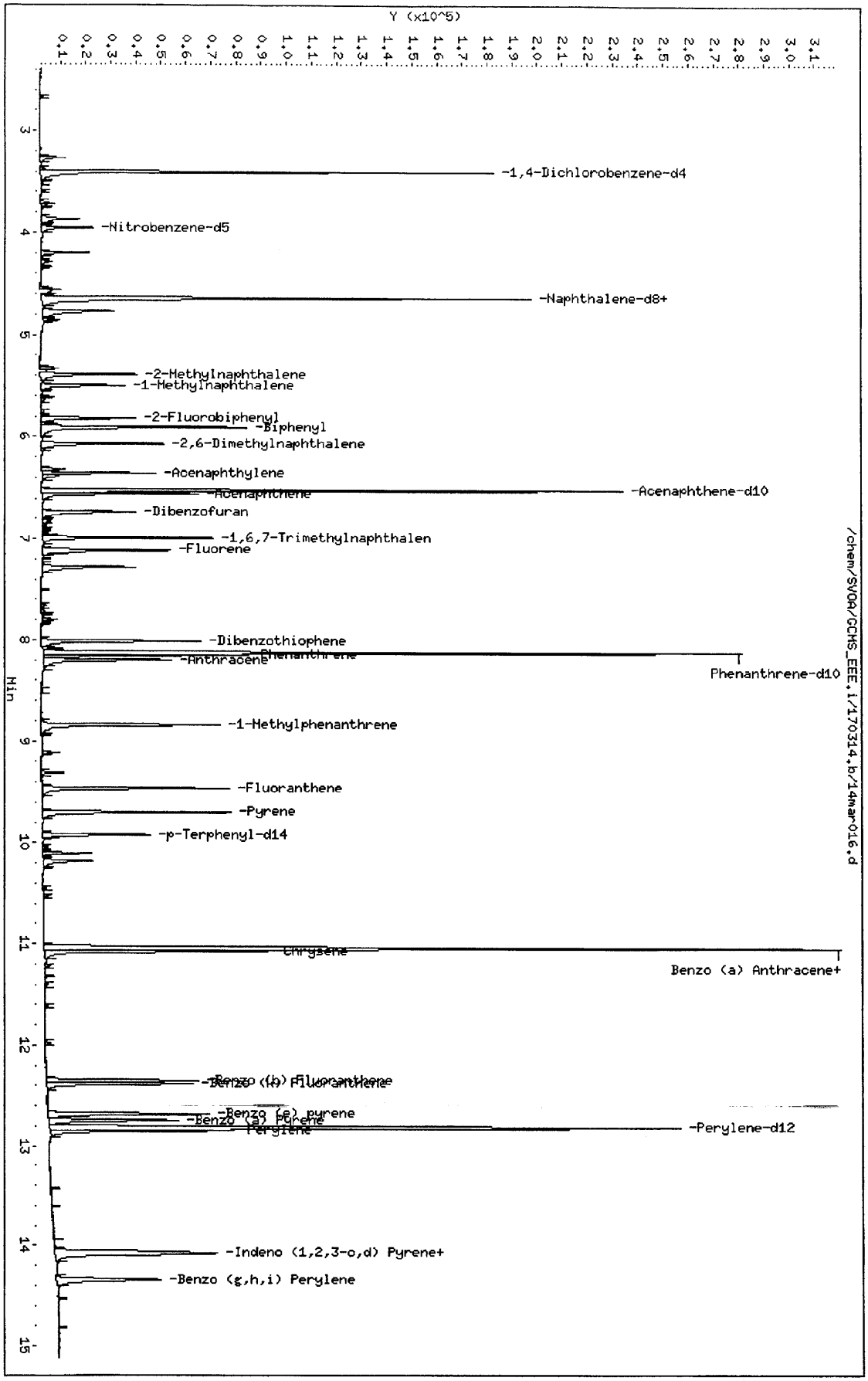
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar016.d
Date : 14-MAR-2017 16:00
Client ID:
Sample Info: 17-03-0856-9 MSD
Column phase: J&W DB-5MS

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/170314.b/14mar017.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 16:21 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:43 ev7p

Sample Name: 17-03-0856-9 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) | 3.405 | 152 | 55603 | 5.000 | -0.01 |
| 3)*Naphthalene-d8 | (2) | 4.640 | 136 | 159305 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.527 | 164 | 88942 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.130 | 188 | 257501 | 5.000 | -0.01 |
| 31)*Perylene-d12 | (6) | 12.816 | 264 | 263147 | 5.000 | -0.01 |
| 25)*Chrysene-d12 | (5) | 11.050 | 240 | 268593 | 5.000 | -0.01 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.953 | 82 | 8342 | 0.791 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 79.056 | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.823 | 172 | 20549 | 0.640 | -0.01 |
| SpikedAmount 1.000 | Recovery = | 63.999 | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.924 | 244 | 33993 | 0.817 | 0.00 |
| SpikedAmount 1.000 | Recovery = | 81.666 | | | | |
| 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/170314.b/14mar017.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 16:21 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 15-Mar-2017 09:43 ev7p

Sample Name: 17-03-0856-9 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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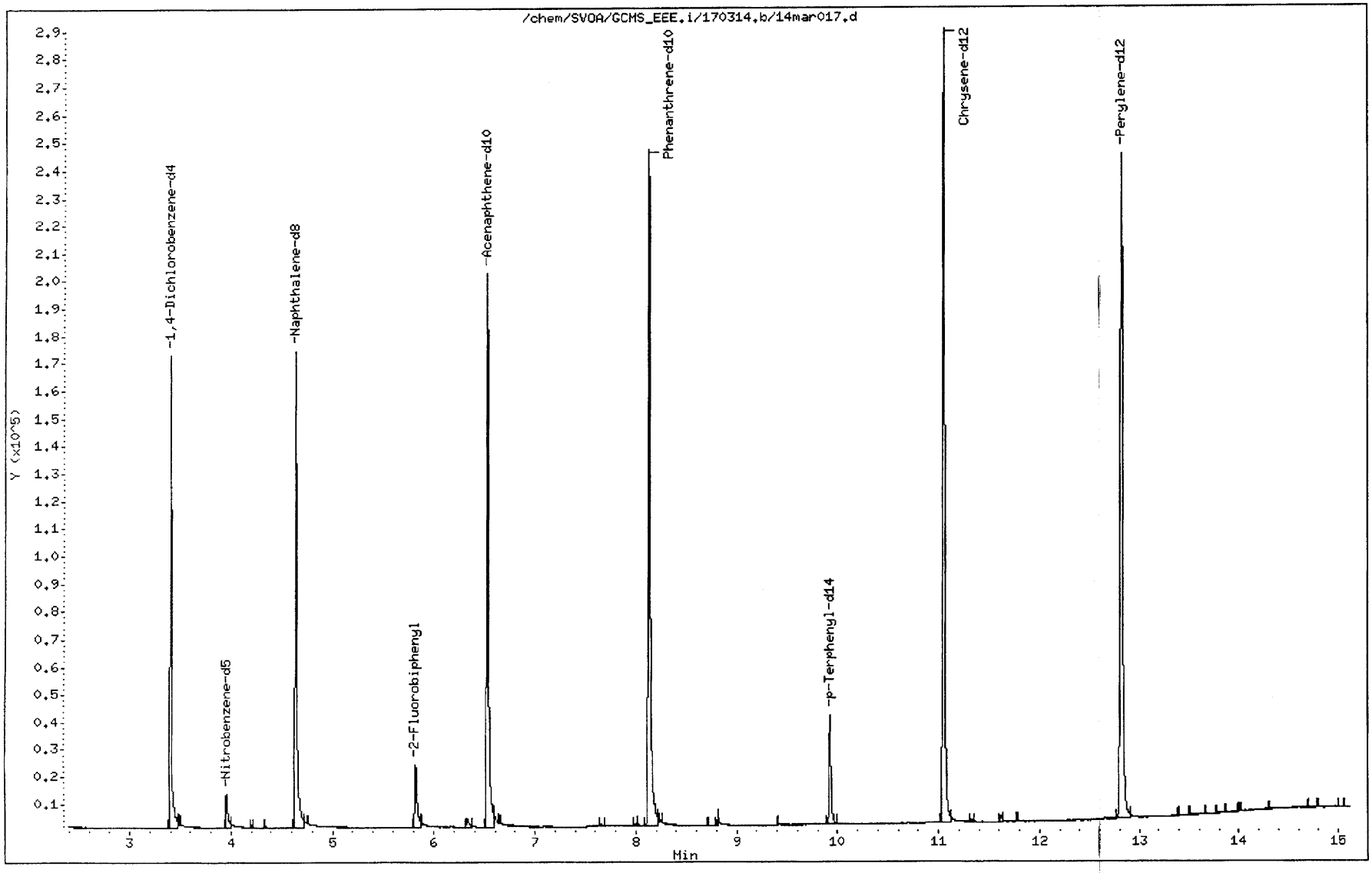
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar017.d
Date : 14-MAR-2017 16:21
Client ID:
Sample Info: 17-03-0856-9

Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i

Operator: 907
Column diameter: 0.18





# EPA METHOD 8270C
# PAHSIM

# Continuing Calibration

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# CCV ASSOCIATION SUMMARY
# FOR METHOD: EPA 8270C SIM PAHs

**BATCH ID:** **170314A007** ANALYZED BY: 907
INSTRUMENT: GC/MS EEE

**WORK ORDER:** **099-06-009** REVIEWED BY: 262
MATRIX: Water D/T REVIEWED: 2017-03-14 12:54

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 4981 | Daily Calibration | 2017-03-14 10:54 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar003.d\14mar003.r |

**WORK ORDER:** **17-03-0755** REVIEWED BY:
MATRIX: Soil D/T REVIEWED:

| CEL SAMPLE # | CLIENT SAMPLE ID | D/T ANALYZED | DATA FILE |
|---|---|---|---|
| 15 | D-DU2-S-SG-08-15S | 2017-03-14 17:01 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar019.d\14mar019.r |
| 16 | D-DU2-S-SG-08-25S | 2017-03-14 17:21 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar020.d\14mar020.r |
| 19 | D-DU2-S-SG-09-15S | 2017-03-14 17:41 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar021.d\14mar021.r |
| 20 | D-DU2-S-SG-09-25S | 2017-03-14 18:02 | Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar022.d\14mar022.r |

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# CONTINUING CALIBRATION VERIFICATION QUALITY CONTROL SHEET
# FOR METHOD: EPA 8270C SIM PAHs

**CCV WORK ORDER:** **099-06-009-4981-4741**
INSTRUMENT: GC/MS EEE
BATCH ID:
INITIAL: 170313I001
CCV: 170314A007

ANALYZED BY: 907
D/T ANALYZED:
INITIAL: 2017-03-13 14:13
CCV: 2017-03-14 10:54
REVIEWED BY: 262
D/T REVIEWED: 2017-03-14 12:54

Data File: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar003.d\14mar003.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 | 1.196 | | | -10 | 0-20 | PASS |
| 2-Methylnaphthalene | | Avg Resp | 0.00 | 0.661 | 0.739 | | | -12 | 0-20 | PASS |
| 1-Methylnaphthalene | | Avg Resp | 0.00 | 0.663 | 0.714 | | | -8 | 0-20 | PASS |
| Acenaphthylene | | Avg Resp | 0.00 | 2.528 | 2.666 | | | -5 | 0-20 | PASS |
| Acenaphthene | C | Avg Resp | 0.00 | 1.517 | 1.625 | | | -7 | 0-20 | PASS |
| Fluorene | | Avg Resp | 0.00 | 1.689 | 1.850 | | | -10 | 0-20 | PASS |
| Phenanthrene | | Avg Resp | 0.00 | 1.061 | 1.118 | | | -5 | 0-20 | PASS |
| Anthracene | | Avg Resp | 0.00 | 1.037 | 1.021 | | | 2 | 0-20 | PASS |
| Fluoranthene | C | Avg Resp | 0.00 | 1.365 | 1.428 | | | -5 | 0-20 | PASS |
| Pyrene | | Avg Resp | 0.00 | 1.362 | 1.469 | | | -8 | 0-20 | PASS |
| Benzo (a) Anthracene | | Avg Resp | 0.00 | 1.317 | 1.318 | | | 0 | 0-20 | PASS |
| Chrysene | | Avg Resp | 0.00 | 1.197 | 1.308 | | | -9 | 0-20 | PASS |
| Benzo (k) Fluoranthene | | Avg Resp | 0.00 | 1.366 | 1.516 | | | -11 | 0-20 | PASS |
| Benzo (b) Fluoranthene | | Avg Resp | 0.00 | 1.303 | 1.423 | | | -9 | 0-20 | PASS |
| Benzo (a) Pyrene | C | Avg Resp | 0.00 | 1.256 | 1.308 | | | -4 | 0-20 | PASS |
| Indeno (1,2,3-c,d) Pyrene | | Avg Resp | 0.00 | 1.502 | 1.592 | | | -6 | 0-20 | PASS |
| Dibenz (a,h) Anthracene | | Avg Resp | 0.00 | 1.139 | 1.246 | | | -9 | 0-20 | PASS |
| Benzo (g,h,i) Perylene | | Avg Resp | 0.00 | 1.207 | 1.280 | | | -6 | 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:** 170314A007

## 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** 099-06-009-4981 D/T ANALYZED: 2017-03-14 10:54

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar003.d\14mar003.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 48095 | 23244 | 92978 | 3.40 | PASS |
| Naphthalene-d8 | 134209 | 70011 | 280044 | 4.64 | PASS |
| Acenaphthene-d10 | 61509 | 31576 | 126306 | 6.53 | PASS |
| Phenanthrene-d10 | 200388 | 105066 | 420266 | 8.12 | PASS |
| Chrysene-d12 | 206134 | 110356 | 441422 | 11.05 | PASS |
| Perylene-d12 | 187830 | 104036 | 416142 | 12.81 | PASS |

## MB

**SAMPLE ID** 099-14-035-382 D/T ANALYZED: 2017-03-14 15:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar013.d\14mar013.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 64331 | 24048 | 96190 | 3.41 | PASS |
| Naphthalene-d8 | 177612 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 95024 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 268800 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 252528 | 103067 | 412268 | 11.06 | PASS |
| Perylene-d12 | 241126 | 93915 | 375660 | 12.82 | PASS |

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## LCS

**SAMPLE ID** **099-14-035-382** D/T ANALYZED: 2017-03-14 15:20

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar014.d\14mar014.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 54150 | 24048 | 96190 | 3.41 | PASS |
| Naphthalene-d8 | 151951 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 83343 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 236393 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 242355 | 103067 | 412268 | 11.05 | PASS |
| Perylene-d12 | 239075 | 93915 | 375660 | 12.82 | PASS |

## MS

**SAMPLE ID** **17-03-0856-9** D/T ANALYZED: 2017-03-14 15:40

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar015.d\14mar015.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 57753 | 24048 | 96190 | 3.40 | PASS |
| Naphthalene-d8 | 163305 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 89689 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 255463 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 268033 | 103067 | 412268 | 11.05 | PASS |
| Perylene-d12 | 264641 | 93915 | 375660 | 12.81 | PASS |

## MSD

**SAMPLE ID** **17-03-0856-9** D/T ANALYZED: 2017-03-14 16:00

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar016.d\14mar016.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 57422 | 24048 | 96190 | 3.41 | PASS |
| Naphthalene-d8 | 162245 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 88426 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 249081 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 256450 | 103067 | 412268 | 11.05 | PASS |
| Perylene-d12 | 247646 | 93915 | 375660 | 12.82 | PASS |

## CS

**SAMPLE ID** **17-03-0755-15** D/T ANALYZED: 2017-03-14 17:01

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar019.d\14mar019.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 59391 | 24048 | 96190 | 3.41 | PASS |
| Naphthalene-d8 | 170372 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 95243 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 276021 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 287019 | 103067 | 412268 | 11.05 | PASS |
| Perylene-d12 | 282516 | 93915 | 375660 | 12.82 | PASS |

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CS

**SAMPLE ID** **17-03-0755-16** D/T ANALYZED: 2017-03-14 17:21

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar020.d\14mar020.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 55630 | 24048 | 96190 | 3.41 | PASS |
| Naphthalene-d8 | 164300 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 90638 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 260345 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 268916 | 103067 | 412268 | 11.05 | PASS |
| Perylene-d12 | 262928 | 93915 | 375660 | 12.82 | PASS |

CS

**SAMPLE ID** **17-03-0755-19** D/T ANALYZED: 2017-03-14 17:41

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar021.d\14mar021.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 56461 | 24048 | 96190 | 3.40 | PASS |
| Naphthalene-d8 | 157851 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 89392 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 242883 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 212538 | 103067 | 412268 | 11.05 | PASS |
| Perylene-d12 | 178799 | 93915 | 375660 | 12.82 | PASS |

CS

**SAMPLE ID** **17-03-0755-20** D/T ANALYZED: 2017-03-14 18:02

DATA FILE: Z:\GCMS_EEE\GCMS_EEE_data\2017\170314\14mar022.d\14mar022.rr

| COMPOUND | AREA | LOWER AREA LIMIT | UPPER AREA LIMIT | RETENTION TIME | STATUS |
|---|---|---|---|---|---|
| 1,4-Dichlorobenzene-d4 | 56966 | 24048 | 96190 | 3.41 | PASS |
| Naphthalene-d8 | 161712 | 67104 | 268418 | 4.64 | PASS |
| Acenaphthene-d10 | 89203 | 30754 | 123018 | 6.53 | PASS |
| Phenanthrene-d10 | 252973 | 100194 | 400776 | 8.13 | PASS |
| Chrysene-d12 | 262464 | 103067 | 412268 | 11.05 | PASS |
| Perylene-d12 | 256027 | 93915 | 375660 | 12.82 | 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/170314.b/14mar003.d
Report Date: 03/14/2017 11:49

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/170314.b/simpah-extra.m

Injection Date and Time: 14-MAR-2017 10:54
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 | 1.196 | 0.00 | -10 | 20 | Averaged |
| 2-Methylnaphthalene | 0.661 | 0.739 | 0.00 | -12 | 20 | Averaged |
| 1-Methylnaphthalene | 0.663 | 0.714 | 0.00 | -8 | 20 | Averaged |
| Acenaphthylene | 2.528 | 2.666 | 0.00 | -5 | 20 | Averaged |
| Acenaphthene | 1.517 | 1.625 | 0.00 | -7 | 20 | Averaged |
| Fluorene | 1.689 | 1.850 | 0.00 | -10 | 20 | Averaged |
| Phenanthrene | 1.061 | 1.118 | 0.00 | -5 | 20 | Averaged |
| Anthracene | 1.037 | 1.021 | 0.00 | 2 | 20 | Averaged |
| Fluoranthene | 1.365 | 1.428 | 0.00 | -5 | 20 | Averaged |
| Pyrene | 1.362 | 1.469 | 0.00 | -8 | 20 | Averaged |
| Benzo (a) Anthracene | 1.317 | 1.318 | 0.00 | 0 | 20 | Averaged |
| Chrysene | 1.197 | 1.308 | 0.00 | -9 | 20 | Averaged |
| Benzo (b) Fluoranthene | 1.303 | 1.423 | 0.00 | -9 | 20 | Averaged |
| Benzo (k) Fluoranthene | 1.366 | 1.516 | 0.00 | -11 | 20 | Averaged |
| Benzo (a) Pyrene | 1.256 | 1.308 | 0.00 | -4 | 20 | Averaged |
| Indeno (1,2,3-c,d) Pyrene | 1.502 | 1.592 | 0.00 | -6 | 20 | Averaged |
| Dibenz (a,h) Anthracene | 1.139 | 1.246 | 0.00 | -9 | 20 | Averaged |
| Benzo (g,h,i) Perylene | 1.207 | 1.280 | 0.00 | -6 | 20 | Averaged |
| Biphenyl | 2.240 | 2.519 | 0.00 | -12 | 20 | Averaged |
| 2,6-Dimethylnaphthalene | 1.572 | 1.674 | 0.00 | -6 | 20 | Averaged |
| 1,6,7-Trimethylnaphthalene | 1.571 | 1.690 | 0.00 | -8 | 20 | Averaged |
| Dibenzothiophene | 4.622 | 4.829 | 0.00 | -4 | 20 | Averaged |
| 1-Methylphenanthrene | 0.997 | 1.079 | 0.00 | -8 | 20 | Averaged |
| Benzo (e) pyrene | 1.557 | 1.707 | 0.00 | -10 | 20 | Averaged |
| Perylene | 1.493 | 1.570 | 0.00 | -5 | 20 | Averaged |
| Dibenzofuran | 2.194 | 2.449 | 0.00 | -12 | 20 | Averaged |

| Surrogate Standards | ICAL RRF or Amount | ICV RRF | Min. RRF | %D / %Drift | Max%D /Drift | Curve Type |
|---|---|---|---|---|---|---|
| Nitrobenzene-d5 | 0.331 | 0.380 | 0.00 | -15 | 20 | Averaged |
| 2-Fluorobiphenyl | 1.805 | 2.023 | 0.00 | -12 | 20 | Averaged |
| p-Terphenyl-d14 | 0.775 | 0.860 | 0.00 | -11 | 20 | Averaged |



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Quant Report Target Revision 3.5

Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar003.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 10:54 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 11:17 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170314A007
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) | 3.395 | 152 | 48095 | 5.000 | 0.00 |
| 3)*Naphthalene-d8 | (2) | 4.639 | 136 | 134209 | 5.000 | 0.00 |
| 11)*Acenaphthene-d10 | (3) | 6.525 | 164 | 61509 | 5.000 | 0.00 |
| 17)*Phenanthrene-d10 | (4) | 8.123 | 188 | 200388 | 5.000 | 0.00 |
| 31)*Perylene-d12 | (6) | 12.810 | 264 | 187830 | 5.000 | 0.00 |
| 25)*Chrysene-d12 | (5) | 11.045 | 240 | 206134 | 5.000 | 0.00 |
| System Monitoring Compounds | | | | | | |
| 2)$Nitrobenzene-d5 | (2) | 3.950 | 82 | 10191 | 1.146 | 0.00 |
| SpikedAmount 1.000 | Recovery = 114.645 | | | | | |
| 7)$2-Fluorobiphenyl | (3) | 5.817 | 172 | 24890 | 1.121 | 0.00 |
| SpikedAmount 1.000 | Recovery = 112.095 | | | | | |
| 23)$p-Terphenyl-d14 | (5) | 9.921 | 244 | 35439 | 1.109 | 0.00 |
| SpikedAmount 1.000 | Recovery = 110.941 | | | | | |
| Target Compounds | | | | | | QValue |
| 4) Naphthalene | (2) | 4.660 | 128 | 32110 | 1.103 | 100 |
| 5) 2-Methylnaphthalene | (2) | 5.389 | 142 | 19837 | 1.117 | 100 |
| 6) 1-Methylnaphthalene | (2) | 5.503 | 142 | 19166 | 1.077 | 100 |
| 10) Acenaphthylene | (3) | 6.357 | 152 | 32792 | 1.054 | 100 |
| 12) Acenaphthene | (3) | 6.558 | 153 | 19986 | 1.071 | 100 |
| 15) Fluorene | (3) | 7.109 | 166 | 22763 | 1.096 | 100 |
| 18) Phenanthrene | (4) | 8.148 | 178 | 44790 | 1.053 | 100 |
| 19) Anthracene | (4) | 8.198 | 178 | 40926 | 0.984 | 100 |
| 21) Fluoranthene | (4) | 9.459 | 202 | 57250 | 1.047 | 100 |
| 22) Pyrene | (5) | 9.697 | 202 | 60571 | 1.079 | 100 |
| 24) Benzo (a) Anthracene | (5) | 11.027 | 228 | 54326 | 1.000 | 100 |
| 26) Chrysene | (5) | 11.072 | 228 | 53933 | 1.093 | 100 |
| 27) Benzo (b) Fluoranthene | (6) | 12.348 | 252 | 53458 | 1.092 | 100 |
| 28) Benzo (k) Fluoranthene | (6) | 12.378 | 252 | 56934 | 1.109 | 100 |
| 30) Benzo (a) Pyrene | (6) | 12.737 | 252 | 49148 | 1.042 | 100 |
| 33) Indeno (1,2,3-c,d) Pyrene | (6) | 14.055 | 276 | 59791 | 1.060 | 100 |
| 34) Dibenz (a,h) Anthracene | (6) | 14.079 | 278 | 46803 | 1.094 | 100 |
| 35) Benzo (g,h,i) Perylene | (6) | 14.331 | 276 | 48070 | 1.061 | 100 |
| 8) Biphenyl | (3) | 5.906 | 154 | 30985 | 1.125 | 100 |
| 9) 2,6-Dimethylnaphthalene | (3) | 6.067 | 156 | 20598 | 1.065 | 100 |
| 14) 1,6,7-Trimethylnaphthalene | (3) | 6.990 | 170 | 20793 | 1.076 | 100 |
| 16) Dibenzothiophene | (3) | 8.011 | 184 | 59411 | 1.045 | 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/170314.b/14mar003.d Instrument ID: GCMS_EEE.i
Injection date and time: 14-MAR-2017 10:54 Analyst ID: 907

Method used: /chem/SVOA/GCMS_EEE.i/170314.b/simpah-extra.m Sublist used: all
Calibration date and time: 14-MAR-2017 11:17
Date, time and analyst ID of latest file update: 14-Mar-2017 11:17 ev7p

Sample Name: CCV S010317F 1PPM Misc Info: 170314A007
Response via Initial Calibration

| Compounds | I.S. Ref. | RT | QIon | Area | On-Column Amount (mg/L) | QValue |
|---|---|---|---|---|---|---|
| 20) 1-Methylphenanthrene | (5) | 8.838 | 192 | 44497 | 1.083 | 100 |
| 29) Benzo (e) pyrene | (6) | 12.676 | 252 | 64122 | 1.096 | 100 |
| 32) Perylene | (6) | 12.840 | 252 | 58980 | 1.051 | 100 |
| 13) Dibenzofuran | (3) | 6.736 | 168 | 30128 | 1.116 | 100 |



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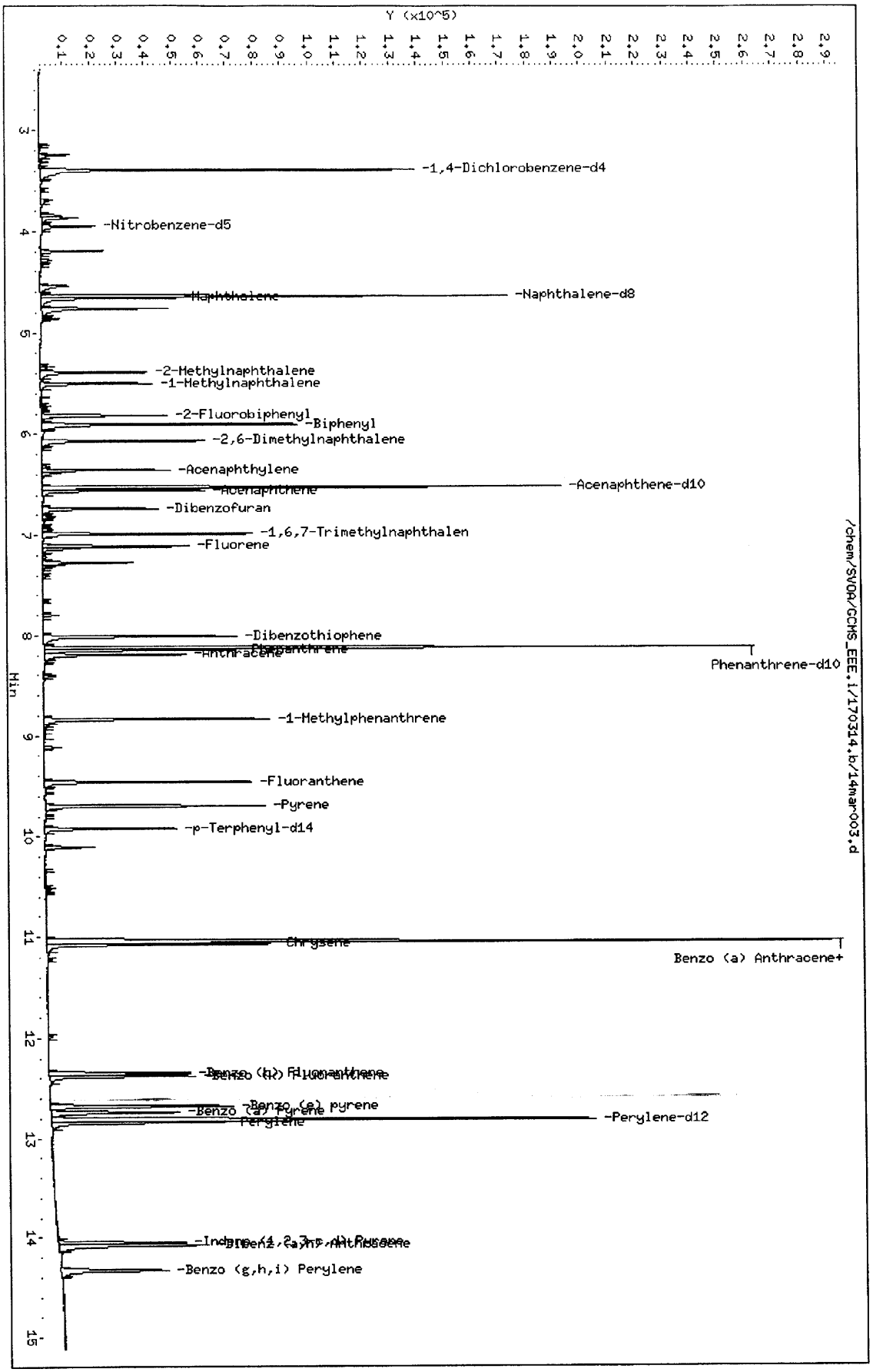
Data File: /chem/SVOA/GCMS_EEE.i/170314.b/14mar003.d
Date : 14-MAR-2017 10:54
Client ID:
Sample Info: CCV S010317F 1PPM
Column phase: J&W DB-5MS

Instrument: GCMS_EEE.i
Operator: 907
Column diameter: 0.18

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# EPA METHOD 8270C
# PAHSIM

# Tuning Reports

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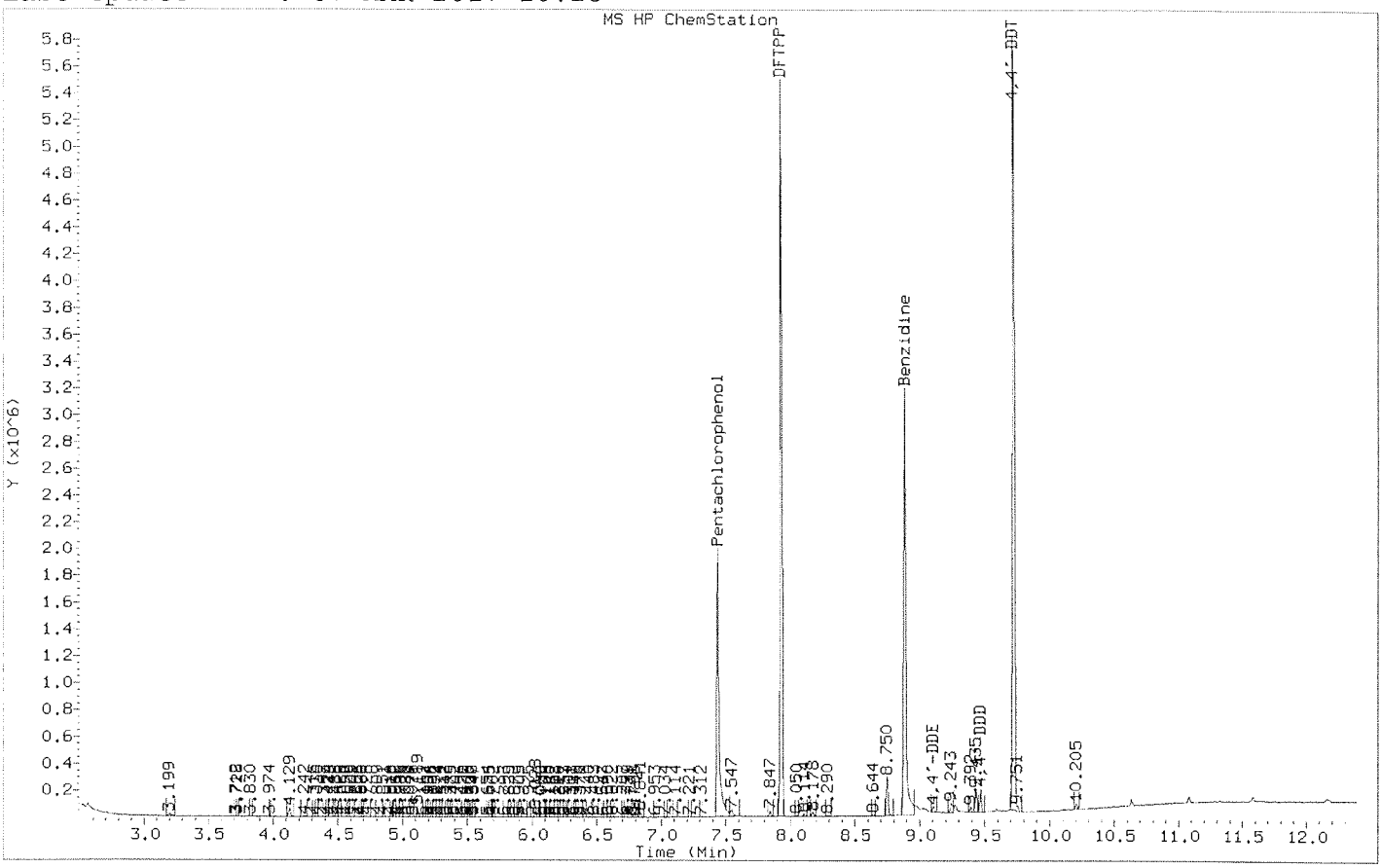
DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

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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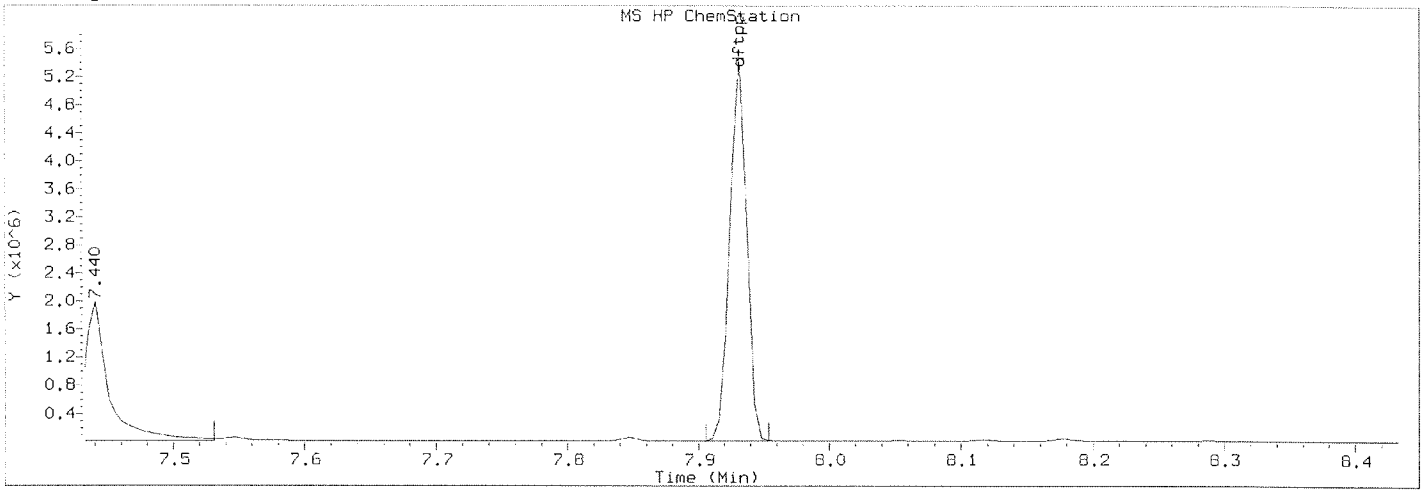
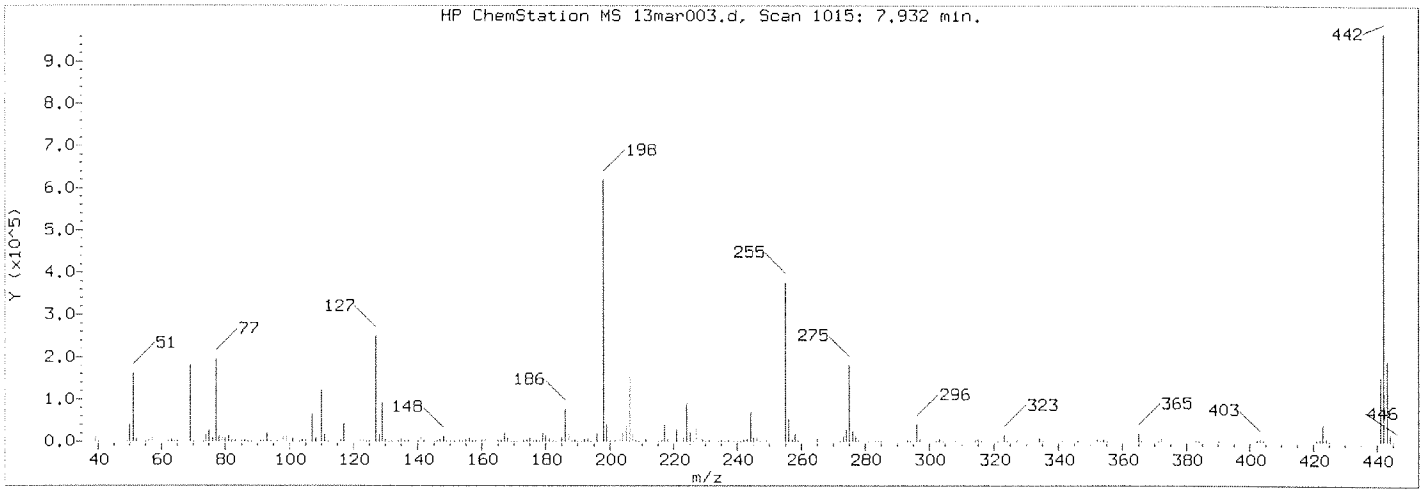
Report Generated Time Mon Mar 13 15:07:34 2017

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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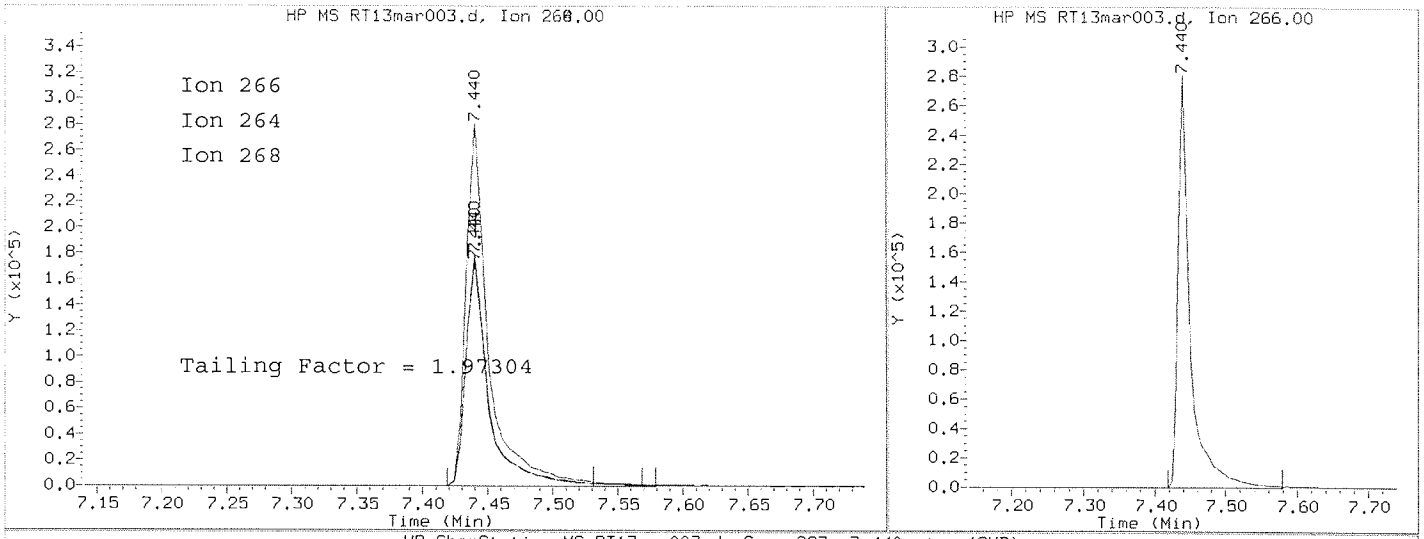
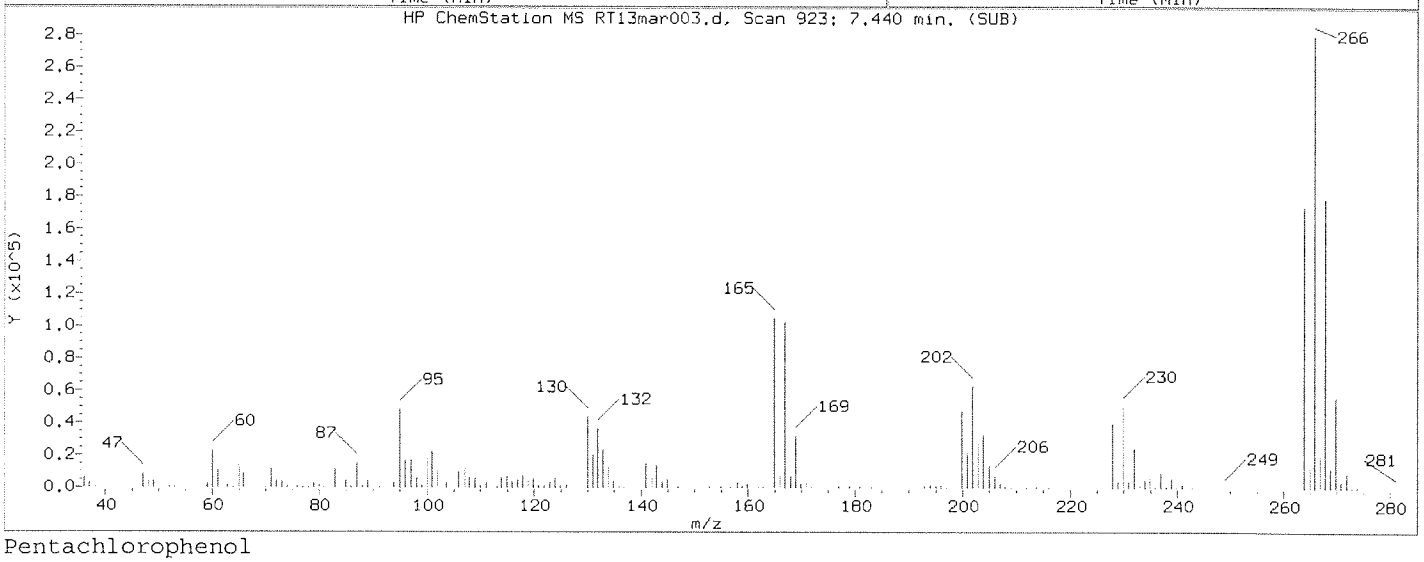
Report Generated Time Mon Mar 13 15:07:34 2017

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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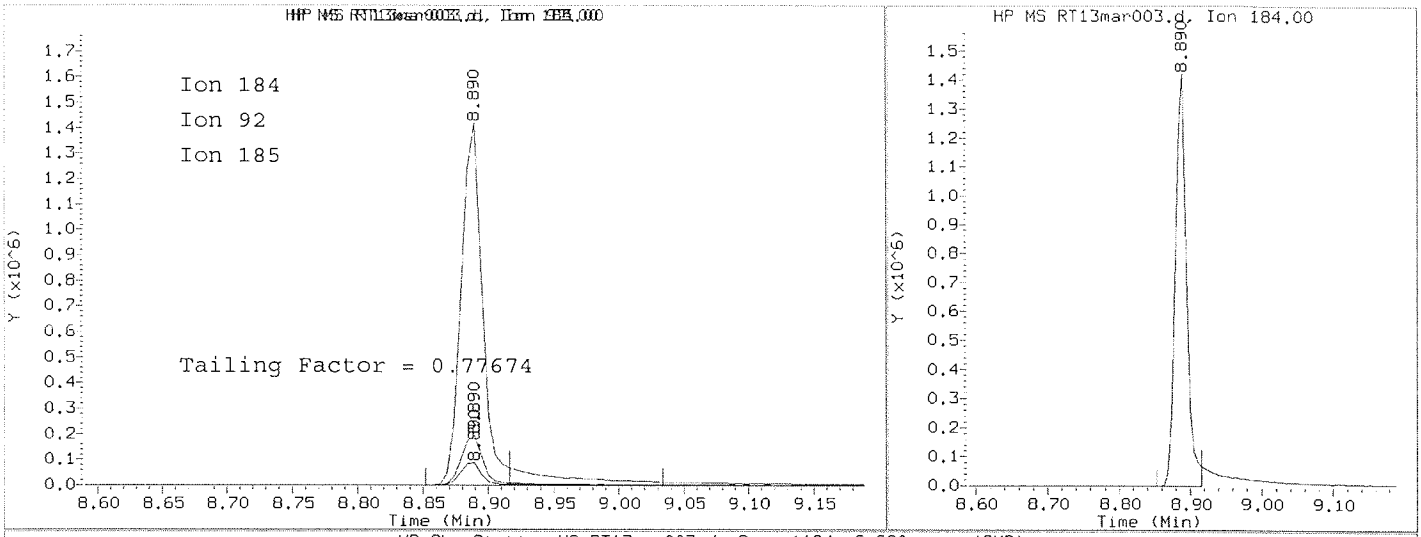
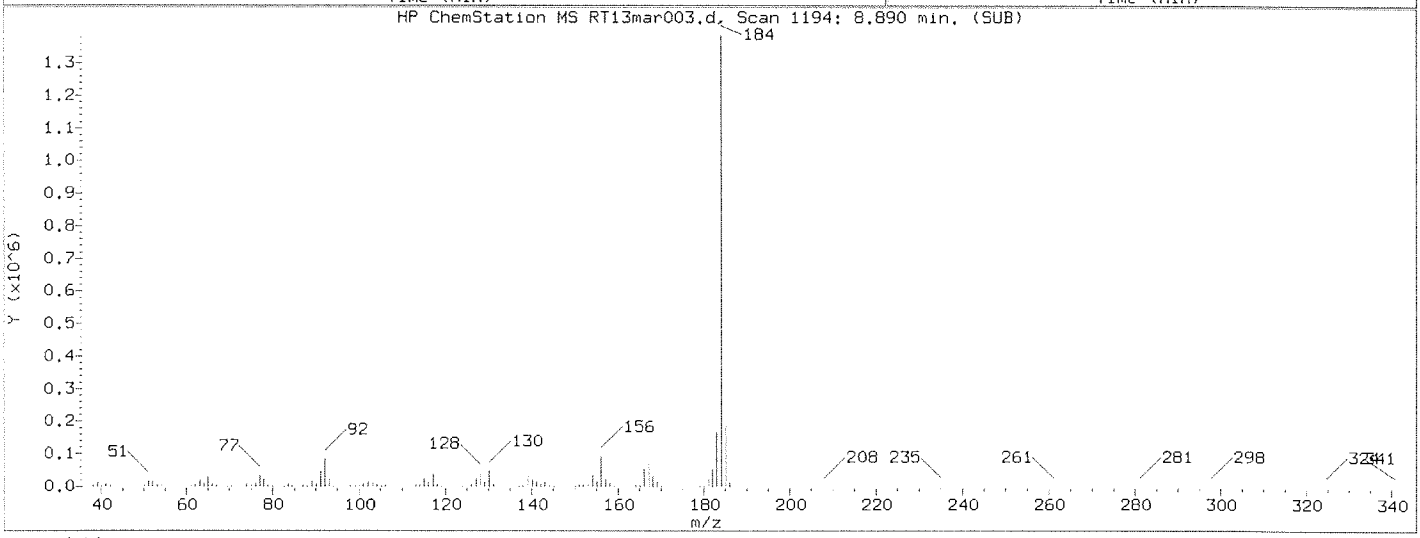
Report Generated Time Mon Mar 13 15:07:34 2017

| | | | |
|---|---|---|---|
| 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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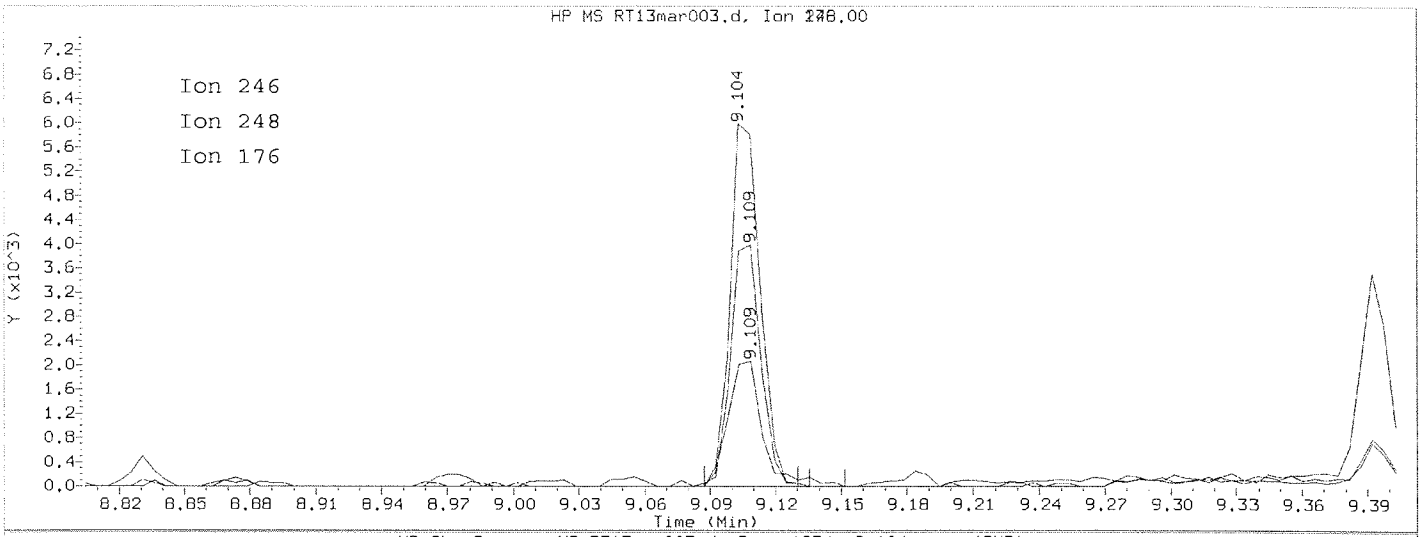
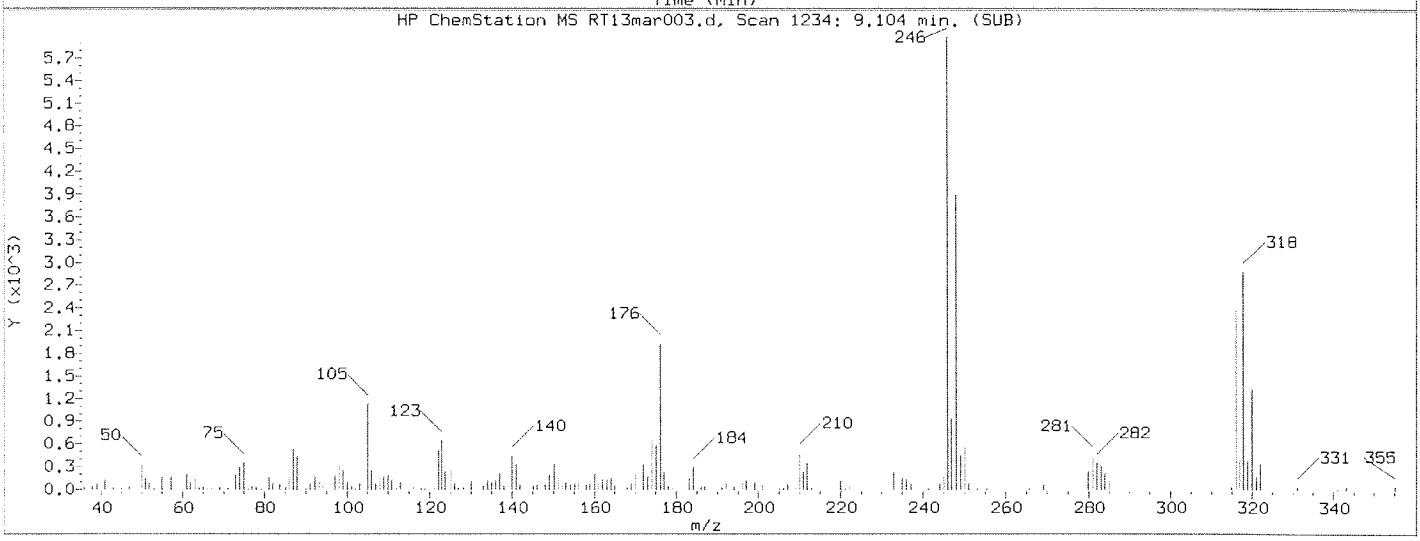
Report Generated Time Mon Mar 13 15:07:34 2017

| | | | |
|---|---|---|---|
| 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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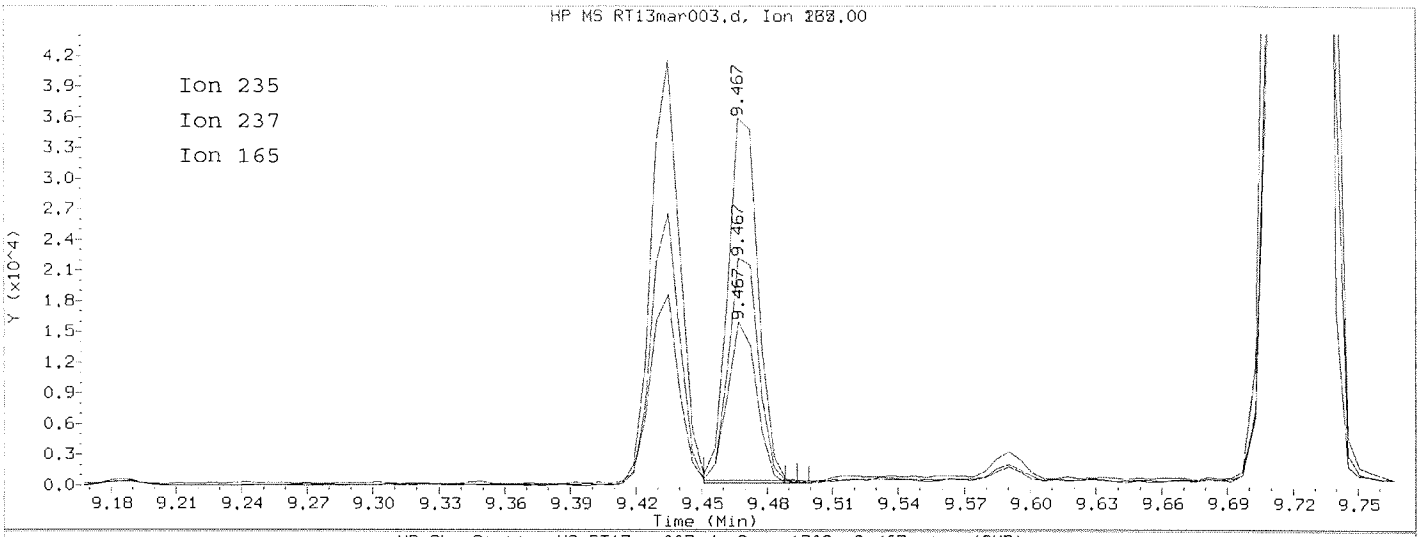
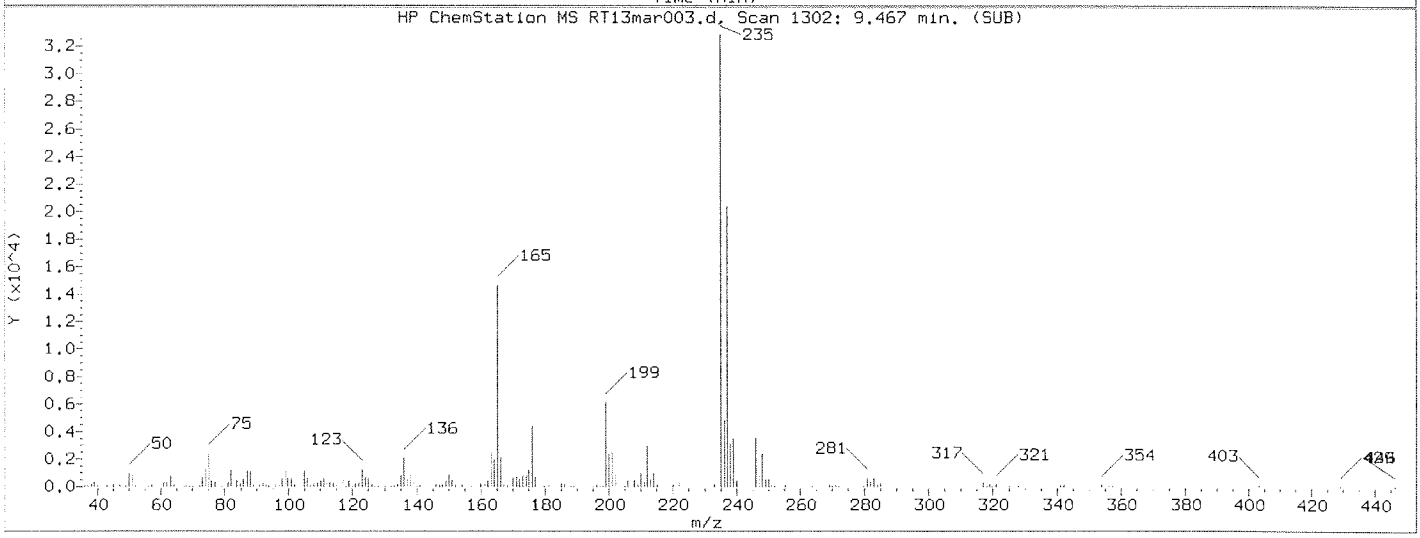
Report Generated Time Mon Mar 13 15:07:34 2017

| | | | |
|---|---|---|---|
| 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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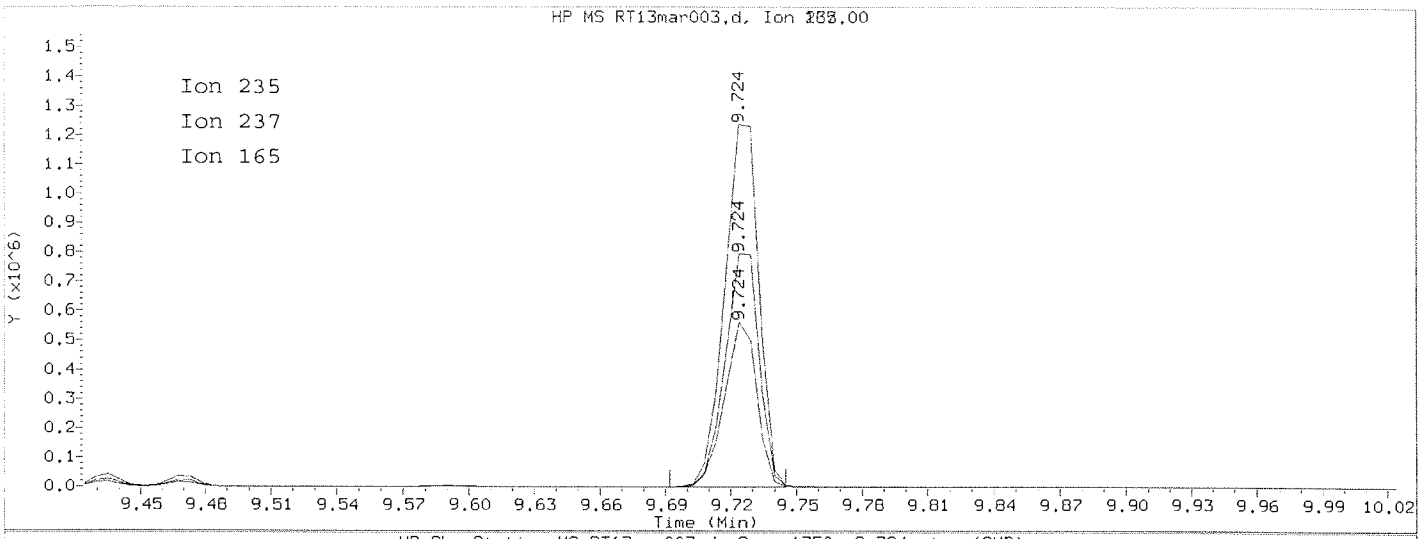
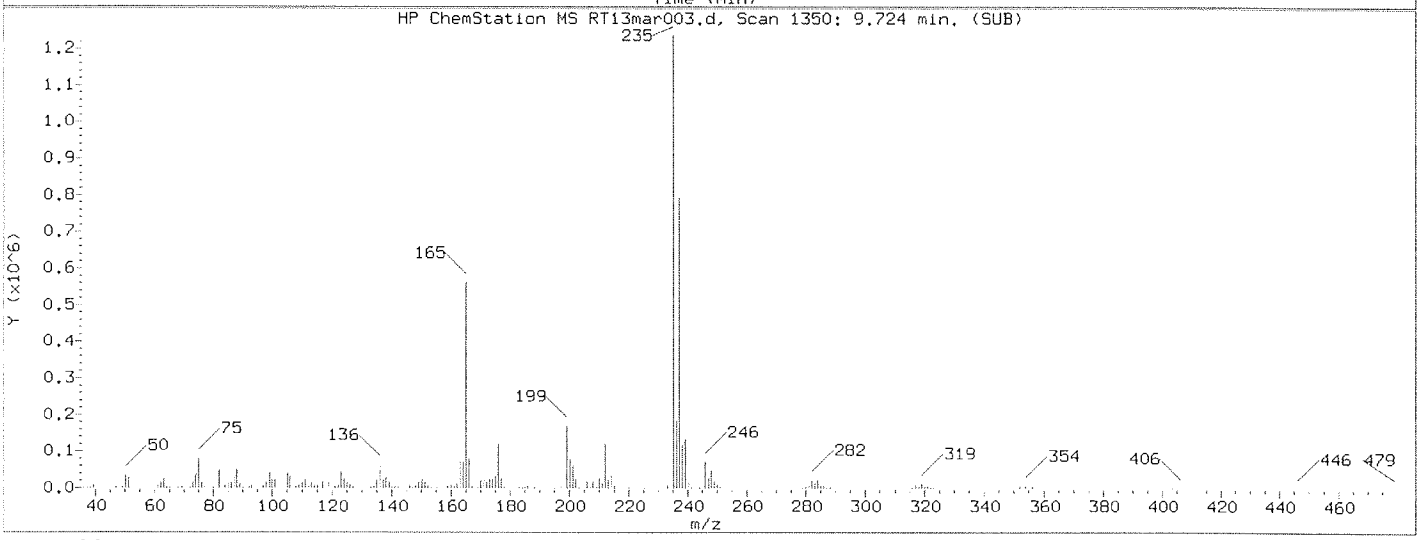
Report Generated Time Mon Mar 13 15:07:34 2017

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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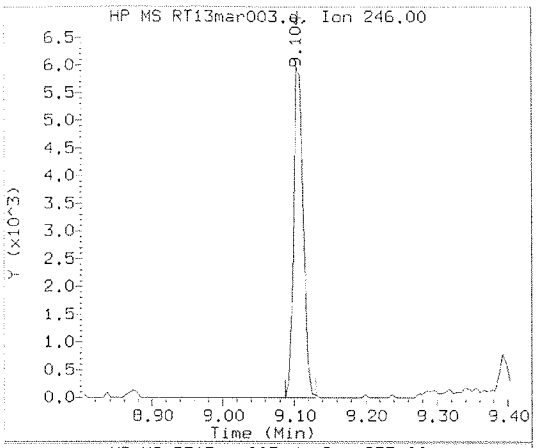
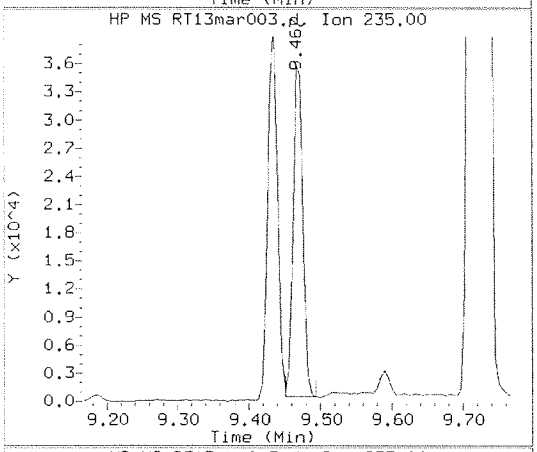
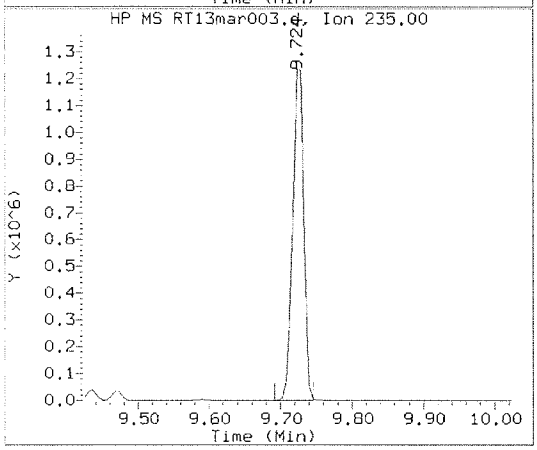



Compound: 4,4'-DDE
Quant Mass: 246
RT: 9.104
Area: 5722




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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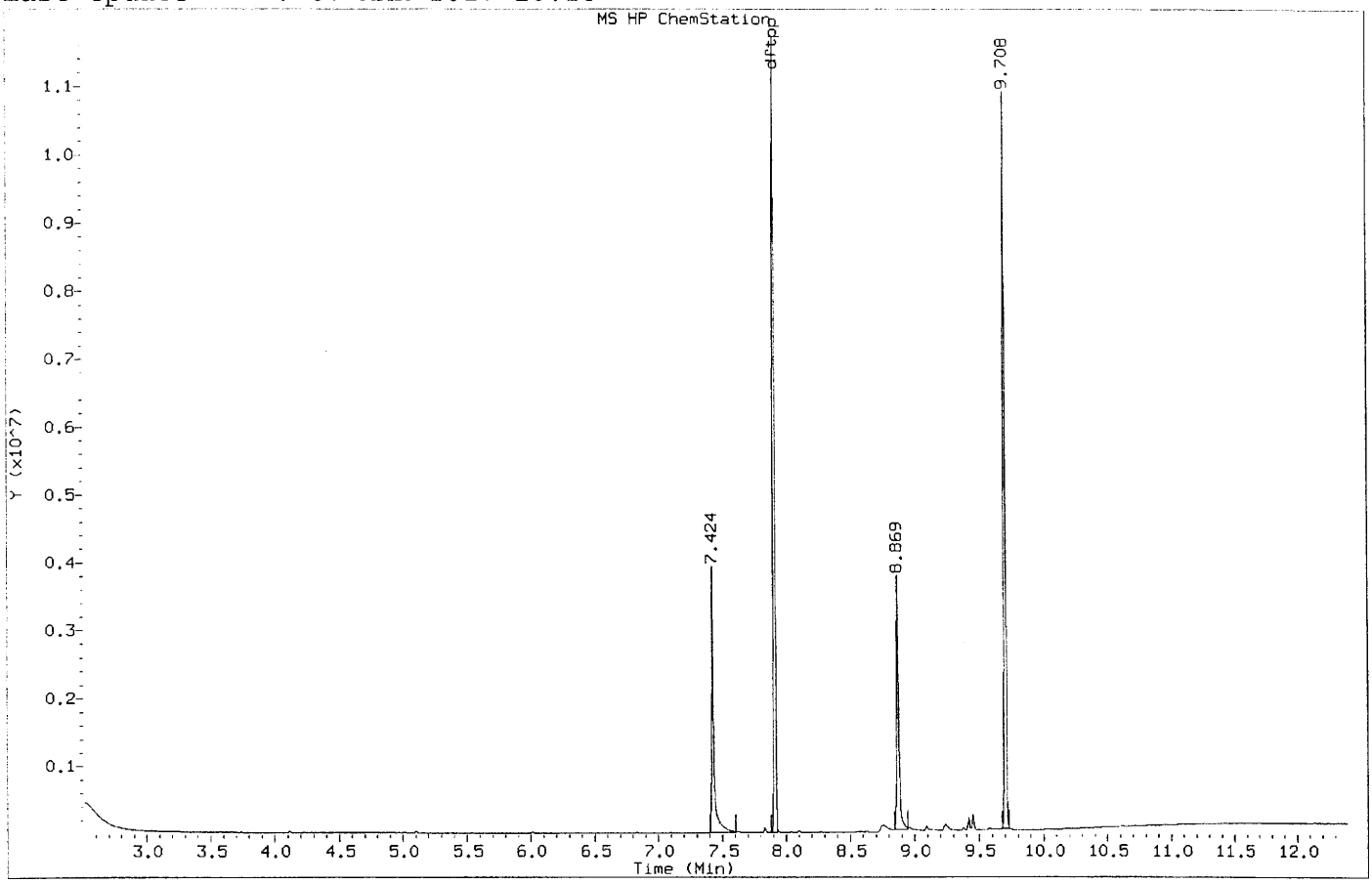
DFTPP TUNE/TAILING FACTOR/DEGRADATION SAMPLE AND GRAPHIC REPORT

Report Generated Time Tue Mar 14 10:32:45 2017

Data File : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d
ALS Vial : 41
Acq on : 14-MAR-2017 10:10 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/170314.b/14mar001.d ,*** PASSED ***

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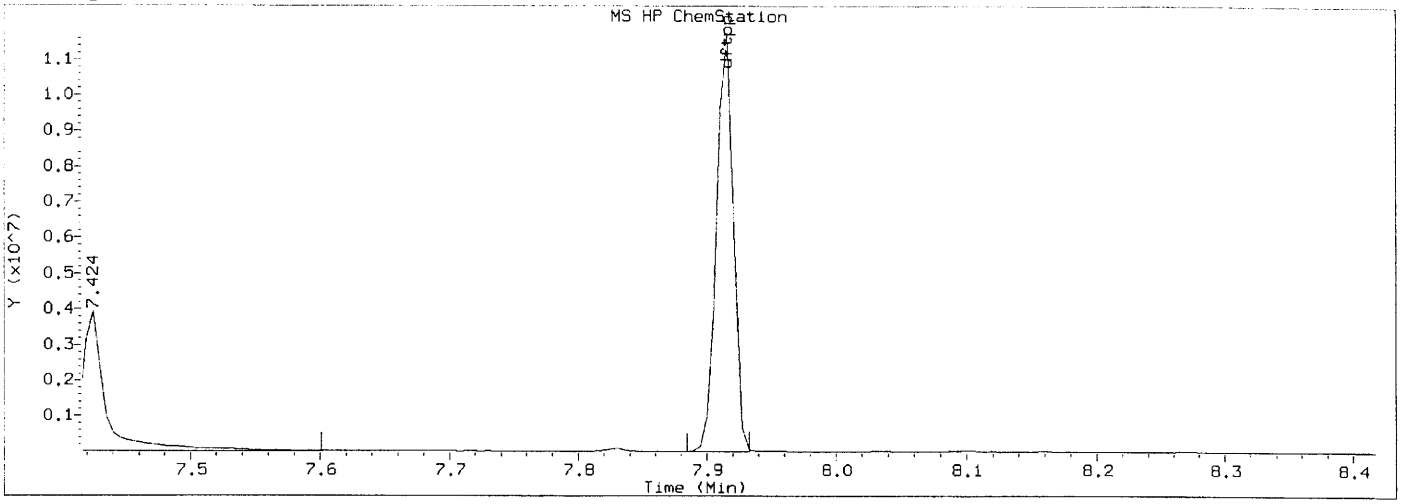
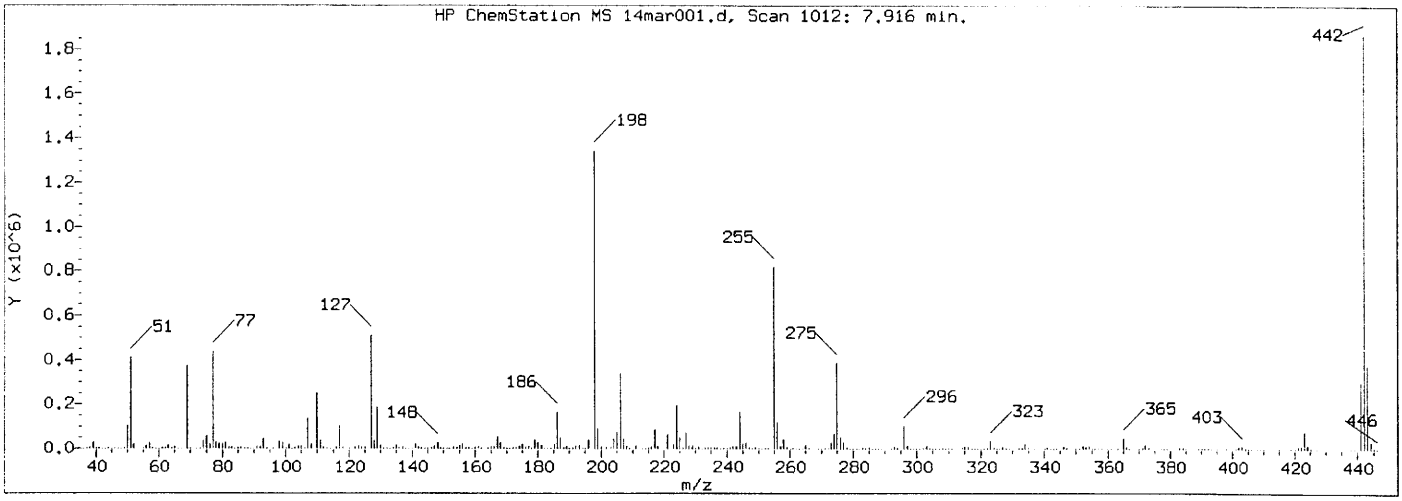
Report Generated Time Tue Mar 14 10:32:45 2017

Data File : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d
ALS Vial : 41
Acq on : 14-MAR-2017 10:10 Operator : 907
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170314.b/dftpptune.m
Last Update : 07-MAR-2017 10:28




Spectrum: Avg. Scans 1011-1013 ( 7.92), Background Scan 1005

DFTPP Ion Abundance/Ratio Criteria Chart

| Ion | Abundance Criteria | Base Peak | Response | Test |
|---|---|---|---|---|
| 198 | Base Peak, 100% relative abundance | 100.00 | 1181696 | PASS |
| 51 | 30 - 60% of mass 198 | 37.91 | 447936 | PASS |
| 68 | Less than 2% of mass 69 | 0.00 | 0 | PASS |
| 69 | Less than mass 198 | 33.91 | 400768 | PASS |
| 70 | Less than 2% of mass 69 | 0.54 | 2145 | PASS |
| 127 | 40 - 60% of mass 198 | 43.49 | 513920 | PASS |
| 197 | 0 - 1% of mass 198 | 0.00 | 0 | PASS |
| 199 | 5 - 9% of mass 198 | 6.91 | 81680 | PASS |
| 275 | 10 - 30% of mass 198 | 24.71 | 291968 | PASS |
| 365 | 1 - 100% of mass 198 | 2.55 | 30168 | PASS |
| 441 | Present, but less than mass 443 | 78.80 | 153472 | PASS |
| 442 | 40 - 200% of mass 198 | 81.10 | 958336 | PASS |
| 443 | 17 - 23% of mass 442 | 20.32 | 194752 | PASS |

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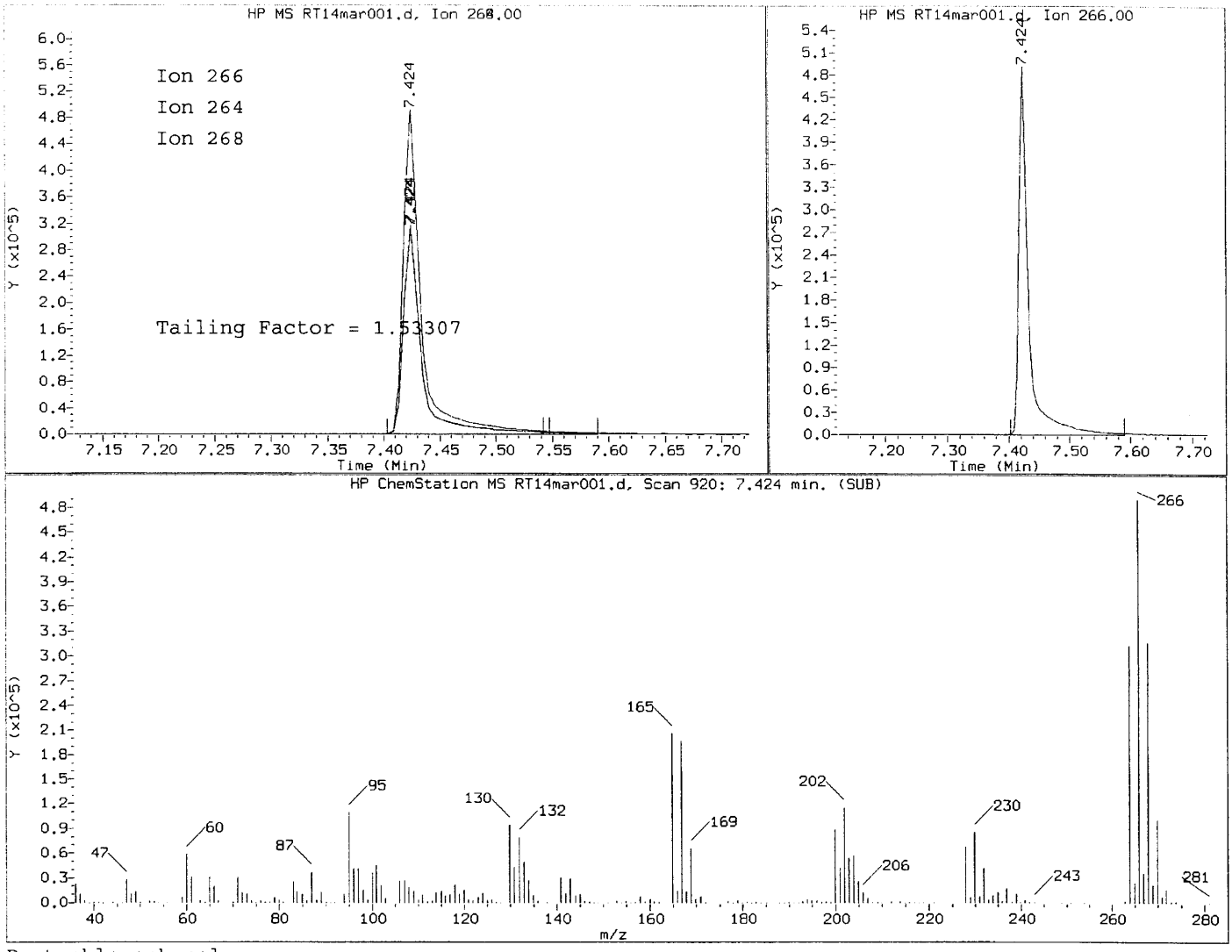
Report Generated Time Tue Mar 14 10:32:45 2017

| | | | |
|---|---|---|---|
| Data File | : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d | | |
| ALS Vial | : 3 | | |
| Acq on | : 14-MAR-2017 10:10 | Operator | : Tim Matthews |
| Sample | : TUNE S101716A DFTPP | Inst | : GCMS_EEE |
| Misc | : | Multiplier | : 1 |
| Integrator Type | : HP RTE | | |
| Method | : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d/resolut.m | | |
| Last Update | : 14-MAR-2017 10:29 | | |




Pentachlorophenol
==========
Exp. RT = 7.467
Found RT = 7.424

| Mass | Area | Ratio |
|---|---|---|
| 266 | 560769 | 100.00 |
| 264 | 351366 | 62.66 |
| 268 | 354719 | 63.26 |

Peak baseline front width (sec) : 0.771
Peak baseline tail width (sec) : 1.182
Tail Factor = 1.182/ 0.771

Tailing factor for Pentachlorophenol OK

Tail Factor = 1.533 Maximum Allowed = 3.0

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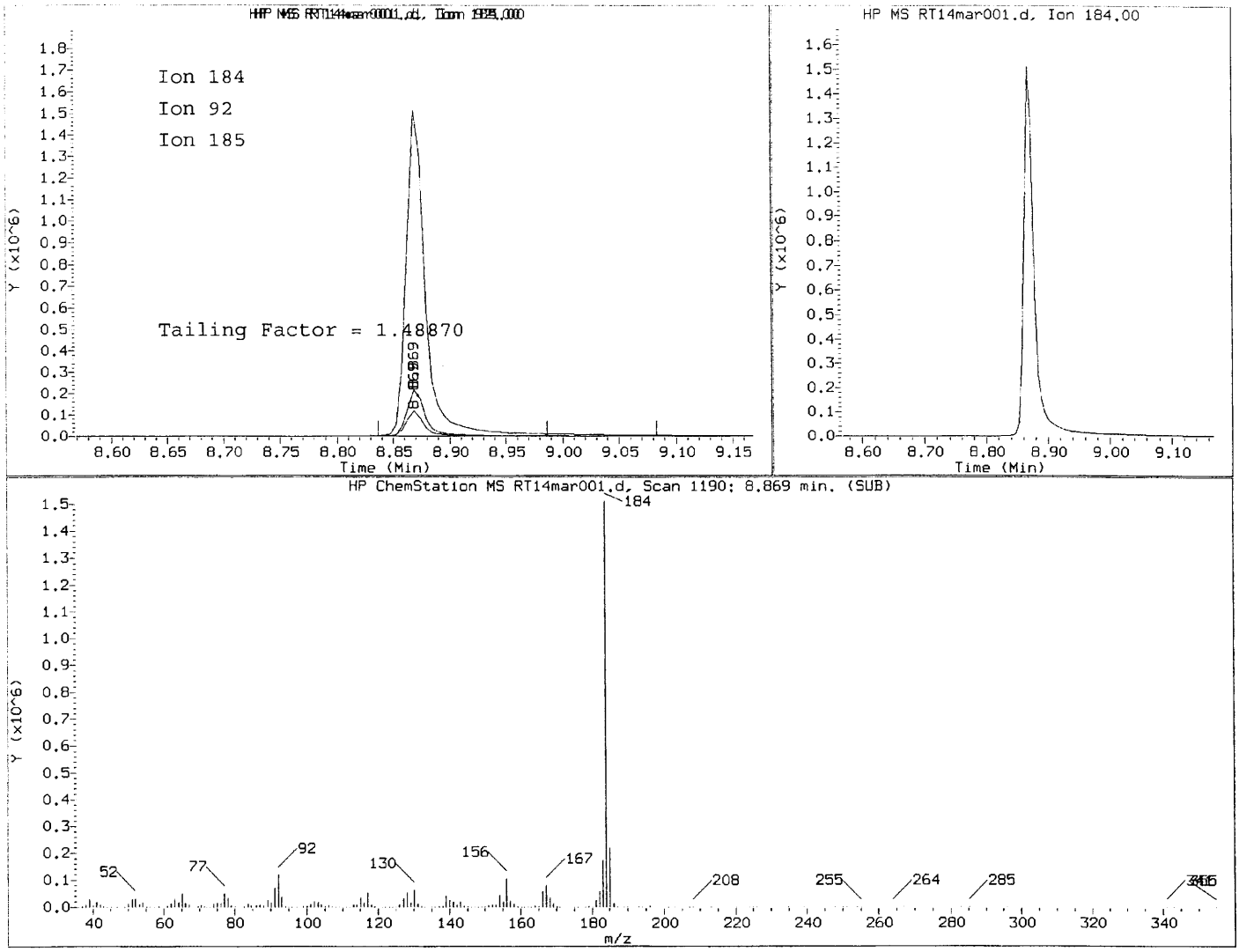
Report Generated Time Tue Mar 14 10:32:45 2017

Data File : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d
ALS Vial : 3
Acq on : 14-MAR-2017 10:10 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d/resolut.m
Last Update : 14-MAR-2017 10:29




Benzidine
=========
Exp. RT = 8.911
Found RT = 8.869

| Mass | Area | Ratio |
|---|---|---|
| 184 | 1834297 | 100.00 |
| 92 | 135965 | 7.41 |
| 185 | 254945 | 13.90 |

Peak baseline front width (sec) : 0.841
Peak baseline tail width (sec) : 1.252
Tail Factor = 1.252/ 0.841

Tailing factor for Benzidine OK

Tail Factor = 1.489 Maximum Allowed = 3.0

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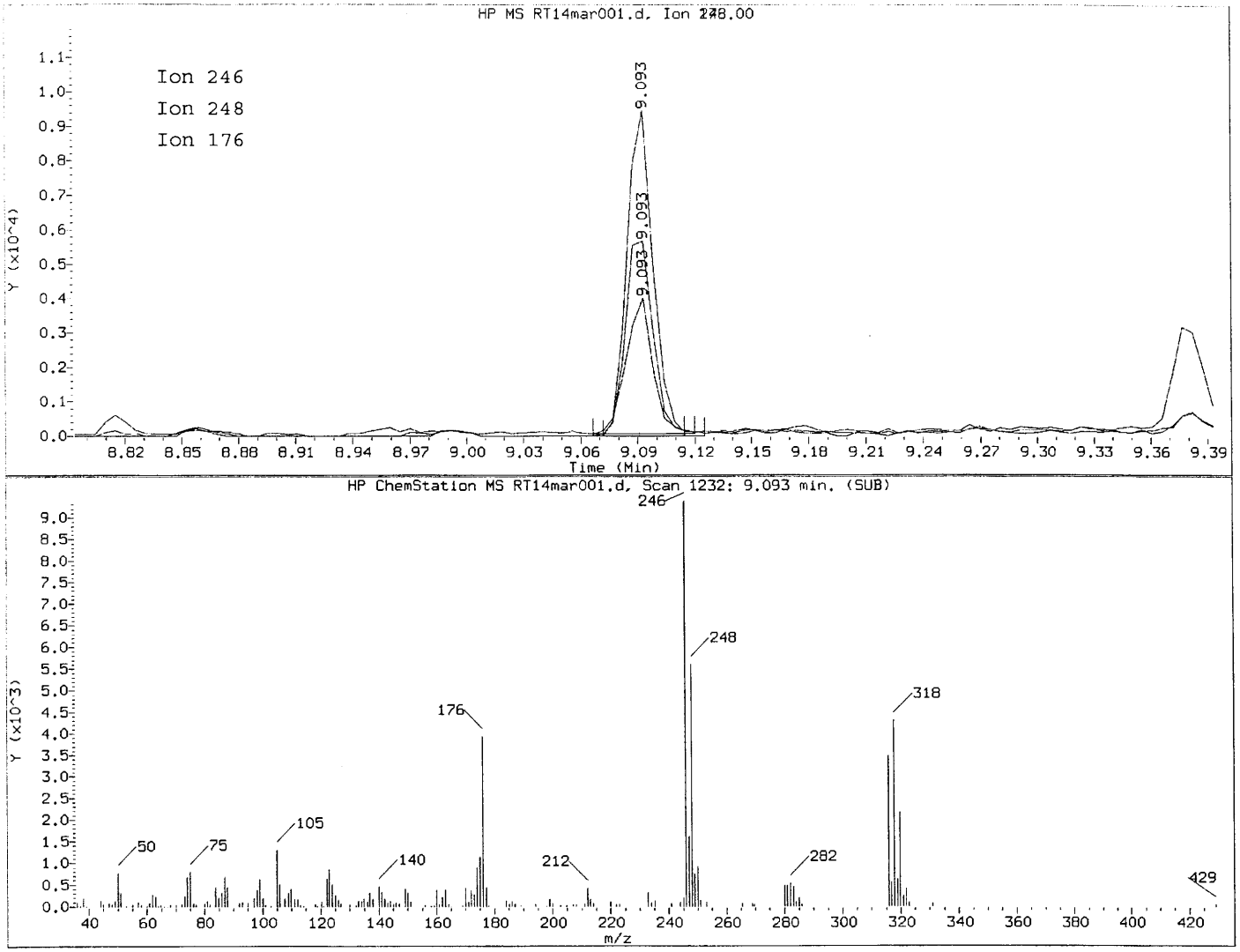
Report Generated Time Tue Mar 14 10:32:45 2017

Data File : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d
ALS Vial : 3
Acq on : 14-MAR-2017 10:10 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d/resolut.m
Last Update : 14-MAR-2017 10:29




4,4'-DDE
========
Exp. RT = 9.029
Found RT = 9.093

| Mass | Area | Ratio |
|---|---|---|
| 246 | 8942 | 100.00 |
| 248 | 5815 | 65.04 |
| 176 | 3816 | 42.68 |

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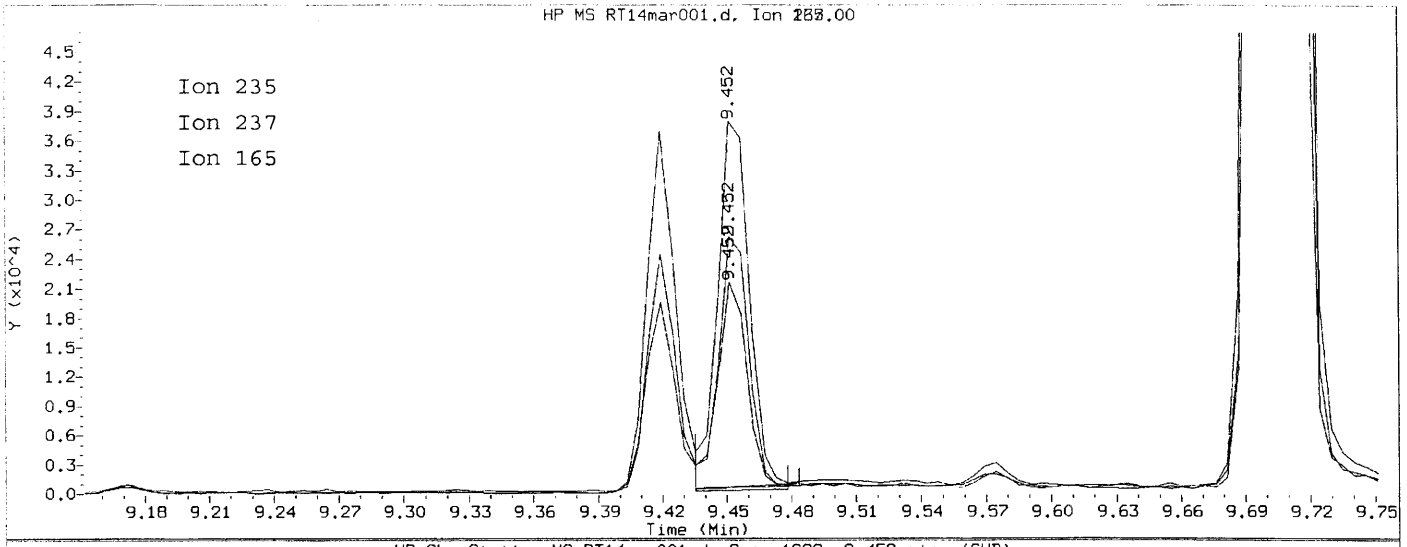
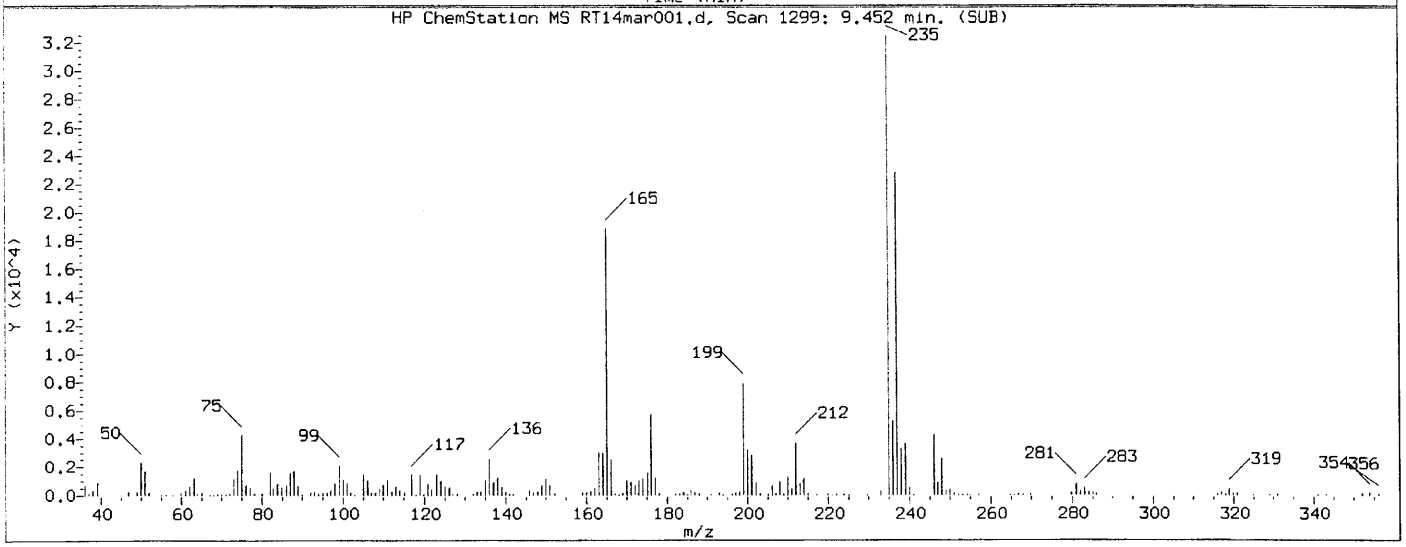
Report Generated Time Tue Mar 14 10:32:45 2017

Data File : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d
ALS Vial : 3
Acq on : 14-MAR-2017 10:10 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d/resolut.m
Last Update : 14-MAR-2017 10:29




4,4'-DDD
=======
Exp. RT = 9.380
Found RT = 9.452

| Mass | Area | Ratio |
|---|---|---|
| 235 | 39604 | 100.00 |
| 237 | 25332 | 63.96 |
| 165 | 20119 | 50.80 |

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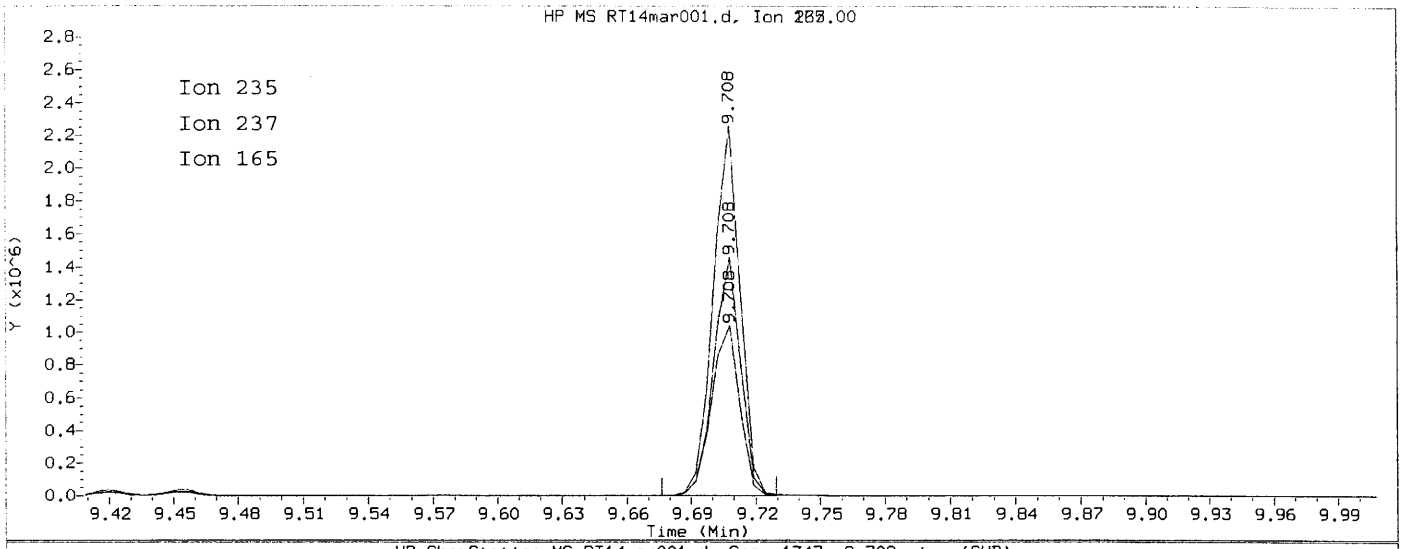
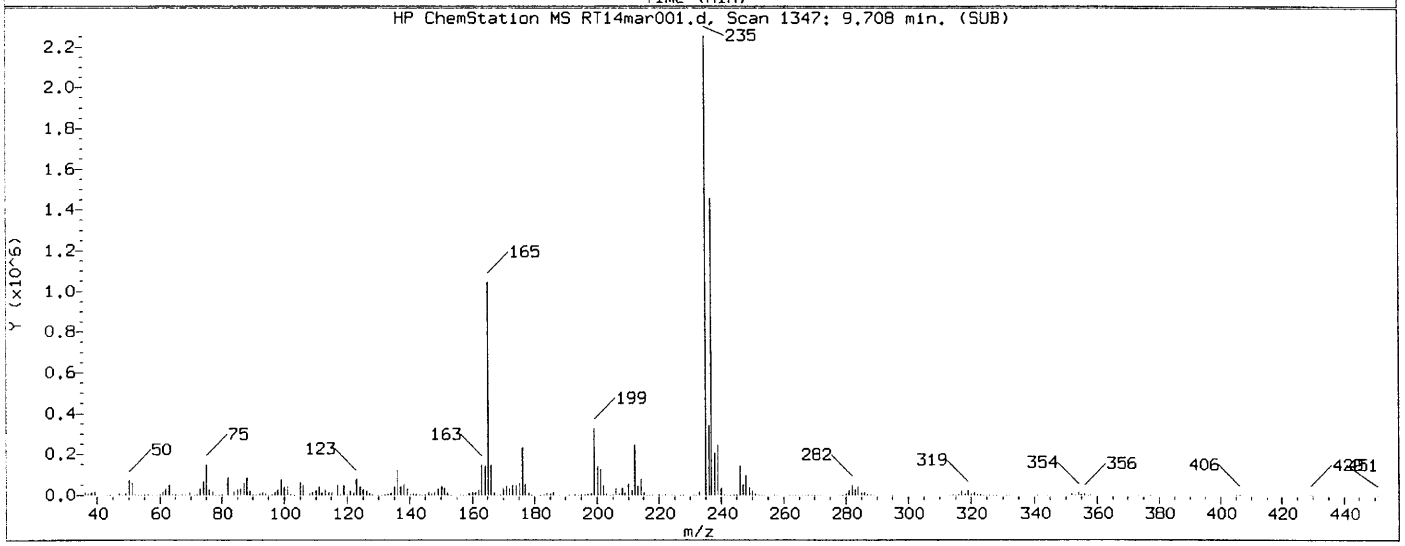
Report Generated Time Tue Mar 14 10:32:45 2017

Data File : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d
ALS Vial : 3
Acq on : 14-MAR-2017 10:10 Operator : Tim Matthews
Sample : TUNE S101716A DFTPP Inst : GCMS_EEE
Misc : Multiplier : 1
Integrator Type : HP RTE
Method : /chem/SVOA/GCMS_EEE.i/170314.b/14mar001.d/resolut.m
Last Update : 14-MAR-2017 10:29




4,4'-DDT
========
Exp. RT = 9.756
Found RT = 9.708

| Mass | Area | Ratio |
|---|---|---|
| 235 | 1946642 | 100.00 |
| 237 | 1259123 | 64.68 |
| 165 | 943480 | 48.47 |

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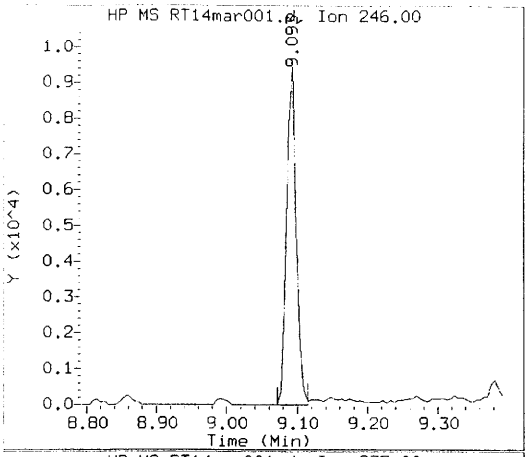
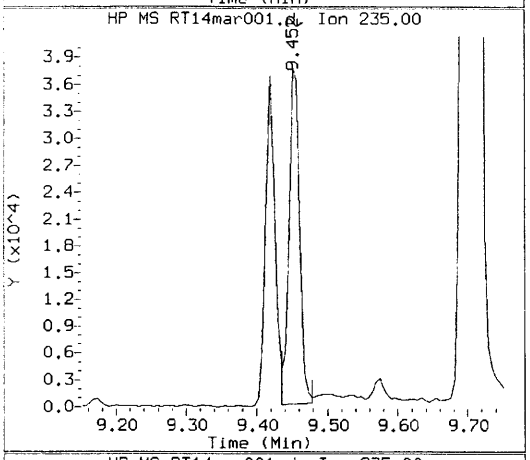
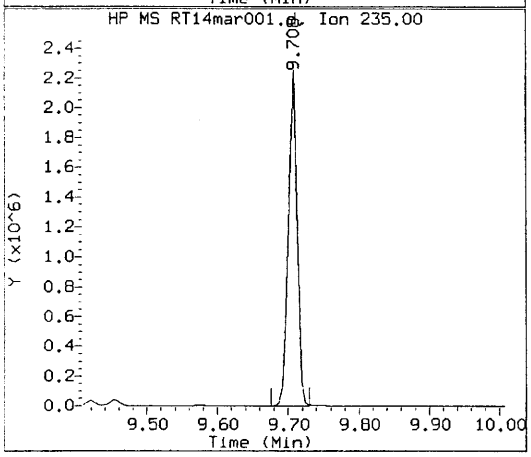



Compound: 4,4'-DDE
Quant Mass: 246
RT: 9.093
Area: 8942




Compound: 4,4'-DDD
Quant Mass: 235
RT: 9.452
Area: 39604




Compound: 4,4'-DDT
Quant Mass: 235
RT: 9.708
Area: 1946642

DDT DEGRADATION BREAKDOWN ANALYSIS SUMMARY

| Compound | Response | %Breakdown | Max Allowed | Test |
|---|---|---|---|---|
| 4,4-DDT | 1946642 | | | N/A |
| 4,4-DDE | 8942 | 0.46 | 20.0 | PASS |
| 4,4-DDD | 39604 | 1.99 | 20.0 | PASS |
| 4,4-DDD + DDE | 48546 | 2.4 | 20.0 | PASS |

**********
TUNE SAMPLE *** PASSED *** DDT BREAKDOWN TEST
**********

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# 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 | | 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 | 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 | | |

leaking change new column

dev > 30%

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# Injection Log

Directory: W:\GCMS_EEE\GCMS_EEE_DATA\2017\170314



| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 41 | 14mar001.d | 1. | TUNE S101716A DFTPP | | 14 Mar 2017 10:10 |
| 2 | 42 | 14mar002.d | 1. | CCV S010317F 1PPM – Ana > 10% div > 20% | 170314A007 | 14 Mar 2017 10:31 |
| 3 | 42 | 14mar003.d | 1. | CCV S010317F 1PPM | 170314A007 | 14 Mar 2017 10:54 |
| 4 | 43 | 14mar004.d | 1. | 17-03-0323-2 200X RB | S101716B 10UL | 14 Mar 2017 11:14 |
| 5 | 44 | 14mar005.d | 1. | MB 170310 L15 | S101716B 10UL | 14 Mar 2017 11:34 |
| 6 | 45 | 14mar006.d | 1. | LCS 170310 L15 | S101716B 10UL | 14 Mar 2017 11:55 |
| 7 | 46 | 14mar007.d | 1. | 17-03-0694-1 MS | S101716B 10UL | 14 Mar 2017 12:15 |
| 8 | 47 | 14mar008.d | 1. | 17-03-0694-1 MSD | S101716B 10UL | 14 Mar 2017 12:35 |
| 9 | 48 | 14mar009.d | 1. | 17-03-0694-1 | S101716B 10UL | 14 Mar 2017 12:55 |
| 10 | 49 | 14mar010.d | 1. | 17-03-0680-1 | S101716B 10UL | 14 Mar 2017 13:16 |
| 11 | 50 | 14mar011.d | 1. | 17-03-0797-1 | S101716B 10UL | 14 Mar 2017 13:36 |
| 12 | 51 | 14mar012.d | 1. | 17-03-0680-1 10X | S101716B 10UL | 14 Mar 2017 13:56 |
| 13 | 52 | 14mar013.d | 1. | MB 170311 L03 | S101716B 10UL | 14 Mar 2017 15:00 |
| 14 | 53 | 14mar014.d | 1. | LCS 170311 L03 | S101716B 10UL | 14 Mar 2017 15:20 |
| 15 | 54 | 14mar015.d | 1. | 17-03-0856-9 MS | S101716B 10UL | 14 Mar 2017 15:40 |
| 16 | 55 | 14mar016.d | 1. | 17-03-0856-9 MSD | S101716B 10UL | 14 Mar 2017 16:00 |
| 17 | 56 | 14mar017.d | 1. | 17-03-0856-9 | S101716B 10UL | 14 Mar 2017 16:21 |
| 18 | 57 | 14mar018.d | 1. | 17-03-0856-10 | S101716B 10UL | 14 Mar 2017 16:41 |
| 19 | 58 | 14mar019.d | 1. | 17-03-0755-15 | S101716B 10UL | 14 Mar 2017 17:01 |
| 20 | 59 | 14mar020.d | 1. | 17-03-0755-16 | S101716B 10UL | 14 Mar 2017 17:21 |
| 21 | 60 | 14mar021.d | 1. | 17-03-0755-19 | S101716B 10UL | 14 Mar 2017 17:41 |
| 22 | 61 | 14mar022.d | 1. | 17-03-0755-20 | S101716B 10UL | 14 Mar 2017 18:02 |

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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- 963 Start Extraction- 1104/785 Blow Down- 1089/1101 Clean Up-

Matrix: ☑ Soil ☐ Aqueous ☐ Oil ☐ Wipe ☐ Filter ☐ Tissue ☐ Air

Balance ID#: 70 Filter ID#: 507-17-17 ASE ID#: 10 Soxtherm ID#: Orbit Shaker ID#: Sonicator ID#:

Ext. Start Date/Time: 3/11/17 14:00 Ext. End Date/Time: 3/11/17 16:00

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 - 0.5

Spike Std ID# & Volume Added (mL): 5100716A - 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#: 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 #: 1703116L03

| Cel ID#: | Sample W (g) / V (mL) Initial | Final | Clean Up Performed | Comments |
|---|---|---|---|---|
| MB | 20.0 | 2 | ☐ | |
| LCS | 20.0 | 2 | ☐ | |
| LCSD NA | - | - | ☐ | |
| MS 17-03-0856-9A | 20.0 | 2 | ☐ | |
| MSD ↓ ↓ | 20.2 | 2 | ☐ | |
| 17-03-0755-15A | 20.1 | 2 | ☐ | |
| ↓ -16A | 20.0 | 2 | ☐ | |
| ↓ -19A | 20.0 | 2 | ☐ | |
| ↓ -20A | 20.1 | 2 | ☐ | |
| 17-03-0856-9A | 20.1 | 2 | ☐ | |
| ↓ -10A | 20.1 | 2 | ☐ | |
| | | | ☐ | |
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Peer Reviewed by: 787 Peer Reviewed Date: 03/13/17 Revision Date: 10/20/16

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